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# AIR FORCE



TRANSONIC INCUBATOR  
... for Tomorrow's Airplanes

WE CALL THE SHOTS  
By a Forward Air Controller in Korea

JULY, 1951





197 out of the 202 Convair-Liners now in service or on order for U. S. airlines depend on Hamilton Standard *Hydromatic* propellers. In fact, *Hydromatics* now are specified for 98% of all U. S. transports.

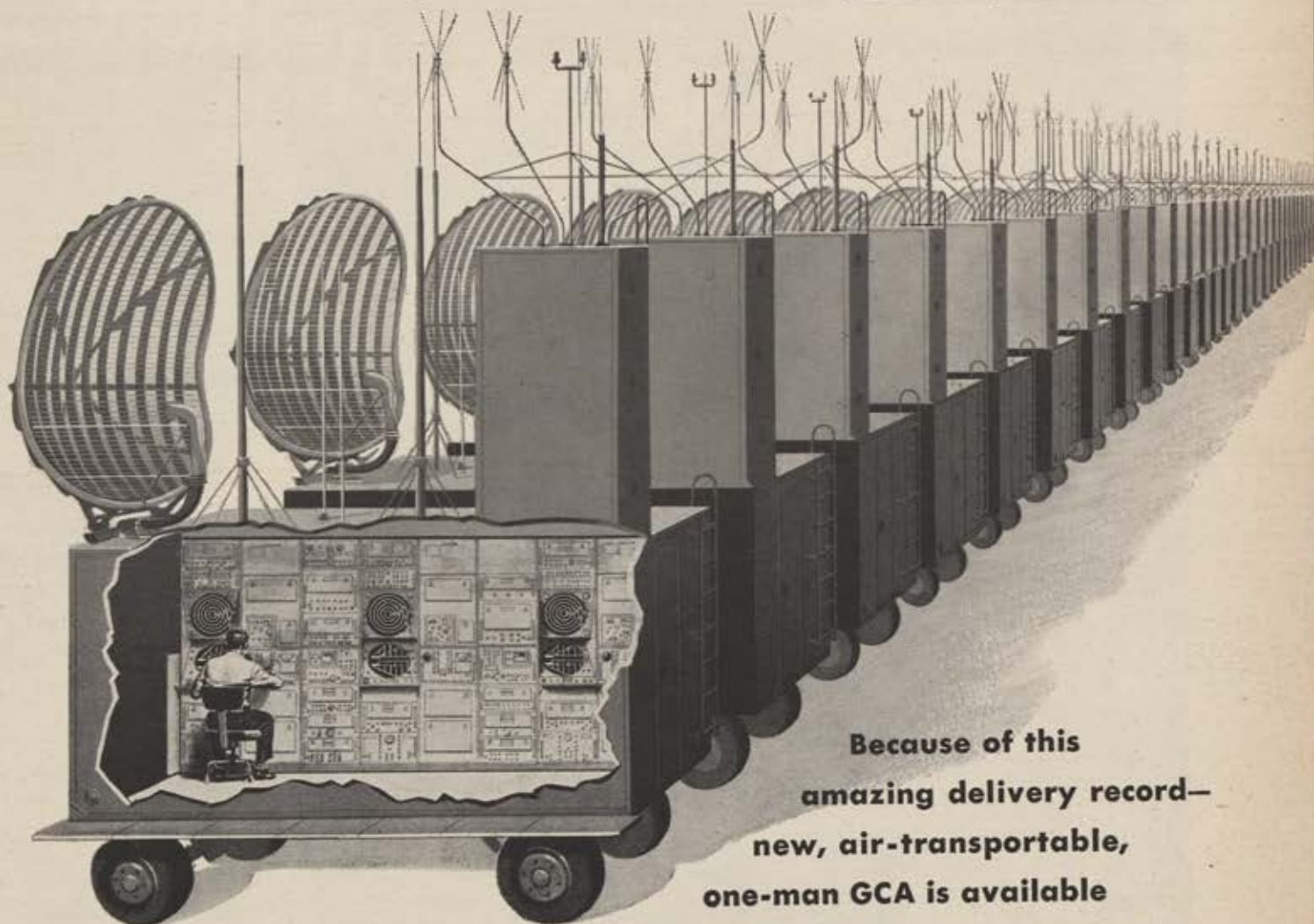


Wherever Man Flies



# Gilfillan Delivers...

**a complete GCA Radar every 48 hours!**



**Because of this  
amazing delivery record—  
new, air-transportable,  
one-man GCA is available  
for USAF all-weather operation  
anywhere in the world!**

New GCA Radar for landing aircraft in bad weather is one of the most complex electronic devices ever constructed. Each GCA has over 35,000 custom-made, hand-installed parts...hundreds developed for GCA alone. Yet Gilfillan turns out GCA with assembly-line regularity.

GCA Radar, developed and produced for the USAF by Gilfillan as a military weapon in World War II, is now a dependable navigation aid for civilian as well as military aviation.

New USAF GCA insures safe, all-weather landings of our jet fighters, bombers and air crews overseas and at home. To supply the present heavy need for this vital instrument of war and peace, Gilfillan has pioneered mass production of this highly intricate, custom-made precision radar equipment for the United States Air Force.

**GCA**



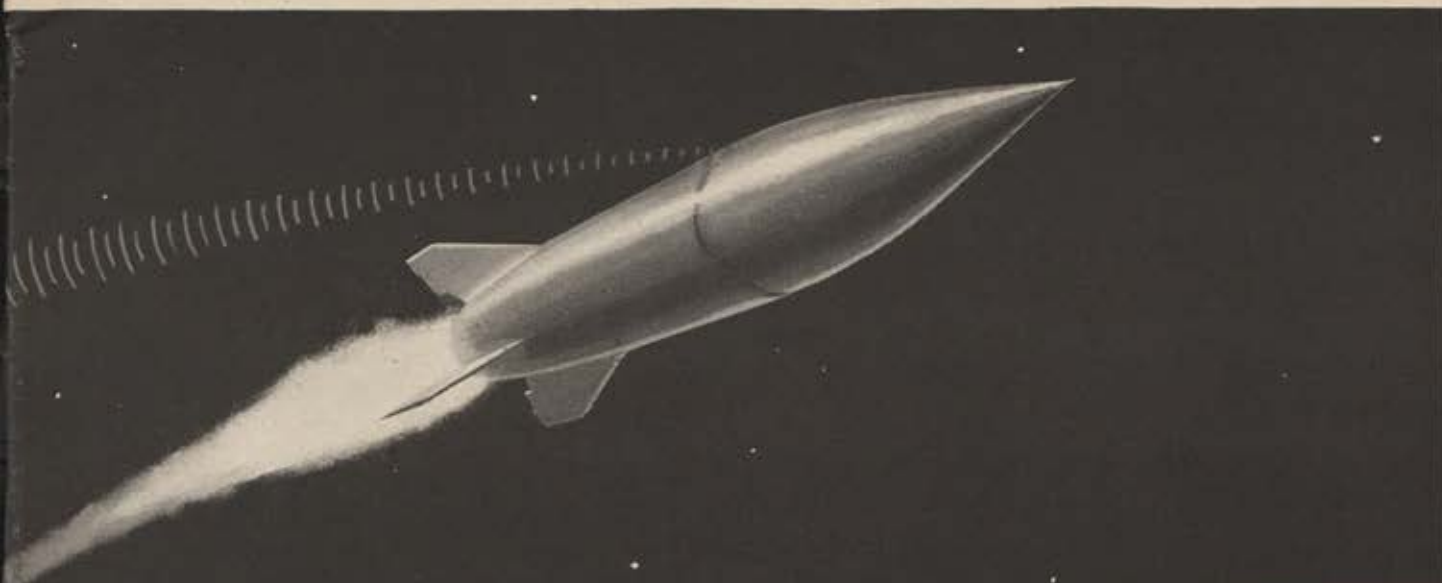
*Gilfillan*

LOS ANGELES, CALIFORNIA

What goes on up there ?







Highest and fastest flight ever attained by any known rocket was that achieved by the "Wac Corporal" on February 25, 1949. The "Wac" was fired from a larger "bumper" rocket miles above the earth's surface.

Structural design of the "bumper" and construction of the "Wac" were among the contributions made by Douglas. But designing and building such missiles is only part of the job. Gathering and computing data secured by test flights is also vital.

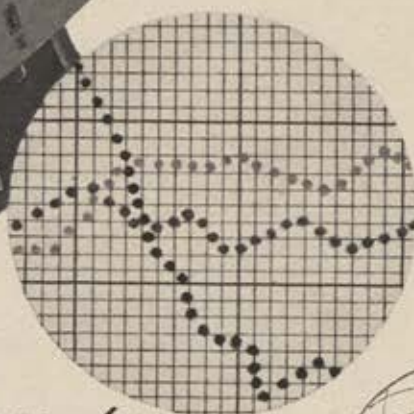
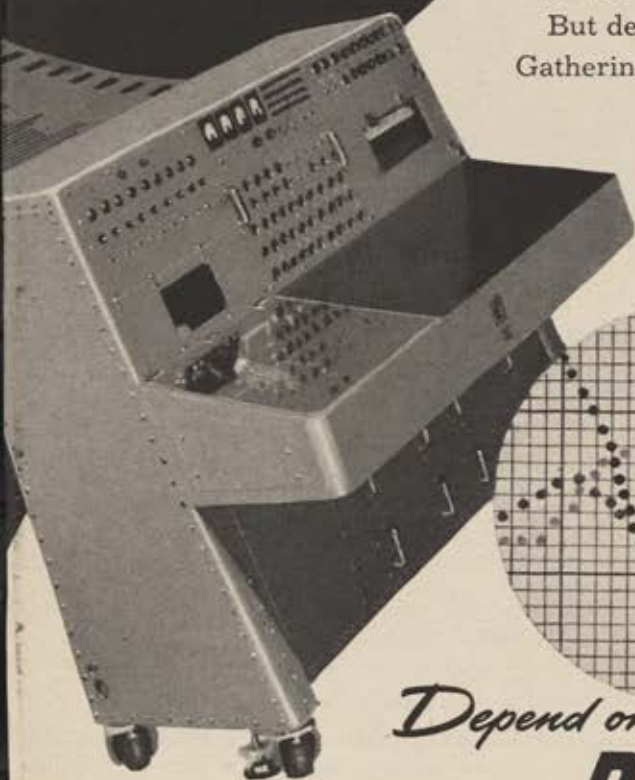
One of many examples of how Douglas is helping to pioneer this work is the new Automatic Data Analyzer. Developed for Army Ordnance, this machine converts coded photographic recordings, such as radio-transmitted

missile data, into a flow of interpreted information from instruments to the engineers.

In this important field of research analysis and application, as in many other activities in the aircraft and related industries,

Douglas continues to make significant advances.

Douglas Aircraft Company, Inc.



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*Skilled engineers and technicians  
find Douglas a good place to work!*

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FIGHTERS ➤ BOMBERS ➤ GUIDED MISSILES ➤ ELECTRONIC EQUIPMENT ➤ RESEARCH AND DEVELOPMENT





## Trans-Atlantic Teamwork

... The twin-jet Canberra, being groomed to bolster our tactical air power, is a working example of British-American cooperation. Originally designed in England as a high-altitude radar bomber, its flight tests proved it to be as effective at low-level operations. Now, a night intruder version of this light jet bomber will be added to our own Air Force, built by Martin under license from English Electric Co., Ltd.

The Korean conflict has re-emphasized the importance of tactical air power in low-level support of ground troops. To this mission, the Canberra brings exceptional maneuverability at high combat speeds, and at low levels and low speeds... ability to whip around like a fighter and turn with the best of modern aircraft... ability to carry a potent, destructive wallop!

**Martin**  
**AIRCRAFT**

Builders of Dependable  Aircraft Since 1909

Photo courtesy of *The Aeroplane*, London

THE GLENN L. MARTIN COMPANY, Baltimore 3, Md.



# AIR FORCE

THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION

VOL. 34, No. 7

JULY, 1951

## THIS IS AFA

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

**Active Members** are men and women honorably discharged from military service who have been assigned or attached to the US Air Force or its predecessor services, or who are currently enrolled in the Air Force Reserve or Air National Guard. **Service Members** (non-voting, non-office holding) are men and women currently assigned or attached to the US Air Force. **Associates** (non-voting, non-office holding) are men and women not eligible for Active or Service Membership who have demonstrated an interest in furthering AFA's aims and purposes, or in proper development and maintenance of US airpower.

## ITS OBJECTIVES

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

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

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

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## THE COVER

The National Advisory Committee for Aeronautics is the government's agency for carrying out basic research in the aeronautical field. The data its slide-rule experts extract from their wind-tunnel tests is available to the armed services, to the civil aviation government bodies and to private industry. It plays a vital role in making American airpower strong.

READ "TRANSONIC BOTTLENECK BUSTERS" PAGE 31

## AIR FORCE STAFF

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## HISTORY'S FIRST JET ACE IS BACK

A RARE combination of journalistic good fortune, second guessing, and a fast press run enabled *Arm Force* magazine last month to bring its readers the first-person account of how Captain Jim Jabara became the first jet ace in the history of aerial warfare. Almost by the time copies of the magazine were off the press Jabara was on his way to the States for a well-deserved rest and training assignment. In the mean-

time the press of the nation had quoted his story widely, the *Catholic Digest* had scheduled it for reprinting, and a condensed version had received nationwide distribution by the NEA syndicate. An old pro to the bone, Jabara coolly went through his paces for reporters and photographers at a Pentagon press conference, then hurried off to his wife and family. It's fine to be famous, but it's better to be home.



In these photos ace Jabara makes with the wing talk. To document his tale his gun camera shot MIG (above left), bailed-out Red.



**Lon Minier's year is 469 days long!**



With his Beechcraft Bonanza, Mr. Minier figures he does *seven days'* productive work in *five days'* time. And he has week ends free! That's two extra days per week. In terms of work done, his year "lasts" far longer.

Mr. Minier is Regional Manager of Gamble-Skogmo, Inc., distributors of auto and radio supplies, and hardware. His territory sprawls over six western states. "I travel thousands of miles monthly with no fatigue," he says. "That's as important to me as time saved."



### Here's proof the C35 Bonanza is your best buy:

**What a performer!** Greater take-off h.p. rating, plus all-metal continuously variable pitch Beech propeller insures excellent short-field performance. Rate of climb 1,110 fpm, full gross weight. Range increased to 1,180 miles with 20-gallon auxiliary tank.

**Economy leader.** 175-mph cruising speed, using only 65% available power. This saves engine "wear and tear," and gives you an extra safety margin. At cruising, Bonanza uses only 9½ gallons per hour—an unsurpassed engineering achievement.

**Safety extra:** New Beechcraft Hi-Strength safety harness now standard. Exceeds CAA requirements, allows free movement. Extra comfort, less bulk. *More comfort:* Aerodynamic improvements to stabilizer provide easier ride. Roomy *soundproofed* cabin.

Get the *whole* Model C35 story from your Beechcraft distributor. Or write today to  
Beech Aircraft Corporation, Wichita, Kansas, U.S.A.

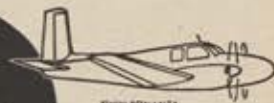


BONANZA

Top speed, 190 mph  
Cruising speed, 175 mph  
Range, 775 miles  
Fuel economy, 19.9 mpg



MODEL 18



TWIN BONANZA

**Beechcraft**

**BEECHCRAFTS ARE THE AIR FLEET OF AMERICAN BUSINESS**





The glittering lights of fabulous Hollywood Boulevard are beckoning AFA conventioners.



The cool, inviting spray of California's surf is just one more reason for coming to Los Angeles.

# SEE YOU IN LO

Here's what's going on. To find out how to get there see page 68  
out where to stay see page 70 for hotel accommodations.

## SCHEDULE OF EVENTS

AUGUST 20-26 (Monday-Sunday)

Special Vacation Privileges

AUGUST 23 (Thursday)

3:00 P.M. Registration Opens

4:00 P.M. National Committee Meetings

8:00 P.M. Annual Conference of Officers, Directors, Commanders

AUGUST 24 (Friday)

8:00 A.M. Registration

9:00 A.M. First Business Session

12:00 Noon. Unit Reunion Luncheons

2:00 P.M. Special Reserve Forces Conference

3:00 P.M. Second Business Session

5:00 P.M. Fifth Annual Reunion Cocktail Party

8:30 P.M. Wing Ding of 1951 (Hollywood Bowl)

AUGUST 25 (Saturday)

8:00 A.M. Registration

9:00 A.M. Third Business Session

10:30 A.M. Ladies Style Show

12:30 P.M. Fifth Annual Airpower Banquet

4:00 P.M. Unit Reunion Parties

9:00 P.M. The Reunion Ball

AUGUST 26 (Sunday)

9:30 A.M. Dawn Patrol Breakfast

11:00 A.M. Installation of Officers and Directors

12:00 Noon. Adjournment of Convention

AS the air-ground invasion of Los Angeles shapes up, led by special trains and chartered planes, busy committee workers on the coast are preparing for AFA's biggest and best Air Force Reunion and National Convention.

The Host Committee is setting the stage with the full cooperation of the movie colony and L.A.'s civic and industrial leaders. The AFA committee in charge, chairmaned by Tom Lanphier, Jr., who staged the 1948 Reunion in New York, and Art Kelly, Convention Chairman, has a host of willing AFA workers on the job. Last month, as the L.A. convention bureau announced that advance reservations were heavy, there were these developments:

**Vacation Privileges:** During the full week of August 20-26 all convention and reunion registrants will enjoy special vacation privileges (normally unavailable) at no cost (or minimum transportation costs) including tours of movie studios, aircraft plants, Hollywood, homes of the stars and other points of interest; tickets to network radio and television shows; beach and golf privileges, etc. An "AFA Hospitality Center" in the lobby of the Ambassador Hotel, convention headquarters, will serve as information center.

(Continued on page 59)

Palm trees and landscaped gardens enhance the semi-tropical charm of Los Angeles' Ambassador Hotel, headquarters for the convention and reunion.





# S ANGELES

51 for travel details—plane, rail, and bus. To find

## AIR FORCE ASSOCIATION'S FIFTH ANNIVERSARY NATIONAL CONVENTION AND AIR FORCE REUNION

Ambassador Hotel, Los Angeles

August 24, 25, 26, 1951

*Honorary Chairman*  
The Honorable Fletcher Bowron  
Mayor of Los Angeles

### THE HOST COMMITTEE

Louis B. Mayer  
General Chairman

James H. Kindelberger  
Finance Chairman  
Lt. Gen. Ira C. Eaker  
AFA Liaison

Mervyn LeRoy  
Entertainment Chairman  
Lt. Gen. Harold C. George  
AFA Liaison

### THE AIR FORCE ASSOCIATION COMMITTEE

*CHAIRMAN*  
Tom Lanphier, Jr.

*CONVENTION CHAIRMAN*  
Arthur W. Kelly

*WING DING CHAIRMAN*  
Jimmy Stewart

*Convention Vice Chairmen*  
Tom Stack, Bert Lynn

### Convention Subcommittees

*Housing*  
Joe Nadel, Chairman  
Robert Vernon, Vice Chairman

*Unit Reunions*  
James Maher, Chairman  
Fred Fink, Vice Chairman

*Registrations*  
Mary Gill Rice, Chairman  
John Manning, Vice Chairman  
Howard Smith, Vice Chairman

*Information-Membership*  
Gordon Willard, Chairman  
Phil Redding, Vice Chairman  
Keith Jones, Vice Chairman

*Arrangements*  
Bernard Peters, Chairman

*Decorations-Displays*  
William Walker, Chairman  
Bill Sandleman, Vice Chairman

*Functions*  
Davie MacDivitt, Chairman  
J. L. McElliott, Vice Chairman  
Joseph Halsey, Vice Chairman  
Arthur C. Smith, Vice Chairman

*Entertainment-Tours*  
William Tobias, Chairman  
Al Freeman, Vice Chairman

### REUNION-CONVENTION COORDINATOR

David Shawe  
Manager, West Coast Office, AFA

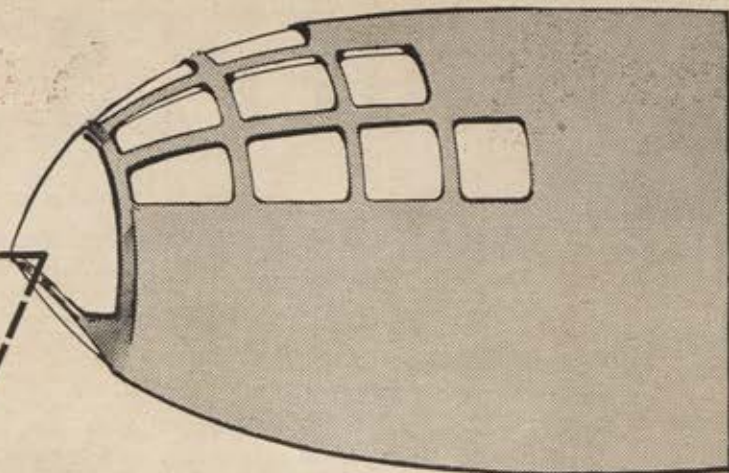


Don't forget Grauman's Chinese Theater (above) where hand- and footprints of stars are imbedded in the lobby. No trip to the West Coast is complete without a visit to Ambassador's lush night spot, the famous Cocoanut Grove.





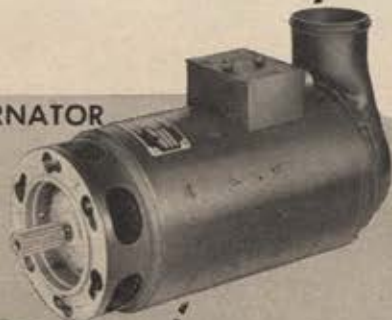
# VISIBILITY



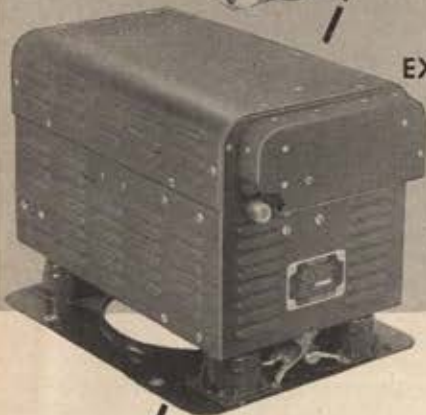
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EXCITER REGULATOR



*above the horizon* — it's Eicor's electronic team supplying the safe, sure, AC power your nesi-glass deicing system needs for perfect flight-vision under all flying conditions.

*beyond the horizon* — again this dynamic Eicor team provides the ultimate in closely controlled alternating current, the power necessary to give vision to the far-reaching, far-searching eyes of your aircraft's radar and its associate equipment. You can be assured of the flight-reliability of these units. Designed to rigid and exacting

AN Specifications, the Eicor 8Kva Alternator and Exciter Regulator have proven their dependability of performance over thousands of operational flying hours. The Eicor 8Kva Alternator will generate 115/208 volts, three phase, or 115 volts, single phase, at frequencies of 380-1000 cycles and over a speed range of 3800-10,000 rpm. Sensitive voltage regulation and field excitation for the alternator is supplied by its team-mate, the Eicor electronic Exciter Regulator. This Exciter Regulator can also be used in any power circuit, for excitation supply, having a range rating characteristic output of 0.5 to 5.5 amperes DC and 14.0 to 170.0 volts D.C.



## EICOR, INC.

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*Leading the way in electronic controls  
for aircraft power conversion equipment*



# AIRPOWER IN THE NEWS

VOL. 34, NO. 7

WASHINGTON, D. C.

JULY, 1951

112,000 TROOP CASUALTIES were inflicted on the enemy by aircraft under FEAF operational control from June 26, '50 through May 21, '51. Our losses during this period totaled 228 aircraft and 785 personnel (killed, wounded, missing, and POW). 23,550 tons of bombs, 29,938,000 rounds of ammunition, 40,700 tons of freight, 158,000 passengers, and 76,500,000 leaflets were delivered in 67,907 FEAF sorties during the quarter, February 22 to May 21, '51. (See page 25.)

MATS, which was formed on June 1, '48, airlifted 400,000 passengers and 60,000 tons of critical cargo and mail during its third year of existence. Within three months after start of Pacific airlift, 106 tons per day were being airlifted to Japan, as compared to only 68 tons transported by 50 planes prior to May, '50. By September, a maximum of 250 aircraft was operating in the airlift.

HEADQUARTERS for newly activated Technical Training Air Force will be set up by mid-summer at Gulf Coast Military Academy, near Biloxi, Miss., Maj. Gen. Charles C. Chauncey commanding. . . Texas Aviation Industries of San Antonio has been selected to operate civilian basic pilot training school at Hondo, Tex. . . Limited use of facilities at Yuma County Airport, Ariz., as a gunnery school under Air Defense Command, has been announced by AF. . . Jet fighter squadron of ADC will be stationed at Youngstown Municipal Airport, O.

BELL X-5, first USAF aircraft with variable swept-back wings, will begin flight tests in near future at Edwards AF Base, Calif. . . Single-seat, fighter-bomber version of Lockheed F-94, designated the F-94D, has been ordered into production by USAF. . . First operational F-84G equipped for mid-air fueling by tanker planes has been unveiled by Republic. . . The 45,000th military plane designed and produced by North American (an F-86) has been delivered to USAF.

NEW COMMANDS as CG of FEAF and CG of Fifth AF have been assumed by Lieut. Gen. O. P. Weyland and Maj. Gen. Frank F. Everest, respectively. . . Gen. George C. Kenney, Commandant of Air University, and Maj. Gen. Gordon P. Saville, Deputy Chief of Staff, Development, will retire this summer. . . Lieut. Gen. Idwal H. Edwards, Deputy Chief of Staff, Operations, will replace Gen. Kenney. . . Brig. Gen. Ruben C. Hood, Jr., is scheduled to replace Maj. Gen. John A. Sanford as Commandant of Air University's Air Command and Staff School at Maxwell AF Base.

NEW WAF CHIEF is Col. Mary Jo Shelly, former WAVE, replacing Col. Geraldine P. May.

OVERALL DEMONSTRATION of USAF operational missions including coordinated air-ground techniques, will be given to the '51 class of West Point during annual air indoctrination tour which started recently from Stewart AF Base, N. Y.; Class of '52 is now on "Combined Arms Trip" which began with visit to Wright-Patterson AF Base, Ohio, on June 5.

(Continued on page 12)



# AIRPOWER IN THE NEWS

CONTINUED

JOINT AIR-GROUND INDOCTRINATION TEAM (JAGIT) recently departed for Europe to give American armed forces abroad a concentrated course in tactical air support of ground troops. AF and Army officers who comprise special team are from Ninth AF (Tactical), Pope AF Base, N. C., and Army Air Support Center, Fort Bragg, N. C. . . . Air-ground support training is planned for tactical units of National Guard this summer. . . . Approximately 17,000 officers and men of Air National Guard will also take field training this year.

USAF BAND left for two months good-will tour of Ireland, England, Germany, Austria, Netherlands, Luxembourg, Trieste, Newfoundland, the Azores, and Tripoli, North Africa. Tour will include 40 concerts in 30 cities and military installations.

DOCTOR OF LAWS DEGREE was conferred on Maj. Gen. Reginald C. Harmon, Judge Advocate General of AF, by National University School of Law, Washington, D. C., last month. . . . Col. J. Francis Taylor, Jr., USAF, Chief of All-Weather Flying Division, Air Development Force at Wright-Patterson AF Base, was recently awarded the Corporation Aircraft Owners Association Award for 1950 for "outstanding individual initiative and leadership" in development of all-weather equipment and techniques.

RAYMOND FORCE LONGACRE AWARD of Aero Medical Association for 1951 was received by Col. Neely C. Mashburn, USAF Medical Corps (Ret.), for "his research work 25 years ago in developing an apparatus for predicting flying aptitude in cadet applicants which is still being used successfully in USAF." Maj. Gen. Harry G. Armstrong, Surgeon General of USAF, who was elected new president of AMA at its recent 22nd annual meeting, has announced that the 1952 gathering will be held in Washington, D. C. Rear Admiral B. Groesbeck, Jr., USN Medical Corps, who was recipient of AMA's Theodore Charles Lyster Award for achievement in general field of aviation medicine, was re-elected vice-president. Col. Paul A. Campbell, director of research at the Air Medical School, was chosen chairman of world's first Space Medicine Society, organized by AMA members.

SUB-CONTRACTORS CLINICS will be held by Armed Forces in Detroit and Los Angeles in September, with definite dates announced later. . . . During first ten months of Fiscal '51, Dept. of Defense obligated \$21.0 billion for procurement of aircraft, ships, tanks, weapons, ammunition and other equipment. . . . Nation's aircraft industry presently is using 60,851 sub-contractors and suppliers, according to AIA. . . . On program-wide basis USAF obligates its aircraft procurement dollar for following purposes: air-frame, 45.2%; engines, 28.7%; armament and weapons, 11.8%; electronics, 2.9%; propellers, 2.2%; all others, 9.2%.

JULY 25, 1951 is final date that most veterans can begin training under GI Bill. . . . With passage of Public Law 28 (82nd Congress), persons who served on or after June 27, '50, now may receive medical, hospital and domiciliary care, and burial benefits, on same basis as World War II veterans. In addition, these servicemen and their dependents now may be eligible for compensation and pensions under same conditions as those who served in World War II. . . . Time authorized for former POWs to file for compensation with WCC has been extended through March 31, '52.



# HIGH PRAISE FOR LOW TENSION



American Airlines  
Braniff Airways  
Capital Airlines  
Chicago & Southern Air Lines  
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*Write for an interesting booklet entitled  
"Current Aircraft Engine Ignition Systems."*

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**SCINTILLA MAGNETO DIVISION OF**

**SIDNEY, NEW YORK**

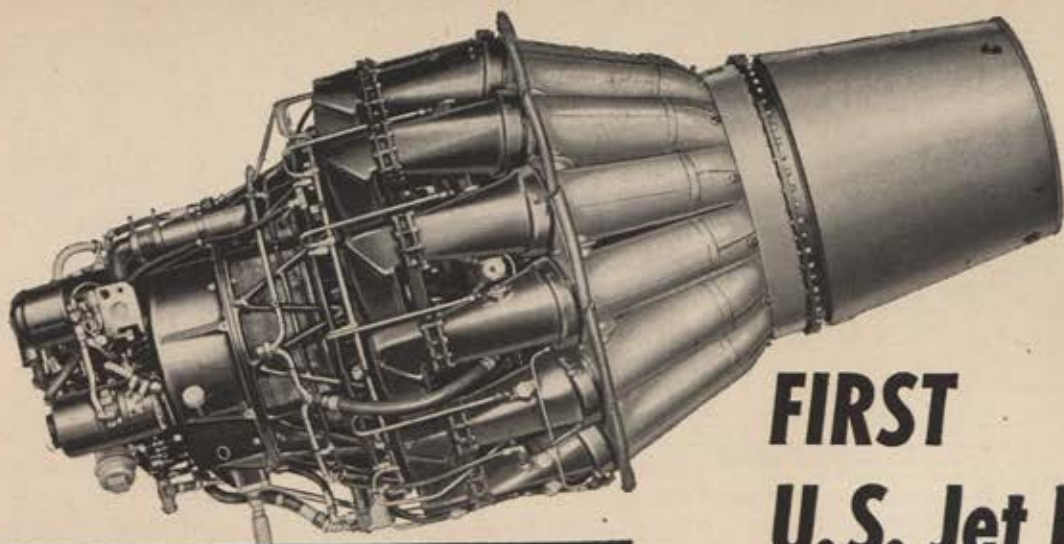
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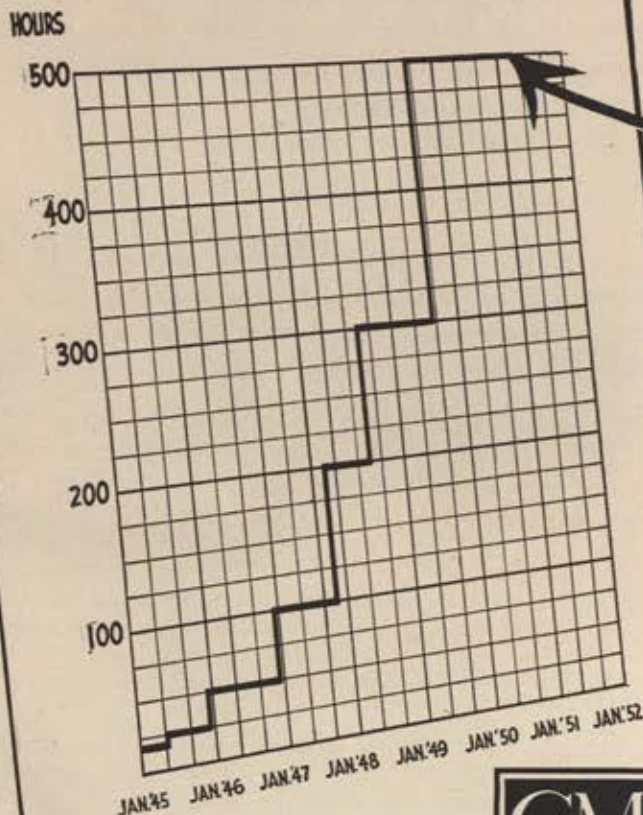
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## ALLISON J33 TURBO-JET AUTHORIZED TIME BETWEEN OVERHAUL



Builders of Axial and Centrifugal Flow  
Turbine Engines—J33, J35 and the new J35-A-23.  
Also the T40 Series Turbo-Prop Engines



# Allison

DIVISION OF GENERAL MOTORS, INDIANAPOLIS, INDIANA

## FIRST U.S. Jet Engine approved for

# 500 HOURS

## operating time between overhauls

*by authority of Maintenance  
Division, Air Materiel Command,  
U.S. Air Force*

FIVE hundred hours' operation between major overhauls is now allowed on Allison J-33 jet engines. At that time, if complete inspection shows engine meets required standards an extension of 200 additional hours is authorized with periodic inspections. It is typical of Allison dependability that many J-33 and J-35 engines are operating 700 hours between major overhauls.

Behind this proof of dependable service stands good engineering and manufacture by Allison—plus excellent work by flying and maintenance personnel of the U.S.A.F. and Navy. Such a record would not be possible without the total experience of 800,000 hours flight time amassed by 10,000 Allison jet engines.

That is experience where it counts most—in the air—and another reason why Allison leads the field in both the breadth and depth of its turbine engine experience.



# FROM THE GROUND, UP!

We and our allies must establish undisputed control of the air.

Forty years ago I would have recommended undisputed control of the seas and for the same reasons, namely, to exploit the most efficient available means to neutralize and to destroy enemy warmaking potential.



Those of us in a particular military service are understandably prone to be unduly influenced in our thinking by service loyalties.

Most Americans, including those in the armed services, are still surface minded, although we Americans utilize the airplane commercially and militarily more than any other country in the world.

We should insure the most effective employment of airpower.



It is possible that in the future science may develop a new weapon which may render the skies untenable for airplanes. I hope then that military leaders, particularly those in the Air Force, will support such new weapons as strongly as I am supporting airpower today.



It is not my desire to convey the impression that airpower alone will win a future war, but in my judgment it is our most important and powerful single means of imposing our will by military force.

*From the testimony of LIEUTENANT GENERAL ALBERT C. WEDEMEYER, USA, Commanding General, Sixth Army, before the Senate Armed Services and Foreign Relations Committees inquiring into the dismissal of General MacArthur. June 13, 1951*





**KING-SIZE CONTAINERS**  
**FOR JET ENGINES!**

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**"Canned" Power!** Jet or radial engine ... Rheem custom-builds steel containers to hold either one for shipment and storage.

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## Letter From Britain

The King's House,  
 Burhill, Walton-On-Thames,  
 Surrey, England  
 15th June 1951

General Carl A. Spaatz  
 Chairman of the Board  
 Air Force Association  
 Washington, D. C.

My Dear General Spaatz:

I am writing to inform you, and all my other friends in the U. S. Air Force, of the development and progress of the American Memorial Chapel in St. Paul's Cathedral in London, and I wonder if it would be of sufficient interest for your Air Force Association to publish this letter in their journal.

I would like to recall to your memory the little luncheon in a London Club at which we met, when it was first suggested that a permanent Memorial should be erected in London to all those Americans who had lost their lives in the last war when based on the British Isles, very largely, as you know, American Air Force personnel. I remember the discussion so well. Some Memorials had been erected in the villages and towns of England where American Forces had been stationed and had suffered grave losses, many of their dead being buried in the local churchyards. It was suggested at the lunch that a more central Memorial, in London, the heart of the British Commonwealth, would be very appropriate and fitting. The British present at that meeting said at once that we in England should be entirely responsible, financially and in all other ways, for such a Memorial to your countrymen and that the Fund instituted to carry out the project should be called the American Memorial Chapel Fund. It was also decided that no American money should be asked for or accepted. Sir Clive Baillieu agreed to be Chairman of the Executive Committee of the Fund.

You will no doubt also recollect that we wanted at the same time your great Nation to know what was being done and to have America intimately connected with the Memorial. It was subsequently agreed that I should see the Supreme Commander, General Eisenhower, on the subject, and I asked him if he could suggest in what way the American people could be intimately connected with the American Memorial Chapel in London, without their being asked to subscribe. After consideration, he felt that a Roll of Honour should be prepared of all those Americans who had lost their lives, or who had not returned from operations, while based on the British Isles. He also said that of course only America could prepare this Roll of Honour and that permission should be asked to deposit it for safe keeping with the Dean and Chapter of St. Paul's in the Chapel. The Dean and Chapter were at once consulted and agreed to the proposal, in fact, they welcomed it.

We all regret exceedingly the length of time which has elapsed since the idea was first mooted, but the delay has been entirely due to the damage which St. Paul's Cathedral suffered during the air raids on London. The repairs to the Cathedral are not yet completed and the American Memorial Chapel will consequently not be finished for some time yet. It has therefore been decided that the Roll of Honour should be deposited in an honoured position in the Cathedral until such time as the Chapel is ready. You will know that on July 4th this year, Independence Day, the Roll of Honour is to be handed by General Eisenhower, on behalf of the American nation, to the Dean and Chapter of St. Paul's for safe keeping and their Majesties the King and Queen have signified their intention of being present at the Ceremony. The Archbishop of Canterbury will conduct the service of Dedication.

I, and my fellow members of the American Chapel Fund Committee, hope that this Chapel will be a source of pride to all the relatives of the fallen, and also to the present generation of officers and men in the American Armed Forces, in particular to the U. S. Air Force, which suffered so grievously in the 1939/45 conflict and in so doing helped to save the world and civilization from black tyranny.

Yours very sincerely,  
 The Viscount Trenchard  
 Marshal of the Royal Air Force





he's depending on Teamwork

*E.J. Hartmann*



*Air Associates*

INCORPORATED  
TETERBORO, NEW JERSEY

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## RECORDS ARE ROUTINE WITH CONTINENTAL POWER

### DISTANCE

Capt. William C. Odom set new over-water record for light planes, flying from Honolulu to the Mainland in January, 1949. In March, Capt. Odom broke his own record, flying same Beechcraft Bonanza from Honolulu to Teterboro, N. J., 5,004 miles.



### ENDURANCE

Woody Jongeward and Bob Woodhouse landed their Aeronca Sedan at Yuma, Ariz., Oct. 10, 1949, after remaining aloft 1124 hours—or six weeks and five days.



### ALTITUDE

Sra. Ana Luisa Branger set officially-certified international altitude record of 24,504 feet in her Piper Special with Continental C90-8F engine on March 31, 1950, at Congressional Airport, Rockville, Md.



### SPEED

John Paul Jones of Van Nuys, Calif., broke midget plane speed record at Detroit-Wayne Major Airport Aug. 13, 1950, winning Continental Motors Trophy Race at speed of 187.785 m.p.h., in home-built plane with C85 Continental engine.



**CONTINENTAL  
MODEL E185**

471 Cu. In. Displacement  
185 h.p. at 2300 r.p.m.

The fact that Continental aircraft engines hold all major performance records doubtless has much to do with the preference they enjoy. But at least equally important from the standpoint of owner and pilot is Continental Motors' unreserved acceptance of the obligations which that preference has imposed. This attitude is reflected in Continental Motors' maintenance of parts and service facilities wherever people fly. You may not have occasion to use them this trip, or next—but it's reassuring to know they're always there ahead of you, waiting to speed you on the way.



***Continental Motors Corporation***  
***Aircraft Engine Division***  
**MUSKEGON, MICHIGAN**

**CONTINENTAL POWERS MORE LIGHT PLANES THAN ALL OTHER ENGINES COMBINED**



# AIR MAIL



## Misconceptions

**Gentlemen:** As an Air Force officer on exchange duty with the Navy, I found your March issue of *Air Force Magazine* most useful when discussing the Air Force viewpoint on ground support and tactical airpower with interested personnel of this unit. Recently we have received replacements in the unit, some with experience in the Korean War, and they have some definite ideas about ground support and the use of jets for the same. Therefore I would like to know if you could send me three addi-



tional copies of the March issue to pass among these officers. The material and manner of presentation in this issue were invaluable in helping to clear up some misconceptions a few of these people had. Congratulations on a job well done.

Major Edward P. McNeff  
Whiting Field, Florida

## What About Unification?

**Gentlemen:** Most of what the Air Force Association is doing I am in agreement with. I believe in preparedness and with the aim of the Association in trying to promote preparedness. I also feel that the *Air Force Magazine* serves a very educational purpose in most of what it prints. For those reasons I wish to continue to receive the magazine. However, I do feel, and this is my criticism, that in the past too much emphasis has been placed on the contribution of the Air Force to the battle of Korea at the expense of the other services. I cannot believe that what the other forces have done can be minimized in the way that I feel has been done in the magazine lately. Such writing certainly is detrimental to the unity which this country has chosen as its course in regard to the services. With apologies if I am speaking out of turn, I remain,

Thomas V. Monahan  
Charlottesville, Va.

## Dear Hearts and Gentle People

**Gentlemen:** I just received my June issue of *Air Force Magazine* with the story by Captain James Jabara, world's first jet ace. Captain Jabara and I are related and practically grew up together, as he resided only a block from

our house. Because we are of the same nationality, and his family is very close to us and our church, I have been asked by numerous friends of ours for copies of June *Air Force*. As I am the only Air Reserve officer among our friends, we only have this one issue. I would be very happy indeed to pay any costs whatever incurred for ten issues of this magazine as soon as possible.

Richard Ayles  
Wichita, Kansas

## Afterburner Boost

**Gentlemen:** As an aircraft engineer, engaged in the design and development of jet engine afterburners, I was extremely interested in your "All Weather Defense" article in the May issue of *Air Force*. Your article, in my opinion, was one of the most interesting ever to be carried in your publication. However, it is regrettable that it did not contain more information on the afterburners used on the planes in question. Aside from the captions the afterburners are mentioned only on page 35 by the sentences "The F-89 is powered by two J-35-A-21 Allison's, the F-94C by a J-48 Pratt & Whitney. Both are equipped with afterburners which add some 35 percent power boost to the thrust of each of these aircraft." A future article on afterburners, in general, would be of great interest to readers of *Air Force Magazine*, I'm sure. It is doubtful if many of your readers actually know what an afterburner is, much less know just how one operates. I am not suggesting that any one specific afterburner be detailed for illustration but merely a typical example be used. An explanation of the various types of afterburner nozzles most commonly used would be of great interest to a lot of ex-pilots and ground crew men. The plug type, three segment, clam shell, flap and iris type



nozzles would about cover the field. How about it? I have been an AFA member for the past four years and have been associated with aircraft for the past eight years, both in civilian life and in the AAF during World War II. I sincerely believe in all that AFA stands for and wish you the best of success for many years in the future.

Ray W. Beck  
St. Louis, Mo.

## Book Bargains

**Gentlemen:** I wish to take this opportunity to thank the Book Department of *Air Force Magazine* for bringing to my attention the various books available that concern the Air Force. I have successfully used your service many times, always to my satisfaction. Please, if possible, publish a more complete list of Air Force and military books, old or new, in the magazine each month. I can remember several books that you have listed in the past that I would be interested in buying now, but which are not available in local book stores.

Capt. Anthony J. Kupferer,  
Lackland AF Base, Tex.

## Off We Go!

**Gentlemen:** It seems to me you could spare space to print the words to the Air Force Song. I suggested this about three years ago and I still think it is a good idea. There are lots of members who know the music but not the words. How about it?

Col. Lawrence B. Ocamb,  
Alexandria, Va.

● Good idea, Colonel. Here are the first two verses.



Off we go into the wild blue yonder,  
Climbing high into the sun.  
Here they come, zooming to meet our  
thunder,  
At 'em, boys! Give her the gun!  
Down we dive, spouting our flame from  
under,  
Off with one helluva roar.  
We live in fame, or go down in flame,  
Boy! Nothing'll stop the U. S. Air  
Force!

Minds of men fashioned a crate of thun-  
der,  
Sent it high into the blue.  
Hands of men blasted the world asunder.  
How they lived, God only knew.  
Souls of men, dreaming of skies to con-  
quer,  
Gave us wings ever to soar.  
With scouts before and bomber galore,—  
Boy! Nothing can stop the U. S. Air  
Force!

(Words and music by Robert Crawford)



# MISSIONS ... and *MIRACLES!*



ENGINE AND AIRPLANE CORPORATION  
**FAIRCHILD**  
*Aircraft Division*  
HAGERSTOWN, MARYLAND

Fairchild Engine, Guided Missiles, and Stratos Divisions, Farmingdale, N. Y.

## U.S. Marines Watch In Awe As Big Bridge Floats Down

### World's First Air Dropped Bridge Spans Carried By 119's To Chosin Reservoir Battle

HQS, FEAF CARCOM, (A.T.)  
The world's first air drop of a bridge was made today by aircraft of the FEAF's Combat Cargo Command, was eight spans totaling 16 tons were parachuted near Kotori-Ri in North Korea.

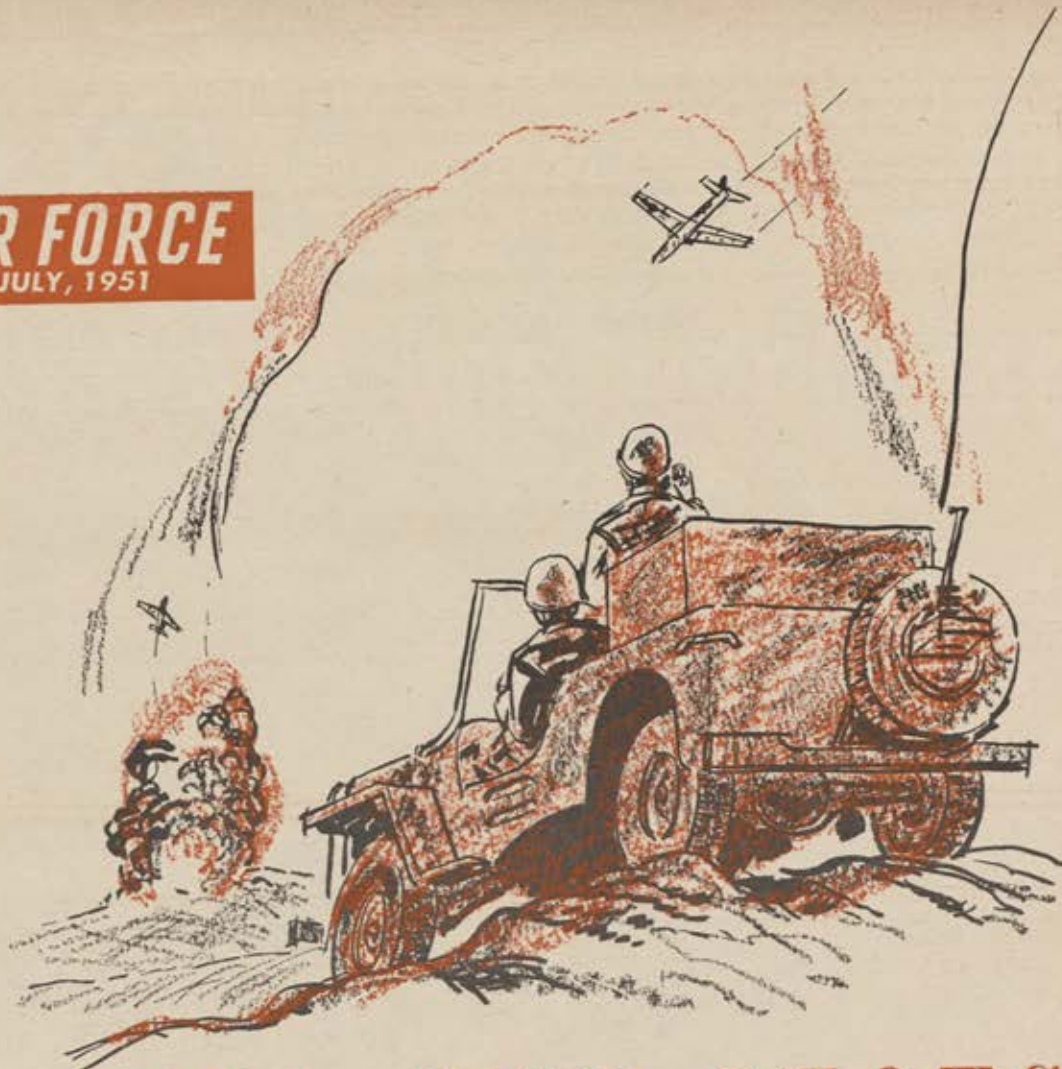
United States Marines, fighting bitterly against hordes of Chinese Communist Troops in the frozen north, gazed up in awe as the huge C-119 "Flying Boxcars" of the 314th Combat Cargo Wing broke through an overcast and spilled out the huge pieces of equipment. Large 100 foot parachutes supported the spans as they drifted slowly down, landing near the determined leathernecks.

Mission successful, pilots returning to this air base, stat-

These Col. A. office Evacu Air D of the by the cal that large since Comb estab remain ber o airlif lity in highly of th Since in Kor ed ri Nation woun casual Korea ed by enemy ed and flight. caring swelled recent in a for ing th 30 Sep ber



**AIR FORCE**  
JULY, 1951



# WE CALL THE SHOTS

*Next best thing to a guided missile is tactical  
airpower directed from the ground by a forward  
air controller. Here's how they do it in Korea*

**By Lt. John S. Robertson**

**F**IRST of all, my vocabulary just isn't big enough to say what I would like to about the infantry. My admiration for the guy who takes ground by occupying it can't be expressed in words. When the blue chips are really down and there's no relief in sight, the frontline GI has proved to me that he can take it. And brother, can he dish it out! Maybe it's born in him. Maybe he soaks it up in training and in combat, but he's got it. I know, because I served with him. I wasn't with him long, but during that time we went from the shrunken Pusan perimeter to the rolling hills of Namchonjom, above the 38th Parallel. The F-80s and F-51s killed a lot of Commies along the way, but there was still a lot of fighting to do and these rugged GIs—with their muddy boots, nicked-up helmets, and unshaven faces—drove



forward and took mile after mile of bloody real estate. Army and Air together rolled the invader back and stomped him into the mud.

In September, when I got my orders to report to the Army as a Forward Air Controller, I had already done 69 missions with the 80th Fighter Bomber Squadron. On September 17, I reported to the Tactical Control Group at Pusan. The same day I was ordered to Taegu, to report to the 1st Cavalry Division Air Force liaison officer. I wound up with the 7th Regiment—descendants of the troops who stood with Custer at the gallant battle of the Little Big-horn. Now they fight as infantrymen

As the panicked Communists broke and ran, my Mosquito pilot was going slightly nuts, afraid they would get away before our fighters got there.

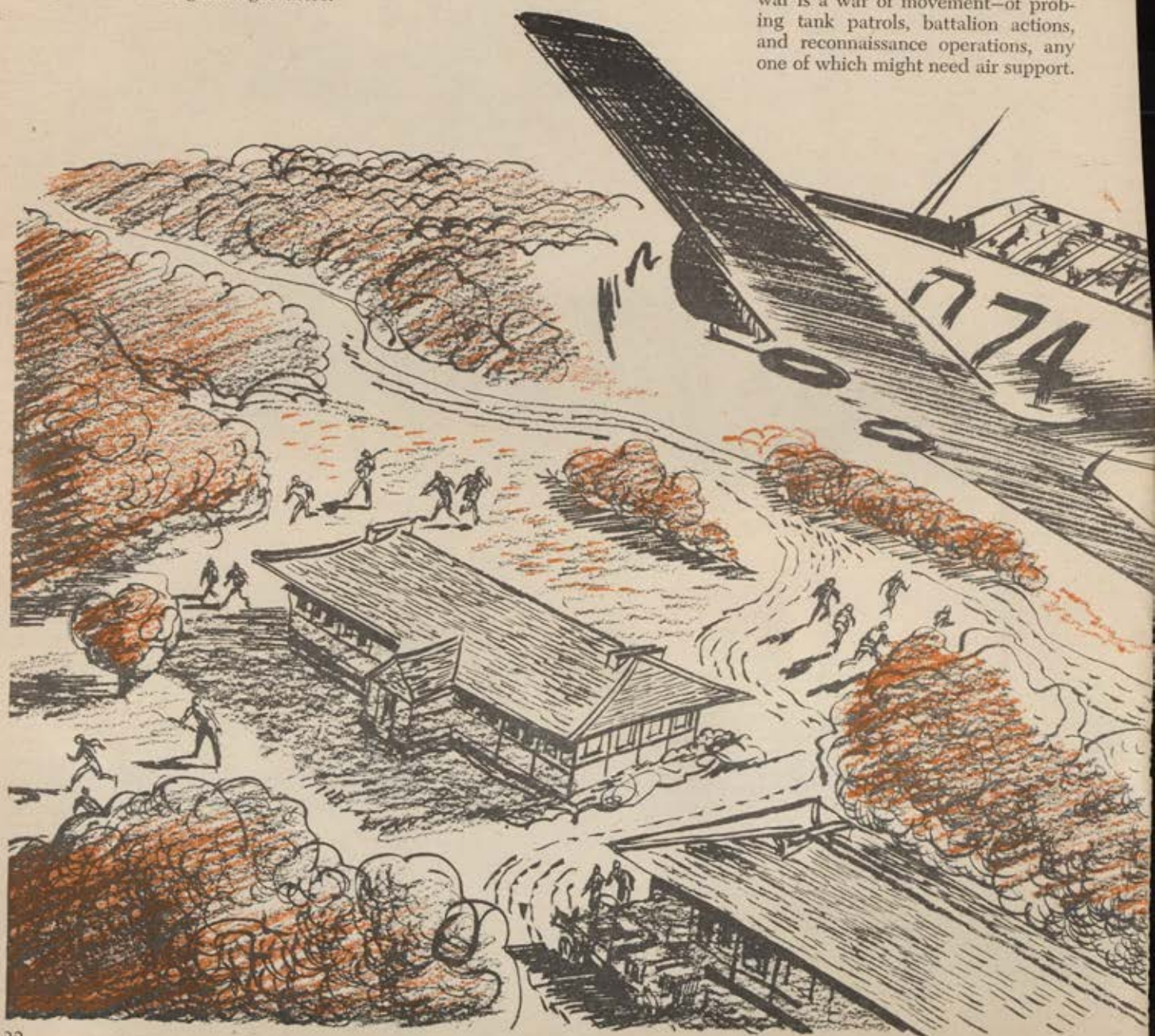
but they still sport the colorful yellow scarves of the old-line cavalry and their jeeps are adorned with saddle horns.

At the regimental command post the controller I was relieving gave me a quick briefing. From then on I was on my own.

Things were pretty dull the first two days. We were in bivouac and I spent most of my time getting acquainted and checking equipment. On the 19th a new regimental CO checked in—Lt. Col. William A. Harris, a fine commander and a tough fighting man who knows how to use his air. The CP moved to another area and I was still a little bit in the dark about just what I was supposed to do.

I found out soon enough. During the evening of September 20, Division Headquarters called us to a briefing. The 7th was to be the spearhead of a major attack to be launched all along the line. Plainly the honeymoon was over, so I asked for priority on all fighters sent into our area. My request was granted and we went back to our CP. Next day, at 0300 hours, Battalion Task Force LYNCH was formed and we moved north to Tabu-Dong. I was about to learn forward air controlling the hard way.

I had always thought controllers hung around the front lines, just behind a machine-gun crew or a fox-holed rifleman. But that is seldom the case and I can't say I was unhappy about it. During an advance or an action I was never out of sight of the regimental commander. This war is a war of movement—of probing tank patrols, battalion actions, and reconnaissance operations, any one of which might need air support.





I stuck close to the regimental CP.

At 0800 hours on September 21, we shoved off from Tabu-Dong to seize and hold the ferry on the Nakdong River. The first five miles we moved slowly through a scene of complete devastation. We bypassed pockets of resistance whenever we could. Our job was to secure the ferry for the troops that were to follow us.

Fighter bombers had been working over the place and it was a mess. As a result it was slow going, but Lt. Col. Lynch, 1st Bn. CO, didn't mind. He has a good word for the fighters in his report—"The Air Force had done a complete job of destruction of enemy weapons, tanks, and ammunition." That one sentence covered a lot of territory.

Over the dusty, twisting roads of the Korean mountains our column of Patton tanks and truck-mounted infantry rumbled toward the Nakdong. In my radio jeep, up towards the front of the column, near the artillery liaison officer's vehicle, I kept a constant check on any enemy movements on our flanks or up ahead. At this stage of the game we weren't primarily interested in kill-

ing Commies. We were to plunge straight through his lines to the river crossing.

As we neared the Nakdong, at about 1500 hours, the armored spearhead flushed a large concentration of North Koreans out of their entrenched positions in the hills above the river bank. This was too good to miss. Flights of 80s and 51s had been checking in with me regularly but we hadn't needed them. Our flanks were clean. Now we had a job for strafers.

I took a run up to the head of the column. I wanted to pinpoint its exact location before calling flights to work over the panicked Commies. My Mosquito pilot was going slightly nuts over the numbers of fleeing enemy soldiers he was afraid would get away. But in five minutes the first flight nosed over. For the next 45 minutes or so the Nakdong ran red as North Koreans were slaughtered by the hundreds in a futile attempt to get across to safer ground. When I got to the crossing, and during the short drive to the river, I saw more hundreds who had surrendered under the pounding of strafing fighters and roaring tanks. We captured several vehicles and guns—and recaptured some of our own.

That night was sleepless. The Commies probed at our perimeter

and engaged a couple of tanks in a fire fight. We stayed awake in case they should try a banzai attack. Even before nightfall little groups of suicide troops, holed up in small villages, old houses, or wrecked tanks, fired on us from time to time. But the only damage they did was to my nerves.

The action broke up at daybreak with 300 North Korean dead. The rest, about 50 or 60, were captured. The regiment secured both sides of the river and the troops spent the rest of the day mopping up. I took it easy, directing the Mosquito on a reconnaissance around the area. At 1600 we moved across the river and up the road to the village of Sangju—about five miles.

Next day I had to go back to Taegu for the day, expecting to rejoin the regiment at Sangju that night. But I didn't see them for three days. They moved out before I got back and it took three days of hard driving over the rutted mountain roads before we caught up with them at Osan. There the regiment had linked up with the 7th Division, moving east after the Inchon landing. The controller who relieved me—supposedly for one day—was glad to see me back.

We sat on our tails at Osan for five days while the battalions filled their ammo belts and caught up on their sleep. My T-6 Mosquito pulled routine reconnaissance flights. All in all, it was a welcome break. We left Osan to occupy positions north of Seoul near Paekchon, about four miles south of the Parallel. Enemy resistance during the march was light. Our Mosquito ranged out ahead of us, constantly checking the flanks for enemy movement. Column-cover fighter flights called in regularly, but we didn't need them so I sent them on to other controllers who had targets. Two days later we crossed the 38th and arrived at Hanpo-ri. We were between two North Korean divisions—one to the south, one to the north. The 8th Regiment, south of us, was driving one complete Red division ahead of it to where we had cut its escape routes. The next few days promised plenty of action and we had word from the weathermen that ceilings and visibilities—which had been excellent—would hold. Our morale went up a notch. Commies don't move in the daytime in good weather.

Two days later the Red division began fighting its way out of our trap. It was good shooting. We had all the fighters we could use. I had every flight my senior controller at division headquarters could send me

(Continued on page 24)





beating up villages and other troop assembly areas. The regimental CP was in a little schoolhouse on a hill. From it we could see everything we were hitting. We had cut the main north-south supply route and the enemy was on the run.

We dug in and, as the 8th Regiment pushed the Commies into us, we shot them up with artillery. When they reeled and started for the flanks we hit them with fighter bombers. The sight of so many UN planes over the Reds had the dough-foots grinning from ear to ear. Regimental officers stopped by my bat-

perfect radio contact with lead tank and infantry elements. Reception was loud and clear and we didn't have a blocked transmission.

When the tank and infantry point-men called in enemy strong points to us we could put almost any type of fire into the target. The enemy's casualty rate must have been terrific. As the tanks and infantry rolled ahead so did the fighters. Between them they chewed up everything in sight. By 1500 hours Namchonjom was ours and I drove into town past the torn remnants of the North Korean defense positions. Burned-out

and at our level we didn't know the whole score. We just held our breath and hoped. Anyway, there we were in this God-forsaken country, sitting tight.

"The division on our right was being hit hard, so all the available fighters were working for them. As a result I didn't have much to do until I got a call from a forward observation post. They had spotted a column of Chinese cavalry, on tough, hairy, little Mongolian ponies, apparently trying to cut our rear.

"Horse cavalry! I thought I was in the wrong war. Because the division on our right was taking such a beating it took me about 20 minutes to get a flight but then we knocked off about 200 horses and men. On a deal like that the flexibility of air-power can't be beat, because it goes right in on a definite target."

Another friend, Lt. Richard C. Brown, had a hectic tour as forward controller for the 23rd Republic of Korea Regiment. They had advanced to within 20 miles of the Manchurian border when the Chinese broke it up. Withdrawing with the column in the freezing temperatures of wintertime Korea. Dick learned a lot about tactical air in a rearguard action.

Dick probably had the roughest time of any forward air controller in Korea. He was short on equipment—once he had to have radio crystals dropped to him by parachute. His tactical control group lost contact with him. He didn't have an interpreter with him and ran head on into language troubles.

When I started my tour I knew about as much about the job of a forward air controller as the ground people did about the mission of fighter bombers. We learned together as we went along. Before long we were old hands at the business. My jeep and radio were old and needed repair, as did most at that time. Sometimes fighter support was asked for job that artillery or tanks could do. A few times too many aircraft were called for and we had to hold flights until there was room for them on target. But the over-all plan worked out.

Based on my tour as a forward air controller, three elements stand out as vital to the air-ground team. The first, of course, is communications—dependable, rugged radio equipment. The second is close cooperation between the regimental operations officer and the tactical air control party. The third is coordination between the controller and the artillery and tank liaison officers. Given these three elements, the air-ground team is unbeatable.

## THE AUTHOR

First Lieutenant John S. Robertson, USAF, is well qualified to speak of air-ground operations from the working man's point of view. Besides his stretch as a forward air controller he flew 109 missions in F-80s in Korea. He now is flying F-84s with the 20th Fighter Bomber Group, Tactical Air Command, at Shaw Air Force Base, South Carolina.



tered jeep and listened in for a few moments. From where I was, the tank battalion, the field artillery battalion, and the mortar company were fanned out below and to the south and liaison was no problem. Targets that could not be reached by the guns were relayed to me and we put both Air Force and Marine fighters into the air. The cooperation was beautiful and many a Commie had his breakfast in hell next morning. That night things quieted down and we curled up in our foxholes to get some rest before the next move.

Next day was October 18, just a month since I had reported for duty. We jumped off at 0600 up the Red road to Pyongyang. The first objective was Namchonjom, assembly point for two North Korean divisions. I thought I already had seen some coordinated maneuvering, but the battle for Namchonjom was a classic. Our central fire control center was on a hill about a mile from town. The tank, artillery, and mortar liaison officers and myself had

gun positions, wrecked vehicles and dead Commies littered the place.

My relief arrived the day after we took Namchonjom and I left the regiment to return to my squadron in Japan. The cooperation I had received impressed me with the importance the infantryman places on air-ground operations. And, as the cooperation got better, the enemy suffered in proportion. Everyone I talked to, officers and men, embarrassed me with praise for the Air Force. When my radio jeep rolled by a column of infantry, the GIs were never too weary for a friendly wave of the hand.

Other forward air controllers I know had some interesting experiences of their own. Lt. Henry L. Reynolds, now here at the 20th Fighter Bomber Group, once used modern fighter bombers against an old-fashioned cavalry column. Here's the way Hank tells it:

"We were at Napehngjong, about 60 miles from the Yalu. The Chinese Commies had just got into the war



## THE MILITARY OBJECTIVE

"Our present objective in Korea is to stop the Communists—to kill as many as we can at the least possible cost to ourselves."—

*General Omar N. Bradley, Chicago, April 17, 1951*

## THE AIR FORCE KILL

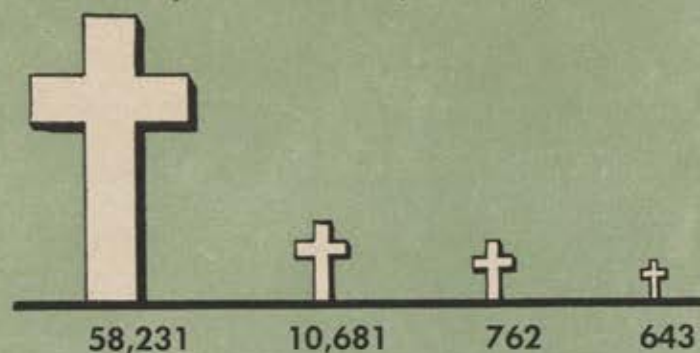
112,000 Communist troops killed by the U.S. Air Force

*Officially reported for period of June 26, 1951—May 21, 1951\**

## THE COMPARATIVE COST

*Officially reported for period ending June 14, 1951*

American Casualties: Army Marine Corps Navy Air Force



\* "GHQ estimates based on Prisoner of War interrogation and preliminary field reports have credited our airpower with 47 percent of all enemy casualties in the Korean war—an unusually high figure, based on past war experience. We believe, however, that further evidence will reveal that this figure must be revised upward. Field reports from Army sources, we learned, now indicate that air attack probably has been responsible for more, and perhaps twice as many, enemy casualties in Korea as ground attack. Whatever the final estimate might be after all the evidence is in, there is no question but that—once air superiority has been attained—airpower becomes a far greater destroyer of troops in the field than ground power."—Congressmen W. J. Bryan Dorn and O. K. Armstrong in *AIR FORCE Magazine*, May, 1951, following their survey tour of the Far East.





# MUROC'S BUG CHASERS

The most exacting group of pilots in the business is the test jockey crew which wrings out the nation's newest aircraft high above the sunbaked bed of Muroc Dry Lake, at Edwards Air Force Base, California



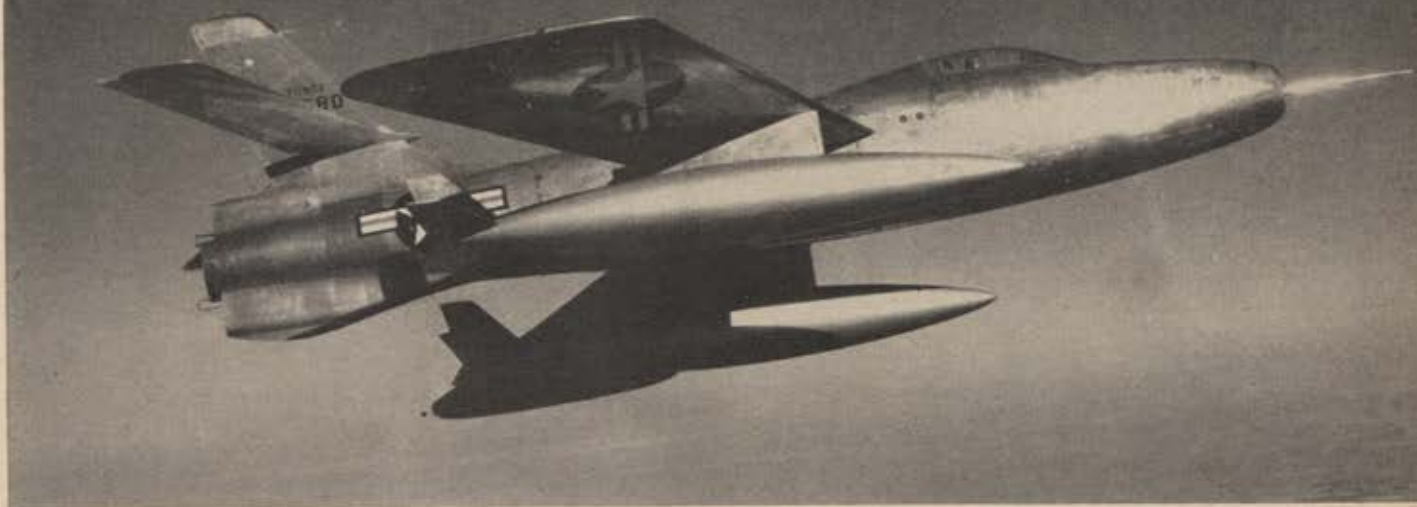
**I**F YOU'VE ever had the notion that a test pilot is a carefree daredevil who has a whee of a time wringing out spanking new airplanes, then you should spend a day or two watching the way they work at Edwards AFB, Muroc, California.

Test flying, Muroc-style, is just about the most exacting, painstaking kind of flight duty. You might do some pretty spectacular flying at times, but it wouldn't be just because you had an urge for high speeds and tricky maneuvers. Every move you make, from takeoff to landing, has a specific purpose.

The main thing Muroc wants to know is whether an airplane will fly—and how well. Tactical evaluation is left to the boys at Eglin. But there's a lot more to performance than just aerodynamic characteristics of an airplane, and you'll find experts at Muroc on everything from powerplants to armament.

Here's a Muroc skull session: Left to right: Maj. W. W. Seller, Lt. J. S. Nash, Maj. N. H. Lathrop, Maj. Chuck Yeager, Lt. Col. F. K. Everest, Maj. Jack Ridley, Lt. Col. Gust Askounis.





Republic XF-91 gets workout over Muroc. Rockets are mounted above and below tailpipe.

Just what makes a test pilot has never been clearly defined. The pilots themselves sum it all up as "aptitude and enthusiasm." Aptitude of course includes a reasonable amount and variety of flying experience (1500 hours would be about the minimum), top-notch physical condition, and, if not engineering training, at least an engineering type of mind.

Enthusiasm is something you either have or you haven't. The eagerest and hottest jockey in a combat outfit may prove a dud as a test pilot.

It takes at least a year to make a good pilot into a good beginner test pilot. It isn't quite the same as test flying for a manufacturer, where you work day in and day out on the same type of equipment. At Muroc a pilot who gets too used to the feel of one type of plane loses his ability as an impartial judge. So they try to keep every pilot current on as many different planes as possible.

The extra-curricular work of the test pilots tends to keep them from getting spoiled by over exposure to only the latest and fastest stuff. Far from being complete glamor boys, they are regular working pilots and between tests are apt to be kiting off in a C-47 or B-25 to pick up an urgently needed part. Edwards isn't served by MATS and the very nature of its work makes it necessary for the field to be self-sufficient for high priority transportation.

The test pilots also have to put in a lot of time flying "chase planes." These tag along throughout an entire test flight—just as a precaution. If something suddenly went wrong an experienced test pilot close by would be in a better position than anyone on the ground to decide what had happened and suggest precautions against it happening again. Then too, there are "routine" incidents, such as a landing gear being



Some Muroc projects are non-military like Allison-Convair Turboliner tests (above). Below are three views of the latest experimental aircraft to be tested at Edwards, the Bell X-5, first aircraft with variable-swept wings depicted in two smaller photos.







The original Bell P-59 jet which came to Muroc way back in 1942.



The XB-42, with its pusher-props, was a hot rod in its day.



Vultee XP-54 was also a pusher, had elevator in the cockpit.



Twin-jet XB-43, descendent of XB-42, is still used for tests. Convair XB-46 competed with B-45 for medium bomber role.



down but not looking to the chase pilot as though it had locked (it hadn't). Or the test pilot who lost oxygen but wasn't aware of it until the chase pilot decided he was behaving erratically.

Age doesn't seem to be a major factor in test flying, although the experience requirements rule out the beardless youngsters. The average starting age is about 25. There doesn't seem to be any stopping age. Veterans of three to five years at Muroc, fellows like Lt. Col. Gust Askounis, Maj. W. W. Sellers, Lt. Col. Frank K. (Pete) Everest, Maj. Chuck Yeager, Capt. Joe Wolfe and others all have pushed beyond 30 and aren't showing any sign of senile decline so far.

Then there is Brig. Gen. Albert Boyd, boss of the whole Muroc show and as flying a man as there is on the place. Boyd has left 40 far behind but he still shows all the enthusiasm and aptitude of a youngster. And they'll assure you at Muroc that it isn't just an old man's refusal to relinquish the joy and the glory to younger men. When Gen. Boyd flies, and he often does, it is as a demanding (and very popular) leader of the most exacting group of pilots in the business. Few men still active have flown more different airplanes, or know more of what to expect from new ones.

Another perfectionist veteran is Major Jack Ridley, chief of the test engineering branch. Ridley, like Gen. Boyd, uses his flying ability to correlate and control his administrative responsibilities. He likes to analyze performance data in the cockpit as well as on paper. So he takes his turns in the air with the rest of them on everything that comes along from the X-1 to the T-28 trainer.

Ridley, with an engineering degree from Cal-Tech plus wide, experience in the field, is well qualified to hold down one of the toughest exacting jobs in this exacting establishment. He has a reputation for computing and predicting with almost uncanny accuracy just what an

(Continued on page 62)

## Some Old Planes Die, Others Just Fade Away

These are some of the planes that have fallen by the wayside.



Report from Europe

# Empty Skies Over the Old Corral



*Before the Normandy invasion in 1944 Gen. Eisenhower told his troops that any planes they saw overhead would be their own. Now, unfortunately, the situation in Europe is likely to be reversed. To untangle the puzzle is the job facing Lt. Gen. Lauris Norstad, as commander-in-chief of Allied Air Forces.*

**I**T is a sad fact that United States airpower in Europe today is a nightmarish, Alice-in-Wonderland sort of thing. Its continental bases were built for the wrong war. Its equipment is not our best. Its headquarters is still in the embryonic stage. And for the past year it has been at the end of the line for equipment, supplies, and money.

On the credit side of the ledger, unit morale is high, and there are encouraging signs of awakening might and cooperation across the face of Europe. But they are signs only, not yet strong enough to wipe out the nightmare of USAFE's current status. Whether or not it can be transformed into a pleasant awakening de-

pends largely on how the European nations cooperate in the welding of it into an effective defense force when coordinated with their own units.

Our hole cards in the gigantic poker game now being played across the Atlantic are our bases in the British Isles and North Africa. Their strength in turn rests on the top-notch condition of the MATS bases, communications network, and routes through Newfoundland, Greenland and Iceland, and through the Azores and North Africa. But there the advantage ends.

On the continent itself, we have two US fighter groups and a troop carrier group. All are within min-



utes of the Russian zone and a Russian move would find them scurrying for cover—providing there was a warning. For only the threat of strategic bombers in England and North Africa keeps them out of the sitting duck category.

Poised against them are two Red threats—MIG-15s in considerable numbers and West German Communists in groups cohesive enough to threaten our bases around Munich and at Rhein Main.

Lt. Gen. Lauris Norstad's headquarters are in vulnerable Wiesbaden, not from choice but from necessity. It would make a lot more sense to put it in France, coordinated with Gen. Eisenhower's SHAPE headquarters. It will be moved to France some day. Or to somewhere besides Western Germany.

### *The air defense task in Western*

*Europe is a knotty one but given the time and the money it can be solved*

But it takes a bit of doing to move a big headquarters in Europe these days. There are problems of office space, of the niceties of international cooperation, of communications and other vital facilities, hard to visualize from the U.S. side of the Atlantic.

USAFE is in Wiesbaden because the facilities necessary to make it operative exist here. This German city has been the headquarters of the 12th Air Force, charged with support of the Occupation troops. It has also served as headquarters for the MATS command in Europe.

A nearby airfield—Y-80—and the big MATS terminal at Rhein Main offer the kind of maintenance and operation a headquarters of this type needs. Billets and visitors' quarters are available in Wiesbaden and Frankfurt. Some of these are impossible to find in France, the balance is difficult. To get them will take time and money.

Even more pressing is the fact that the air bases in France that are needed to meet the threat of Russian attack simply do not exist. The communications facilities do not exist. The office space, the housing, the airfields, the warehouse, and the ground vehicles do not exist.

To place this lack in perspective, think back to the closing stages of

World War II. Then there was neither time nor need to build up elaborate bases in France. The heavies operated out of England. The fighters and light bombers used makeshift fields that leapfrogged along with the pace of our advance.

After the war German bases were rebuilt to handle Occupation air units. Now they are virtually in the front lines and the job in France has barely begun. The first task is to build air depots, the primary one at Istres, far in the south of France near Marseilles. Then we need fighter strips, transport bases, and a general beefing up of the support installations all the way back to the United States. Transport is tight and all problems will be magnified as the buildup gathers momentum.

North African and British bases

that were good enough for B-24s and B-17s can't handle B-36s and B-47s. They must be reworked or built from scratch. In the United States our worry about Russian airpower deals largely with the strength and abilities of the Communists' long-range air forces. This is a relatively minor consideration in the preparation for the defense of Europe, although it cannot be discounted entirely.

But what worries Europeans most, and Americans in Europe, is the shorter-range guided missiles developed from the V-weapons the Germans launched against England. The threat of their use against our forces will dictate many an overhaul of doctrine and practice.

And this sort of overhaul has already begun. The fact was pointed up in the recent Exercise UMBRELLA, a small preliminary maneuver to a large-scale exercise, SIR-RUS, scheduled for September. One of the main objectives of UMBRELLA was to assess the operational mobility of jet units and their ability to operate effectively from bases other than their own. In a V-weapon war fighter units may have to leap from bases to base, from country to country, and become operative as soon as their tires hit the runway.

Support forces will have to be just

as mobile and UMBRELLA made a start in this direction. Administrative units, maintenance men, communications experts—together with their records and equipment—must be able to pack up shop and go at a moment's notice.

Unfortunately UMBRELLA was scarcely a fair test of the latter capability. Most of the transport aircraft were pressed into service as simulated bombers, still another indication of the slenderness of our European air shoestring.

UMBRELLA also spotlighted a tough problem, even in these days of radar. Hugging the ground to avoid electronic detection, flights of "enemy" fighter bombers swept over the defensive airfields, wreaking simulated havoc on planes parked row on row. Under wartime conditions the damage would have been terrific.

The answer seems elementary—disperse the planes. But for dispersal one needs airfields and, as pointed out previously, there aren't enough.

Some progress has been made in the standardization of equipment (primarily because the United States and Britain predominate in the design and production of aircraft).

There are extremely delicate questions of sovereign rights, and the even more delicate problems of local prejudices and prejudices. The community relations problems of USAF bases in this country, are magnified a hundredfold overseas.

Personnel problems are many and will get worse before they get better. This is perhaps the most ticklish situation of the batch. Prolonged overseas service without wife and family is tough enough when a shooting war is going on. In a state of peace it becomes well nigh intolerable. But families must be housed and fed—and evacuated if possible when the bombs begin to fall. No one has figured out a good answer.

Supply and spare-parts pipelines are as hard to fill as in wartime, probably more so since material is less expendable. The training of European troops and airmen along lines of standard doctrine requires intense effort on the part of our people.

We still need linguists. The language barrier is a big one, even though English has been adopted as the standard command language.

This, then, is a bare outline of the problems facing the Air Force in Europe. It's outlook is not a happy one. And before it improves to any great extent, both ourselves and our allies must face up to some unpleasant facts. Some belt-tightening is in order unless we are to write off Western Europe completely.—WILLIAM G. KEY.





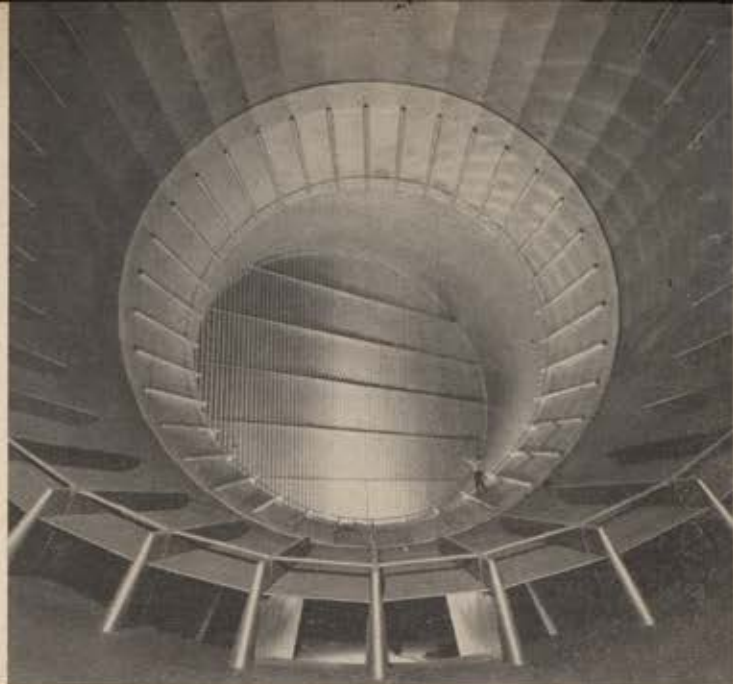
# Transonic Bottleneck Busters

NACA's new research techniques are exploring the mysterious transonic half-world which holds the key to practical supersonic flight

**B**IGGEST blind spot in the never-ending search for faster and faster fighters, bombers, and guided missiles has been the turbulent, tricky transonic region where the air is a queer mixture of subsonic and supersonic flow. Now researchers at the National Advisory Committee for Aeronautics Langley Laboratory in Virginia have discovered ways to eliminate the piling up of shock waves in a wind tunnel section that hitherto has made transonic tunnel tests impractical. Two tunnels at Langley have been modified for such work, the largest with a test section 16 feet in diameter, giving American science a tremendous edge in the vital research race for operational supersonic aircraft.

*(continued on page 32)*





Inside the huge return passage of the NACA's 16-foot transonic tunnel, these vanes turn the airflow smoothly around a 90-degree corner. The straight bars help to reduce turbulence of the flow.

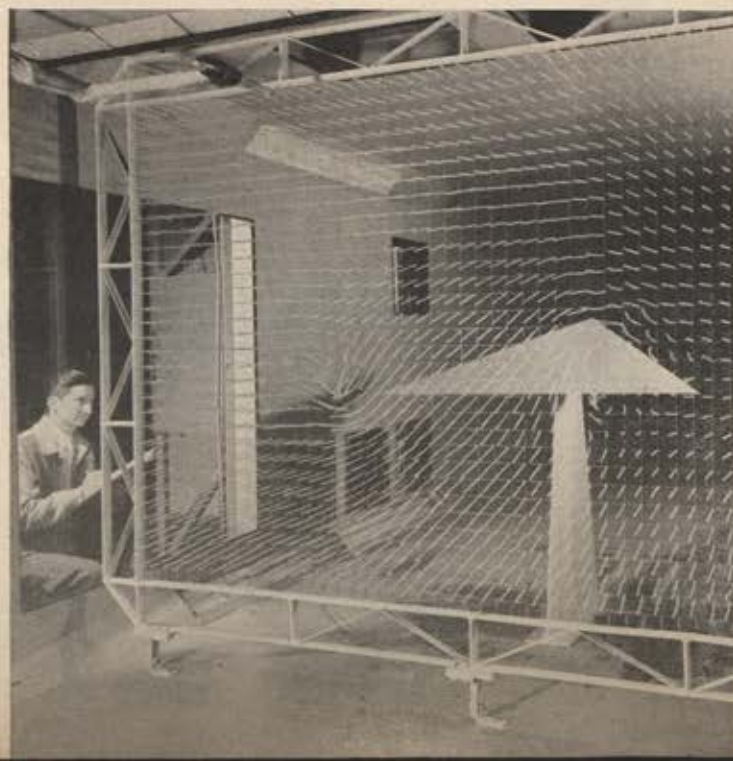
## BOTTLENECK BUSTERS

CONTINUED

This milestone is so important because lack of information about the transonic region has been a bottleneck in the development of supersonic airframes. Powerplants for supersonic tactical planes have been developed and are going into production. Tomorrow's planes will be supersonic, it is conceded. But they will also be transonic, because they must pass through the transonic region at the beginning and the end of every trip. Hitherto transonic information was gained only through actual flights of supersonic experimental planes, like the X-1, or through models dropped from high-flying planes and pulled through the speed of sound by gravity. Now this dope can be supplemented by wind tunnel testing in which test conditions can be carefully controlled and evaluated. More data for the design of ultra-high-speed aircraft and missiles

*(Continued on page 34)*

Two counter-rotating fans, each powered by a 30,000-hp electric motor, drive the air through the 16-foot tunnel (left). (Below) white wool tufts strung on a wire grid are placed in the wake of a delta wing model in the Langley 7x10-foot tunnel to give a graphic picture of the turbulence formed behind each wing tip.







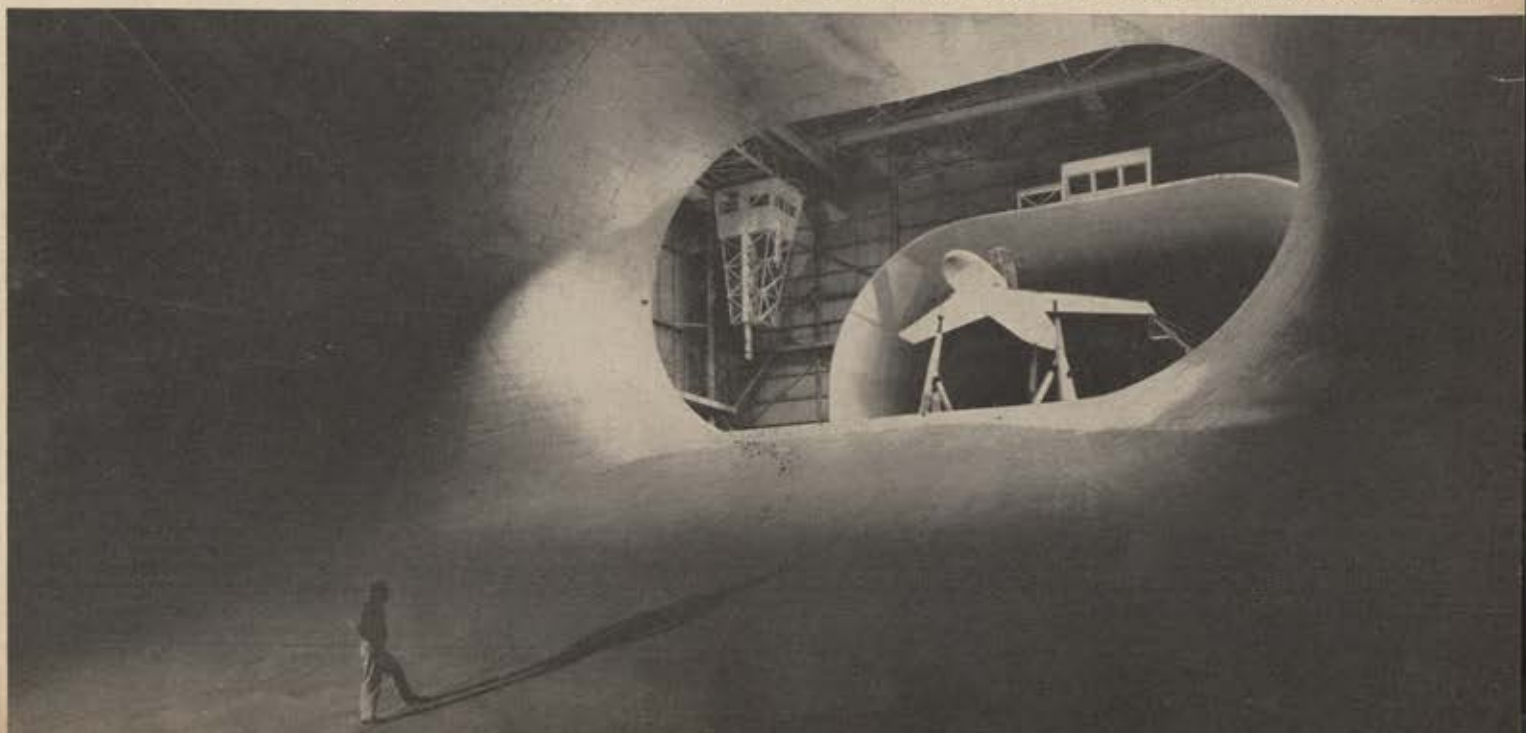
Another look at the return passage in the 16-foot tunnel. The air vents in foreground are part of an air exchange system that removes warm, slow-moving air and substitutes cool air from outside.



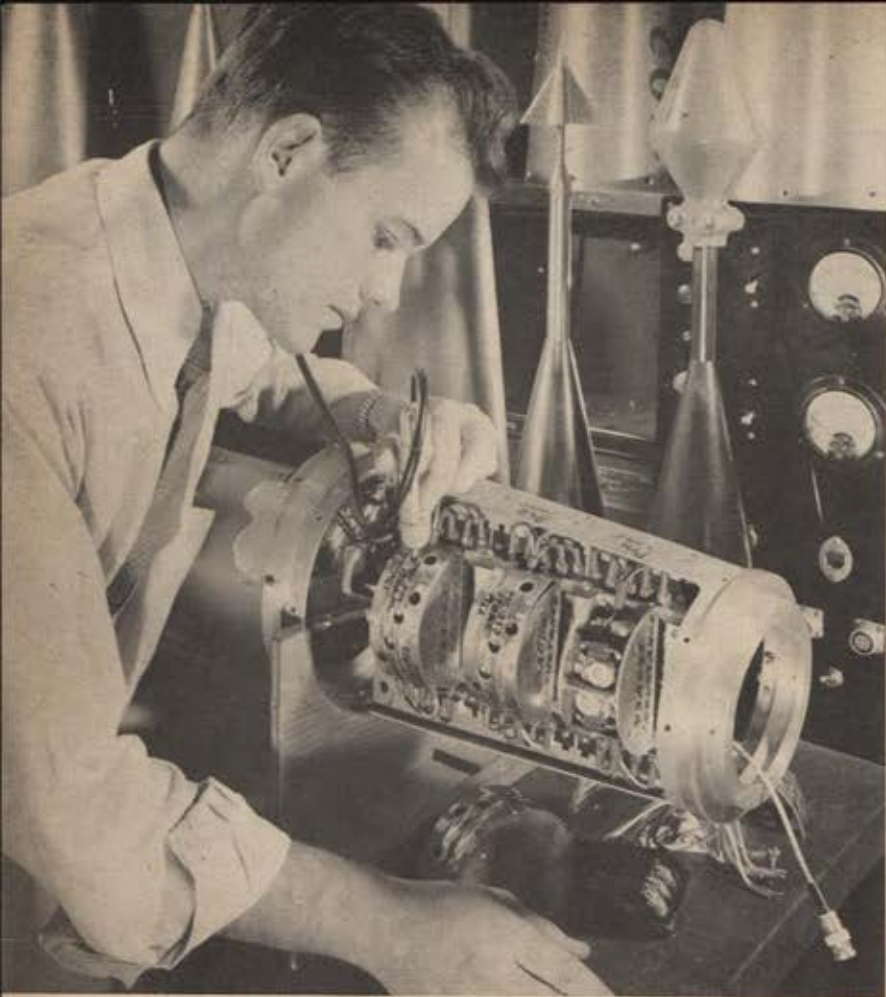
At the other end of the scale is this tiny 11-inch hypersonic tunnel to study the nature of airflow at from five to ten times the speed of sound. Photo shows side plate removed, exposing nozzle at left, a narrow slit through which air enters under great pressure. The air then expands rapidly and rushes past the model.



Titanium, which will replace aluminum alloy in many parts of highspeed aircraft, is tested for strength at high temperatures (above). The full-scale tunnel (below) was originally built to test full-scale airplanes at flying speed, now tests high-speed planes at landing speeds. Entrance cone measures 30 by 60 feet.







A radio telemeter (above) is installed in a research model to be flown at the Wallops Island research station. Using several channels, it transmits aerodynamic information to a ground station. Delta-wing model (below) is prepared for launching to obtain aerodynamic data on high-speed flight design factors.



Circuits of the miniature instruments installed in a rocket propelled research model are checked at the Instrument Research Division at Langley Lab.

## BOTTLENECK BUSTERS

CONTINUED

is obtained at NACA's Pilotless Aircraft Research Station. Located on an isolated strip of beach on Wallops Island, off the Virginia seacoast, the station played a big part in designing jet fighters like the F-91 and XF-92A, the Navy's delta-wing XF4D, and research airplanes like the D-558-II, X-2, and X-3. Here rocket-propelled models soar as high as 100,000 feet and travel five to ten miles before plunging into the sea. It's a one-way trip. Models are not recovered. All data is obtained by radar tracking and telemetering equipment. Top speeds range from 15 to 40 miles per minute (2400 mph) and most flights take less than two minutes—sometimes only 30 or 40 seconds. In flight the model can be put through a series of predetermined maneuvers to simulate many kinds of flight conditions. It can roll, climb, dive, and turn like an airplane. Ordinarily only one model of a specific design is fired. Enough data is usually obtained from a single flight to make others unnecessary.

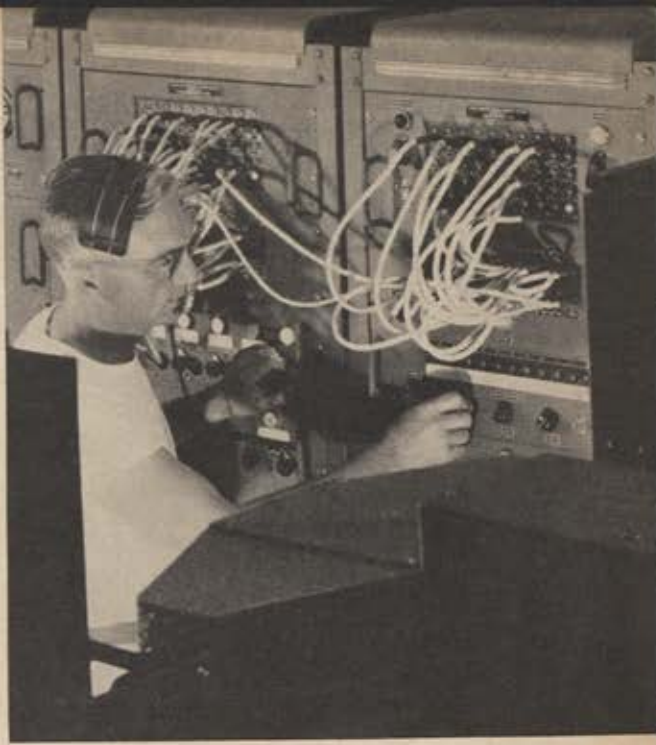
A version with sharply swept wings takes off from the Wallops Island launching stand. Data is telemetered back and recorded on strip film for future use.



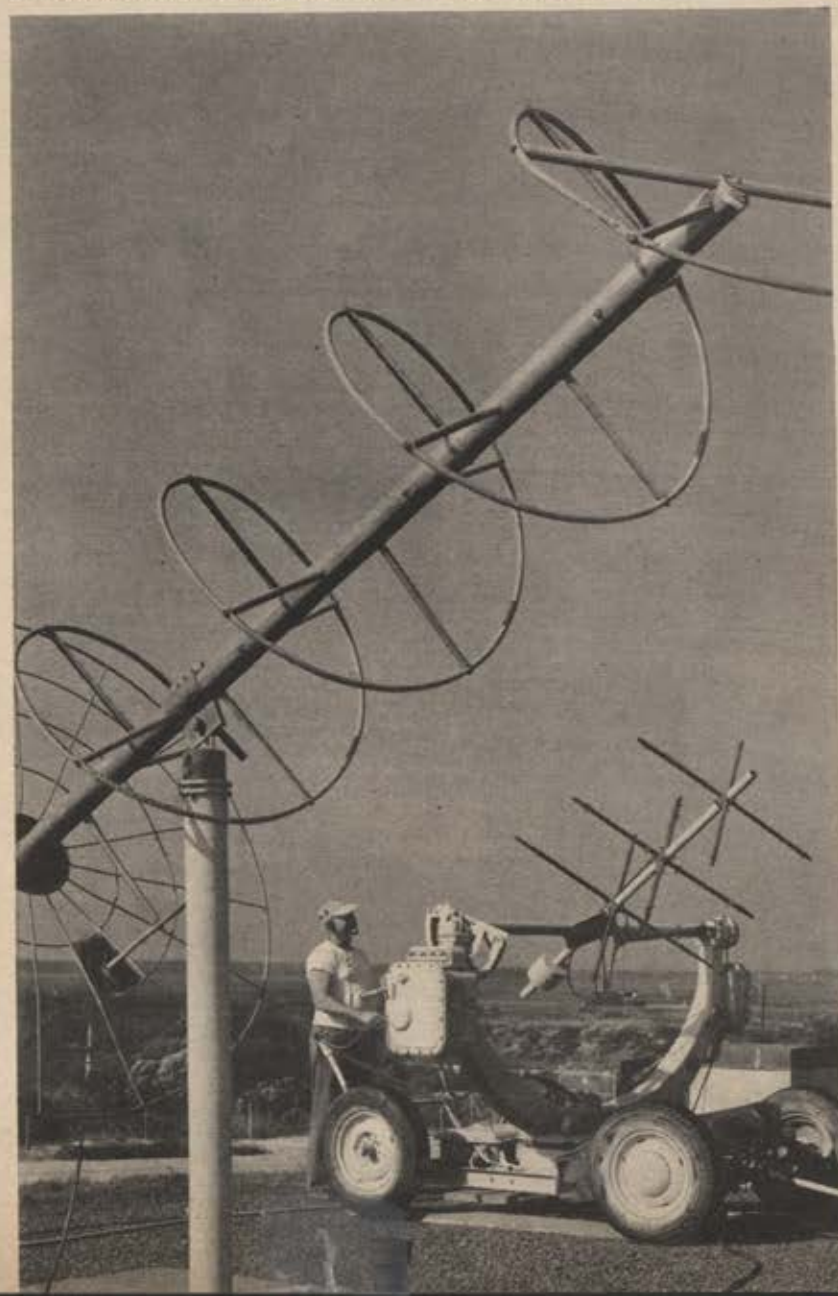




Control tower operator checks his map before a rocket firing. It's a big job to see that the firing area is clear of ships and airplanes. Weird corkscrew radio antenna (below) on roof of control building picks up data telemetered from research models as they travel at supersonic speeds.



Control panel operator is a busy man before he pushes final button for firing. He checks instruments to be sure telemeter, recording apparatus and circuits are working. Tracking radar (below) follows flight path of model.





# General Van Spells Out Some Air

Highlights from the Congressional Testimony of

Gen. Hoyt S. Vandenberg CHIEF

## EDITOR'S NOTE

On May 28-29 General Hoyt S. Vandenberg testified before a joint hearing of the Senate's armed services and foreign relations committees concerning the MacArthur dismissal, plans and policies in the Far East, and general policies relating to our security. In 10 hours of questioning that filled 363 typewritten pages, the USAF Chief of Staff spelled out more Air Force policy than had been made public in a long time. This compilation of his statements, condensed and arranged by subject matter to assist the reader, presents the airpower highlights of General Vandenberg's testimony.

## Keeping the Peace

The ultimate objective for preserving the peace centers in a collective security program and a United Nations police force.

It is going to require time to get the United Nations ideal into operation to the point where it is so believed in throughout the world that it becomes a potent force for good. Before the United Nations becomes an effective instrument, we must rely on a balance of power concept.

My idea of the balance of power is that it be so regulated within the capacity and capability of the United States that this country is able to throw its weight to one side or another in order to preserve the peace.

I think the people of the United States should be in a position to throw their weight in discussions about food, economy and power to the side we believe is correct for the world to go on in the way the people of the United States believe human rights and human dignity should be permitted to go.

## Balance of Power

Under the balance of power concept there are two ways to go about establishing peace.

One way is to shift the balance of power in the world by bringing an aggressor nation to its knees so its power of resistance is gone for many years. Another method is to achieve a victory that does not demand complete annihilation or destruction of a nation, that does not require unconditional surrender. This method combines a military victory and a diplomatic victory. It leaves a force in the world which can be applied against the balance of power. By playing this balance carefully, peace can be preserved for a great many years under explosive conditions.

The British Navy, which was superior at one time to all the combined navies of the world, held the balance of power and thereby kept the peace for a long time under such conditions.

Now that we are in an air age, it is possible for the nation that dominates the air to dominate the balance of power as the British Navy did back then.

It is my hope that the United States Air Force can be built to a point where it can do a similar job for the free nations of the world.

## The Great Deterrent

The United States Air Force, in my opinion, is the single potential that has kept the balance of power in our favor. It is the one thing that has, up to date, kept the Russians from deciding to go to war.

If we had had an air force of the proper size when we entered the Korean conflict there is a very great possibility, in my opinion, that the Chinese Communists would not have dared come in.

Up to this time the possession of the United States Air Force has, in my opinion, prevented the enlargement of the Korean conflict into World War III.

Without this deterrent force, the people who are bent upon aggression and who desire to communize the entire world will have nothing in their way as a deterrent force because they have overwhelming land power and their objectives are mainly on land.

If we do not build it and Russia does—and the indications are that she is well on her way—we are in a position of having no opposition to the threat of her world conquest. Therefore, her satellites' operations throughout the world cannot be countered. Nor could we counter Russia herself.

On the other hand, if we, with weapons of mass destruction, are able to do it better and more quickly than Russia with her weapons of mass destruction, the thought of the terrible consequences of that type of war would, in my opinion, even cause the masters of the Kremlin to pause and consider.

With a buildup to the proper proportions, the United States Air Force can be the greatest deterrent to war and the greatest force for peace this nation has ever had in its possession since the days when we operated a fleet for that purpose.

The days when the fleet can do that to the extent an air force can do it are gone, in my opinion. Those days and the days when Britain kept the peace of the world with her fleet have passed.

When the peace of the world is kept today it must be kept by airpower.

## The Great Opportunity

Today the American people have the greatest opportunity since the days of President Theodore Roosevelt, when he said "Walk softly, but carry a big stick."

The United States has the opportunity to carry a big stick, and can walk softly, if people will realize that the big stick is the offensive strength of the United States Air Force.

Up to the present time, instead of a big stick, we have had a fairly large club; tomorrow it is liable to be a willow wand.





## Today and Tomorrow

As the power of the Russian Air Force increases and their stockpile of atomic weapons increases, the job of the United States Air Force becomes roughly doubled.

Today our Air Force is a deterrent to war because of its ability to devastate the industrial potential of any great nation on the globe. Tomorrow, if the Russian Air Force has the atomic bombs and the ability to deliver them—and we know they are building a long range air force—we must have an Air Force that can take the attrition that would be necessary to destroy that air potential and destroy it promptly. After that we must have a sufficient Air Force left to destroy the industrial potential, and, after that, to do what we call policing action to insure that it will not be rebuilt.

Today, the United States is relatively safe from air attack, and the air defenses of this country are about adequate. Tomorrow the nation will not be safe from such attack, and our air defenses will not be nearly adequate enough.

Tomorrow, which is the date when Russia will have sufficient atomic bombs and the aircraft to deliver them, the United States will not have, in my opinion, a sufficient Air Force.

## Our Shoestring Air Force

The United States is operating a shoestring Air Force in view of its global responsibilities.

Today, if used as a whole, this Air Force could lay waste the industrial potential of Russia, or the Manchurian countryside and the principal cities of China, but it could not do both.

Starting from a 40-odd group Air Force, the aircraft industry is unable until 1953 to do much of a job toward supplying the airplanes that we would lose in a war against any major opposition.

When you decide to utilize all of this Air Force in an all-out effort, recognizing that what is left from that can't be replaced to any material point before the spring of 1953, I maintain that you have to utilize this Air Force very carefully.

With this shoestring Air Force it will take from two and a half to three years to achieve the air groups needed to carry out its present commitments—including the defense of our Far Eastern bases, the defense of Western Europe, the defense of the United States and the strategic air offensive—regardless of how much money you put into it today.

Nothing you can do today in the way of money can assist in getting any more groups before about December of 1952.

## The Buildup

I am not satisfied with the rate of progress of our air rearmament program, but I believe that every-

thing is being done that is within the capabilities and limitations of the aircraft production people's hands to speed up the production of aircraft. I believe they are having difficulty in obtaining materials.

From the base at which we started, the basic appropriations of fiscal year 1951 and the various supplementals in '51 for the Air Force were about as much as we could spend logically and efficiently in that time. But greater efficiency and much greater progress could have been made had we had that money earlier.

In 1952 the problem becomes different. Because of the base on which we are now starting from, and because of the fiscal '51 funds, we can now spend a great deal more money in 1952. Money spent in fiscal '52 can get you more airpower in '53.

The present goal is 95 groups. This is the interim program only. It is simply a steppingstone toward the force we believe is necessary.

The planned Air Force goes as far as the fiscal 1951 and supplementary budgets. That is all I can speak firmly about. That is built upon the premise that the goal we are after is 95 groups sometime in 1952 or the spring of 1953.

In my opinion, that goal of 95 groups is a way station toward the Air Force we must have at the time Russia has the atomic capabilities I have spoken of.

Anything that can be done to speed the buildup of the United States Air Force toward the 95 group level and, later on, beyond that should be accomplished with as much dispatch as possible.

## The Danger Period

The gap between the Russian Air Force and the United States Air Force is in the process of being decreased, but the difficulty is this: They have the initiative. If they decide to move they can pick a date and a place, or places, advantageous to them. The United States, on the other hand, has to be equally ready at all places from now on out.

My feeling is that the danger period begins from today and continues to about 1954. In 1953, in my opinion, we will be beginning to have an adequate military posture. I would not say that in 1953 everything will be lovely by a long shot.

I would say it is questionable whether time is on our side.

## A Manpower Problem

The public works requirement goes hand in hand with the procurement of airplanes and people.

There have been some delays in getting men for the expanding Air Force due to public works monies that, had the Air Force obtained them earlier, greater numbers could have been taken care of and greater numbers could have been trained.

I should like to put in a plea for rapid action on the Hill when such things as public works come up, for adequate facilities to receive the men in greater quantities, to train them and, after they have become composite units, to house them with proper recreation facilities.

We must not bring people into the United States Air Force or any other branch of the service for a

(Continued on page 38)



period of time to live in an atmosphere of such lowered standards that the entire standard of living of the United States is going to be affected by it.

### Balanced Forces

Back in February of 1949 in Dallas and in May of 1949 in Indianapolis I made two talks on the balance of forces, and I stated at that time that in my opinion the use of the name—balance of forces—was misleading. I said that what we have to balance our forces toward is the threat, not against each other. We must balance our forces against the enemy and his forces and his potential. This balance should be designed in proportion to evade an enemy's strength and exploit his weakness. I still have that opinion.

### Results in Korea

There has been an awful lot of foolish material written and expressed about tactical air support in Korea. I have letters from practically all the division commanders, the regimental commanders, the commanding general of the Eighth Army, from General Ridgway, all of which I think might be enlightening if there is still any question in anyone's mind about tactical support over there. (In reply, Senator Richard Russell (D-Ga.), chairman of the inquiry, said, "There is no question in my mind that the tactical support has been one of the material factors that keeps us from being driven out of there, General.")

Some weeks ago, near Hamhung, a ground force pushed forward after a night attack by a single B-29, and found 600 casualties.

More recently, following the enemy's 17 May renewal of their attack, close support missions on two successive nights accounted for nearly 4,000 enemy troops. That was verified by actual count.

Our reports from prisoners of war tell of an increasing feeling of hopelessness and futility among the enemy units, moving at night and in bad weather, and going into concealment during the day.

The difficulty as we go north and as the distance between the Yalu River and our front lines decreases is due to the fact that their night movements can be made in two successive stages. There is a very short time, comparatively speaking, that their supplies and reinforcements are under attack because of the short length of time it takes them, in motor convoy or otherwise, to run down from the border to the front lines.

With the increase in night operations in which we are becoming increasingly successful, and we are pressing that with everything we can, it would be more difficult today for them to successfully operate than it was five, six or seven months ago, but still, the greater the length of road and rail that you can get the enemy from his main source of supply the more advantageous it is to the Air Force, and therefore as you decrease it, it becomes less advantageous.

### Of MIGs and Sabres

They have a jet engine in the MIG-15 that is superior to any jet engine we have today. Our training is superior and our gunnery control in the aircraft is superior, which gives us an advantage, even though they have the advantage of speed and climb and operations at altitude. Our F-86 has a slight advantage in range over the MIG. Our pilots at the present time are much superior in tactics and technique of air fighting, in my opinion. They are better trained and their armament is superior.

The engine in the MIG is a very marked improvement. (Continued on page 61)

## "SHOULDN'T YOU RESIGN . . ."

A quote from AIR FORCE, and the repartee that followed, provided top news headlines during the testimony of General Vandenberg. Here's a transcript of the incident.

*Senator Hickenlooper.* General, you are familiar with the magazine AIR FORCE, are you not?

*General Vandenberg.* Yes, sir.

*Senator Hickenlooper.* I want to point out that in the March 1951 special issue of AIR FORCE, in discussing the use of air in Korea, this magazine, which is published by a number of eminently experienced men in airpower, quotes you as saying:

"Isolating the battlefield from reinforcements is the prime function of tactical air. Airpower was rendered practically inoperative when the United Nations, in an effort to avoid a diplomatic rupture with the Chinese Communists, halted offensive action at the Yalu River."

Then they go ahead and explain what they think that means. Now, General Vandenberg, that statement of yours, I think, is just as critical of UN policy (and I will have some other statements at a later date) as anything that General MacArthur ever said.

Now let me ask you this, because you recommended or concurred in his withdrawal. Shouldn't you resign your commission or get out of the service

or be recalled for criticizing UN policy? And I am not advocating that, General, bear in mind, but I am saying that you concurred in General MacArthur's recall on the basis that there was a cumulative disagreement with policy.

Now what about your own situation, and I think there are some other statements we can bring up where you have been in disagreement with policy? Now I think it gets down to a question of morals and perhaps the philosophy of this thing.

*General Vandenberg.* Senator, I don't think that I disagreed with any policy. I was explaining a result from military action. I was not advocating it.

I made a statement, and as I believe it today, that statement is factual when you consider the point of time to which I was talking.

At that time the United Nations forces were up close to the Yalu. There was very little distance between the Yalu and the front line where airpower could operate against them, and I was simply making a factual statement that when that condition occurs, your airpower is relatively ineffective.



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STEEL	JAN-C-490, Grade I U.S.A. 57-0-2, Type II, Class C U.S.A. 51-70-1, Finish 22.02, Class C	"GRANODINE"
	U.S.A. 57-0-2, Type II, Class B U.S.A. 51-70-1, Finish 22.02, Class B	"PERMADINE"
	U.S.A. 57-0-2, Type II, Class A U.S.A. 51-70-1, Finish 22.02, Class A	"THERMOIL-GRANODINE"
ALUMINUM	MIL-C-5541 MIL-S-5002 AN-F-20 U.S. Navord O.S. 675 16E4 (Ships)	"ALODINE"
ZINC	QQ-P-415 RR-C-82 JAN-F-495 AN-F-20 U.S.N. Appendix 6	"LITHOFORM"

## ACP "GRANODINE"®

"GRANODINE" forms a zinc phosphate coating on steel and zinc surfaces. This non-metallic bond holds and protects the paint finish and thus preserves the metal underneath.

## ACP "PERMADINE"®

"PERMADINE" forms an oil-adsorptive zinc phosphate coating on steel, which, when treated with rust inhibiting oil, is highly corrosion resistant.

## ACP "THERMOIL-GRANODINE"®

"THERMOIL-GRANODINE" forms a manganese-iron phosphate coating on steel, which, when oiled, provides wear-resistance for rubbing parts — and, when oiled or painted, inhibits corrosion.

## ACP "ALODINE"®

"ALODINE", the new ACP protective coating chemical for aluminum, anchors the paint finish and protects the metal painted or unpainted.

## ACP "LITHOFORM"®

"LITHOFORM" makes paint stick to galvanized iron and other zinc and cadmium surfaces.

Write for more information on these products.  
Send for new descriptive folders on the ACP  
metal-protective, rust proofing and paint  
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Manufacturers of METALLURGICAL, AGRICULTURAL and PHARMACEUTICAL CHEMICALS

# TECH TALK

By Helena Redmond

*In Korea jet engines are being started by "artificial respiration", according to General Electric Co. Method uses exhaust blast from one jet to start another directly behind it. It was first tried on F-86s.*

American Helicopter Co., Inc., Manhattan Beach, Calif., won AF design contest for lightweight, single-place helicopter for Army front-line reconnaissance. Helicopter folds into air-dropable container, can be carried by two men, is ready for flight about 20 minutes after it hits ground. Tip-located pulse jets provide power. Seven designs were entered.

Sometimes enough snow forms in a jet cockpit to interfere with visibility. Phenomenon is brought about by outside air friction which heats canopy enough to cause sudden temperature change inside plane. Best remedy is to turn on cockpit cooling system before outside heats up—and to cool cockpit slowly. Aero-Med engineers say heat is now bigger problem than cold.

*Old method of treating frostbite called for cold water or snow packs, thawing injured flesh gradually. Experiments at AF School of Aviation Medicine indicate that rapid thawing with warm water saves more tissue, reduces danger of gangrene.*

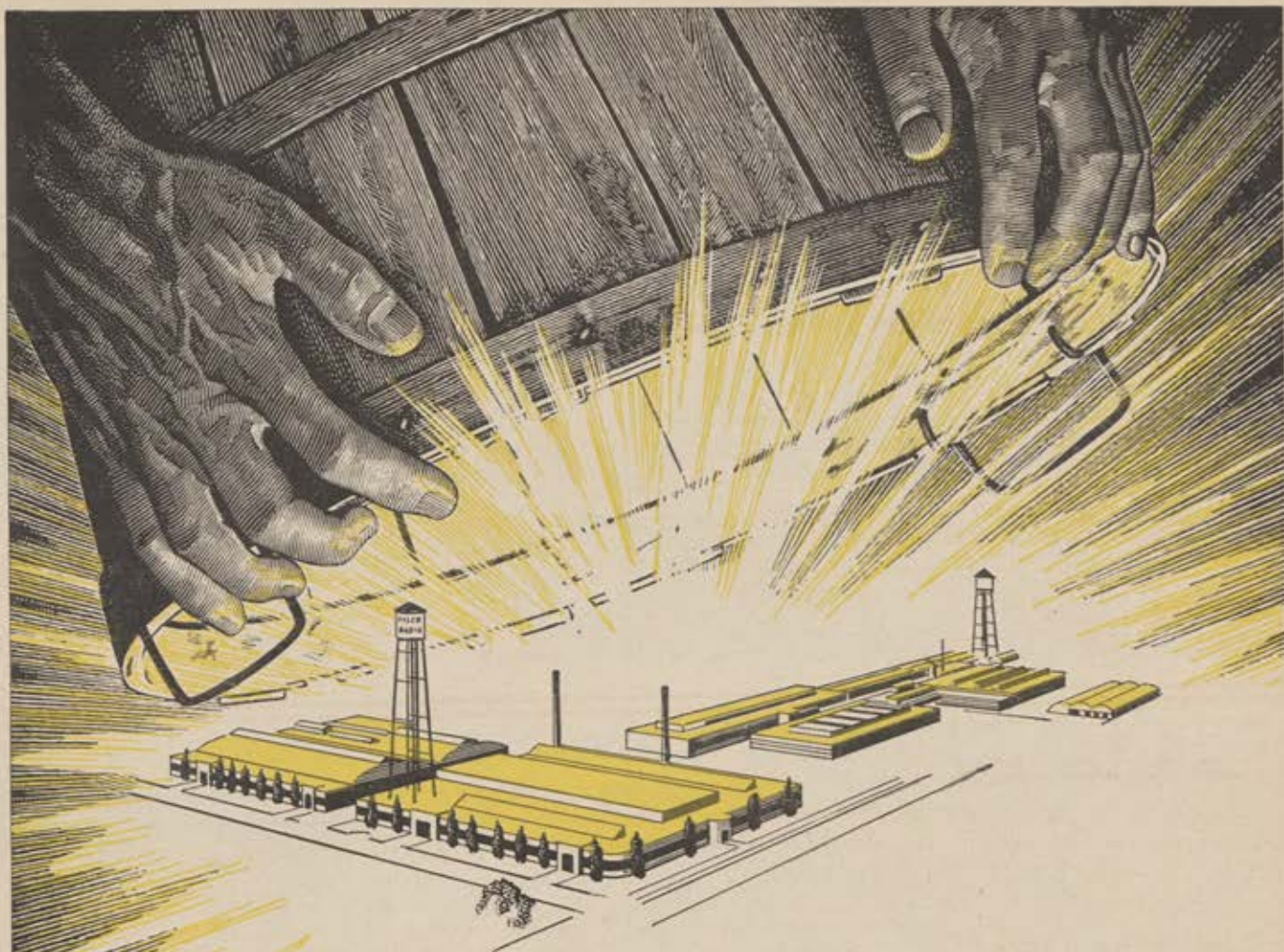
Civilian contractors will soon service, test and repair many items formerly maintained by Air Force. New plan covers upkeep of items like office machines, commercial aircraft supplies, watches, clothing and furniture.

Republic F-84G is first operational jet fighter to roll off production line fully equipped for mid-air refueling by tanker plane. System is designed for use with Boeing-developed "flying boom." Plane also has automatic pilot and improved maintenance features. Latter includes access doors for pilot servo mechanisms.

*Increased flight altitudes are adding to difficulties of conversation. Air density at 35,000 feet—about one-fifth that at sea level—means you can say less words in a single breath. You must work harder to produce an intelligent conversation. Designers of airborne electric equipment at Wright's Electronic Sub-Division are working on the problem.*

Possibilities of future long-range radio communication were pointed up in text flight conducted by Electronic Sub-Division. Continuous voice communication was maintained between base and plane using standard VHF radio equipment during 2125-mile flight to Seattle. Frequencies were pre-selected through ionospheric predictions.





## **WE'RE LIFTING THE BUSHEL BASKET— AND LETTING OUT OUR LIGHT!**

Probably you didn't know it because we haven't told you. BUT—for the past five years we've been building car and truck radios for General Motors. In 1950 alone we built nearly 2,000,000 radios for practically all types of vehicles. Our production tops that of any other car radio manufacturer.

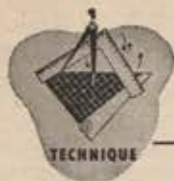
Since we stopped making radio and electronic equipment for the armed forces during World War II, we've concentrated on making our facilities the largest and our products the finest in the industry. Unlike most others, we're not just an assembly plant. We make practically all the parts that go into our products. Our design and research engineers are tops in their field. Our laboratory and production equipment is the finest that can be obtained.

With our vast experience, our facilities, engineering know-how, our productive manpower bigger and better than ever before, we believe we can be of service to our country. We are ready to go to work immediately for national defense and count it a privilege to volunteer for service.

# **Delco Radio**

**DIVISION, GENERAL MOTORS CORPORATION  
KOKOMO, INDIANA**





## TECHNIQUE



### Odd Job Plane for Farmers

Developed by the Civil Aeronautics Administration for dusting, spraying, fertilizing, and general farm work, this new plane incorporates many unique design features. Full-span slotted flaps and slot-lip ailerons allow easy handling on low-flying farm jobs. The extra-thick wings conceal spray tanks, and dust hoppers are built into the fuselage. The cockpit is built for good forward and downward visibility. The tubing above the cockpit

protects the pilot in case of a noseover. The wire from the cockpit to the vertical fin prevents damage to the tail if the plane is flown under wires. Even the landing gear struts are sharpened to cut fence or electric wires. The prototype was developed by the Texas A & M College Personal Aircraft Research Center. The CAA will make plans and specification available to any interested manufacturer.

### F-86 Visits Biggest Tunnel

To study airflow conditions on swept-back wings at high speeds North American's F-86 Sabre recently was mounted in the 40- by 80-foot test section of the world's largest wind tunnel, operated by NACA's Ames Aeronautical Lab at Moffett Field, Calif. For the big lift that will hoist it into the section, a mechanic (left, below) adjusts a hook attached to a 15-ton traveling crane. Wool tufts on

the wing make it possible to observe and photograph airflow patterns. Inside the test section (right, below) the F-86 comes to rest on the wing and tail supporting struts. These are connected to scales below the tunnel that weigh lift, drag and thrust. The airstream, passing over and around the stationary airplane, duplicates conditions encountered in actual flight.



### Short Order Photo

With this new photographic film magazine AF recon outfits can put finished prints of aerial photos in the hands of troops only 60 seconds after the shutter is clicked. The magazine is based on the Land Polaroid principle. Developer is sandwiched between film and paper, makes print inside the magazine.







## Copters on Parade

Resembling weird creatures from another world, these 13 Bell H-13D helicopters line up at Niagara Falls Municipal Airport. They're on their way to the Army Field Forces in Korea where they will be used for all kinds of duty, particularly the evacuation of wounded. Helicopters have already rescued more than 5,000 wounded soldiers and marines.



## Italian Caterpillar

This isn't a flying bicycle but a caterpillar landing gear with a pneumatic rubber track, mounted on a Piper Cub. The gear is the brainchild of Count Giovanni Bonmartini, who says it will eliminate the landing field.

## Swift RAF Fighter

The swept-wing Vickers-Armstrong Swift is a workhorse among Britain's RAF jet fighters. Under UK's \$13 billion defense program the RAF, already doubled, is being redoubled.



## Twin Engines, Single Prop

Just to prove it could be done, this Aero Commander, twin-engine executive airplane, flew non-stop from Oklahoma to Washington, D.C. on one engine. To insure against fudging the left propeller was removed, as shown in flight photo above. The plane carried its full gross

weight of 4,800 lb. and, to make it really tough, took off from a standing start on the lone engine. An extra gas tank installed in the baggage compartment gave it enough fuel for the 1140-mile trip. The airplane is manufactured by the Aero Design and Engineering Co.



## Captured Enemy Plane

Here's the first captured Red plane to reach Wright-Patterson AFB for evaluation since the Korean fighting started. The two-place IL-10 is an improved version of Russia's World War II "Storm-

avik". Armament includes two 52mm cannon, a 20mm cannon in rear of the fuselage, and 7.6mm machine guns. These, plus armored fuselage and cockpit, gave it the name of "flying tank."

## Ground-Bound Flight Deck

New flight simulators, first to be used by USAF for multi-station training, are being built to train crews for B-47, B-36, B-50, C-124, C-97, and F-86D, all-weather interceptor. Simulators will have

places for student pilot, co-pilot and flight engineer, plus instructors. Devices duplicate all sorts of malfunctions—engine, fuel and electrical systems, instruments, and landing gear.







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J-47

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Turbojet Engine

• From pistons to turbines—we continue to advance with the aviation industry. Our production includes substantial commitments for Gear Box Assemblies, Auxiliary Drives, Hydraulic Gear Box Drive Assemblies, and Gear Assemblies for J-47 Jet Engines.

With facilities that produced thousands of reciprocating engines in World War II, we are now manufacturing our own engines, airframe and landing gear components for the military services.



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**AIRCRAFT ENGINE COMPANY**  
POTTSTOWN, PENNSYLVANIA



## *Mobilization News*

RELEASE POLICIES for Air Reserve airmen on active duty were published recently in AF Letter 39-12. Volunteer Reserve (Inactive) airmen have five options: (1) release after twelve months EAD in current tour; (2) remain on EAD in current tour for total of 21 months, or until expiration of enlistment, whichever is earlier; (3) extension of current Reserve enlistment to complete 21 months' active duty; (4) separation to reenlist in AF Reserve; and (5) separation to reenlist in Regular AF. Organized Air Reserve and Air Guard airmen, with exception of release after 21 months service, are given similar choices. (No announcement has been made as to whether 21 months will be extended to 24 as authorized under UMT&S law described below.) A reservist desiring release should make application through his commanding officer under provisions of AFL 39-12, para. 5a(1) or para. 5b(1) whichever applies.

HEARINGS on long-range Reserve policies will be resumed in near future by Brooks Subcommittee, which now has clearer over-all manpower picture with passage of the Draft-UMT&S bill. New legislation authorizes extension of enlistments which expire after July 9, '51 and before July 1, '53 for a period of 12 months. No person shall have his enlistment extended more than once. Reservists now on active duty or recalled in future may be required to serve 24 months instead of present 21-month tours. VAR personnel who served 12 months or more during World War II can apply for release after 17 months' EAD since June 25, '50. But personnel in critical MOS's may be held for period for which ordered to duty.

HIGHLIGHTS of manpower law also: extends draft until July 1, '55; calls for registration of men between 18 and 26; reduces minimum draft age from 19 to 18½; extends draftee service from 21 to 24 months; reduces physical and mental standards; makes draft-age aliens admitted to this country for permanent residence liable for service; sets strength of armed forces at not more than 5,000,000 until July 1, '54; and provides for appointment of National Security Training Commission to study UMT&S program and make recommendations to Congress for enactment of UMT&S law.

IMPLEMENTATION of fiscal '52 Air Reserve Program, based on shortages of planes and airmen, awaits final approval by Bureau of Budget. Plans call for creation of 27 Reserve districts under numbered AFs to supervise and train Reservists. Major aims of interim program are: limited reconstruction of Organized Reserve; screening and reclassifying VARs; and continuing proficiency training.

EUGENE ZUCKERT, Ass't AF Sec'y, has taken over responsibility of Air Reserve Forces in addition to his personnel and management duties. Senate has confirmed Roswell L. Gilpatric of New York as Ass't Sec'y of AF.

INVENTORY of available non-EAD Organized and Volunteer Air Reserve personnel by skills of military value is scheduled to begin this summer. Survey, authorized under new AFR 35-84, will be conducted on annual basis. Reserv-  
(Continued on page 46)



ists who fail to furnish requested information will be transferred to In-active Air Reserve pending compliance and submission of request for re-transfer to VAR. (Each Reservist will receive AF Form 275 and medical Standard Form 89 from ConAC.)

ADJUSTMENTS in rank are being made in cases where Air Guard officers voluntarily accepted lower grade than held in World War II in order to join a unit and are now on EAD for second time.

RESERVE OFFICERS recalled since start of Korean War will not receive overseas assignments if they have less than one year remaining on current tour.

QUALIFIED Reserve officers are now eligible to apply for enrollment in civilian universities for graduate study beginning in September '51. Additional Reserve enrollments will be made in January '52. Fields opened are: Nuclear Physics, Nuclear Chemistry, Bioradiology, Biochemistry, Geophysics, Electrical Engineering, Electronics, Servo Mechanisms, Chemical Engineering, Chemistry, Atmospheric Physics, Optics, Aero Engineering, Civil Engineering, Math, Metallurgy, Photogrammetry, Propulsion Engineering, Reactor Technology, Weapons Systems Engineering and all sections of Surgeon General Training program for medical specialists. Applicants must be under 37 years of age; have at least one year of continuous active duty prior to submitting request for evaluation; and agree to remain on active duty for three years after completion of schooling. For further information write Commandant, USAF School of Technology, Wright-Patterson AF Base, Ohio.

VACANCIES are again available in AF commissioned grades for qualified dentists who desire Reserve commissions and EAD in USAF Dental Service. Application blanks or further information may be obtained upon written request from The Surgeon General, Hdqtrs, USAF, Washington 25, D.C., Attn: AFCSG-21.1. Veterans and non-veterans who can qualify for direct commissions as AF Electronics Officers are urgently needed, First Air Force has announced. Appointments will be made in grades from second lieutenant up to and including major. Inquiries should be directed to Dept. of Military Personnel Procurement, First Air Force, Mitchell AF Base, N. Y.

EIGHT AVIATION CADET CLASSES are now conducted each year for pilot training with 300 applicants in each class. Classes for cadets who are to become navigators are initiated every three weeks with 35 per class. USAF currently conducts four OCS classes a year with 280 male and 40 female applicants attending. Numbers will be increased as new schools are opened.

PLANS are being developed for a reserve fleet of civil transport aircraft that could supplement military airlift in event of war, MATS has announced. An Ad Hoc Staff Group, composed of seven AF Reserve officers who are connected with civil air transport industry, and five officers of MATS Headquarters, is currently meeting in Washington to blueprint such a program, which will be submitted to Gen. Kuter, MATS Commander.





Bettmann Archive

## "ON TARGET" TODAY demands split-second mathematics

Today's gunnery problems are a far cry from the days of slugging it out at close range. They demand instantaneous solutions to ever-increasing complex factors. Only continuing advance in elec-

tronic instrumentation can accomplish this feat. Through years of outstanding engineering design and precision manufacture, Arma leads in this vital supply link to our nation's *Armed Forces*.



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# Help Wanted — for America's Defense

The men and women of the Ground Observer Corps are  
the eyes and ears of the USAF's Air Defense team



Death has never rained from the skies on America. We have never heard or seen the world cracking around our ears. But we can no longer blithely consider ourselves immune. General Hoyt S. Vandenberg puts it this way, "The American people must realize it is impossible to amass or invent an absolute impregnable defense against bombing

attacks by a strong and determined enemy. The Soviet Union, for example, now has at least 450 planes that can strike our major population and industrial centers from bases in the USSR. . . . Should war come we can be expected to destroy no more than 30 percent of the planes making an attack in strength on the U.S. before their bombing missions are com-

pleted." Thirty percent sounds like a respectable figure, considering that the Battle of Britain was won with a percentage of eight. But the A-bomb has made any World War II yardstick obsolete. Even five percent of A-bomb-carrying bombers could wreak havoc. We have radar, sure. But our radar net is far from complete. And radar beams travel in a straight line, like television. They can't follow the curvature of the earth, can't see through mountains or into valleys. Low-flying bombers can sneak under these electronic eyes. To fill the gaps in radar the Air Force depends on volunteers for its Ground Observer Corps—on housewives like Mrs. Mary Jane Eide, shown on opposite page at the Oakland, Calif., filter center; on men like Frederick C. Zimmerman, above, keeping vigil on a lonely lighthouse overlooking San Francisco Bay; on all the volunteers who give so generously of their time and energies. So check with your local civil defense agency. Get your Ground Observer Corps wings.



AIR FORCE presents these photographs as a tribute to those now giving up their leisure to civil defense of the nation, and as an appeal for more volunteers to carry on this vital work.









## Four AFA Meets in One Month

Pennsylvania, Ohio, New York and Michigan have state conventions in June. Resolutions for national convention get action.



AFA delegates and Auxiliary members pose on steps of Blair County Squadron club during recent state convention. AFA Wing officials are shown in front row, Wing Auxiliary officials in the second row.



Prestie M. Headings, Jr., member of AFA's national auxiliary committee, discusses the charter for the first state Wing auxiliary with wives of Pennsylvania AFA members during organizational meeting which was held in the Logan township school, across the street from AFA club.

## Penn Wing Convenes on Mountain Top

Site of the 1951 meeting of the Pennsylvania Wing, AFA, was the permanent home of the Blair County Squadron, located on a cool mountain top a few miles outside the city limits of Altoona. The Blair County AFA unit, commanded by James Miller, was host to the convention.

The business session got underway on Sunday, June 3, with Randall Leopold of Lewistown, retiring Wing Commander and a member of the national AFA Board of Directors, officiating during the business portions of the convention. Leopold reported to the delegates that Pennsylvania House Bill No. 909, introduced by Representatives Harry Price, Jr., of Mifflin County, state secretary of the military affairs committee, and William A. Bolton of Montgomery County, had recently been enacted into a law which recognizes the Pennsylvania AFA Wing as a bona fide veterans organization and prohibits the illegal wearing of the AFA emblem. Leopold pressed for the passing of such a bill when he encountered opposition to AFA being represented on the state veterans council because of the absence of legislative recognition of AFA within the state.

The business sessions centered on the discussion and adoption of a number of important resolutions, some of which will be submitted to the national AFA convention at Los Angeles in August. Following the resolutions, Ralph Whitener, national organization director of AFA, spoke on local and national AFA problems and programs since the outbreak of the Korean War.

Principal speaker for the convention was James E. Van Zandt, Congressman from Pennsylvania, who flew to Altoona from Grosse Pte., Michigan, early Sunday morning. Van Zandt spoke on the present day problems which face the Reservist and made several recom-



Congressman James E. Van Zandt, second from right, guest speaker, discusses Pa. Wing convention program with AFA officials Randall Leopold, national director, left; Kenneth V. Moore, second from left, new Wing commander; and Ralph Whitener, right, national organizational director.





# WESTWARD HO!

Here's a convention travel schedule to fit every

budget, whether you're short on money or on time

**R**ich man, poor man, leisure-loving vacationer, harried business man—or just plain lazy loafer—Los Angeles and the biggest, best Air Force reunion and convention are beckoning. In compiling the table of rates and schedules below, we've tried to take into consideration the needs and desires of all. If you're long on dough but short on time, the air lines are probably your best bet. If you've got all the time in the world but a lean pocketbook the bus may be a good deal. Or you may want to drive or take the train. How you get there isn't important. Whether you get there is. The table should simplify matters, either way. If you're taking to the airways don't forget to investigate the airlines' family plan. If you want to take the wife and kids with you, or if you can't get away unless you do, here's a way to fly without wrecking the budget. Here's how it works. You buy your own ticket for the full rate, and get tickets for the rest of the family at half-price. All you have to do is begin your trip on Monday, Tuesday, or Wednesday, and start back on any of those days. If you have to rush home and want to leave the family to enjoy the beach, they can return later and still take advantage of the half-price fare.



## CHICAGO AFA TAKES TO RAILS

**T**his may sound a little strange, but it's true. AFA members around Lake Michigan are busy making up a complete California-bound AFA train. It will be called the "Santa Fe El Capitan AFA Special," and will leave Chicago at 5:45 a.m. CST, Wednesday, August 22, and pull into Los Angeles at 7:30 a.m. PST, Friday, August 24, two and a half hours before the first convention business session opens. All it takes to have a train that's AFA's own, to and from the west coast, is 200 passengers. The train will be the latest streamliner type, with club and dining cars and all the trimming.

All AFA members within travel-

ing distance of Chicago are urged and invited to take advantage of this opportunity to "go west with the gang." The Santa Fe is determined to do this up brown. Should the AFA gang in Pittsburgh, Philadelphia, New York City, or elsewhere, like to make up their own car to be hooked onto the AFA special, just let the Santa Fe know. All it takes to make up a car is 60 passengers. To reserve your seat for Los Angeles, write without delay to:

Mr. M. O. Strom, Passenger Dept.  
Atchison, Topeka and Santa Fe  
179 West Jackson Boulevard  
Chicago 4, Illinois

The round-trip fare will be \$102.81 from Chicago; \$131.10 from Pittsburgh; and \$156.57 from New York City.



Fares listed in the table below are for round trip, tax included. Travel time is for one way and is actual time spent enroute.

TO LOS ANGELES FROM:	VIA SCHEDULED AIRLINE			VIA TRAIN			VIA BUS	
	1/CLASS	A/COACH	T/TIME	T/TIME	R/COACH	PULLMAN	T/TIME	COACH
NEW YORK CITY	\$345.00	\$253.00	11 Hrs.	70 Hrs.	\$156.57	\$252.23	80 Hrs.	\$103.10
WASHINGTON, D. C.	324.19	276.00	11 Hrs.	69 Hrs.	146.86	231.21	75 Hrs.	98.27
ATLANTA, GA.	267.66	NONE	11 Hrs.	78 Hrs.	112.52	182.22	70 Hrs.	84.70
CHICAGO, ILL.	248.63	195.50	7 Hrs.	47 Hrs.	102.81	168.71	60 Hrs.	76.30
DALLAS, TEXAS	164.57	142.60	5 Hrs.	34 Hrs.	74.06	117.13	36 Hrs.	55.20





# *All-Metal* Cessna L-19

*Passes Roughest Test of All... Flying in Combat!\**

Division, corps and army level liaison pilots now flying combat missions in Korea praise the new Cessna L-19 as the "best light airplane the army's got."

Features that the combat "L-Jockeys" like are the L-19's rugged, *all-metal construction* . . . its 213-horsepower motor, which lessens risks, gives speedier "getaway" from tight spots, makes short "take offs" possible from Korea's ox-trail and rice-paddy air strips. And they talk about its solid "feel," excellent visibility, sound-proofed interior, cushioned seats, heaters for pilot and passenger and its "complete" instrument panel. Important, too, are the two high frequency radios, which let them contact both air and ground forces while in flight.

Because it seeks out the enemy, "calls" for and "spots" for friendly artillery to destroy them . . . because it warns HQs of hostile, behind-the-lines activity . . . the Cessna L-19 is known as the "eyes" of the Army and the G. I.'s friend.

*\*Material in this advertisement quoted from release originating from Headquarters, Eighth United States Army Korea, Public Information Office.*





mendations for improving these problems. "Action, in the form of definite, clear-cut laws, is currently being formulated in Washington to alleviate the national Reserve problem," the Congressman, who is a member of the House Armed Services Committee, told the 150 delegates and Auxiliary members.

A picnic luncheon was served the delegates by Auxiliary members from throughout the state. Scene of the luncheon was the huge porch which surrounds three sides of the Altoona Squadron club.

Kenneth V. Moore, former Blair County Squadron commander, was elected to succeed Leopold as commander of the Pennsylvania Wing. Other Wing officers elected to assist Moore were: E. Perry Campbell, Amber, vice commander; Miss Josephine Groesbeck, State College, secretary; and Deyrell F. Poulson, Oil City, treasurer.

Concurrent with the regular Wing convention, the Pennsylvania women's Auxiliary convened in the Logan township school off Frankstown road, just across from the club, to organize the first AFA Auxiliary Wing in the country. Mrs. Prestie M. Headings, Jr., of Lewistown, was elected president for the coming year. Her assistants are: Mrs. Kenneth Moore, Altoona, Mrs. Hamilton Wilcox, Philadelphia, and Mrs. Carl Long, Pittsburgh, vice president; Mrs. Leonard Work, Oil City, treasurer; and Mrs. James Miller, Altoona, secretary. Prestie M. Headings, who is a member of the national AFA Auxiliary Organizing Committee, and Ralph Whitener addressed the meeting.

Wing Commander Moore resides at 512 Second Street, Altoona. Auxiliary President Headings lives at 511 South Grand Street, Lewistown.

## Ohio Holds Wing-Glider Meet

More than forty delegates from seven major Ohio cities assembled in Dayton on May 26-27 for the 1951 Ohio AFA Wing convention. The Biltmore Hotel was convention headquarters.

August Duda, 427 Capistrano Avenue, Toledo, who had been acting commander of the Wing since Erwin Cooper of Cleveland was recalled to active duty a few months ago, was elected to head the Wing for the coming year.

Highlight of the convention was the airpower banquet in the Hilton Room of the Biltmore. Herbert Shaw, aviation editor of the Dayton Daily News, was the principal speaker. Shaw reviewed some interesting stages of the development of aviation, as told to him by the Wright brothers whose home was near Dayton.

The convention was climaxed by the Third Annual Wright Memorial Glider Meet, sponsored by the Dayton Squadron. Two very attractive queens were selected to reign over the Meet; they were Ruth McBride and Joanne Harleman.

Other officers elected to assist Duda were: William Lee Birch, Cleveland, vice commander; Miss Ann Griffin, Co-



AFA officials admire portion of USAF Exhibit Unit display during Ohio Wing convention recently held in Dayton. Left to right: Dr. J. H. Meyer, convention chairman; Ralph V. Whitener, national organizational director; and August Duda, of Toledo, newly elected Wing Commander for the State of Ohio.

lumbus, secretary; and Laurence T. Murnane, Columbus, treasurer. Dr. J. H. Meyer, former Dayton Squadron commander and this year's convention chairman, was elected Ohio nominee for the national AFA Board of Directors.

## NY Holds Fourth Convention

The New York Wing of the Air Force Association held its fourth annual convention on May 19-20 at the Hotel Onondaga in Syracuse. Over seventy-five delegates attended the business sessions and two hundred delegates and guests were present for the airpower banquet which climaxed the event.

Among the many resolutions passed on by the delegates was one calling for Congress to take action on the Universal Military Training Bill as quickly as possible. Considerable discussion was held on the recent proposal of the national Board of Directors to raise the annual AFA dues to \$5.00. Ralph Whitener, organizational director of the Association, spoke to the group and covered in detail the dues proposal.

Mary Gill Rice, hard-working national director and commander of the New York Wing last year, officiated. The business session was climaxed by the election of new Wing officers for the coming year. Mary Gill Rice was re-elected to the top Wing post and the following were chosen to assist her: Forrest Vosler, holder of the Congressional Medal of Honor, of Syracuse, vice commander; Isabel Redding, New York City WAC Squadron member, secretary; and William Dwyer, Long Island, treasurer.

Highlight of the convention was the airpower banquet, at which Major Alexander P. de Seversky, well-known airpower advocate, was the principal speaker. E. P. Curtis, one of the founders of AFA and presently a national director, introduced Major Seversky and presented him with a certificate of national honorary membership in the Air Force Association. Seversky praised AFA for the work it is doing in support of strong airpower for the US and stated

that AFA is charged with great responsibilities in carrying the airpower message to the American people.

Warren De Brown, AFA's northeast regional vice president presented the official charter to the newly organized Syracuse Squadron, which served as host to the convention. Alfred Romeo, commander of the new Squadron, received the charter on behalf of the members of his unit. Forrest Vosler was convention chairman.

Brig. Gen. Norris B. Harbold, who was recently named CO of nearby Sampson Air Force Base, was on hand to greet the guests. The Mayor of Syracuse and the president of the Syracuse Manufacturers Association were among the local dignitaries attending.

## Michigan Meets in Battle Creek

Squadron representatives and AFA members throughout the State of Michigan met at the Post Tavern Hotel in historic Battle Creek on May 20 for the 1951 convention of the Michigan AFA Wing. The Illinois Wing sent a goodwill delegation to the convention, headed by Morry Worshill, Wing Commander. Ohio also sent a delegation to Battle Creek.

The idea of sending goodwill delegations to the conventions of each of these states originated earlier this year when all of Michigan's Wing officers attended the Illinois Wing convention in February. Worshill also headed a group which attended the Ohio convention in Dayton.

Frank Ward of Battle Creek, retiring Wing Commander, presided during the business sessions of the Michigan meeting. William Amos of 14819 Linnhurst, Detroit, was elected to succeed Ward. Other Wing officers chosen to assist Amos were: Stanley V. McWhinney, Lansing, vice commander; and Chester D. Clute, Battle Creek, secretary.

Resolutions acted on during the convention centered around the newly proposed \$5.00 national dues program.

(AFA News continued on page 54)



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SMALL—COMPACT  
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E-2, ES-2, ESB-2  
E-3, ES-3, ESB-3

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## AFA NEWS

CONTINUED



Charles W. Purcell, Baltimore, AFA Squadron Commander, accepts check from Mr. A. Knight of the Form Stone Company. Onlookers (left to right) Capt. W. Davis and Maj. S. Saunders, both of the 104 ANG Ftr. Sq.; Betty McCall, Radio Station WCAO in Baltimore; and Maj. E. Searowice, of the 104 ANG Ftr. Sq.

## AFA President Addresses RCAFA

AFA President Bob Johnson was guest speaker at a dinner staged during the second national convention of the Royal Canadian Air Force Association in Ottawa, Ontario recently.

Approximately 150 delegates representing a total membership of over 10,000 attended the convention. RCAFA's membership has increased about 30 percent during the past year.

Luncheon speaker was Major General F. F. Worthington, retired army tank specialist, now head of Civil Defense for Canada.

## Chicago Unit Five Years Old

Chicago Squadron No. 101 recently celebrated its fifth anniversary with a dinner and dance. More than 250 persons attended the event, with all of Chicago's AFA Squadrons represented.

Capt. Philip S. Salk and Sgt. Edward P. Amendola attended, representing nearby O'Hare Field. Capt. Salk was the principal speaker at the dinner.

Squadron 101 is headed by Arthur P. Batz, P. O. Box 387, Glen Ellyn, Illinois.



Capt. Philip S. Salk, of O'Hare Field, addresses guests at Chicago Squadron 101's fifth anniversary.



Miss Betty McCall prepares to christen Baltimore unit's new J-3 Piper plane. Looking on (left to right), are C. W. Purcell, Squadron CO; Maj. S. Saunders, 104 ANG Ftr. Sq.; and A. Knight, of the Form Stone Company, who helped to buy the airplane.

## Baltimore AFA Unit Christens Own Plane

The Baltimore AFA Squadron now has its own plane, a shiny brand new J-3 Piper, a result of months of planning and fund raising. Much of the credit goes to Mr. A. Knight of the Form Stone Company, who understood the needs of the Squadron and has a great deal of interest in airpower and the Air Force Association.

When pretty Miss Betty McCall of Radio Station WCAO, came out to the airport to christen the plane, officials of the 104th Air National Guard Fighter Squadron were on hand to witness this milestone for the AFA unit. The 104th has always cooperated with the AFA unit and has contributed much to its growth by making available meeting space, motion picture equipment and other facilities badly needed by the Squadron.

Commander Charles Purcell, 1102 N. Charles Street, has built the AFA unit from an idea to a top outfit in a few short months.





Veteran at San Joaquin General Hospital smiles over cash gift presented by Florence Spaniels and Thomas Nichley, both of the Stockton Sqdn.

## AFA Cash Gifts to Vets

A program in which cash gifts are presented yearly to veterans at San Joaquin General Hospital is one of the primary projects of the Stockton Calif., Squadron No. 1, AFA, according to Thomas R. Nichley, Squadron Commander.

The project which was started four years ago at the suggestion of Squadron member Mrs. Florence Spaniels, includes veterans who served in any branch of the service at any time.

The Squadron mailing address is: 3611 Coronado Avenue, Stockton.

## Illinois Wing on TV

The Illinois AFA Wing participated in two television shows in Chicago last month, according to Morry Worshill, Wing Commander.

The Squadron presented the movie "Air Operations in Korea" with talks by Ray Gran, membership chairman, and George Anderl, Chicago Commander.

Mr. Worshill was present at the second program which featured a telephone call from an Air Force man in Tokyo, S/Sgt. Paul Bernicky, MATS, who had just been relieved from his duties in Korea and was in Tokyo for a rest period. His family, which consisted of two sisters, a brother and a brother-in-law plus a few nephews and nieces, were in the studio and each one spoke to the Sergeant through the courtesy of the Illinois AFA Wing.

The program was sponsored by the Department of Defense.

The Illinois Wing's mailing address is 2054 Hood Avenue, Chicago.

## AFA Plaque for Taunton

A bronze plaque, struck in recognition of the hospitality extended to local servicemen by the citizens of Taunton, England, during World War II, was presented to Mayor John F. Parker by members of the Taunton, Mass., Squadron of the Air Force Association during a recent ceremony at Taunton Inn.

Mayor Parker will carry it with him on his forthcoming visit to the English city, where it will be placed on permanent display in the city hall.

Engraved in bronze, the plaque measures 18 by 24 inches and is mounted on a base of Honduras mahogany. Inscribed on its surface, along with the facsimile signatures of the entire Squadron, are the following words:

"Presented to the people of Taunton, England, June, 1951 by the members of the Taunton, Massachusetts Air Force Association. In recognition of the friendship and gratitude of the people of Taunton, Massachusetts, U. S. A., to the people of Taunton, England, who so graciously received members of this city's armed forces during World War II."

The plaque was presented to the Mayor by Squadron Commander Edwin A. Tomawski, of 77 Tremont Street. Tomawski is a veteran of the Eighth Air Force based in England during World War II.



John Parker, far right, Mayor of Taunton, Mass., accepts local AFA plaque to be presented soon to Mayor of Taunton, England. Squadron officials shown, l to r: Thomas White and John Mansfield, vice commanders; Lt. William Perry, service member; Edwin Morrell, secretary; Edwin Tomawski, commander; William White, treasurer. Plaque bears the signatures of Taunton Squadron members.

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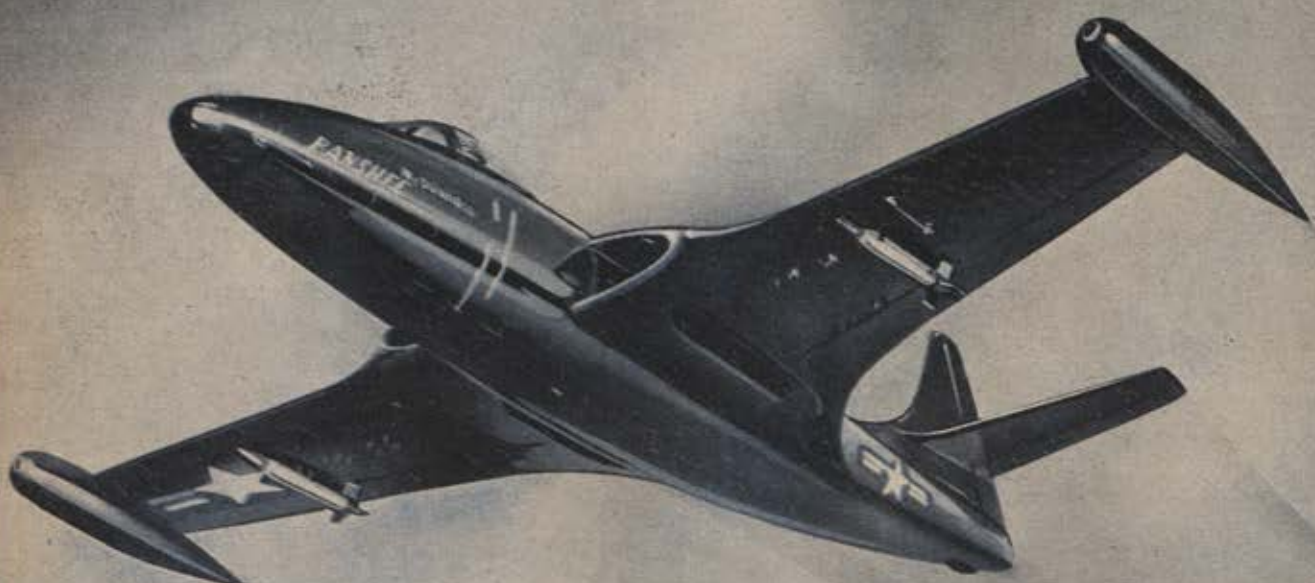
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## Join Your Local Squadron

Here are the names and contact addresses of Air Force Association Wings and Squadrons. This list is not complete, since some units failed to return the questionnaire AFA Headquarters mailed to the field on three occasions. These necessarily are missing. If your unit is among them, it is suggested that the names, addresses and telephone numbers of the of-

ficers and councilmen be forwarded to Headquarters without delay. AFA members who live near an AFA Squadron are urged to join it. If there is no Squadron in your area, remember that only 20 active members are required to apply for a Squadron Charter. For full information write to: Air Force Association, 1424 K Street N. W., Washington 5, D. C.

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(Continued on page 58)



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## CONVENTION

CONTINUED

**Reunions:** More than 30 full-fledged reunions of wartime units are expected in addition to a host of informal reunion gatherings. The Kriegies, Flight Surgeons and Medics, ATC, Air Commandos, WAFs and Chaplains will hold their annual reunions in addition to the usual squadron, group and numbered air force gatherings. Unit Reunion Day is Saturday, August 25, with most parties taking place that afternoon before the big Reunion Ball at the Ambassador. Members interested in Reunion parties were asked to contact AFA Headquarters.

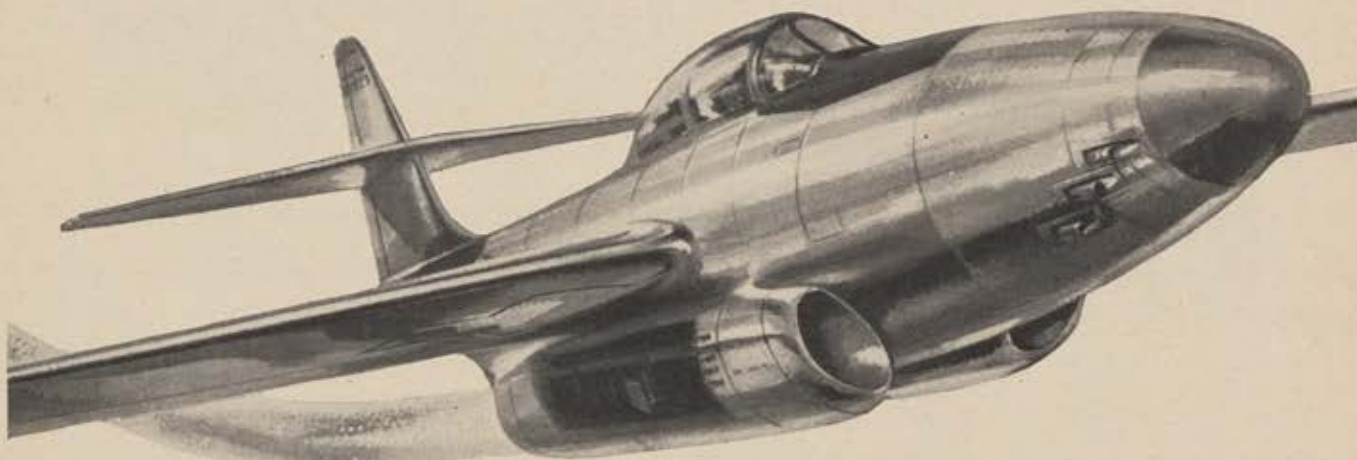
**Registration Fees:** These have been designed to give you the most for your money for the AFA annual meeting. The Registration Fee, covering all convention events plus the special vacation privileges, will be only \$12.50 for AFA members and \$15.00 for non-members. Fee for wives of both members and non-members will be \$10.

**Reserve Conference:** A Reserve Forces Conference, Friday afternoon, August 24, will feature an across-the-table talk by the Honorable Eugene Zuckert, Assistant Secretary of the Air Force, who has recently taken over Air Reserve and Air Guard affairs.

**Women's Activities:** With more than the usual number of wives expected, the convention committee has arranged special women's activities, including a Style Show and entertainment program at the Ambassador's beautiful Lido Pool. To help visiting women enjoy the weekend, wives of AFA members in Los Angeles will supervise a Convention Nursery for the children of convention-reunion registrants.

**Airpower Policy:** With the struggle for a national airpower concept brought to a head by the Korean conflict and the recent Senate committee hearings in Washington, the Statement of Policy to be adopted at the convention is expected to be the most important ever presented by AFA.

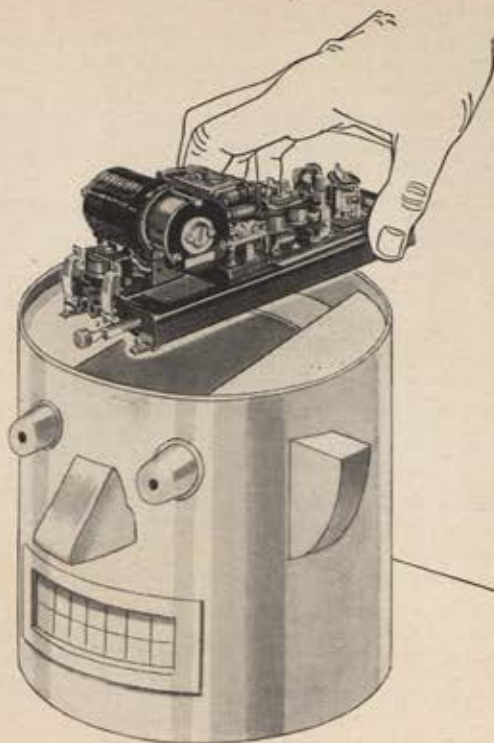
**AFA Business:** Wing Conventions of the past few months indicate lively AFA business sessions at the convention, and the Ambassador Theater, scene of the sessions, will be the best setting ever available for the meeting. Wing and Squadron financing will be a major discussion subject.



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ment of the almost obsolescent jet engine, I believe it was the British Nene, that was sold to the Russians several years ago. It was made and developed in Russia, possibly with the help of German technicians, but any thought that we might have that it is due solely to those German technicians is fallacious. The quantities in which they are now appearing on the front, both in Western Europe and in the Far East, would indicate that mass production methods of very excellent aircraft are now a capability of the Russians.

In answer to the question as to why we don't have jet engines equivalent in performance of the Russians, I would guess that part of the reason is that during World War II we were the major manufacturer of aircraft to fight the war on both the Western Front and in the Far East, and that all our time and effort, our engineering capacity, was taken up with winning the war. We have had to pay a penalty for starting our research and development from a position farther back.

The aircraft industry of the United States has been starved of research and development money during the

war years and until approximately 1948 and 49. Therefore, the drawing-board or bread-board models that we have of jet engines, which at that time were more or less a gleam in somebody's eye, are now beginning to come out with some hope of getting really advanced aircraft engines and armament.

We have given (the industry) all the information that we have been able to obtain on the improvements that the Russians have put into their jet engines; we are collaborating with the British who have been making good jet engines, and through our research and development program we are doing everything possible to procure the best jet engines that American manufacturers can make.

#### Squeezebox Financing

The most wasteful method of financing the armed services is to give them a program one year, let them lay the groundwork for that sized program, compress it the next year and waste all the money for that portion of the program that is not appropriated for the next year, the year following that enlarge it

again and go back and rehabilitate a great amount of equipment, public works and so forth, and the next year cut it again. This is, as Senator Johnson has described it, a squeeze-box operation.

#### Across the Yalu

I was and am today against bombing across the Yalu, as suggested. This does not mean by any stretch of the imagination that I might not be for it tomorrow, a month from now, or six months from now, in case there is a change in the world situation. At the present time, in view of the strength of our strategic air force, in view of the difficulties we have in Korea, in view of the global world situation, I do not recommend it.

Airpower, and especially the application of strategic airpower, should go to the heart of the industrial centers to become reasonably efficient. Now, the source of the materiel that is coming to the Chinese Communists and the North Koreans is from Russia.

If we utilized less than the full power of the United States Air Force  
(Continued on page 63)

## Dramatic Proof from

ACTUAL EXCERPTS OF UNSOLICITED LETTERS  
FROM SOLDIERS IN KOREA

# KOREA!

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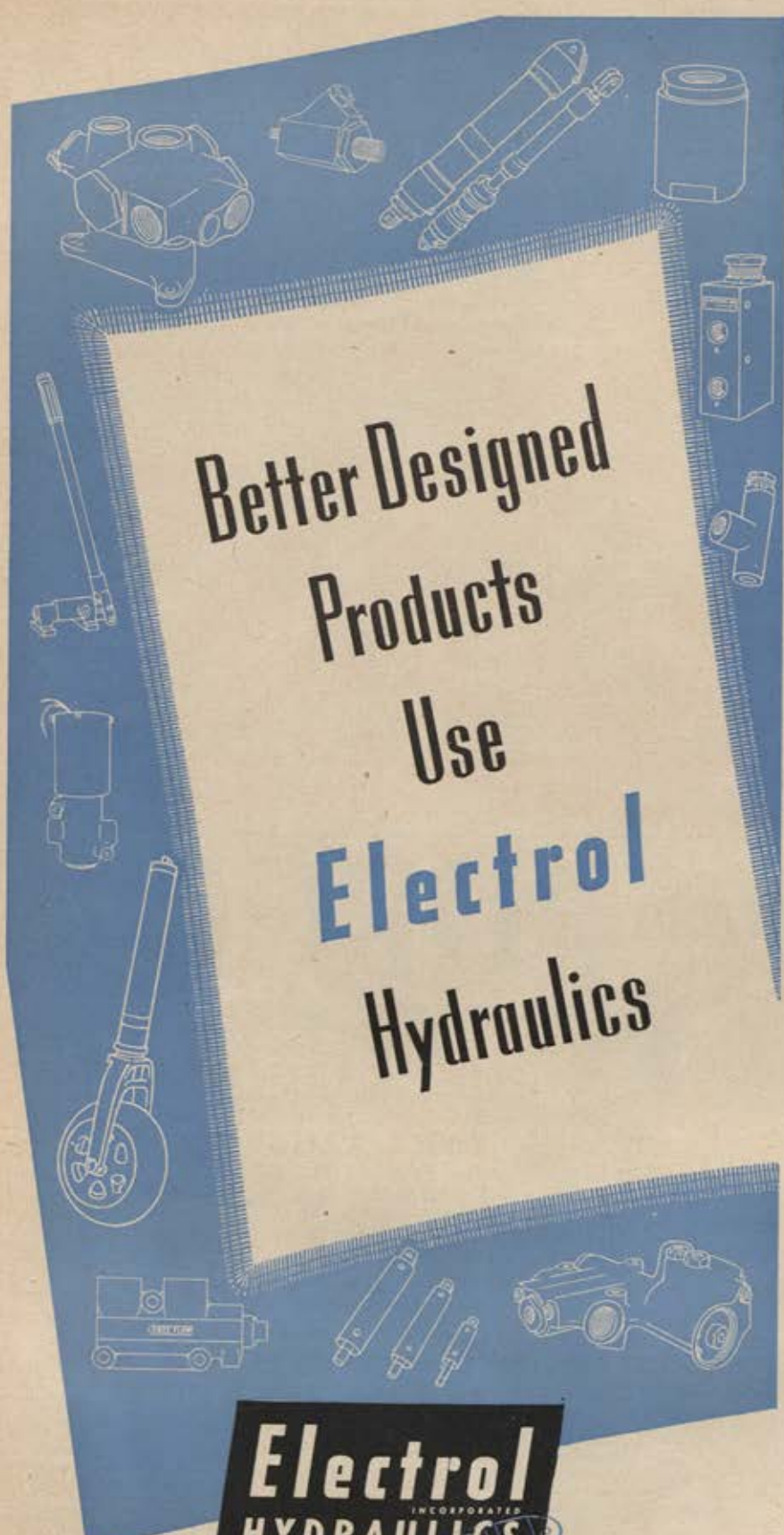
KOREA—38th Parallel—3 April, 1951:

"Using S-72 as receiving very well.  
I received the dark broadcast very  
good at night, at least been able  
to pick up Tokyo and San Francisco  
which could not hear."

AMIDONG, KOREA—22 March, 1951:

"S-72 performed better than expected. We  
can hear the news each day instead of  
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## MUROC

CONTINUED

airplane will do under any given conditions.

For example, when they first began to wonder at Muroc whether the X-1 would take off and fly under its own power (all flights up to then had been drops from a B-29), Ridley disappeared for quite a while and turned up later with a sheaf of data showing not only that the X-1 could make its own takeoff, but exactly the speed and distance required, rate of climb after takeoff, maximum speed, altitude and duration of flight. When it came time to roll the X-1 out on the miles-long dry lake bed adjoining Muroc, Major Yeager climbed into the cockpit and proceeded to prove that Ridley was right within fractions on every calculation.

That lake bed, incidentally, has saved the taxpayers millions. Muroc has an exceptional safety record, but there are bound to be emergencies. And that long dead glide back to earth is much more comfortable knowing that the landing can be made on 12 miles of smooth lake-bed instead of a few thousand feet of narrow runway.

New engine types are thoroughly flight tested in multi-engine aircraft before a pilot takes a chance with them in a single-engine job. When a new jet powerplant comes along, Muroc installs it, along with proven engines, in a four-jet B-45, or in a twin jet B-43 (outgrowth of the old Douglas Mixmaster) and puts it through its paces with dependable power to fall back on.

As a post, Muroc is about as bleak and barren, dry and dusty, as any you could dream of. Plans are underway, though far away, to brighten it up for personnel and dependents, but meantime most everyone there seems to recognize that the barren expanses and the blazing blue sky makes it the best possible place to carry out the job they have to do.

### CLIP FOR ACTION!

A lot of people are on the move these days—voluntarily and otherwise. If you are among them, let AFA know where you are. Whether you are back on active duty or just moved across town, mail this coupon to the following address—Or, if you are expecting to be recalled, put the coupon in your billfold until you know where you will be stationed:

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against Manchuria and China it might not and probably would not, in my opinion, be conclusive. If we utilized the full power of the Air Force we could lay waste to all of Manchuria and the principal Chinese cities in which they were manufacturing some articles of war. But in laying waste Manchuria and China, the attrition that would inevitably be brought upon us would leave us naked as a nation for several years to come.

Even if we utilized our full power and laid waste Manchurian and Chinese cities, there is a possibility (because the real source of material is Russia) that it would not be conclusive. But the effect on the United States Air Force, with our start from approximately 40 groups, would fix it so that, should we have to operate in any other area with full power, we would not be able to do so.

I believe that there are reasonable chances of success in achieving a negotiated peace without endangering that one potential we have which has kept the peace so far, the United States Air Force.

We cannot afford to peck at the periphery with our shoestring Air Force.

## For Europe

Today we do not have sufficient air-power available to carry out our commitments to Europe.

The program, as projected, is a build-up program. Provided that all of the countries that are going to contribute tactical airpower, including the United States, all lift their sights from 33 1/2 percent to perhaps 50 percent, we will meet the tactical airpower part of it.

## Overseas Bases

Air bases in Europe, including Spain and England and North Africa, are not essential to successful striking of Russian bases, but they are certainly desirable.

The United States Air Force is getting itself into a position, as rapidly as possible, so that it can be free from the requirement of overseas bases. However, it is not an efficient way to fight a war, if we are forced to fight one.

Obviously, the closer you can get to the enemy, the less gasoline you have to carry, and the more bombs you can carry. Obviously, if you have to refuel two or three times in the air, you get two or three missions per month out of your airplane, instead of 15 or 20. Therefore, your air force—your strategic air force—in order to do that efficiently, would have to be five or six times the size it would be if we had bases that were more nearly appropriate. Additionally, it would take longer to have the full impact of the air war upon whom-ever we fought.

## PHOTO CREDITS:

Page 29 and Page 37

—WIDE WORLD.



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(AVIATION WEEK MAGAZINE APRIL 30, 1951)

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Throughout the design and development of the BUCKAROO, TEMCO engineers have concentrated not only on providing an airplane that will best meet military training requirements, but on providing one that will meet these requirements at the lowest possible cost both from the standpoint of original price and that of maintenance and upkeep. In the finished product, TEMCO is convinced that it has an airplane that will not only train military pilots better, but train them at less cost than any other trainer presently available.



Designed for first flight as well as progressive military training, the BUCKAROO's range, instrumentation and design make it a truly all-purpose military trainer.



Rugged overturn structure of the BUCKAROO is an integral part of the forward canopy frame, providing full visibility from both cockpits in addition to full protection for both pilots.



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## National Committees

In response to a request of the delegates at the 1950 national convention in Boston, the following national committee action is reported for the information of the membership.

### No. 3: National Charter Committee.

George H. Haddock, 5318 Glenwood Road, Bethesda, Md., chairman; Sam Clammer, District of Columbia, Julian Rosenthal, New York, members.

Chairman Haddock has made several trips to the Capitol on this matter. It appears that the House and Senate Judiciary Committees disagree as to the procedures for granting Congressional charters to organizations and only one or two have been approved in the last ten years. Haddock and his committee are pursuing the matter.

### No. 12: AFA Creed Committee.

Irving Zeichner, 114 First Avenue, Atlantic Highlands, N. J., chairman; Clarence Case, Mich., Robert Upton, W. Va., members.

Committee has contacted National Headquarters for materials which could be considered in preparing an appropriate creed. A few suggestions have come in from the field. These have been turned over to the committee for review and recommendations.

### No. 16: Model Plane Committee.

Kenneth G. Vetter, 2679 East 121st Street, Cleveland, Ohio, chairman; Charles C. Huppert, Ind., George D. Mantel, Calif., John D. Myers, Ohio, Martin J. Weigler, N. J., members.

Chairman Vetter has been in contact with The Academy of Model Aeronautics concerning the details and requirements for conducting contests. Vetter has also been chairman of a number of model meets at Cleveland. The committee plans to present several recommendations at the national convention in Los Angeles.

### No. 20: National Headgear Committee.

Earle P. Ribero, 416 Delaware Avenue, Delmar, N. Y., chairman; James S. Cavanaugh, Jr., N. H., John F. Devney, Jr., N. Y., Maynard H. Smith, D. C., members.

This committee has held one meeting at which time it was agreed to poll all AFA units and solicit comments and suggestions. A special memorandum and ballot was prepared and mailed to all units on May 4th. There probably will be a report on these comments next month.

### No. 21: Ladies Auxiliary Committee.

W. Lee Birch, 14932 Euclid Avenue, Cleveland, Ohio, chairman; William P. Hall, Jr., W. Va., Prestie Headings, Jr., Pa., Mike Pisani, Calif., members.

The committee's progress has unfortunately been delayed by a grave illness of the chairman. A number of recommendations have been made and a full report can be expected in Los Angeles. Headings, one of the committee members, recently assisted in the formation of the first Wing Auxiliary in Pennsylvania.

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## WILLIAM S. FRIEDMAN

William S. (Blimp) Friedman lived in a world of his own, a highly technical and always fascinating world of aeronautical development; in peacetime as an aviation writer and editor, in war as a technical intelligence specialist with the Air Force in the Pacific. He spent most of his 39 years translating the complexities of his world into newspaper and magazine copy with a devotion to his work that is rare in any field of endeavor.

Blimp's stuff is well-known to readers of AIR FORCE Magazine. He was Technical Editor of this publication from its beginning as the Air Force Association journal in 1947, until the editorial office was moved to Washington the following year. Blimp wouldn't move from his home town of New York. Since then he has been a regular contributor.

His report on Russia's B-36-type bomber now in the making, in the February 1951 issue, was a complete scoop of the field. Last month, during an F-94 demonstration flight at the Aviation Writers' Association convention at New York, Blimp lost his life as one of the first civilians to fly in this new-type interceptor. Only the night before he had been elected president of AWA.

The USAF, in officially expressing its deep regrets, put it this way:

"All flying men of the Air Force sincerely appreciate the fact that members of AWA voluntarily share the hazards of flight in order to give the American public accurate, first-hand information regarding the latest aeronautical developments."

The Air Force Association mourns the loss of a valuable co-worker and a swell guy, and extends its sympathy to his widow and two children.

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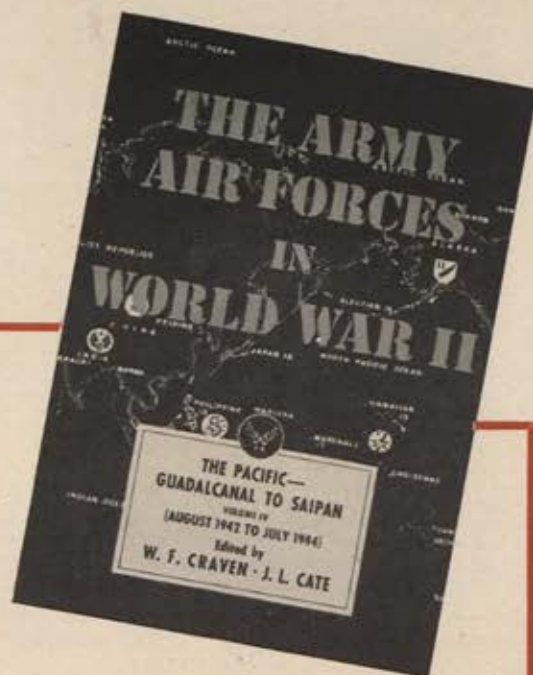
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## for AFA's FIFTH ANNUAL CONVENTION & REUNION

### LOS ANGELES, CALIFORNIA

AUGUST 24 • 25 • 26

#### HOTELS RESERVED FOR AFA CONVENTION & REUNION

NAME OF HOTEL	RATES PER DAY			
	Single	Double	Twin	Extra Cots
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Chapman Park	7.00	11.00	11.00	2.00
Chancellor	5.00	6.50	7.00	1.50
Gaylord	6.00	8.00	10.00	2.00
Hollywood Drake	5.00	6.00	6.50	
Hollywood Knickerbocker	6.00	8.00	8.00	2.00
Hollywood Plaza	5.50	7.00	7.00	2.00
Hollywood Roosevelt	8.00	10.00	10.00	2.00
Mayan	3.50	4.00	4.50	1.00
Park Wilshire	6.00	10.00	10.00	No C.
Town House	10.00	14.00	14.00	3.00

Rooms have been allocated by 11 hotels in the Los Angeles-Hollywood area to fill reservations made by AFA members, wives, guests and Air Force friends who plan to attend the Fifth Annual National Convention and Reunion of the Air Force Association on August 24-26. Because of the size of the hotels in that area, it will be necessary for AFA to use the facilities of at least the 11 hotels already contacted.

Convention headquarters will be located at the Ambassador Hotel, 3400 Wilshire Boulevard, midway between downtown Los Angeles and Hollywood. During past AFA conventions, approximately 1500 hotel rooms have been used. Since only 300 rooms are available at the Ambassador, only a portion of those attending the convention can be housed at the headquarters hotel. Rooms will be assigned on a first-come-first-served basis.

All hotel room reservation requests must be sent to the Los Angeles Convention Bureau, 1151 South Broadway, which will act as clearing house for all reservations. Do not send your request directly to the hotel or AFA Headquarters. It will only be delayed. Also, each request should list the first, second and third hotel selections, so that if the exact type room requested is not available, the next best may be assigned.

All of the hotels selected are good ones. The following are located in the immediate vicinity of the Ambassador: Chapman Park, Chancellor, Gaylord, Mayan, Park Wilshire, and the Town House. The others are located about 10 minutes away, at the famed Hollywood and Vine section of the motion picture capital.

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DEPARTURE DATE ..... HOUR .....

NAME OF PERSON(S) SHARING ROOM:

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c/o Los Angeles Convention Bureau  
1151 South Broadway  
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A-1	No exceptions	✓	✓	✓	✓	✓	✓	\$15.00
A-2	No exceptions	✓	✓	✓				13.80
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B-2	Flight-rated REGULAR military personnel not eligible (see note 1)	✓ (see note 2)	✓ (see note 2)			✓ (see note 2)		4.80
C	FLIGHT-RATED Regular and Reserve military personnel not eligible (see note 1)	✓ (see note 3)	✓ (see note 3)	✓	✓	✓	✓	3.00

**NOTE 1:** "Flight-rated personnel" means pilots, co-pilots, navigators, flight engineers, radio operators, bombardiers, serial gunners, and similar flying personnel of the military services or their reserve components.

**NOTE 2:** Class B-1 and Class B-2 policies expire with respect to aviation accident coverage if the insured person serves 120 days, consecutively or non-consecu-

tively, on active military duty during the policy period; but Class B-1 coverage continues in effect thereafter for other types of accidents.

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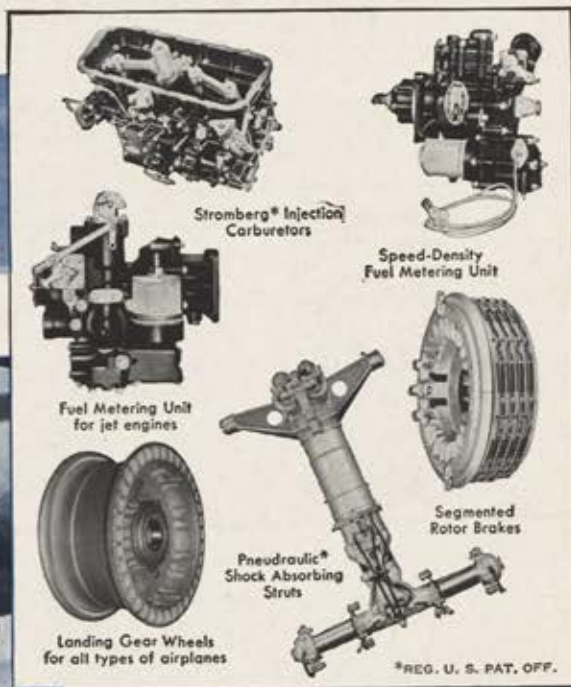
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