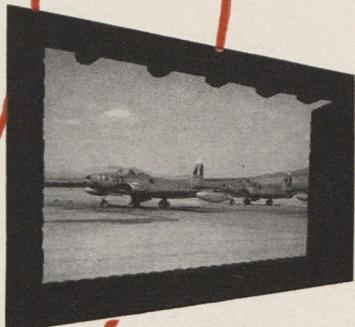


AIR FORCE

THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION, JUNE, 1949

Where do YOU fit in the
NEW AIR RESERVE?
Page 26



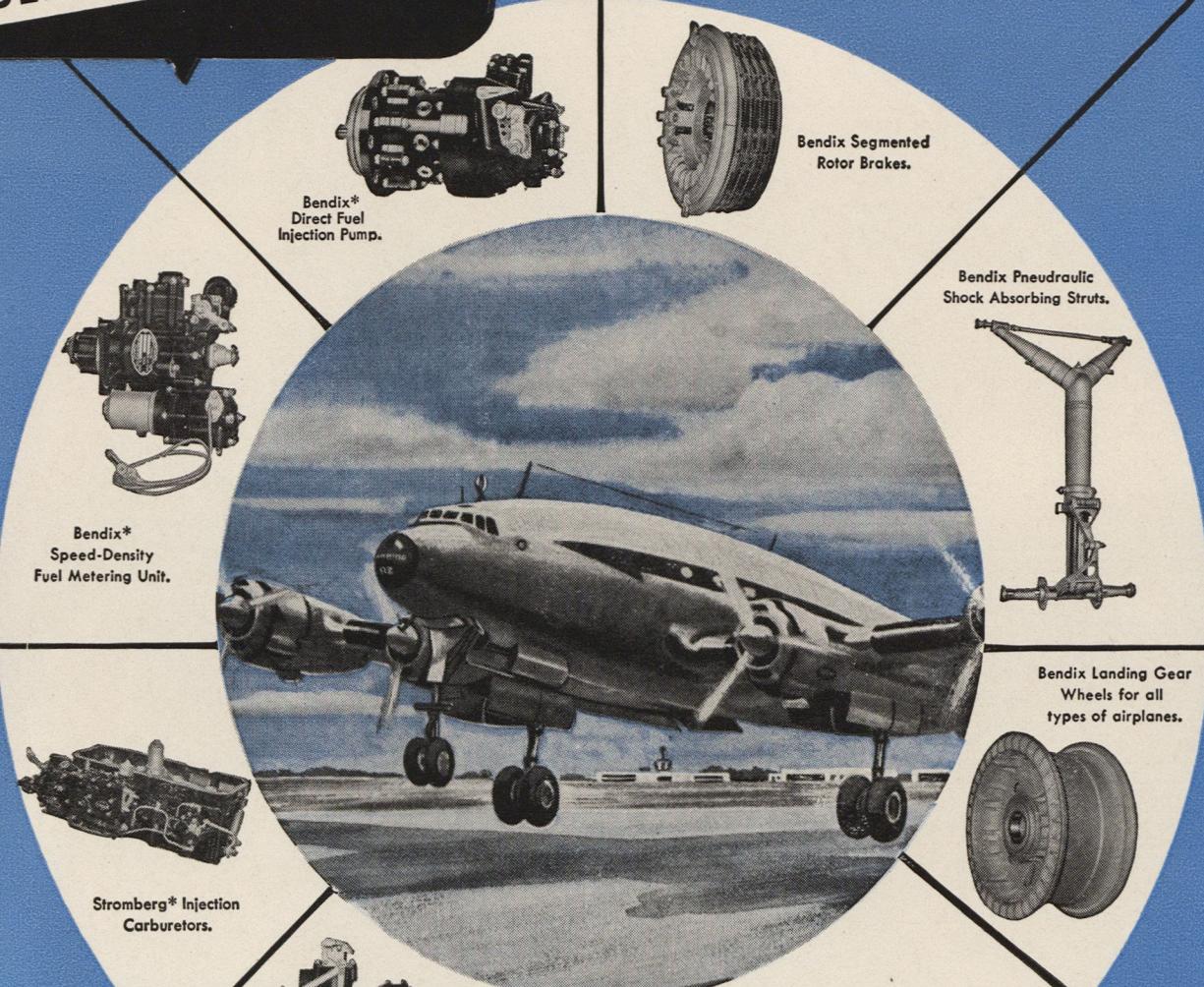
Gunnery Champs in Las Vegas

Page 20



Bendix Products

FUEL METERING SYSTEMS and COMPLETE LANDING GEAR



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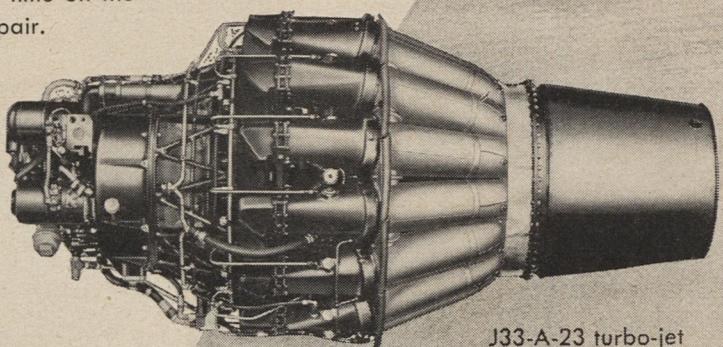
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North American FJ-1 Fury
Northrop YB-49 Flying Wing
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J33-A-23 turbo-jet

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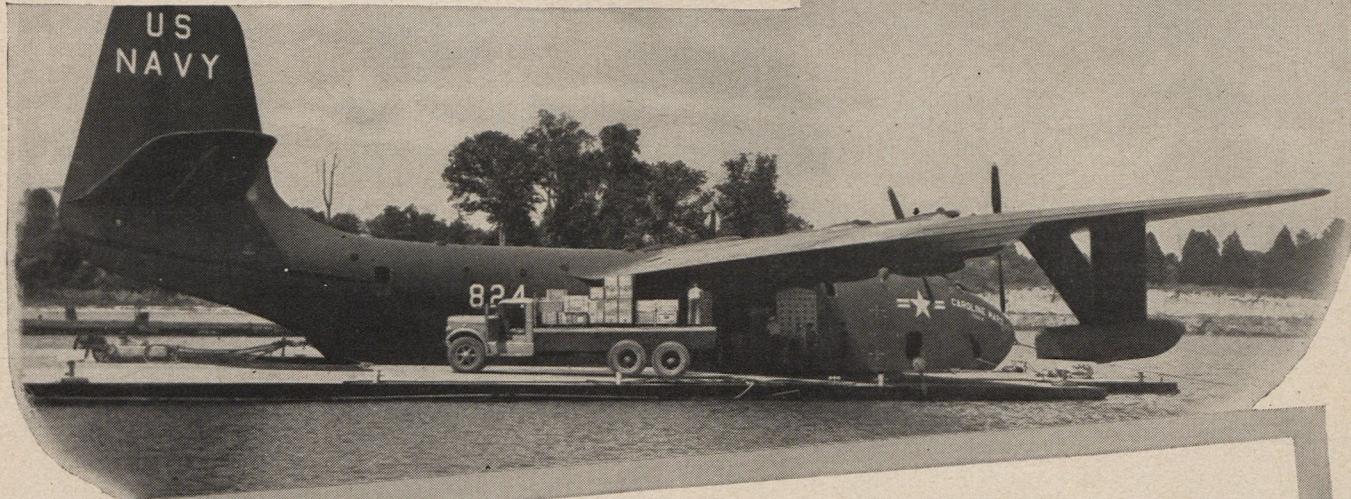
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Indianapolis,
Indiana

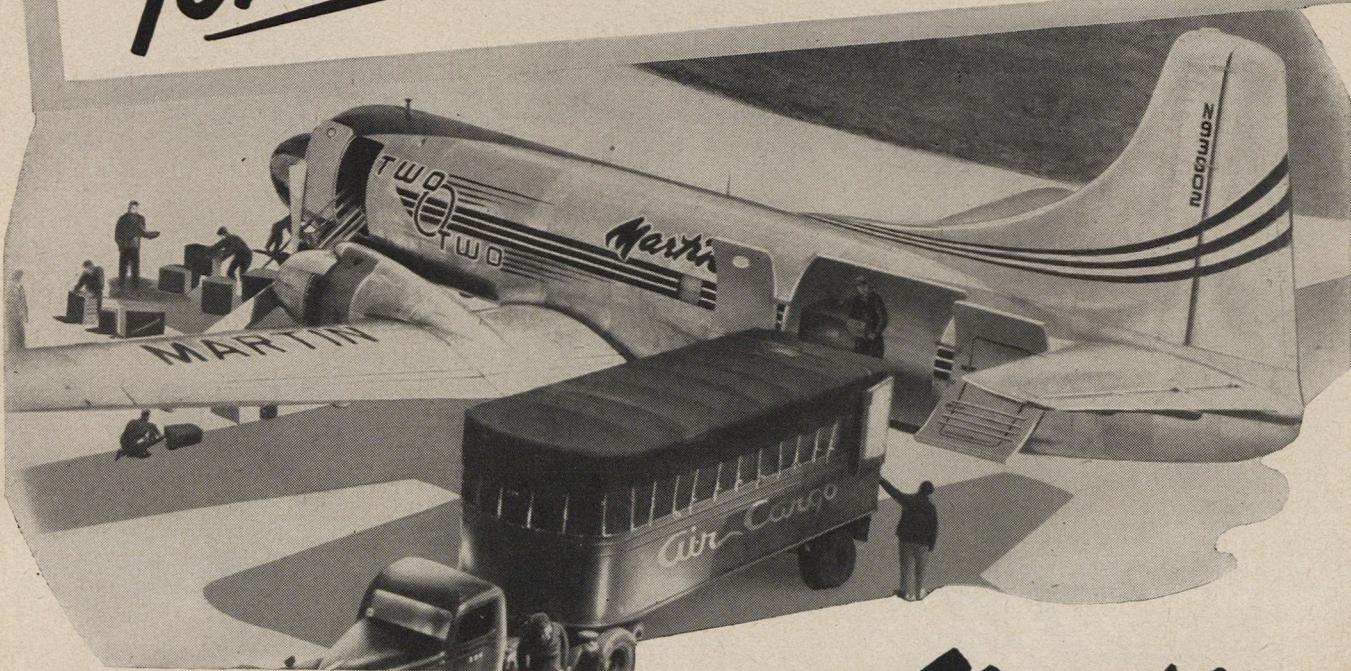
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AIR FORCE

THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION

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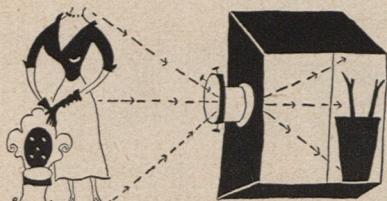
Love That Gal

Gentlemen: "Exposing the Milk Wagon Myth" was good; the articles on the National Guard were excellent; "The Case Against Flat-Top" was superior; but Clem Lawson—oh BROTHER! repeat oh BROTHER! I had the April issue a week before I realized there were three other pictures on Page 52.

Capt. Patrick W. Henry
Keesler Field, Miss.

Gentlemen: I saw that nice picture of Clem Lawson in the April issue of AIR FORCE. Really nice. Would like a personal autographed picture of her standing up.

Burrell Robertson
New Kensington, Pa.



• We've asked North American Aviation for additional shots of their Miss Lawson. The company reports, however, that Clem is a little bashful.

AFB Is Correct

Gentlemen: While reading the April issue of AIR FORCE I came across this phrase on Page 52: "Troopers . . . will make guided tours of the Yokota Army Air Base." Thought this had been settled in September of 1947 when the Air Force was separated from the Army. Such installations are now labeled "Air Force Base."

John Warren
Philadelphia, Pa.

Compromise

Gentlemen: I would like to put in my word on the National Guard argument that was started by Tom Lanphier's article and carried on by many others. I agree in part with both points of view and yet don't see why something like the following plan could not be worked out:

1. Separate Guard and Air Reserves but with a coordinated headquarters composed of officers from both groups to run the training program. Both outfits will use the same equipment and the cost will be split by the Air Force and the state involved according to the time the equipment is used by each group.

2. The various guards will still be

subject to call by the states when needed, but in cases of national emergencies, both groups would be called as a unit.

Gordon R. Trumbull
Davenport, Iowa

Political Muddle

Gentlemen: Let's get our Congressmen to do something about the political muddle which is our national defense. We have a ground National Guard unit in each state which we need to help maintain order in times of strife. We do not need an air National Guard unit in each state with its 48 separate organizations and duplication of expense. Let's place all Air National Guard personnel and equipment under the United States Air Force and call it the United States Air Force Reserve, with a headquarters in Washington. If and when unification of these 49 Air Forces is accomplished we will have taken one step toward lowering the cost of national defense, and at the same time increasing its efficiency.

Milan J. Petras
Johnson City, N. Y.

Towel, Please

Gentlemen: You are all wet on your support of Federalizing the Guard and merging it with the Reserve. Don't give a damn for "States rights" but I was in the Reserve one year and that was enough. Enjoy the magazine a lot. Keep up the good work.

Nimrod W. E. Long
Birmingham, Ala.

Turret, Indeed

Gentlemen: "OLD BAG OF BOLTS" must have been quite a sight to see since she sported an Emerson nose turret before Pearl Harbor (picture on page 37, May issue).

Ray Kaiser
St. Paul, Minn.



• That's no Emerson nose turret, that's a two-pronged Caledonia mosquito resting himself.

Thank You, Sir

Gentlemen: Congratulations and bouquets to those responsible for the May AIR FORCE cover. Never have I seen a

layout of a magazine cover so dramatically and forcefully handled.

Lt. W. H. Manby
Greenville AFB, S. C.

Four-foot Heavy

Gentlemen: As an ardent reader of AIR FORCE Magazine, I believe you can answer my question as you have answered many questions for other fellas in dire need of help. My wife and I are planning to build a four-foot scale model of my old combat ship, the B-29, but find ourselves faced with the need of adequate plans for such a project. Now I lay the problem in your lap. Please help us find where such plans can be obtained.

Lt. C. F. Heddleson
Columbus, Ohio



• Does anyone have any suggestions?

More Technique

Gentlemen: I enjoy reading AIR FORCE very much. However, I have one suggestion to make and I'm sure many members will back me up. I think if you concentrate on more technical information and less social information, you'd have a much better magazine. The "Tech Topics" department could be enlarged to half the magazine and it would suit me fine.

Leonard Bray
Philadelphia, Pa.

• We have been trying to enlarge both the Technique and Reserve sections as much as practical still maintaining a balanced diet to please all magazine reading tastes.

Airpower

Gentlemen: Our magazine is the leading literary exponent for increasing airpower; a power that I feel is a "must" for continuing peace in this upset world. Please keep up the exposé of wasted government time and effort in the brother branches and services. But do not fail to inform the public of the air arm's limitations, necessities and failings, for criticism of our own branch is essential to a healthy growth. The independent Air Force is young; you are

(Continued on page 7)



NEW WORLD DISTANCE RECORD

FOR LIGHT PLANES
SET BY

CAPTAIN BILL ODOM
AND HIS
BEECHCRAFT BONANZA

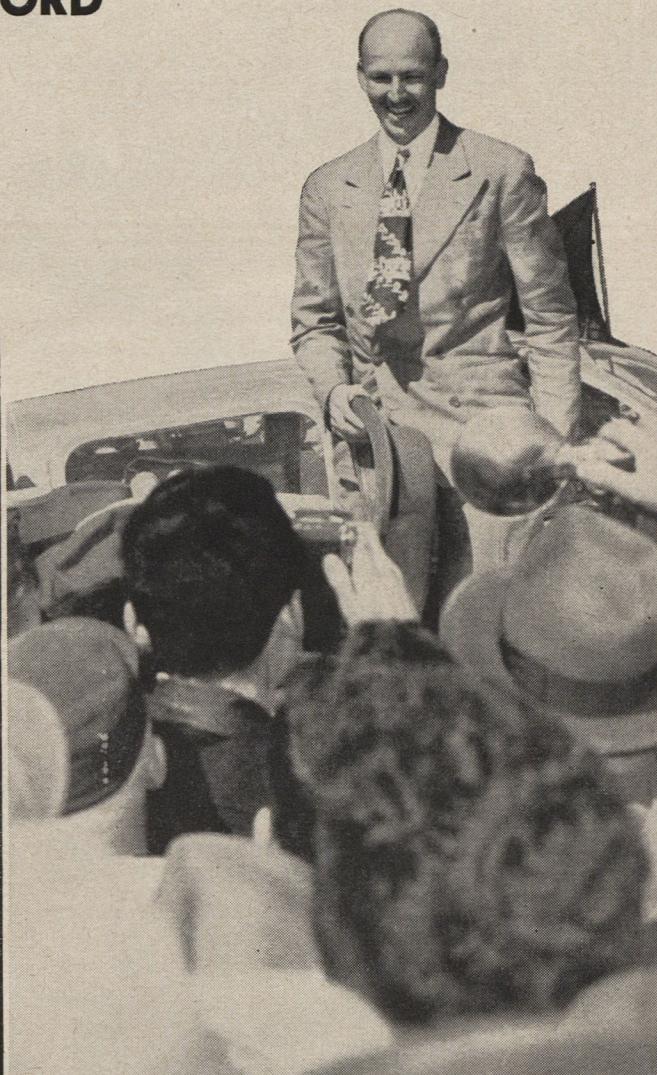
MARCH 7-8, 1949

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4957.24 MILES

OFFICIALLY ACCREDITED GREAT CIRCLE DISTANCE

DISTANCE ACTUALLY FLOWN	5273 Miles
(Over water, 2474 miles ... Over land, 2799 miles.)	
TIME EN ROUTE	36 Hrs., 2 Min.
TAKE-OFF WEIGHT	3858 Lbs.
GAS: Carried	288 Gals.
Used	272.25 Gals.
Remaining	15.75 Gals.
OIL: Carried	7.5 Gals.
Used	1.5 Gals.
Remaining	6.0 Gals.
EXTRA DISTANCE POSSIBLE ON FUEL UNUSED . . .	372 Miles
AVERAGE GROUND SPEED, distance flown . . .	146.3 MPH
AVERAGE MILES PER GALLON, distance flown . . .	19.37 MPG
AVERAGE GALLONS PER HOUR	7.56 GPH
TOTAL COST OF GAS AND OIL	\$75.00



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Designed with unique built-in nose ramp, the new Douglas C-124A will be the only airplane able to transport such typical loads as: (a) 13-ton

high-speed tractor *plus* 8-inch howitzer M1 on carriage M1; (b) two General Motors busses fully loaded *plus* 56 additional equipped troops; (c) three fully loaded ordnance maintenance trucks, each 2½-ton, 6x6.

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DOUGLAS AIRCRAFT COMPANY, INC.



SERVING MANKIND AROUND THE WORLD





(Continued from page 4)

young, but already both of you are strong and healthy newcomers. Good luck on your future years of publication and honest reporting.

Maj. Dominic B. Perello
Santa Barbara, Calif.

Reversed Photo

Gentlemen: Since when are the props of a C-46 pulled through clockwise? The picture on page 45 of the May issue must have been reversed. I've helped pull props through many times and I'm pretty sure they are pulled through counter-clockwise.

Herbert R. Wampole
Souderton, Pa.

• You are correct. Somewhere along our production line, the photo was reversed.

Pitch for Airpower

Gentlemen: I think that the Air Force Association should offer more guidance and suggestions as to how individual members and groups can build public sentiment for a second-to-none Air Force and further the cause of airpower in general. I believe every clear-thinking veteran of the AAF and also a large number of other intelligent citizens would do a great deal more in this line if they were reminded of it more vigorously and if some suggestions were offered as to the best method of accomplishment. If such articles as "Exploding the Milk Wagon Myth" and "Kodak in Kodiak" could be brought to more widespread public attention, for instance, the effect might be surprising. Most of us hesitate to write Congressmen about bills and appropriations we would like to see passed just because we don't know enough about them and how to express our desires in the most effective way. The Association's staff has done a Herculean job in the past few years and they have done it unbelievably well. I don't know how it was accomplished, but the men of the AAF and those of our present Air Force are noted for their ability to accomplish the seemingly impossible. Well, the hardest work of organizing and building is over and I think it is about time we members at large started carrying part of the load. If one doesn't feel (as he should) that he owes an unpaid debt to men like Mitchell, Andrews, Arnold, Spaatz, Doolittle and others who have given everything to the cause of airpower, then, at least, he owes it to himself, his family and his country to see that the U. S. is without peer in the air and in technical and scientific know-how and development. Who cares how big the cost for the Air Force and atomic research are?

William R. B. Blakemore, 2nd
Midland, Texas

New AVITRUC HEADLINER C-123

Cargo Plane Evolves F

Chase Aircraft building new 0-lb. pay

for Air Force; plans to prod

ALBERT E. SMYTHE, JR.

A new powered assault aircraft pro

ed by Chase Aircraft Co., Inc., Tien

N. J. is hailed by its designers as a

competitor for certain purposes of the

child C-46. It will similar

glider towing and

USAF

MONDAY, NOVEMBER 16, 1942

THE AIR WORLD

By GILL ROBB WILSON

Glider Design Is Basis of a New Transport Plane

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shown the aircraft industry a fresh

approach to the development of a

transport plane.

with an all-metal

the Chase Com

a few hundred feet of take-off run,

and that in landing over a like

obstacle the C-123 needs no more

than a 1,500-foot runway.

Of course, the touch of genius

in the plane is the effectiveness of

the wing design. This column

STROUKOFF

AVITRUC

CHASE AIRCRAFT CO., INC.

WEST TRENTON, NEW JERSEY

SHOOTING

Down Goes The Gauntlet

The Navy campaign against the B-36 takes a new twist. Range, long the target of Navy attacks against the big bomber, has been forgotten for the moment. Now it's altitude. Now it's a ringing challenge to pit the 36 against Navy fighters above 40,000 feet.

The new Undersecretary of the Navy, Dan Kimball, in a letter to a Navy veteran in Congress, Rep. James E. Van Zandt (R-Pa.), boasts that the Navy has several fighters which can "handle the B-36"; specifically, can "intercept and shoot down" the bomber. The newsboys, hungry for news from Mr. Johnson's military establishment, play it up.

Rep. Carl Vinson (D-Ga.) and his House Armed Services Committee take it from there. The committee calls upon the Defense Department for "a series of impartial tests" to be "conducted by appropriate authorities to determine the vulnerability of the B-36 bomber while under simulated attack by selected Navy and Air Force fighters." That's where the matter stands at this writing.

Billy Mitchell no doubt would twitch a smile or two. For years he challenged the Navy to tests. Now the position is reversed. That's progress. And now, instead of plane vs battleship, it's plane vs plane at eight miles up. That's more progress.

Certainly if the Navy has fighters capable of "handling the B-36", as Mr. Kimball puts it, someone should be told. Mr. Johnson perhaps. The Air Force is anxious to find aircraft like that. At the time these Navy challenges were flying around Washington, aircraft industry representatives were meeting jointly at the Pentagon in the hope that they could come up with some answers. The consensus was that a good bit of designing had to be done before a real threat to a B-36 type plane showed up. There were a few hold-outs among the builders, but the men who had made the best wartime fighters admitted that an adequate high altitude fighter aircraft wasn't yet in the works.



THE BREEZE

well as Air Force fighters in the upper air against them. If the B-36 gang needed a morale boost, which it does not, this would certainly do the trick.

General LeMay, boss of the B-36s, has welcomed the test and has added, so we hear, the suggestion that the job should be done with live ammunition. Perhaps that was only a cigar-in-the-cheek remark, or perhaps he meant it when he said that in the long run lives might be saved if the guns were loaded. Whatever he meant, he emphasized the point that to be of any military use, and to forestall a publicity contest, any such tests must be conducted under as strict operational conditions as is humanly possible.

Of course, there has been established within the Defense Department an organization designed to handle just such tests as these. It is the Weapons Evaluation Group and it is headed by Lt. Gen. John E. Hull (Inf.). We don't know whether this group is far enough along to do a job like this. We hope so.

Whoever handles it, should the test come to pass, they will have their hands full. For example, the B-36, as General Kenney used to put it, is a "bad weather bomber." He meant that it reached its greatest relative superiority in bad weather. We assume that these tests would have to be held in all sorts of weather, and therefore would necessarily extend over a long period of time to catch varying types of weather conditions. And the B-36 is a night bomber. The Navy would have to come up with a night fighter that could do the trick—a rare possibility in view of the relative inefficiency of night fighters compared to day fighters at present. The test missions would have to simulate wartime conditions with regard to warning, or lack of it, in B-36 attacks against simulated targets, and with regard to electronic counter-measures by the bombers. This is a serious business, and a costly one. If the test is to be done it should be done right.

And in the best interests of national
(Continued on page 10)

FOR THE TIME OF YOUR LIFE . . .

AFA CONVENTION

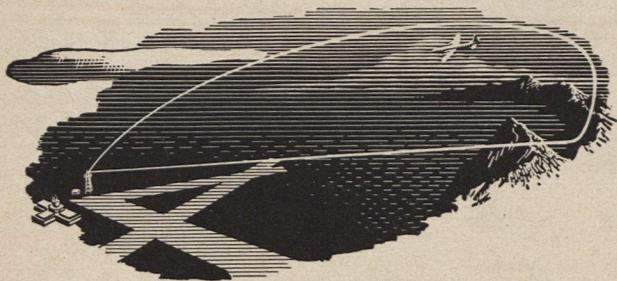
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CHICAGO • JULY 1-2-3

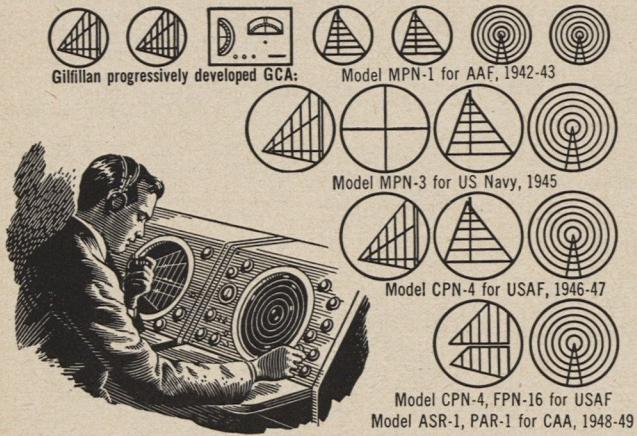
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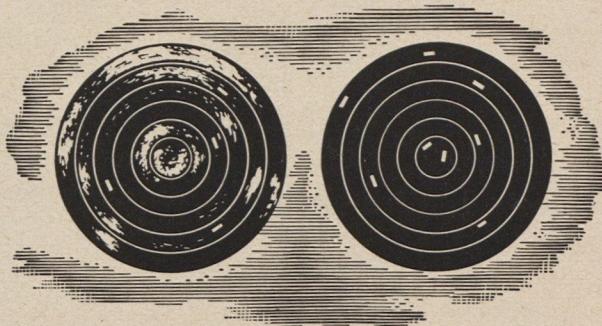
High-powered Search. Early GCA scopes were limited to a "solid" surveillance area 18 miles out and 4000 feet up. With high-speed modern aircraft, this area was inadequate. Gilfillan improved the search system to extend solid surveillance to an altitude of 10,000 feet over a 30 mile radius. Now aircraft even to the extremities of the surveillance area are clearly and accurately seen. Gilfillan keeps GCA paced to today's needs.



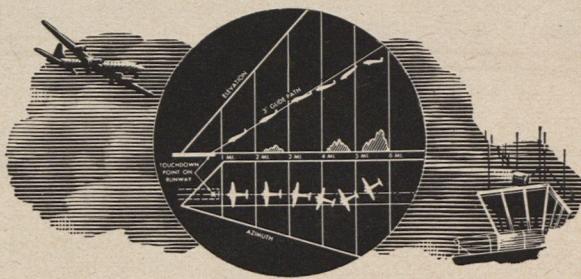
Tower Console. Gilfillan's new remoter equipment pipes GCA into the tower from the field antenna unit. Now GCA is operated by regular tower personnel from a compact, two-scope tower console. Gilfillan replaced bulky five-man, multi-scope equipment (MPN-1), with today's modern single operator equipment. Consolidation of all GCA features into the two-scope, one-man console is one of Gilfillan's finest achievements.

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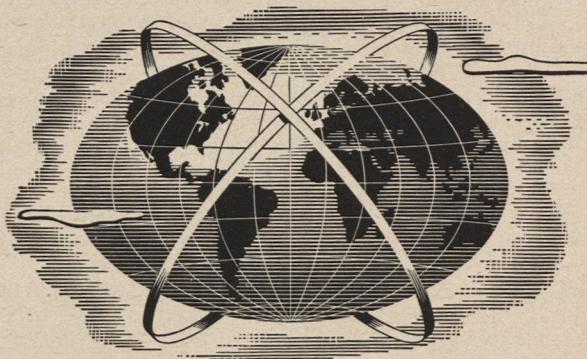
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World-Wide. 80 Gilfillan technical experts supervise GCA at USAF bases the world over. Gilfillan installed GCA overseas for TWA, AOA, and Turkish Air Force, and in Canada for the RCAF. GCA built by Gilfillan for the CAA is soon to be in operation coast to coast. Gilfillan schools train GCA crews for the CAA, USAF and RCAF. Supervising all phases of GCA at airports around the world is standard Gilfillan procedure.



Gilfillan
LOS ANGELES

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Chief of Staff, U. S. Air Force
Attention: Aviation Cadet Branch
Washington 25, D. C.

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BREEZE CONTINUED

security we hope that Mr. Kimball did not overstep himself, that he really has some fighters which can handle the B-36. The country needs such aircraft. Millions of dollars will be saved if he can produce them now. And we'll all feel much safer in the event a potential enemy has bombers of B-36 capabilities. Mr. Kimball and the Navy have taken on an important assignment. So far their challenge has made some nice headlines. We hope there is more to it.

With the Men Up Noath

Southerners will like this one, and even northerners might get a kick out of it, so we present a little story—as relief from such heavy subjects as B-36 tests at 40,000 feet—which goes to prove that the machines may have changed since the war, but the men go on forever. The story comes from Ladd Air Force Base in Alaska, and is written by Capt. George A. Accas, PRO:

Tower operators at Ladd Air Force Base near Fairbanks, Alaska, stared at each other in shocked disbelief.

Then the call was repeated:

"Yankee tower—this is Confederate Headquarters; Yankee tower—this is Confederate Headquarters. Request landing instructions."

Peering cautiously into the skies, the Ladd tower operators made out what seemed very much like a Superfortress approaching the field.

When the B-29 landed at this northernmost major air base of the USAF, at the controls was Chattanooga-born Captain Joseph E. Wolfe, of the Air Materiel Command's flight test division, at Wright-Patterson Air Force Base, Dayton, Ohio.

A true southerner, Captain Wolfe decided several months ago that he would fly the stars and bars of the Confederacy from the cockpit of the B-29 which he was to take to Alaska to participate in cold weather tests. The flags were on each side of the Superfort's nose. Her name: Confederate Headquarters. The title appeared on the aircraft above a sketch of the Confederate eagle, with the words "The Flying Rebels".

Soon Air Force station towers from Ohio to Alaska were hearing the drawl of Captain Wolfe as he slowly worded his calls: "Yankee towah—this heah is Confed-ret Headquahtuhs."

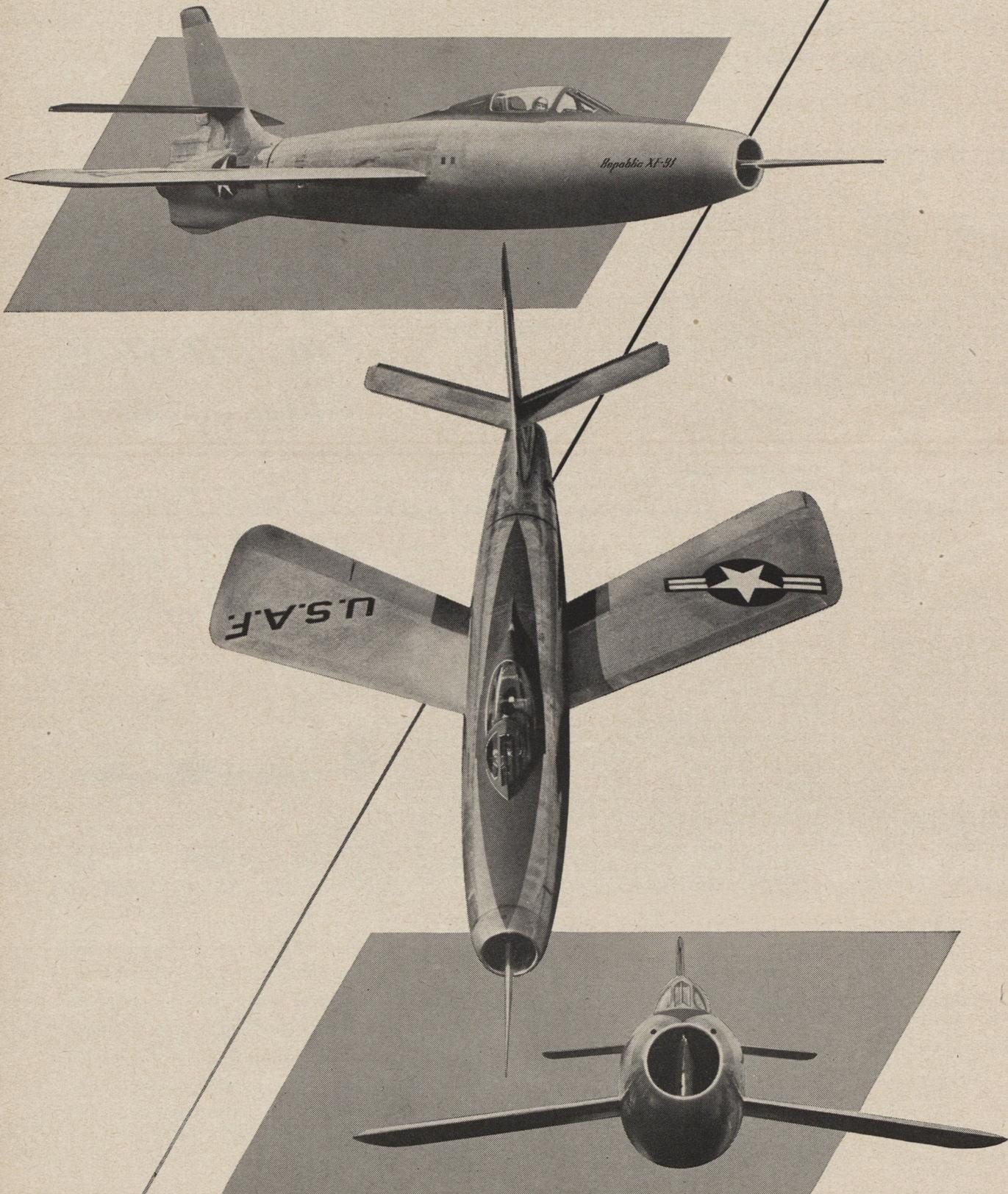
One afternoon while on a local mission at 25,000 feet over Ladd, Captain Wolfe called down to the tower to request that a Fairbanks disc jockey spin "Dixie" so the lads in "Confederate Headquarters" could tune in on the radio compass and dream about magnolias in the moonlight. The request was promptly filled.

The boys in Ladd's tower soon caught the spirit of The Flying Rebels. When directing "Confederate Headquarters" in for a landing, operators would be most careful to see that of Ladd's two east-west runways, the gentlemen from the south would always be cleared to land on the south runway.

J.H.S.



THIS IS THE XF-91

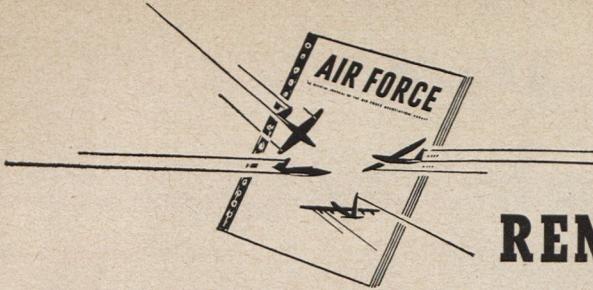


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RENDEZVOUS

Where the Gang gets together

PHOTOS WANTED: I would be very glad to pay for reprints of any snapshots of the 307th Bomb Gp., 13th AF taken from June 1944 through March 1945. Want shots of the group areas and the 372nd Sq. areas on the islands of Los Negros, Wakde, Naemfoor and Morotai and the airstrips and parking areas on those islands. I would also appreciate photos of the 307th and 37nd B-24s on the ground and in flight. *James M. Kendall, 22443 Cyman Ave., Van Dyke, Mich.*

KIA: Would like to hear from men who served with my son Lt. James F. O'Brien, 531st Sq, 380th Bomb Gp, shot down on mission to Saigon April 20, 1945, taken prisoner and later put to death by the Japs. Would also like to hear from anyone held prisoner at Saigon April 20 to July 1945. *George E. O'Brien, father, 145 East Ravenwood Ave., Youngstown 5, Ohio.*

CONVENTION TALK: I am interested in contacting former members of the 301st T.C. Gp., especially those interested in attending the AFA convention in Chicago or in holding a 301st convention. *Harold Walton, 908 Gaston Avenue, Fairmont, W. Va.*

MORE REUNION: 747th Bomb Association is holding a reunion at the Schroeder Hotel, Milwaukee, Wisconsin August 5-7. All former members of the 747th Bomb Sq., which saw action in Italy, are urged to contact: *Edward A. Puchalski, 2621 N. 32nd St., Milwaukee 10, Wis.*

REUNION, OFFICERS ONLY: A reunion of former Tulln Air Base & Air Division, Vienna, officers and wives will be held in New York City June 30, July 1 & 2. Officers interested should write

Leonard Oakes, Asst. Manager, Hotel New Yorker, 34th St. & 8th Ave., N. Y. C., requesting reservations. Also write Capt. Leon E. Braxton, Box 800, Las Vegas AFB, Nev. informing him that you plan to attend. For further information write Braxton, CWO Gilbert S. Ward, Rm. 604, Bachelor Officers Qrs., Bolling AFB, Wash., D. C.

CHECKERTAIL CLAN: Will all former members of the 325th Fighter Group (317, 318, 319 & Hq Sqdns) "Checkertails", who are not receiving clan bulletins about our 4th Annual Reunion (July 29-31) please contact me. Particularly anxious to hear from personnel who trained with the Group at Hillsboro, R. I. and pilots who served in Tunisian, Pantalerian and Sardinian battles. *Larry S. Combs, Hotel Antlers, Indianapolis 6, Ind.*

COMPILED HISTORY: Am compiling history of the 18th Fighter Sq., 343rd Fighter Gp., 11th AF. Would appreciate hearing from all officers and men of the 18th and will welcome suggestions, photographs, information and addresses. Especially need early data on the 18th when it was formed in Calif. and later moved to Gold Bay. Write to: *Michael Charles, Box 94, University of New Mexico, Albuquerque, N. M.*

KELLY, SHEA & RUSSO: Would like to hear from any old members of the 327 Bomb Sq. 92nd Gp., stationed at Poddington, Eng. between 1943 and 1944; particularly Rush Kelly, Dick Shea & Jack Russo. *F. T. Schenk, Newhalem Office, Rockport, Wash.*

39TH BG HISTORY: What's the pitch on "The Story of the 39th Bomb Group" which was to have been published by the Matthew Mailing Service,

New York City. I have not been able to contact them and I am most anxious to get the word. Can help? *E. F. Huston, Box 431, Mansfield, Ohio.*

HAS ANYBODY SEEN 'EM?: Trying to locate the following: Ex-S/Sgt. Harry W. Scranton formerly with 1504 AAFBU (ATC) at Fairfield-Suisun Air Base, Calif.; ex-Maj. Lucille G. Van Bolt, WAC, of San Francisco, formerly with 2nd Service Command, 39 Whitehall St., N. Y. C.; ex-Lieutenant Martha J. Von Stettina, of Schenectady, N. Y., injured in Hawaii, 1946; and ex-Pfc. Jane "Sunny" Adams formerly stationed at Windsor Locks AFB, Conn. or ATC, Fort Totten, N. Y. *Gerard E. Nistal, 151-10, 35th Ave., Flushing, L. I., N. Y.*

PHOTOS & INFO: Would like to exchange photos and "info" with any former members of the 406th Bombardment Squadron based at Chelveston and later at Cheddington Airport in England from May 1944 until the end of hostilities. *S/Sgt. Thomas N. Jones, 3103 White Oak Road, Raleigh, N. C.*

HEY FELLAS: The ex-WACs of Hq 2AD, 8th Air Force are planning a Chicago reunion October 14, 15 & 16. We are anxious to have the men who were stationed with us join in our celebration. Those who are interested or who have roster of the men, contact *Miss Harriet S. Fau, 245 Hawthorne St., Brooklyn 25, N. Y.*

DISABLED VETS: A reunion of former Air Force men who were hospitalized at the Valley Forge General Hospital is now being planned. All those interested please contact *Stan Wechsler, 136 East 208th St., Bronx 67, N.Y.*

PHOTOS AVAILABLE: I have some excellent koda- (Continued on page 14)

Lockheed Constellation

INTERCONTINENTAL

LEADER

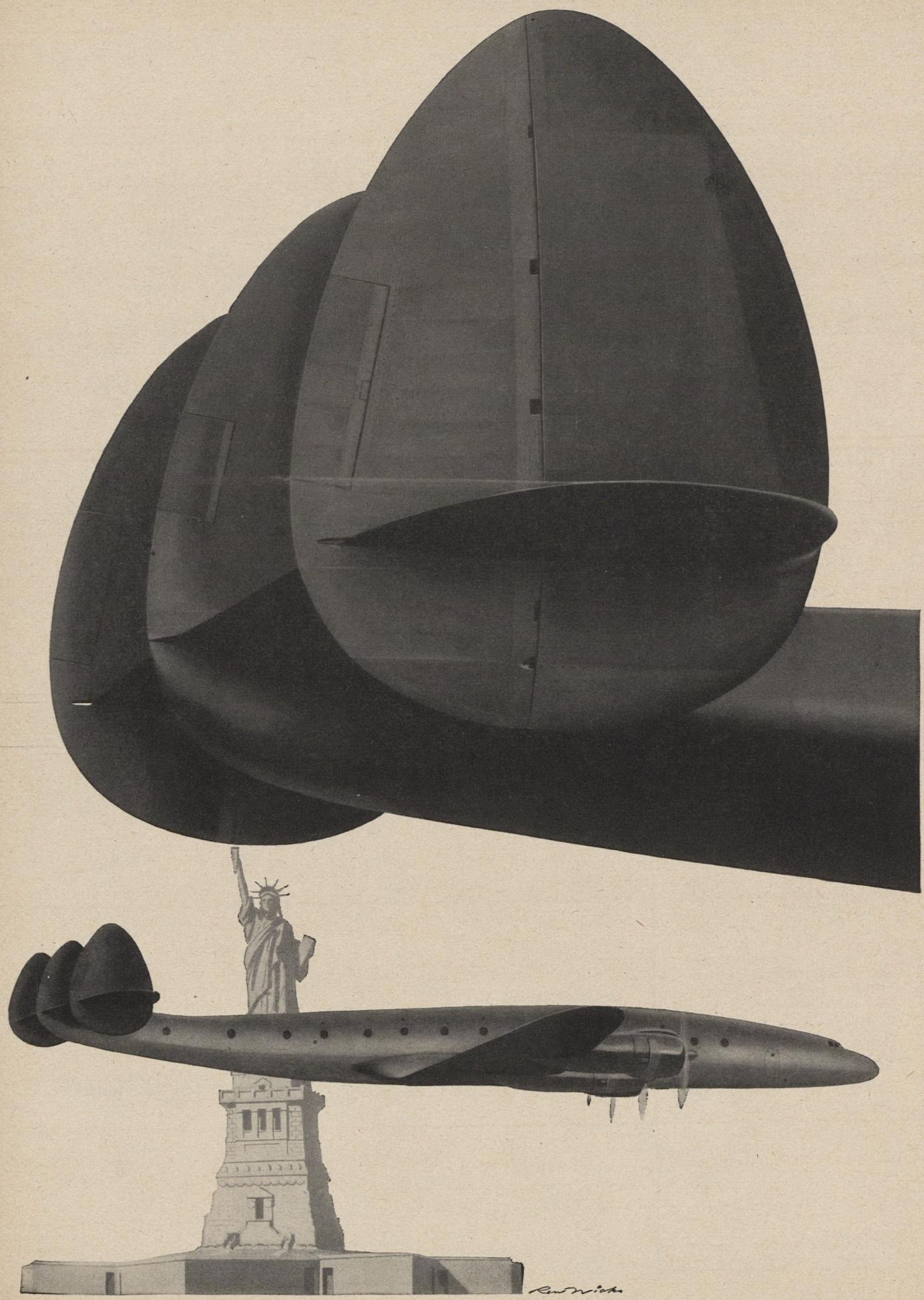
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the Atlantic
3 to 1-*



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RENDEZVOUS

CONTINUED

chrome shots of pilot training activities at Parks Air College, East St. Louis, Goodfellow Field, San Angelo, Texas and Foster Field, Victoria, Texas. These shots were taken between September, 1941 and April 1942. Anyone interested in copies contact William J. Jahoda, New Paltz, N. Y.

MIA: Would appreciate information regarding Johnny Derschon of Los Angeles who bailed out of a crippled B-17 over Germany and is listed as MIA. Carl McClung, 290 Washington St., Keyport, New Jersey.

BURR HEAD CALLING: Would like to contact former members of the 48th BG, 826th Sq. 15th Air Force, Italy. Trying to work up a little reunion. Contact "Old Burr Head" William Mordica, 2256½ Winchester Ave., Ashland, Ky.

HEY, WILSON: Looking for the home address of Roland A. Wilson. In January 1946 he was located at Keesler Field, Miss. Sq. C-1. I believe he's a New England boy. George E. Howard, 111-37 Whittoff St., Queens Village, L. I., New York.

PAGING DOUGHERTY: Trying to locate T/Sgt. Melvin E. Dougherty formerly with 2nd Pathfinder Sq., 9th Pathfinder Gp. S/Sgt. Samuel F. Carlley, Jr., 3362nd Training Sq., Branch P.O., Chanute AFB, Rantoul, Illinois.

REUNION: The 2nd Annual National Reunion of the CBI Veterans Association will be held in Freeport, Ill., August 12, 13 & 14. CBI vets interested in the reunion or the organization contact Ellsworth Green, Jr., 8 Galena Ave., Freeport, Ill.

DEL REY CADETS: I'd like to hear from some of my former Cadets from Mesa del Rey, King City, Calif., I instructed classes 41-H to 44-G and then went on duty with the ATC 6th Ferry Gp., Long Beach, Calif. Alfred H. Tax, 21 Georgia Ave., Long Beach, L. I., N. Y.

MORE REUNION: The 451st Bomb Sq. of the 322nd Gp., first B-26 outfit in England, is planning a reunion on July 1-3 in Chicago in conjunction with the AFA Convention. All former

members requested to attend. Address inquiries or communications to Robert S. Ruwitch, 60 East Monroe St., Chicago, Illinois.

458TH: Let's have a reunion of the 458th Bomb Gp.—the old B-24 outfit. Everyone write to me and talk it over. Burrell L. Robertson, 249-6th Ave., New Kensington, Pa.

KIA: Any information would be greatly appreciated by the friends and family of Lt. David Janofsky, 412th Bomb Sq., 95th Bomb Gp., killed in action over the Baltic Sea on April 11, 1944. John F. Kirkpatrick, 121 East 59th St., New York, N. Y.

GROUND CREW: Would like to hear from any of the ground crew of the 379th Gp., 325th Sq., who were based at Kimbolton, England, and who serviced the "Bolevitch." Edgar Van Valkenburg, 214 Cooper Rd., Rochester 5, N. Y.

LONESOME: Would like to hear from any former members of the 64th Air-drome Sq., 9th Air Force; especially Maj. Samuel Stenstrom, Capt. Russell Duval, S/Sgt. Steve Puschmich, and Cpl. George Ehrlich, wherever you are. Norman H. Dilg, Box 110, R. D. #2, Pottstown, Pa.

MORE BACK ISSUES: I'm looking for all the back numbers of AIR FORCE I can find prior to June 1946. Theodore R. Parker, Asst. Professor of History, University of Pittsburgh, Pittsburgh, Pa.

Fliers Return: I would like to contact all members of the 390th Bomb Gp., formerly stationed at Framlingham, England, who would be interested in attending the funeral of my co-pilot, Louis Wetzel. Wetzel's body is being returned to the States for reburial at Arlington National Cemetery. T/Sgt. Warren F. Stephens, Industrial College, Ft. Lesley J. McNair, Washington 25, D. C.

LOST GADGET: I'm looking for former cadet Gary Stone, formerly in Class 44-G, Blythe, Calif. I think he lives in San Diego, Calif. Herbert H. Weisel, 4826 Central Park Avenue, Chicago, Ill.

REUNION: The Will Rogers Field "Boys from Pennsylvania" Reunion for men who served with the 37th Service Gp. and 38th and 50th Service Sqdns, is definitely scheduled for July 16-17 at Harrisburg, Pa. Organized originally for the 107 draftees who joined these units at Oklahoma City in July 1941, we will now welcome any others who served with these units overseas. For details write George E. Reed, 621 Bigelow Blvd., Pittsburgh 19, Pa.

PORT HURON BUDDY: Does anybody know the present whereabouts of John Dartman, Port Huron, Mich. We spent four years together in the Air Force and I understand that he is back in the service. Vernon C. Rubenking, 1011 Hamilton Blvd., Peoria, Ill.

HOT ROCK PALS: Would like to hear from any of my old "Hot Rock" buddies who flew P-38s at SMAAB, Santa Maria, Calif. Bill O'Bryan, 326 South Dollison St., Springfield, Mo.

487TH BOMB GP: All former members of the 487th Bomb Gp. are urged to attend the Air Force Association Convention in Chicago July 1-3. Ex-Capt. Walter Rodgers and Al Filipo, Group Bombardier, will be there. Let's all try to make it. Write me if you plan to attend. Col. W. K. Martin, 4D1022, Pentagon, Wash., D. C.

REUNION: A reunion of the 4th Bomb Sq., 14th AF will take place in Chicago during the Air Force Association Convention July 1-3. Squadron headquarters will be established at the Stevens Hotel. All former Squadron members please contact me immediately. Lt. Col. W. H. Dick, Box 174, Hq. AMC, Wright Paterson AFB, Dayton, Ohio.

ATTENTION 41st. TROOP CARRIER—"JUNGLE SKIPPERS": Any former 41st. personnel planning to attend the AFA convention in Chicago in July, please contact the undersigned by mail so that we can plan a real 41st. style party. Will be glad to hear from any former members. But write quickly! Merle F. Crane, 728 Columbus St., Ottawa, Illinois.

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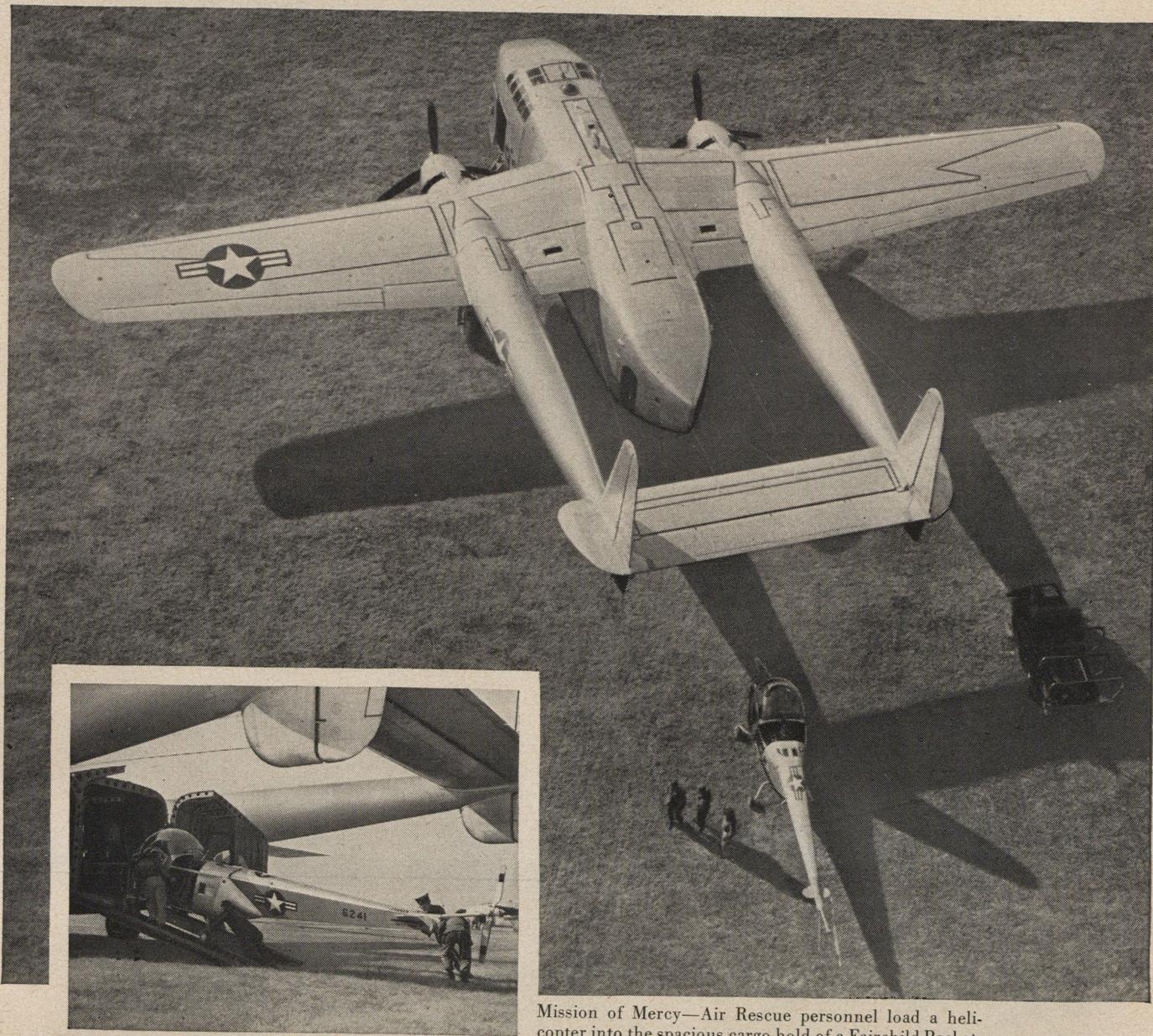
See the Air National Guard Commander at the Air Base in your community, or write to the Adjutant General at the capital city of your State, for further information.

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Mission of Mercy—Air Rescue personnel load a helicopter into the spacious cargo hold of a Fairchild Packet.

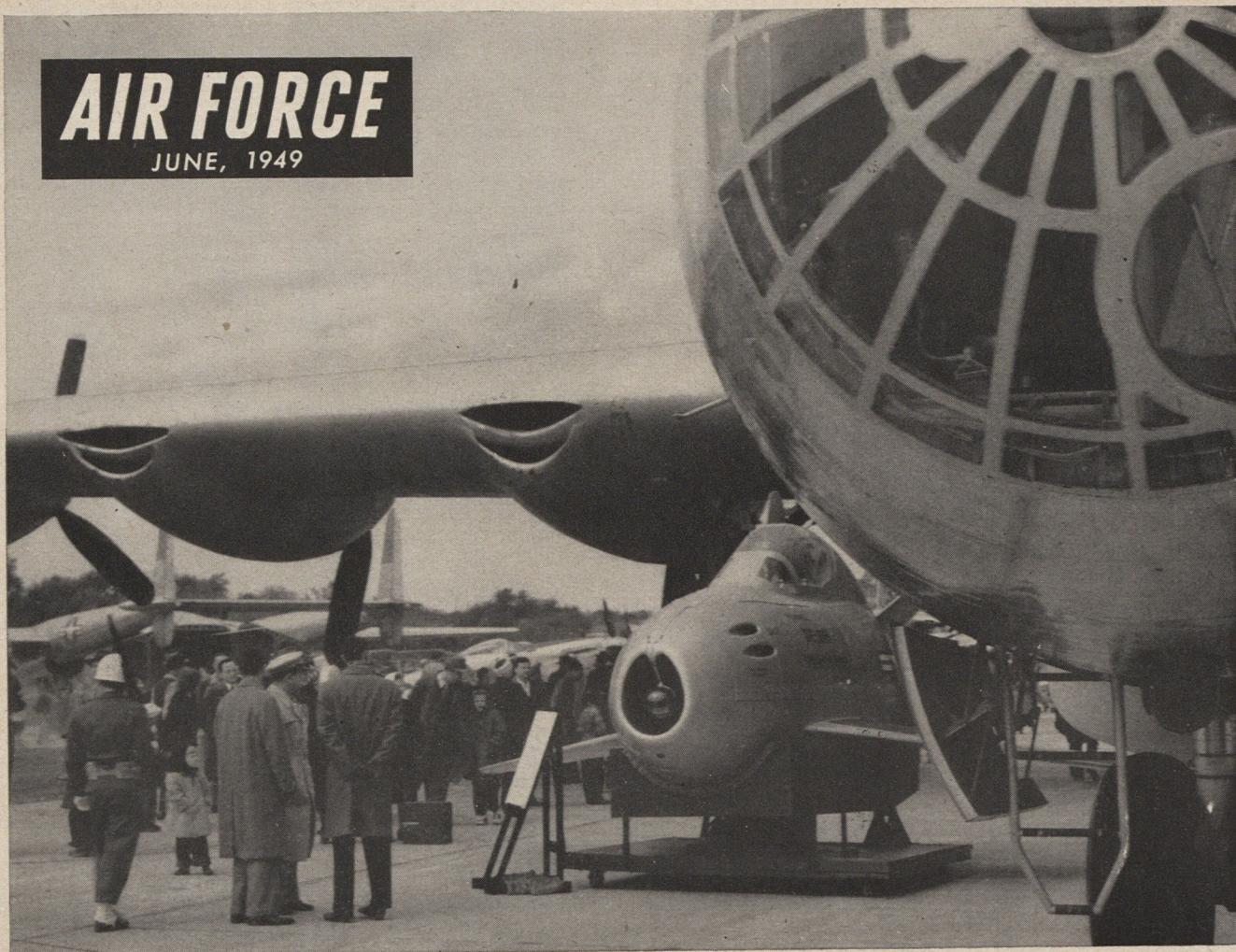
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Hi, Ho, Come to the Fair!

Chicago Rolls Out the Carpet for the Air Force Association's Annual National

Convention, its Wartime Unit Reunions, and big National Air Fair

CHICAGO, ILLINOIS

In this lakefront metropolis of the Middle West, second largest city in the US, the stage is set for the annual national convention of the Air Force Association—and all that goes with it.

Chicago is well aware that a lot "goes" when AFA comes to town. And Chicago is an old hand at playing host. It entertains some 800 conventions each year. It lays claim to being "the world's leading convention city." But Chicago recognizes that this one is different.

This AFA affair is far more than just another convention. For one thing, it is also the annual national Reunion of Air Force men and women and of their wartime organizations. That's like holding a convention within a convention, and everyone wants it just that way.

Then, too, Chicago knows that an event of nation-wide prominence is in the offing. It is an impressive fact that the climax event of last year's AFA convention in New York, traditional rival of this Windy City, packed 18,000 Air Force veterans and their friends in Madison Square Garden and produced the Garden's "greatest show" ever.

The approaching convention promises an even bigger event—

the first National Air Fair—combining in one huge package the greatest aerial and ground demonstrations of airpower ever presented to the public in this country. Neither Chicago nor the Middle West has had a major air show in many years. The effect is slightly sensational.

So the gilt edged welcome mat is being rolled out. Chicago is prepared to give Air Force people the time of their lives come Fourth of July weekend. The Honorary Chairman of the convention is none other than the Mayor himself, the Honorable Martin Kennelly.

From the standpoint of the convention guest, Chicago seems to be a particularly happy choice. AFA President C. R. Smith bet on that when, acting for the Board, he selected this city as the 1949 convention site and laid plans for the National Air Fair event.

Take Chicago's accessibility, for example. As the local Chamber of Commerce puts it, "More people from more sections of the map can reach Chicago by more forms of transportation at lower cost than any other city." That's a powerful drawing card when you sit down to figure out your annual reunion trip.

Even so, some people chronically have trouble getting time

CONVENTION CONTINUED

off from work for junkets like this. Most of them, however, take some sort of trip on the Fourth of July holiday. This year, with the Fourth falling on a Monday, a long (not to be confused with "lost") weekend is in order. That long weekend, by deliberate choice, embraces the convention schedule. Now Air Force men and women can combine their annual Reunion trip and annual July Fourth trip into one big holiday excursion.

Here on the scene of the coming activities, now just a few weeks hence, one is impressed with the way individuals and agencies, local and national, have pitched in to make this convention an outstanding event. City officials, civic and business leaders, the aviation committee of the Chicago Association of Industry and Commerce, the Air Force in Washington and at Chicago Orchard Airport (where the Air Fair will be held), the aircraft industry, the Air Foundation, the National Advisory Committee for Aeronautics, the National Air Museum of Smithsonian Institution, the Air National Guard, the Royal Canadian Air Force, the airlines, the press, countless individuals and organizations.

It's a very long list.

Convention chairman is General Robert E. Wood, one of the nation's top executives and Chairman of the Board of Sears, Roebuck & Co. here in Chicago. Well known in aviation circles, he recently served on the Hoover Commission "task force" investigating the military establishment.

Director of the National Air Fair is Ben T. Franklin of Cleveland, who has directed the famed National Air Races to a unique spot in the aviation world. One of the best organizers in the business, Franklin is the leading air show director in the country.

Working closely with the convention committees are the men of Chicago's AFA squadrons under the leadership of Ray Ireland, Illinois Wing Commander.



ROBERT E. WOOD
Convention Chairman



BEN T. FRANKLIN
Air Fair Director

As the program crystallizes, several points seem especially pertinent to the prospective convention-goer:

► Hotel facilities are excellent. Convention headquarters is The Stevens, world's largest hotel. Hotel accommodations are available to fit most every pocketbook, including "dormitory" accommodations (4 and 6 bed suites) at \$3 per person per day.

► Advance reservations are unusually heavy. The convention committee urges immediate action on the part of everyone interested in attending the big affair. All room reservations should be made direct, addressed to: "Reservations," Stevens Hotel, Chicago, Ill., Attention: Air Force Association Convention. Confirmations will be sent direct from The Stevens.

► The registration fee of \$12 represents a reduction of 25 percent from last year's fee of \$16.50 and is the same as the fee at the first annual convention in Columbus in '47. It includes the big Rendezvous Cocktail Party and Reunion on July 1; the Airpower Banquet on July 2; the Dawn Patrol Breakfast and National Air Fair, including both the Air Age Exposition ground exhibits and the World of Flight air show, on July 3, with special box seats reserved for convention registrants at the air show.

► AFA delegates will have a full docket of convention business, as well as the annual election of officers and directors and the annual adoption of a Statement of Policy. Matters relating to membership, organization, financing and local activities are expected to be on the agenda. Strict parliamentary procedure will be observed. A hard-working Resolutions Committee will guide the action. The convention schedule calls for adjournment of business by 11 A.M. on July 3. This means four business sessions in three days, the

WARTIME UNIT REUNIONS

(Scheduled as of May 23)

PLACE: THE STEVENS

DATE: JULY 1

UNIT	TIME	ROOM	CONTACT
9th Air Force	8 P.M.	North Assembly	Thomas H. Morrow Court House Cincinnati, Ohio
14th Air Force*	2 P.M.	North Ballroom	M. G. Robertson 75 Scenic Drive Hastings-on-Hudson, N. Y.
15th Air Force	7 P.M.	West Ballroom	Charles S. Bryant P.O. Box 7622 Philadelphia, Pa.
Air Force Chaplains	12 Noon	South Ballroom	Rev. Roy M. Terry Box 16 West Reading, Conn.
451st Bomb Squadron**	7 P.M.	PDR No. 2	Robert S. Ruwitch 60 E. Monroe St. Chicago, Illinois
487th Bomb Group	Indef.	PDR No. 4	Lt. Col. Francis C. Eisenhart Rm. 4B262, Pentagon Bldg. Washington, D. C.
4th Bomb Squadron	Indef.	Indef.	Lt. Col. William Dick Hq. AMC Wright-Patterson AFB Dayton, Ohio
95th Bomb Group	Indef.	Indef.	J. G. Schatz 410 South Wells St. Chicago, Illinois
ATC	Indef.	North Ballroom	Fred Atkinson R. H. Macy & Co. New York, N. Y.

* Cocktails and Chinese dinner at Bamboo Inn—6 P.M.

** Business meeting July 2, 10 A.M.

first at 2 P.M. July 1, the second at 9 A.M. July 2, the third at 2 P.M. the same day, and the final session at 9 A.M. on July 3. To get the business sessions on schedule a full turnout is desired for the first meeting Friday afternoon, July 1. It is hoped all delegates will be registered by noon the first day of the convention.

► The "World of Flight" Air show will feature flight demonstrations by more jet types than have ever been viewed by the public at a single event, and by a special fly-by of a squadron of six-engine B-56 intercontinental bombers. The jet show will include a speed run by the F-86, world's fastest aircraft, an F-80 dive bombing demonstration, F-80 aerobatics by an Air National Guard team, a B-45 fly-by, formation flying by squadrons of F-84s and F-80s, and aerobatics by Vampires of the Royal Canadian Air Force.

► The "Air Age Exposition" ground exhibits will feature the most complete collection of service aircraft ever presented to the public. For Air Force people this will be a reunion of men and planes; most every type flown by the Air Force in World War II will be on hand. The National Air Museum field facility of the Smithsonian Institution will display about 45 aircraft.

► A special attraction of the National Air Fair will be the appearance of the Enola Gay, first atomic bomb plane, the one that blasted Hiroshima, which will be formally presented by the US Air Force to the National Air Museum. Other famous planes, including the B-50 Lucky Lady II of round the world fame, may also be on hand.

► Static displays at the Air Age Exposition will outdo anything ever presented in the field of service aviation. The Air National Guard will have two exhibits on hand. Industrial and air transport exhibits will round out this phase of the Air Fair program.

► A highlight of the convention will be the annual presentation of AFA's national airpower awards, including the H. H. Arnold trophy to "Aviation's Man of the Year," and individual awards for the advancement of airpower in the field of arts and letters, flight, and technical development.

► The Dawn Patrol Breakfast on Sunday morning, July 3, will climax the regular convention business sessions. At this time the new officers and directors will be installed, and the annual AFA plaque awards for service to the organization will be presented.

► Taking the convention nights in turn: the first night, July 1, has been turned over to unit reunions following the Rendezvous Cocktail Party and Reunion in the Grand Ballroom of The Stevens at 5 P.M., but these reunions have a habit of winding up in the wee hours at some late spot, so this schedule is flexible, to say the least; the next night, July 2, which is Saturday night in the big city, is open for "on the town" celebrations; and of course on July 3, last official day of the convention, the windup event is the National Air Fair; should delegates stay over in Chicago, they would be "on the town" some more.

CONVENTION SCHEDULE

CONVENTION HEADQUARTERS: STEVENS HOTEL

National Air Fair: Chicago Orchard Airport

July 1

Registration: Writing Room, 2nd floor, The Stevens—8 A.M. to 6 P.M.

9 A.M.: Meetings of AFA National Committees

10:30 A.M.: Annual Board of Directors' Meeting (North Ballroom)

2 P.M.: First Convention Business Session (Grand Ballroom)

5:30 P.M.: Reunion Cocktail Party (Grand Ballroom)

7 P.M.: Annual Air Force Unit Reunions

July 2

Late Registration: Writing Room, 2nd floor, The Stevens—8 A.M. to 6 P.M.

9 A.M.: Second Convention Business Session (Grand Ballroom)

12:30 P.M.: Airpower Banquet-Luncheon (Grand Ballroom)

2:30 P.M.: Third Convention Business Session (Grand Ballroom)

5:30 P.M.: On the town

July 3

Air Age Exposition at the National Air Fair—9 A.M. to 6 P.M.

8 A.M.: Dawn Patrol Breakfast (Grand Ballroom)

9 A.M.: Final Convention Business Session (Grand Ballroom)

11:00 A.M.: Adjournment of Convention Business Sessions

2 P.M.: Grand Opening of National Air Fair

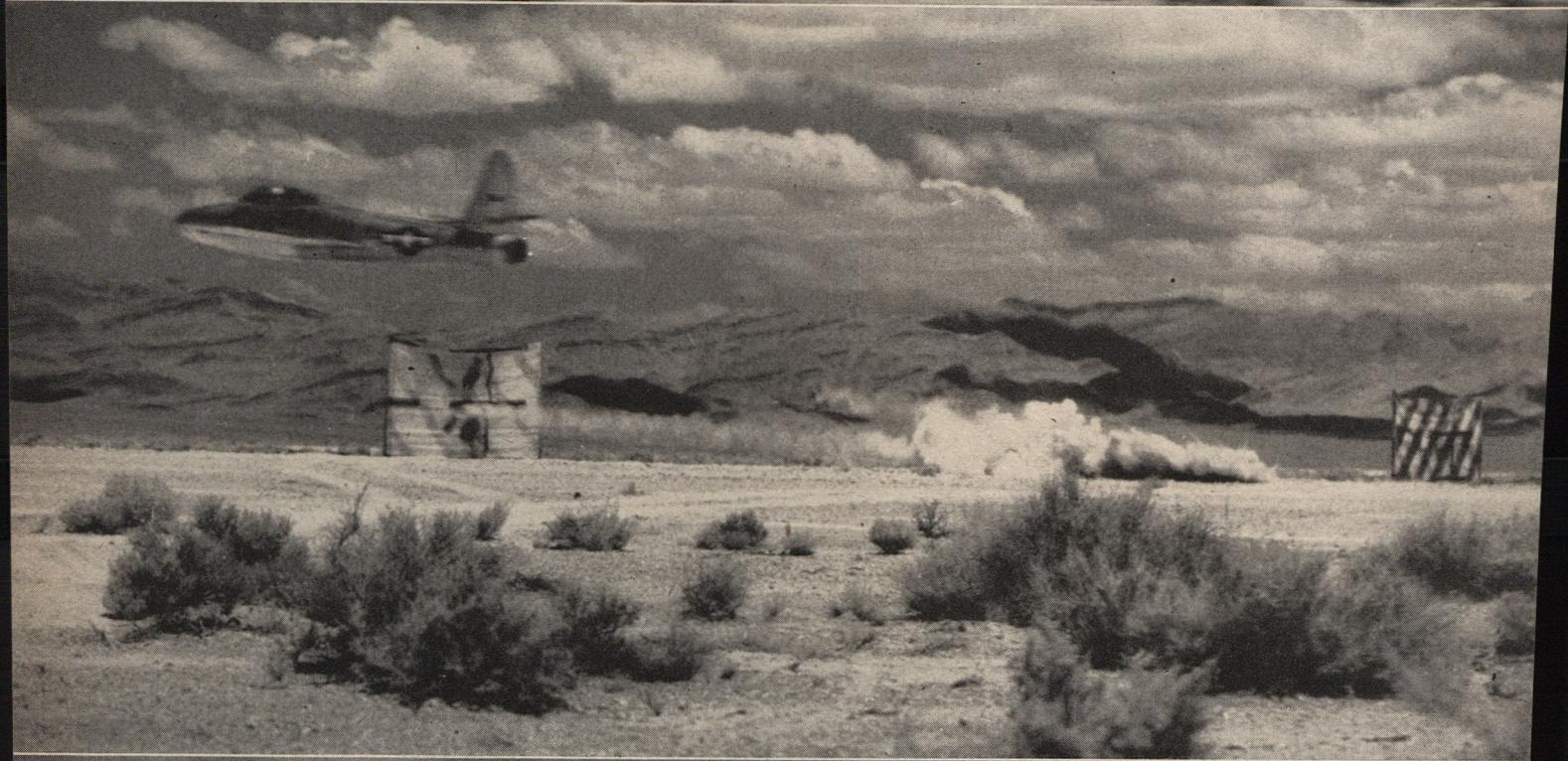
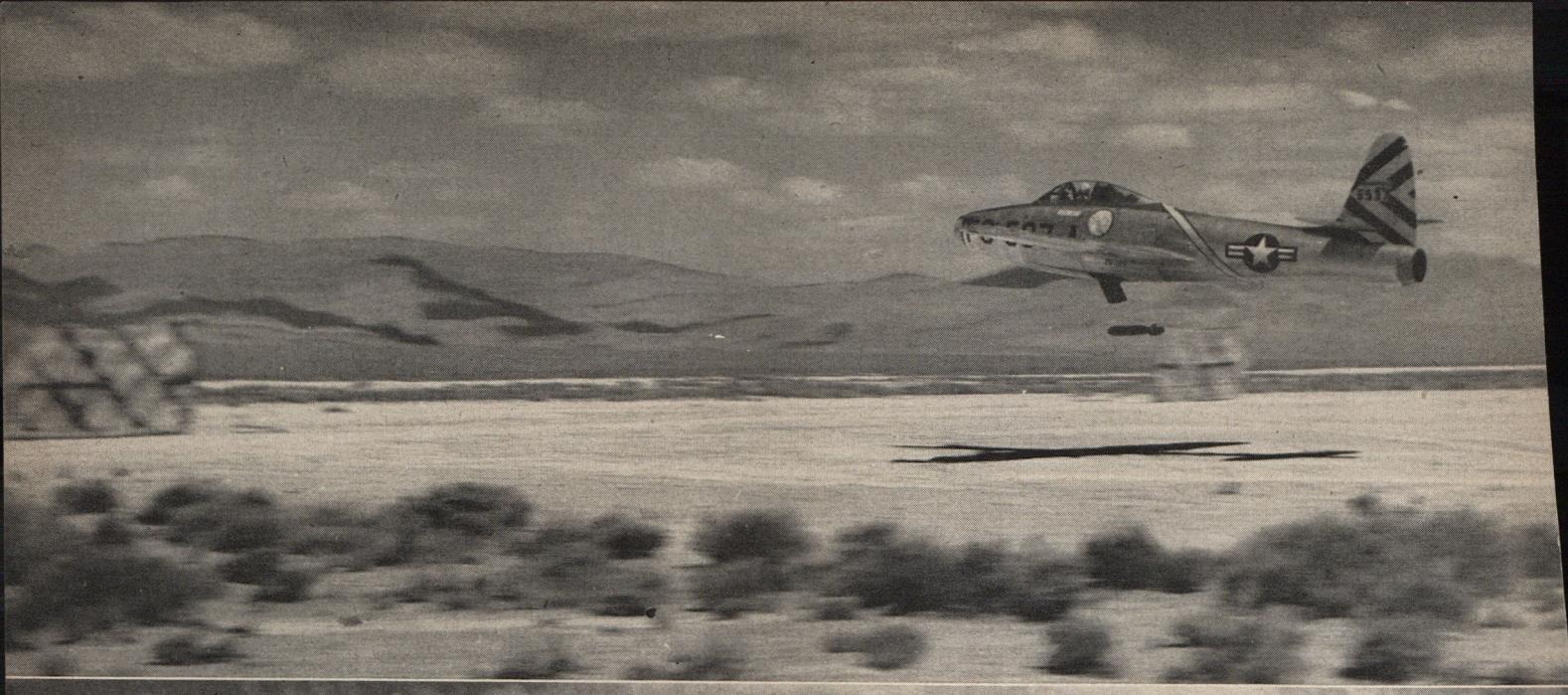
5 P.M.: On the town

July 4

Air Age Exposition at the National Air Fair—9 A.M. to 6 P.M.

2 P.M.: Second Day of National Air Fair

Registration Fee: \$12.00 (excluding hotel room)



Fighters Up-Again

Don't kid yourself—the day of the "little friend" isn't over by a long shot

The first large scale fighter gunnery meet since the war's end was held last month at Las Vegas, Nevada, with 12 three-man teams representing virtually every fighter group in the country shooting it out for top honors in five fields.

One of the main purposes of the meet was to bring interest in gunnery back to its wartime peak. Generally speaking, the modern concept of airpower with its emphasis on the heavy bomber has, at least temporarily, taken the play away from the fighters. Then, too, during the past few years, gunnery has taken a secondary position even in fighter training programs. Learning to *fly* the new jets came first. Then, too, gunnery ranges where fighter pilots could practice, were often located many miles from home bases.

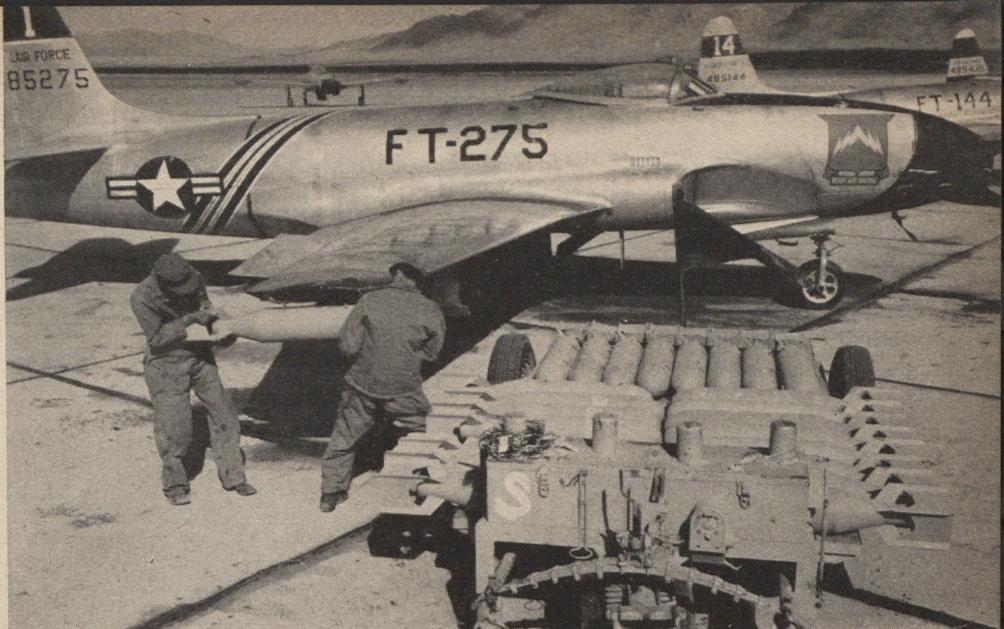
One of the important results of the meet, therefore, was a new esprit de corps, for the competition was spirited—no one held anything back. In order to keep this competitive interest alive, the Air Force is planning to make the gunnery meet an annual affair.

The scores at Las Vegas were good when compared to wartime scores, (about a hundred percent better in fact), but somewhat disappointing in that the meet averages failed to come up to intra group scores.

One reason for this is probably the fact that jet gunnery procedures have not yet been standardized among the various groups. Many squadrons, for example, had been accustomed to shooting at a target 1,000 feet behind the tow plane. At Las Vegas, the targets were towed on a 750-foot cable. When a pilot makes his aerial run, he sees only the tow plane and must estimate the position of the target in making his pass. If you've been accustomed to shooting for a target 1,000 feet behind the tow plane, it's rather disconcerting to find 250 feet lopped off the cable. There would be

(Continued on page 23)

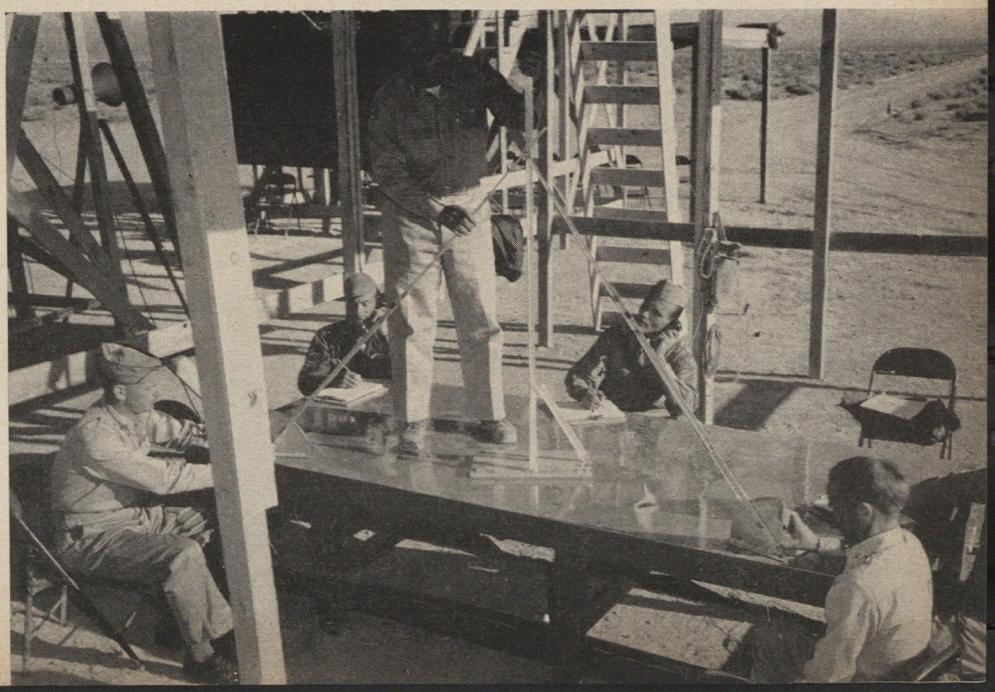
LEFT: An F-84 scores a skip-bombing bulls-eye. In the top picture the bomb has just been released (under plane.) In the second it is sailing smack through the target. In the last shot the jet is on its way back upstairs. In some instances planes had to gain altitude to clear target.



Armorer of the 4th Fighter Group hook practice bomb under the wing of F-80 Shooting Star. F-80's fared better than F-84's in meet, but officials indicated this could well have been because of more experience with older plane.

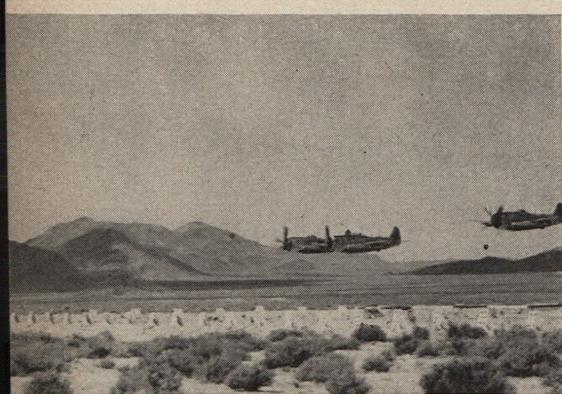


Field snack bar (above) was open during entire meet and did land office job. To see that planes in dive bombing competition released their bombs at the stipulated minimum of 2000 feet, Las Vegas' range officer "invented" the contraption below which provides a "fix" on approaching aircraft. Next year the Air Force may invite other countries to compete in a similar contest.





Bomb beats F-47 to target by 200 yards.



Approaching 47s clear sage by inches.



Figuring air-to-ground gunnery score.



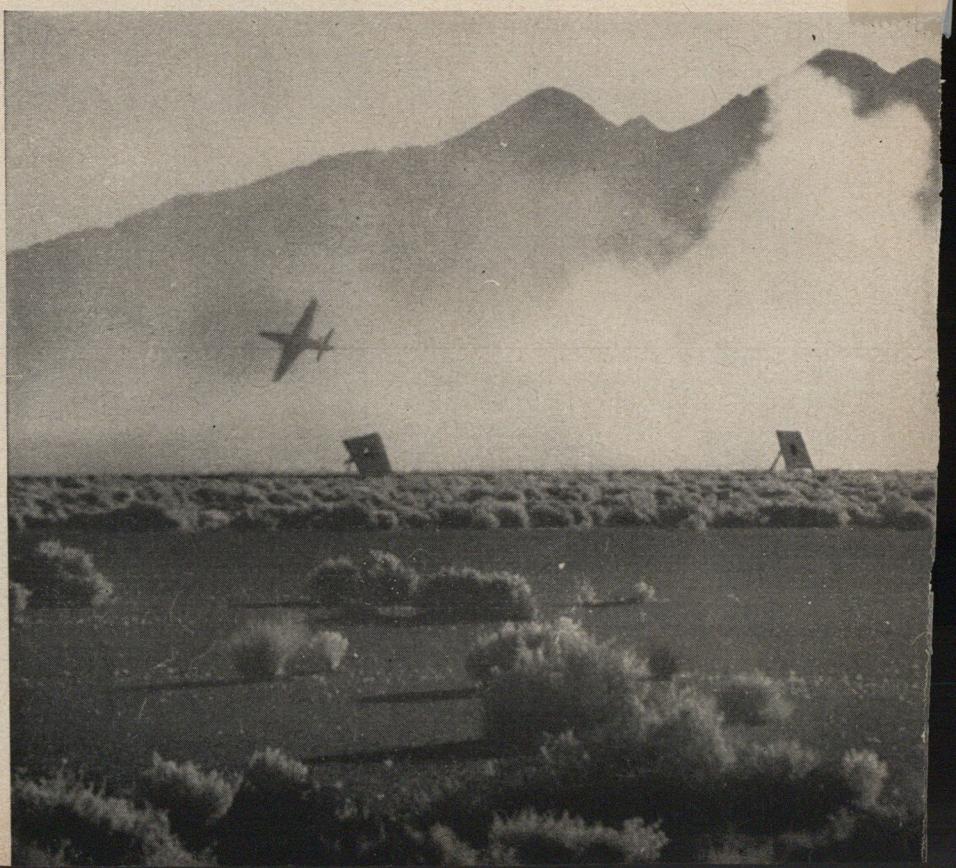
Anxious pilots check sleeve hits, above, score-keeper adds total, below.

MISSIONS	AIR TO AIR%				SKIP BOMBS	DIVE BOMBS	ROCKETS	STRAFING	TOTAL	POINTS
	1	2	3	4						
10 th	100	100	100	100	1	1	1	1	1	1
40 th	100	100	100	100	1	1	1	1	1	1
56 th	100	100	100	100	1	1	1	1	1	1
14 th	100	100	100	100	1	1	1	1	1	1
20 th	100	100	100	100	1	1	1	1	1	1
33 rd	100	100	100	100	1	1	1	1	1	1
R+D	100	100	100	100	1	1	1	1	1	1
82 nd	100	100	100	100	1	1	1	1	1	1
332 nd	100	100	100	100	1	1	1	1	1	1
27 th	100	100	100	100	1	1	1	1	1	1
52 nd	100	100	100	100	1	1	1	1	1	1
325 th	100	100	100	100	1	1	1	1	1	1



After the meet a lone airman, standing ankle deep in a practice bomb "crater", inspects target that has withstood repeated dive-bombing attacks. Note the number of craters and twisted bomb fragments. Meet has served to standardize techniques.

F-80 of the 4th Fighter Group is nearly lost in dust of his own bullets as he pulls



Custom Tailored Training

The Air Reserve's new Five-Part program has two purposes: To form a strong Air Force auxiliary, and to prove to tens of thousands of doubting reservists that Headquarters really can produce a workable program. In both regards its success depends on how well the reservist understands it

The Air Force's ambitious new five-part Reserve program, which is outlined in detail in the following pages, is the direct result of President Truman's demand of last fall to get a more "vigorous" training schedule. It is a pretty good example of what you can accomplish when you're President. The temptation, in fact, is to accept the program for what it seems to be—the answer to ninety percent of the Reservist's woes as well as the answer to the more important problem, from the standpoint of national security, of building a strong Air Force auxiliary.

As yet, however, the program is still little more than a piece of paper. And many Reservists know that there have

been other occasions when a program, which looked like a panacea on paper, fell flat on its face in the execution. It will be months before accurate judgment can be passed.

In the meantime this much can be said: Good as the program unquestionably is, it still bears the indelible mark of having been written in the Pentagon. It is a program. And as Reserve programs invariably seem to be, it is more general than many Reservists who haven't time to dig for details would like to have it. There are more questions the Reservist can ask than the new program can answer. For example, the authority to promote enlisted reservists is nowhere to be found in any paper deal-

ing with the new scheme. It exists in an obscure War Department Circular dated 1946. The fact that not one Reserve Commander in a hundred in the field would know of the existence of such a circular—the fact that it isn't cited as authority somewhere in the new plan, is in itself a Reserve weakness. For the existence of adequate regulations and guides does no good if the officers and men who need them don't know where they are. So remote are some of the answers in fact, that in trying to clear away the confusion for the purpose of preparing the outlines on the following pages, AIR FORCE actually got several different answers from several different "good" authorities.

Another criticism of the program is that the enlisted man still gets the short end of the stick. If he finds it necessary to remain on the post overnight during week-end training periods he must pay, according to the rules, for his bunk and chow. He can draw GI clothing but he has no PX privileges. Except for the clothing, the same applies for officers, but the pay for officers is disproportionately greater. In truth, the five-part program is actually only a two-part program for the enlisted man. He is excluded outright from Mobilization Assignment. He can take only one of half a dozen phases of the Extension Course Program, and if he participates in the Volunteer Training Unit program he gains little but the knowledge he acquires plus the points he earns toward retirement. The points in his case incidentally, do NOT count toward promotion. None-the-less, he is better off than he was before. The AFRTC and Corollary programs afford him his first real opportunity to take his place with other Reservists in an honest-to-goodness Air Force outfit—an opportunity

**In the AF Reserve as it Stands Today
There are 260,000 Officers and 194,000 E.M.**



Of the above number, the new program will provide at least some training for approximately 59,454 Officers and 78,131 E.M.

Which means that 200,546 Officers and 115,869 airmen can participate in the Inactive Reserve only and will not be eligible for promotion or retirement.



NOTE: The above computation was made by arbitrarily splitting 60,000 Volunteer Training Assignments between Officers and Airmen. In practice, however, there undoubtedly will be more of the former than the latter. The effect will be to increase the number of inactive E.M. and decrease the number among Officers. Chart does not include 75,000 Extension Courses which are planned primarily to supplement other training but which may be taken independently.

no problem here, if the target itself were visible at a distance, but it isn't and some teams, thrown off their timing, were therefore at a disadvantage. Another factor which lowered meet scores was the difference in speeds at which the target was towed. By modern standards, the targets are not towed at very high speeds, but here again some teams, with limited equipment available to them, had been accustomed to shooting at a target moving at one speed and found at Las Vegas, a target moving at a different speed. This, naturally threw off their timing sufficiently to affect their scores.

From these observations, Air Force officials plan to standardize the refinements of aerial gunnery in all squadrons. Shortly, each fighter group will send its best people to the Gunnery Instructors' School at Las Vegas where they will formulate a definitive memorandum on fighter gunnery. If the proper equipment can then be made available to all fighter groups in the near future, next year's meet should see the average score nearly doubled, Air Force officials estimate. This is especially so in the case of the newer model jets. Although there is no question about the fact that the jet is a far better gunnery platform than the conventional fighter, most pilots have not yet had sufficient training in them to use the plane to its fullest advantage.

The meet was divided into two parts, with jets competing against jets and the conventional fighters competing against each other. All types of fighter offensive techniques were tested, including skip bombing, dive bombing, strafing, rocketry and aerial gunnery at 12,000 and 20,000 foot altitudes. Rocketry was confined to the propeller planes.

In the jet class, top team honors went to the 4th Fighter Group with a score of 490.18 out of a possible 1,000 points; the Research and Development squadron at Las Vegas was second with 422.444 and 1st Fighter Group third at 346.02. They nosed out the 20th Fighter Group by less than a point.

First in the conventional class competition was 332nd Fighter Squadron with a score of 536.88 points out of a possible 1200. The 82nd Fighter Group took second with 515.01 and third place went to 27th Fighter Group with 475.3.

Top individual honors went to jet pilot Lt. Calvin K. Ellis from the 4th Fighter Group with a score of 517.493 points out of a possible 1,000 and F-47 pilot Lt. William Crawford, 82nd Fighter Group who scored 601.246 points.

The meet was witnessed by many high Air Force officials, including Maj. Gen. Robert Harper, Commanding General of the Air Training Command and Brig. Gen. Robert Landry, Air Force Aide to President Truman.

out of strafing run. Pic was taken on infra-red film in morning.



Winning team in jet class (above) came from 4th Fighter Group. From left: Capt. Vermont Garrison, 1st Lt. James Roberts, 1st Lt. Calvin Ellis. In conventional class, first honors went to 332nd Fighter Group (soon to be deactivated) and the pilots below. From left: Capt. Alva Temple, 1st Lt. Harry Stewart, and 1st Lt. James Harvey.



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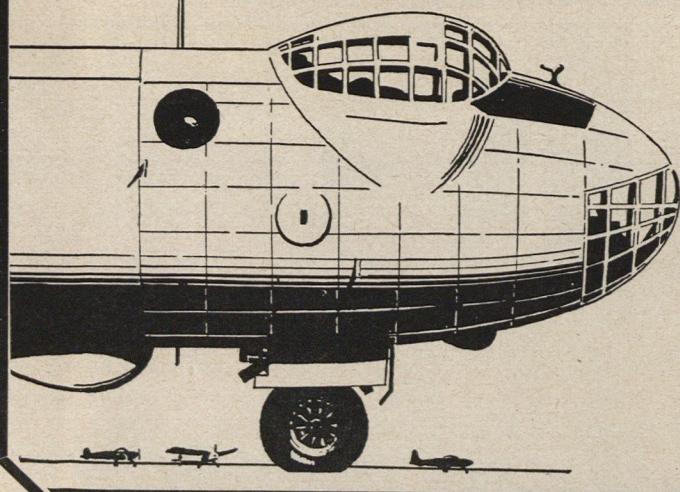
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Aviation's history unfolded before your eyes . . . from Jenny's to Jets! Enola Gay, the atomic bomber of Hiroshima . . . Lucky Lady II, the B-50 of round-the-world fame . . . planes you fought with . . . and against in WWII. Just a sample of what's offered at the "Air Age Exposition!"

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Hotel Stevens, Chicago, Ill.

Please print or type:

NAME: _____

ADDRESS: _____

CITY: _____ STATE: _____

ARRIVAL DATE AND TIME: _____

DEPARTURE DATE AND TIME: _____

NUMBER AND TYPE ROOM DESIRED: _____

Single room—1 person.....\$5.00—\$5.50—\$6.00

Double room with double bed—two persons \$11.00

Double room with twin beds two persons.....\$11.00

Cot for third person.....\$2.50 extra

Dormitory style (4 to 6 persons).....\$3.00 per person

Suites (living room and bedroom).....\$18.00 up.

If room to be occupied by another person also, please fill in name: _____

SEND FOR YOUR RESERVATION TODAY!

many airmen will welcome, even though the compensation is admittedly slight.

Opportunities for Reserve Officers, on the other hand, are limited only by two things: (a) the individuals proximity to a training establishment, and (b) the amount of energy he is willing to expend. If he gets over the first hurdle he has only himself to blame if he fails to move satisfactorily. The system that has been evolved for promotion and retirement, the flexibility of the program, and the compensation couldn't be more generous. That first hurdle though, is a killer. It is not a criticism to note that the new program *excludes* more Reservists (from the Organized Reserve) than it trains. A glance at the chart on page 26 will give you the ratio. This was inevitable in any "tightening up" effort. It is the result of concentrating funds and facilities in geographical areas of greatest Reserve population. It will unquestionably result in a more efficient organization, although it is admittedly rough on several hundred thousand individuals most of whom will probably feel that they are being penalized for nothing more serious than living in the country.

GLOSSARY OF RESERVE TERMS

TRAINING PERIOD: A period of time considered equivalent to one day's active duty. It is a minimum of four hours in duration. Organized Reservists who participate in weekend training meets of 16 hours (8 on Saturday and 8 on Sunday) will therefore be given credit for four training periods. They will earn four points and be eligible for four day's pay. The maximum number of 4-hour periods which can be counted for pay, however, is 48 per year. The maximum that can be counted for points varies with the type program.

ORGANIZED RESERVE: If you participate in either the AFRTC, the Mobilization, or the Corollary Unit Training Programs, you are a member of the Organized Reserve, and entitled to pay and points toward promotion and retirement. If you don't participate in one of these three programs, you're not a member of the Organized Reserve.

VOLUNTEER RESERVE: If you are a member of a Volunteer Training Unit, or if you take extension courses and maintain a minimum of 15 points a year, you're a member of the Volunteer Reserve. You're eligible for retirement and promotion, but not for pay.

INACTIVE RESERVE: If you hold a Reserve appointment, but participate in neither the Organized or Volunteer programs, you probably fall into the Inactive Reserve category. (NOTE: You also fall here if you belong to the Volunteer or Organized Reserve, but fail to maintain the minimum number of points per year. In this case you can not be reinstated in your former assignment for 12 months.) As an Inactive Reservist you get no points toward promotion or retirement, and you get no pay.

But transcending all other considerations—pro and con—is the one fact that if General Pete Quesada's program works the United States will have for the first time in its history an Air Reserve worthy of the name. One that can fly and fight, and one that will be ready to move on M-Day. Here for the first time Reserve forces are getting experience as units—with tactical type planes. This is a new concept. Heretofore the Air Reserve has been thought of as a pool of individuals to be called in and assigned to already established units on M-Day. Now it is beginning to be trained—just as the Air Guard is trained—in combat

groups. In full accordance with Mr. Truman's request, it is a more "vigorous" approach.

The time-table for the new program calls for the activation of all phases of the program by the first of July of this year. There will still be a shortage of about 150 planes, but it is expected that full delivery will be accomplished by January, 1950.

General Quesada has admitted quite frankly that he expects "bugs" to crop up in the beginning. But he is also confident that there will be nothing so serious as to stop the program short of its goal.

Points Needed For Promotion

2nd. Lieut. to 1st. Lieut.	1st. Lieut. to Captain	Captain to Major	Major to Lt. Col.	Lt. Col. to Colonel
		 175 PTS.		
				 140 PTS.
	 105 PTS.		 105 PTS.	
 70 PTS.				

NOTE

To retain appointment in the Organized Reserve (i.e., to participate in Mobilization, AFRTC, or Corollary programs) a reservist must accrue a minimum average of 35 points a year for any 3-year period. To retain appointment in the Volunteer Reserve he must accrue a minimum average of 15 points a year for any 3-year period.

PART I-Mobilization Assignment

WHAT IT IS:

A Mobilization Assignment is a "job reservation" in the Air Force—a wartime spot the Reservist stakes out for himself in peacetime by participating in "on the job" training periods and by taking two weeks active duty each year. In the event of a national emergency he would be assigned to the spot in which he has trained. The program is made possible by the fact that all USAF units—from squadrons to commands—have a wartime strength considerably greater than their peacetime T/O's. Reservists with Mobilization Assignments would be used upon the outbreak of hostilities, or the threat thereof, to help bring the units up to their fighting strength. For the most part Mobilization Assignments are administrative rather than flying posts, although they are open to rated personnel so long as they otherwise qualify.

HOW IT WORKS:

Mobilization training is normally conducted individually rather than by groups. On days designated for training periods by the Reservist's commander, he (the Reservist) reports for duty just as any other regular Air Force officer assigned to that unit. If he is an engineer he works side by side with the unit's regular engineering officer, and so on. Training periods can be either over week-ends or during the week.

NUMBER OF ASSIGNMENTS:

Excluding those already filled, there are 12,523 Mobilization Assignments available throughout the Air Force.

WHERE ASSIGNMENTS ARE:

Assignments exist at "all echelons of command"—from AF headquarters on down to the most remote air base. This does not mean, however, that there are openings at every installation, or in every MOS, or in all grades. They exist in

accordance with the requirement of the unit involved. The 12,000 plus figure breaks down into commands as indicated in the accompanying map.

ELIGIBILITY:

At the present Mobilization Assignments are open to Officers only, and there is no indication that any adjunctive program for E. M. will be established any time in the near future. To be eligible for assignment an Officer must (a) qualify by MOS, (b) meet the grade requirement, and (c) be in close enough proximity to the unit of his assignment to participate in the training periods. NOTE: Failing this last requirement a Reservist may request "training attachment" with any regular Air Force unit closer his residence which is capable of giving him the type training he requires.

MAXIMUM POINTS:

There is no absolute limit to the number of points that can be earned in Mobilization Assignment. One point is given for each training period. Theoretically, if a Reserve Officer wants to take a hundred training periods—and if his unit commander consents—he can earn a hundred points. There is a maximum for which he can be paid, however. The law provides that only 48 training periods per year plus two weeks active duty (15 training periods) can be counted for pay purposes. In other words a Reserve Officer will be paid for 63 training periods per year, but he can work any number above that he cares to (with his boss' OK) for points only. The additional points count equally toward promotion and retirement.

MINIMUM POINTS:

The minimum number of points a Reserve Officer can make and still hold his assignment is not prescribed. If, in the

opinion of his commanding officer, he performs his duties satisfactorily while earning only 15 or 20 points, he can keep his berth. However to retain his assignment in the Organized Reserve he must earn a minimum of 35 points annually. If he fails to make that number in his Mobilization Assignment the deficiency must be made up by taking extension courses.

HOW TO GET AN ASSIGNMENT:

Mobilization Assignments can be obtained by inquiring at your nearest Air Force Base, or by writing to the numbered Air Force which has jurisdiction over the area in which you live.

PAY STATUS:

As indicated above, Reservists can draw pay for a maximum of 48 training periods per year plus two weeks active duty. A training period, for pay purposes, is figured at one day's base pay plus longevity ONLY. Active duty pay includes all allowances (rations, quarters, etc.) to which the Reservist is normally entitled.

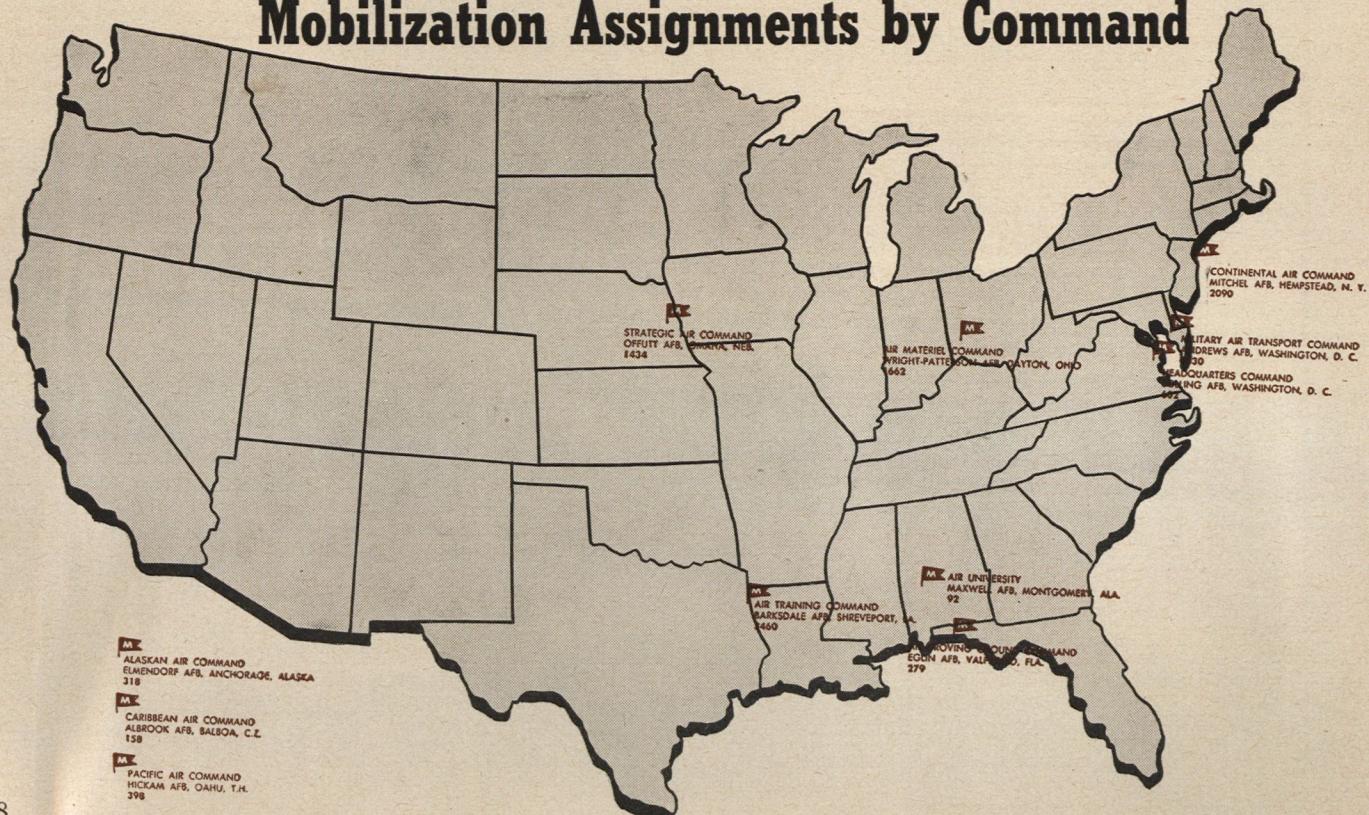
PROMOTIONS:

After he has qualified for promotion, an Officer must secure the recommendation of the commander of the unit to which he is assigned and thereafter meet (and gain the favorable consideration of) the promotion board in his area. (NOTE: Promotion boards are appointed by any of the nine major Air Force Commands to convene at such time and at such places as required.) If the promotion board is favorably disposed, the recommendation is forwarded through channels to AF Headquarters for final review.

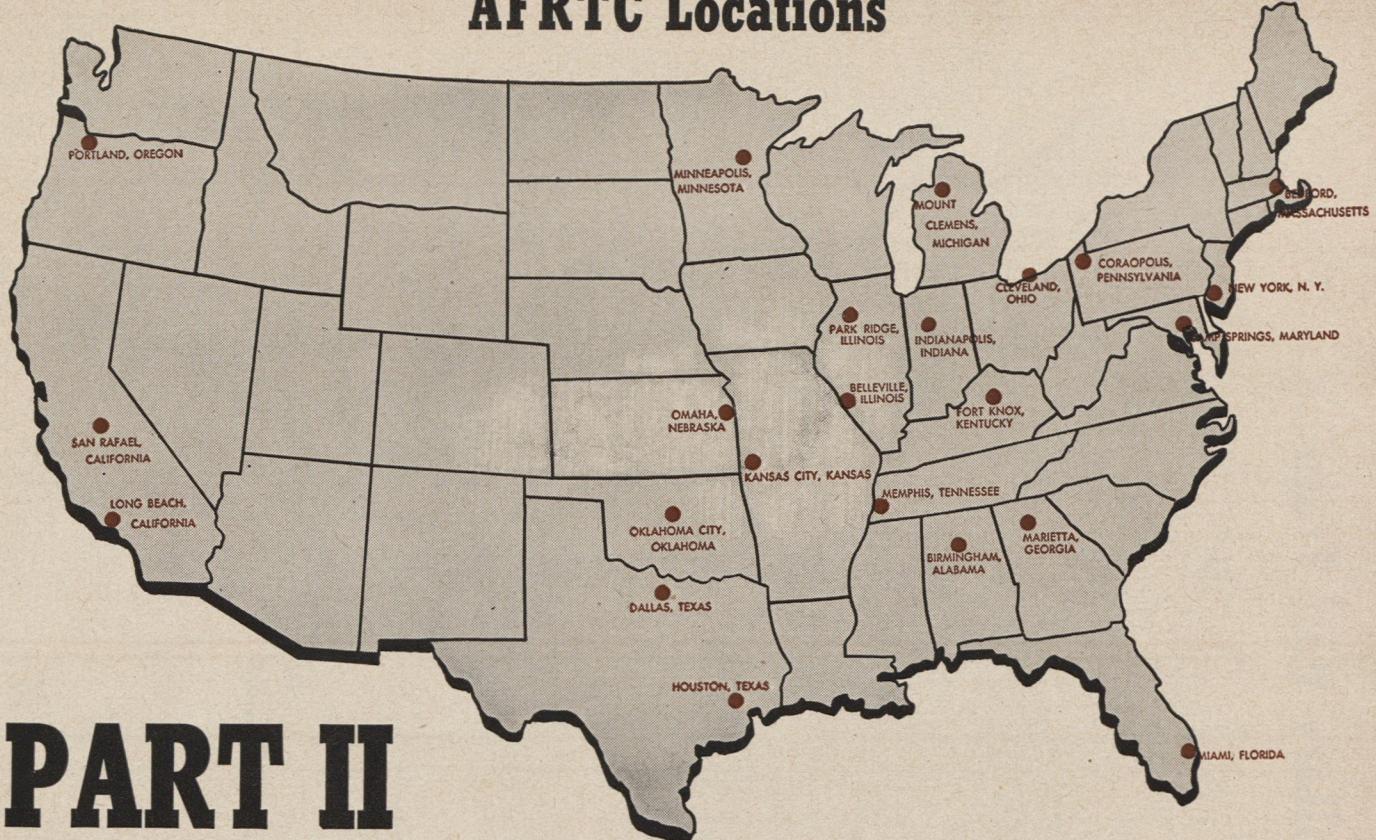
CONJUNCTIVE PROGRAMS:

Mobilization Assignments may be held in conjunction with the Extension Course program.

Mobilization Assignments by Command



AFRTC Locations



PART II The AFRTC Program

WHAT IT IS:

The initials AFRTC (which with some agility of imagination have been nicknamed "Aftrak") stand for Air Force Reserve Training Center, of which there will be 23 in the new program. A Training Center is an air base located in an area of heavy Reserve population and run partially by Reserve personnel recalled to active duty for that special purpose. Each training Center will be allocated 16 tactical type aircraft (plus a certain number of trainers) and will support a Training Wing made up of four Reserve Squadrons and complementary service units. (NOTE: Although there will be only 23 Training Centers, there will be 25 wings. In the Los Angeles area two wings will operate under the Long Beach AFRTC and in Chicago two wings will operate under Orchard Place Airport). The 25 wings will break down as follows: five Light Bombardment wings equipped with Douglas B-26's; three Troop Carrier wings equipped with C-47's; seventeen Troop Carrier wings with C-46's. The purpose of the Aftrak program, aside from the obvious one of establishing a ready reserve force, is (a) to give rated personnel tactical flying experience (90 hours per year) as part of an organized unit, and (b) to provide assignment opportunities for non-rated and enlisted men.

HOW IT WORKS:

As stated above, each AFRTC is assigned 16 tactical-type aircraft—only enough to equip one squadron. Since each center must accommodate four squadrons a system had to be evolved whereby the equipment could be ro-

tated between them. This was done by setting up a ground rule whereby each of the four squadrons train one weekend per month. Each squadron assembles at the field on the week-end designated to it and performs all the duties and functions of a regular Air Force squadron. In the event there are insufficient tactical planes to make this possible, the supplemental trainers are used. In theory at least the Aftrak provides the Air Force with an auxiliary of 25 ready-to-move squadrons which could be called into service at a moment's notice. It provides an additional 75 which would be ready as soon as they were equipped with planes. In actuality however, it is a moot question whether or not AFRTC units will retain their identity on M-Day or not. Some of them undoubtedly will. Others will be deactivated and the personnel will be assigned to existing units.

NUMBER OF ASSIGNMENTS:

The Aftrak program will provide training for 36,115 personnel—10,005 Officers and 26,110 Airmen.

WHERE ASSIGNMENTS ARE:

The map on this page indicates AFRTC locations.

ELIGIBILITY:

Any Reservist—officer or enlisted—can participate in the Aftrak program provided (a) there is a vacancy (b) the Reservist can qualify by MOS and grade, and (c) provided he lives in close enough proximity to the AFRTC to get to the training periods.

MAXIMUM POINTS:

Since available equipment limits the number of training periods an AFRTC unit can accrue to four each month (48

per year) the number of points a member of such a unit can earn is likewise limited to that number—plus 15 for two weeks active duty.

MINIMUM POINTS:

Unless the Aftrak commander himself establishes one, there is no minimum number of points required to retain an Aftrak assignment other than the 35 points required to retain assignment in the Organized Reserve.

HOW TO GET ASSIGNMENT:

Apply in person or by letter to the AFRTC nearest you (see list above.)

PAY STATUS:

Both Officers and Airmen can draw pay for a maximum of 48 training periods a year plus two weeks active duty. The tough part for enlisted men is that they are not entitled to rations or quarters during a training period. Like the Officers they must kick in for these items out of their pay. But in the E.M.'s case, the profit is reduced by a considerably larger percent. The two weeks active duty pay includes all the allowances to which the Officer or Airman would be entitled if he were on permanent assignment with the Air Force.

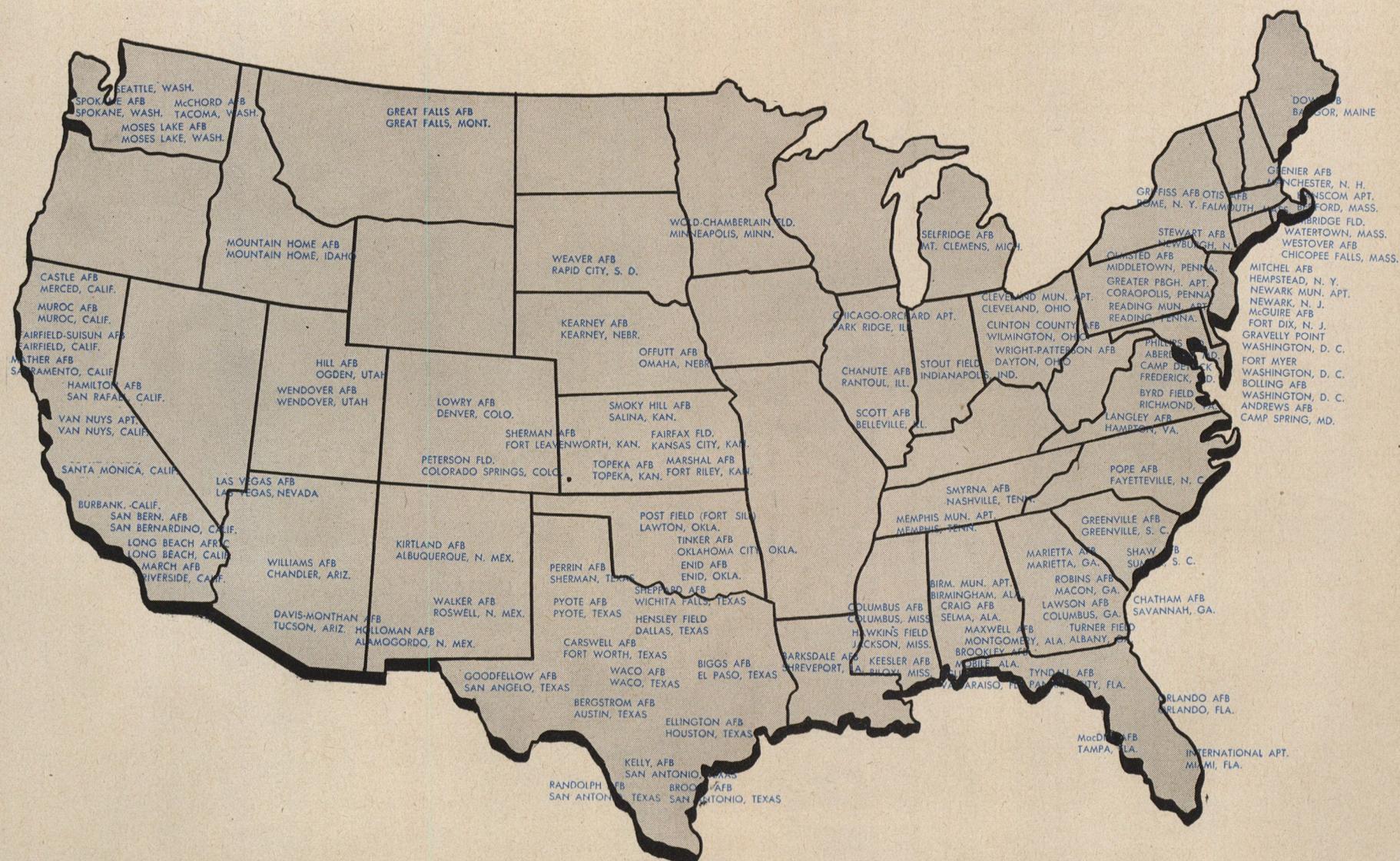
PROMOTIONS:

Officers are promoted in the Aftrak program on the same basis they are in the Mobilization program. Promotion for Enlisted Men is based neither on points nor time in grade. Provided there is a T/O vacancy, Airmen can be awarded a promotion by the Aftrak commanding officer under authority of WD Circular 356, dated 1946.

CONJUNCTIVE PROGRAMS:

Aftrak training can be taken in conjunction with extension courses.

Installations Conducting Corollary Unit Training



PART III The Corollary Program

WHAT IT IS:

A corollary unit can be anything from a wing down to a weather detachment. It can number anywhere from 10 to 1000 officers and men. It differs basically from an AFRTC in that it has no equipment, facilities or housekeeping personnel of its own. Instead it is supported and trained by a regular Air Force unit or parallel function. In this effect it is a parasitic organization. The corollary unit at Ft. Worth for example, will have its headquarters at the Air Force's Carswell Air Base nearby. During scheduled training periods it will use Carswell equipment and Carswell facilities. Like Aftrak units, corollary organizations are designated for prompt mobilization. A total of more than 300 corollary units will be activated at 107 regular Air Force installations (see map.)

HOW IT WORKS:

On one week-end each month, corollary units are assembled at the Air Force installation to which they are assigned. During this period they take over all functions of their parent organization—everything from writing first indorsements to flying heavy bombers—

under the immediate supervision of their "opposite numbers" in the parent unit. The one big hitch is the fact that the corollary unit must adapt itself to the physiognomy of the regular outfit. If the parent unit is a B-29 group the corollary unit must also be a B-29 outfit. Therefore a fighter pilot desiring to get an assignment in such a group would first have to get a four engine MOS. The theory is, however, that there will be enough Reservists with the right MOS's to begin with to fill all the vacancies.

NUMBER OF ASSIGNMENTS:

There are 28,957 corollary unit assignments open under the new five-part program. Of this total, 6926 are for Officers and 22,031 for Airmen.

WHERE ASSIGNMENTS ARE:

Corollary units will be established at 107 regular Air Force installations. See map on opposite page for locations. Description of the type training offered at each of these units will be furnished upon request to AIR FORCE Magazine.

ELIGIBILITY:

Same as eligibility requirements in the AFRTC Program.

MAXIMUM POINTS:

Like Aftrak units, corollary units are scheduled for four unit-training periods a month (one week-end) and a two week active duty period which adds up to 63 points. Units initially organized at less than fully authorized strength however, will be allowed a maximum of 24 unit-training periods a year.

MINIMUM POINTS:

Same as AFRTC minimum.

HOW TO GET ASSIGNMENT:

Apply either to the headquarters of the regular AF base conducting this type training or to the headquarters of the numbered Air Force having jurisdiction over the area in which you live.

PAY STATUS:

Same as AFRTC except that members of corollary units of less than fully organized strength can draw pay for only 24 unit training periods.

PROMOTIONS:

Same as AFRTC.

CONJUNCTIVE PROGRAMS:

Corollary training can be taken in conjunction with extension courses and the points earned under both may be figured in promotion and retirement.

PART IV

The Volunteer Reserve

WHAT IT IS:

The Volunteer Training Program is the successor of the composite unit. It consists of groups of Reservists having similar MOS's formed for the purpose of conducting training at regularly scheduled assemblies. They operate under the supervisory jurisdiction of the Continental Air Command through its numbered Air Forces. There is no Table of Organization. Each unit has its own commanding officer and a limited number of staff officers appointed by the C.O. At present there are about 350 such units throughout the US.

HOW IT WORKS:

Volunteer units meet upon the call of the commander, usually on a specified evening once a month. The training period lasts for a minimum of two hours and usually consists of lectures or discussions.

NUMBER OF ASSIGNMENTS:

The Air Force has set no limit on the number of Reservists who can take volunteer training, but it is estimated that about 60,000 will participate.

ELIGIBILITY:

Any Reservist—Officer or Airman—is eligible to join a volunteer unit provided he has an MOS corresponding to that of the rest of the group.

MAXIMUM POINTS:

A commander rarely schedules more than one training period a month, and the number of points a Volunteer Reservist can earn is therefore limited to

twelve a year—three shy of the minimum required to retain his volunteer assignment (see Minimum Points).

MINIMUM POINTS:

To retain his status, a Volunteer Reservist must earn a minimum of 15 points a year, which in most cases means that he must participate in the Extension Course program as well as attend volunteer assemblies. He may apply for two weeks active duty, but at the moment the Air Force has only very limited funds for active duty periods outside of the Organized Reserve. His chances therefore are slight.

HOW TO GET ASSIGNMENT:

Apply to the VTU itself (a list will be furnished upon application to AIR FORCE Magazine giving home address and MOS) or to the numbered Air Force which has jurisdiction over the area in which you live.

PAY STATUS:

None at present.

PROMOTIONS:

Because of the limited number of points a Volunteer Reserve Officer can earn it is extremely difficult for him to get promoted. It can only be done by carefully supplementing his volunteer training with Extension Courses. If he meets point and time in grade requirements by so doing, the rest of the procedure is the same as that in AFRTC and Corollary programs. Enlisted promotions are also made in the manner described for airmen in an AFRTC.

If You're Rated

If you're rated and a member of the ORGANIZED Air Reserve (participating in Mobilization, AFRTC or Corollary unit training) the aim of the Air Force is to see that you get 90 hours flying time a year. In the case of Mobilization assignees this may be done by being *attached* (not assigned) to an AFRTC or Corollary unit for flying training purposes. If you participate with these units during a regularly scheduled training period you are eligible for points and pay. If you choose to accumulate those 90 hours by using an AFRTC or Corollary unit ship OUTSIDE regularly scheduled training periods you get no pay or points unless (a) you get consent of the unit commander (b) show cause why the 90 hours can't be accrued during regular training periods and (c) actually conform to the specified training requirements for unit training. In other words if the training directive says barrel rolls you do barrel rolls instead of "whistling off" to see a friend up the line.

If you're a member of an AFRTC or a Corollary unit you may use the planes of your own outfit to accrue the 90 hours outside of regularly scheduled training periods if you choose, but here again you get no points or pay unless you can meet the above requirements. Nor do the hours you accrue excuse you from maintaining the 35-point minimum required in the Organized Reserve.

PART V

Extension Courses

WHAT IT IS:

The Extension Course program is exactly what the name indicates. Included in the program are 75 courses ranging from Property and Accounting to Mines and Booby Traps. The courses are prepared by the Air University, and are designed primarily to supplement other types of training and to make participation in the Reserve program available to Reservists who would otherwise have no means of retaining their appointment.

HOW IT WORKS:

There are no "electives" in the Extension Course program. In making application the Reservist gives complete information as to his grade, time in service, etc. With this information the Air Force determines which of four "phases" of extension instruction he should take (see listing at right). He is then sent each course in that phase as rapidly as he completes them satisfactorily.

NUMBER OF ASSIGNMENTS:

It is contemplated that about 75,000 Reservists will participate.

WHERE ASSIGNMENTS ARE:

Courses are taken at home.

ELIGIBILITY:

All Reservists are eligible. Only Phase I, however, is open to Enlisted Men at the present time.

MAXIMUM POINTS:

The maximum number points depends only on how quickly the Reservist completes the work assigned. Each course has a specified number of hours (average is between 10 and 20) and points are awarded in the ratio of one point for every three hours work.

MINIMUM POINTS:

None, so long as the Reservist retains the minimum required in the Organized (35) or Volunteer (15) Reserve—whichever he is in.

HOW TO GET ASSIGNMENT:

Write the Director, USAF Extension Course Department, Fort Benjamin Harrison, Indianapolis, Ind.

PAY STATUS:

None.

PROMOTIONS:

In the highly unlikely event that a Reservist acquires enough points for promotion by taking extension courses alone and has sufficient time in grade he can recommend his own promotion to the Air Force headquarters which has jurisdiction over the area in which he lives—and hope. There is no provision for the promotion of enlisted men.

CONJUNCTIVE PROGRAMS:

Extension courses can be taken in conjunction with any type training.

The Courses

PHASE I, PART A

Organization of the USAF	Employment of the Air Forces
Wearing of the Uniform; Customs and Courtesies of the Service	Staff Duties in Lower Echelons
Drill and Ceremonies	Air Force Communication
Interior Guard	Basic Principles of Supply
Physical Training	The F-80 and F-84
Maps, Charts, and Aerial Photographs	Organization and Functions of the Laboratories, Engineering Division, Hq. AMC—1 Hq. AMC—II
Military Sanitation and First Aid	Bombing—General
Small Arms	Mines and Booby Traps
Military Law	Briefing
Camouflage	Frequency Prediction and Selection
Defense against Chemical Attack	Radio Communications—I
Intelligence	Principles of War and Development of Aerial Warfare
Polar Survival	Tactical Air Control Group
Air Force Administration	Night Fighter Aviation
Methods of Instruction	Tactics and Technique of Bombardment Aviation
Personnel Management	Troop Carrier Aviation—I
Public Speaking	The Collection, Evaluation and Dissemination of Combat Intelligence
Leadership	Intelligence Reconnaissance
English	The Role of Photo Intelligence
Air Force Classification	Aerial Photography
Air Force Supply	Property Accounting—I
Air Force Mess Management	Air Force Base Supply
Radiological Defense	Basic Radar for Air Force Operations

PHASE II, PART A

Fundamentals of Learning and Expression	Navigational Aids and Systems
Military Staff Organization and Staff Writing	Organization and Operation of Squadron and Group Intelligence Sections
A Concept of Air Force Administration	Intelligence Reports in Squadrons and Groups
Military Law, Boards, and Investigations	Air Crew Interrogation
The Principles of Command and Leadership	

Supply	Required Reading
Maintenance	Writing the Monograph
Supply and Maintenance, Special Subjects	Principles and Methods of Instruction
Air Operations	Plans—Special Operations
Communications in the USAF	Communications
Intelligence	Air Defense
Weather	Reconnaissance
Air Power, Warfare, and Principles of War	Strategic Air
Strategic Air Forces	Tactical Air
Tactical Air Operations	Troop Carrier
Air Defense	Weather
Air Transport	Special Command Considerations
Fighter Tactics and Techniques	Air Organization
Fundamentals of Navigation and Bombing	Personnel
Principles of New Developments	Command and Leadership
Guided Missiles	Logistics—General
Atomic Energy	Military Management Principles and Practices
Aircraft and Associated Equipment	Supply and Maintenance

PHASE II, PART B

Duties and Responsibilities of Officers	Construction
	Hospitalization and Evacuation
	Transportation
	Logistic Planning

PHASE III, PART B

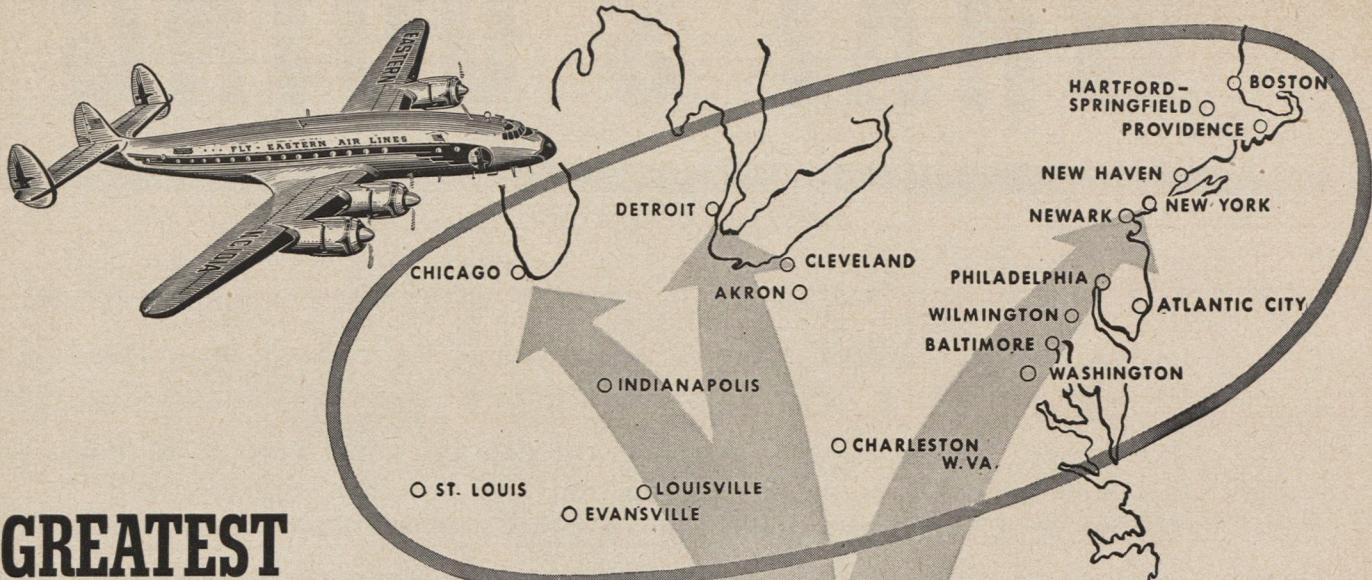
Introduction—New Development	Aircraft Propulsion Systems
Military Aircraft	Complementary Developments
Guided Missiles	Operations in Selected Scientific Advancement
Operational Intelligence	Special Intelligence
General Intelligence	Air Ground Cooperation
Organization and Employment of Large Ground Force Units	Infantry, Armored and Airborne Divisions
Naval Aviation	Organizations—Navy
Modern Naval Vessels and Naval Strategy	

PHASE III, PART A

Required Reading	Airborne Defense
Writing the Monograph	Preparation for Overseas Movement
Principles and Methods of Instruction	Fundamentals of Organization
Plans—Special Operations	Organization and Functions of Air Inspection at Base and Group Level
Communications	Wire Communications—I
Air Defense	The Base Intelligence Officer, Combat Zone and ZI
Reconnaissance	Counterintelligence
Strategic Air	A Tactical Air Command
Tactical Air	Tactical Air Operations
	Communications: Air Defense Organizations
	Communications: Tactical Air Command and Tactical Air Forces
	Problems in Air Combat Intelligence
	Principles of War and Air Warfare
	Logistic Staff Duties
	Air Inspection at Command Level
	Communications: Troop Carrier Operations
	Signal Centers II
	Communications Equipment, Supply and Maintenance
	Organization and Functions of the Electronic Subdivision, Engineering Division, AMC II

PHASE IV, PART A

Oral and Written Self Expression	Oral and Written Self Expression
Method of Treatment and Solution of Military Problems	Method of Treatment and Solution of Military Problems
Military Management	Military Management
World War II	World War II
Logistics	Logistics
Technology	Technology
Intelligence	Intelligence
Training	Training
Organization	Organization
Study of Current Problems with Seminar Groups	Study of Current Problems with Seminar Groups



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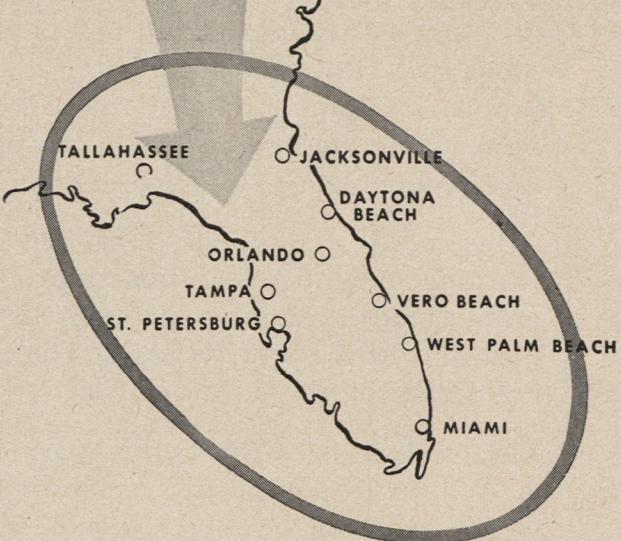
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WHAT'S DOING

ON the opposite page are two significant dates in aircraft engine history.

On the first, May 14, 1947, Pratt & Whitney Aircraft acquired an option to build its own version of the Rolls-Royce Nene jet engine.

The second, November 30, 1948, marks the date on which Pratt & Whitney delivered to the Navy the first production model of that engine—the JT-6 "Turbo-Wasp". It was installed in an F9F Grumman Panther.

In between those dates, there were 566 days. And nearly every one was a red-letter day in some department of Pratt & Whitney Aircraft. For, each one marked one more step in the completion of a task that may sound easy but actually took 18 months of the hardest kind of work by our organization.

Externally, the Turbo-Wasp looks pretty much like the original Nene engine. But there the resemblance ends. The redesign of many parts, the development of improved manufacturing processes to speed quantity production and, in some cases, the substitution of new materials represent only some of the problems encountered. All told, more than a million man-hours were spent in readying the Turbo-Wasp for production. That's equivalent to the full time of one man working a 40-hour week for 500 years!

Now, to all of this must be added the tooling-up that had to be done, shop rearrangement, actual production of the engine, testing and a host of other tasks requiring additional hundreds of thousands of man-hours—all accomplished within those 566 days. The opposite page will give you some of the highlights of this achievement.

The production of the Turbo-Wasp engine represents only one phase of Pratt & Whitney's continually expanding development program. Simultaneously, we are working on the even more difficult task of designing and developing from scratch, entirely new types of jet power plants. At the same time, we are continuing the refinement and development of the well-known Wasp line of reciprocating engines.

It keeps us pretty busy.



PRATT & WHITNEY AIRCRAFT

EAST HARTFORD, CONNECTICUT

ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

at Pratt & Whitney Aircraft?

1,100 DRAWINGS

We received more than 1,100 different drawings of the original Nene engine. Every one of these had to be redrawn to conform to American drafting practice.



1,000 DESIGN CHANGES

The original engine had to be adapted to use American-built accessories, as well as to provide for the use of new materials or new processes suitable for quantity manufacture. We made more than 1,000 design changes to accomplish these objectives.

5,300 SPECIAL TOOLS

It takes all kinds of tools from a simple hand drill to a 400-ton hydraulic press to build an airplane engine. For the Turbo-Wasp we had to design 5,300 special tools. Counting changes, we made nearly 10,000 tool designs before we were ready to put the engine into production.

9,000 OPERATIONS SHEETS

Each step in the processing of each part of an engine has to be outlined in detail to give the shop all the information required to do the job. On the Turbo-Wasp our production engineers had to write up more than 9,000 such operations sheets. Many of these required the handling of new materials or the use of new processes previously unfamiliar to us.

225,000 SQ. FT. OF FLOOR SPACE

In order to build the engine, we had to have a place to do the work. We rearranged 225,000 sq. ft. of floor space (equivalent to 4 football fields) for manufacturing this one type of engine. This involved careful planning of production lines, and the installing or moving of thousands of hand tools, benches and other items of factory equipment as well as 259 machines.

35,000 MANUFACTURING OPERATIONS

There are 1,088 *different kinds* of parts in a Turbo-Wasp — 7,022 pieces in all. Each goes through many operations before it is ready for assembly into the finished engine. About half the parts are built here, the rest by a specially trained team of 150 subcontractors. Approximately 35,000 manufacturing operations are done by us in our own plant in making parts for one Turbo-Wasp. To that can be added the tens of thousands performed by our subcontractors.

1,700 HOURS OF TESTING

After a complete Turbo-Wasp was built, it had to go on a test stand and pass a rigorous 150-hour type-test. And that's only part of the story. Many sub-assemblies of this engine were tested for hours on end to make sure they would stand up in service. By the time the first engine was shipped, more than 1,700 hours had been spent in complete engine testing, exclusive of thousands of hours of component testing.

10,000,000 DOLLARS

From the time Pratt & Whitney Aircraft acquired its option to build the Turbo-Wasp engine until the first production model was delivered last November, we spent more than 10 million dollars on it. That's at the rate of more than 17 thousand dollars a day. This does not include many additional millions invested in new research and test facilities devoted to all types of jet engines.





The MEN of the B-29s

A miracle of planning and production turned a drastically new design into a great airplane, ready for the knockout

By Brig. Gen. Kenneth B. Wolfe

June 1944: This was the month American tanks roared past the Colloseum into Rome—the first of the Axis capitals to fall to Allied troops. Two days later, in one of the greatest military invasions in history, tremendous concentrations of troops, ships and aircraft hit the beaches of Normandy and began the push that was to end deep in Hitler's Reich. In the Pacific the incredible story of the B-29 burst upon the world.

When the time came for our first B-29 outfit to move overseas, we were falling short of our own training standards, but by any other standards we had the best-trained heavy bombardment organization ever to leave the States.

This merely means that the standards

we had set for the B-29 program were virtually out of reach of both men and machines. It is doubtful that we would have accomplished our mission if we had not raised our sights that high.

Our directive from the commanding general was to commit the B-29 to combat without delay. To carry out his orders, we supervised and expedited all production, flight-tested the experimental planes, flew acceptance tests on all new-production aircraft, effected modifications while prescribing changes in equipment for later models, determined the flight characteristics and limitations of our aircraft, established tactics best suited for combat, trained air and ground crews, and prepared all squadrons for combat service overseas.

Eleven months after the first combat

B-29 rolled off the production line, we had bombed the Japanese homeland.

Much has been said and written about the planes of that first outfit—the 58th Very Heavy Bombardment Wing—but I look back on the preparatory phase of the B-29 program primarily as a struggle of men against unique engineering, production, training, and tactical problems.

When D-Day came for the 20th Bomber Command in China, and our B-29s took off to bomb the Jap steel center of Yawata, the bombers carried veterans of many air campaigns, including men who had first challenged the enemy after Pearl Harbor as members of the 19th and 11th Bombardment Groups. Men who had helped engineer the B-29 through production also were there, some flying as regular combat crewmen. At the bases were hundreds of ground men who had pioneered their jobs and become specialists at them. In the background were hundreds of thousands of Chinese coolies who had carved out our airfields by hand. Back home there were more thousands of aircraft workers who had given us our planes. How these men—working together—made that first B-29 mission possible is the story behind this three billion-dollar gamble on long-range heavy bombardment aircraft.

We started from scratch. We began with what was still, by military necessity, an incompletely designed, experimental airplane—more complicated than any ever before used in aerial warfare. When the 58th Bombardment Wing was activated on June 1, 1943, we had no personnel, no planes, no precedents.

As our first step, we moved in with the Boeing company at its Wichita, Kansas, plant and we brought along some of the top engineers of the Matériel Command. Our test pilots were experienced command pilots; our crew members were high-ranking experts who had helped develop the equipment we were to fly. Our production men had been working with the B-29 since the aircraft was on blueprints in 1939. Our training instructors were veterans of more than a year of combat operations.

Officially, we received our first experimental XB-29 from Boeing on May 28, 1943. Two weeks later, the first



Hundreds of thousands of workers using primitive methods and substituting mud and clay for cement constructed the B-29 runways in China. Without modern machinery to work with, these coolies did a remarkably competent job.



This crude, hastily-built stand was a control tower for B-29s in China.

production-type plane was flown successfully. The first of the combat B-29s rolled off the line in July.

While we were flying continuously to test all of the capabilities and idiosyncrasies of the new bomber, we organized the staff of the 58th Wing, which later was to become the 20th Bomber Command. Brig. Gen. Laverne Saunders, former CO of the 11th Bombardment Group and air adviser to Admiral Halsey during the Solomons operations; Col. Richard H. Carmichael, who had formerly commanded the 19th Bombardment Group in the Southwest Pacific; Col. Leonard F. Harman, B-29 project officer from the Materiel Command, and others of equal caliber were selected as staff members.

Already we had started ground-crew training in the Boeing factories, with our mechanics working side by side with the men and women who were building the B-29s. Our men worked on the flight lines of Boeing at Wichita and Bell at Marietta, Georgia, where we were flying accelerated service tests. At the same time sub-assemblies were being shipped to train new factory workers in B-29 construction at Bell.

New crews were checking out in the B-29s while they were being flight-tested. As rapidly as these tests uncovered "bugs," engineers took the problems to Wright Field's laboratories and worked them out. Their expeditious handling of our design and mechanical problems continuously contributed to the improvement of the performance and reliability of our new plane. We were rolling because we had to roll. We were accomplishing a week's research, testing, modification, and training every twenty-four hours.

In September we moved to Smoky Hill Army Air Base. We had only a few B-29s for flight training, but we had to instruct our crews in long-range, high-altitude formation and instrument flying. We decided to answer our prob-

lems with other bombardment aircraft.

Fifty B-26s were obtained to familiarize pilots and copilots with tricycle-gear landing and glide characteristics of a high-wing, loaded airplane. Later we secured B-17s because of the similarity of their mechanical parts to those of the B-29 and because reasonably long-range, high altitude missions could be flown with these planes.

After full study of possible maintenance and supply plans, we prepared to set up a maintenance squadron at every field in the CBI to be used by B-29s. Such squadrons would be able to keep the planes in operation at forward as well as rear bases. The training of these advance squadrons was a priority project because we had to ship the men and their equipment by boat at least two months before our air units left the States. The final decision required the movement of ground units in January and air units in March of 1944. How to house these men and how to set up our bases in India and China, and how to operate and maintain our planes once we arrived there were added worries. We were continually sending various staff members from our organization to the CBI to lay the groundwork for our movement to this theater. And at this time the fact that we were to operate from bases in India and China was still highly secret information.

While this work was progressing, we were attending to one of our most vital assignments: the drafting of our recommendation to General Arnold on how we proposed to use the B-29 tactically.

After hundreds of hours of semi-operational flying, we had determined that most efficient use of the plane could be attained with a crew of eleven men. The pilot and plane commander and the copilot were assigned the conventional responsibility of flying the airplane, except for operation of the power plants. This task was assigned to the flight-engineer officer, who would adjust the carburetor mixture, regulate manifold pressure, transfer fuel, and, in general, control the power output of the engines at all times, subject, of course, to instructions from the pilot.

At first, our new flight engineers were eyed suspiciously by pilots as surplus personnel usurping some of their own functions. However, as crew-team training progressed, the value of keeping one man's complete attention on power and fuel-system problems was proved, and the flight engineers were accepted in good standing with the combat team long before our planes left the States.

Now and then we established new training aids and methods to attain our high standards. In addition to his many engineering contributions, Col. Howard H. Couch, chief of the technical staff, who later disappeared on a routine flight over the India-China "Hump," introduced a pocket-sized illustrated training manual that enabled our men to learn in about 50 minutes the same information that previously had required some two hours with standard training manuals.

A conference was held in General

Arnold's office on December 21. After outlining our progress to the General, who was to be in command of the Twentieth Air Force, I was on my way when he said: "You had better get over there yourself. Think you can make it by Sunday?"

After my arrival in India, the entire staff back in Kansas was officially apprised of our theater of operations and our mission for the first time. We would operate from rear bases in India, forward bases in China, and our targets would include the islands of Japan and some areas in Manchuria.

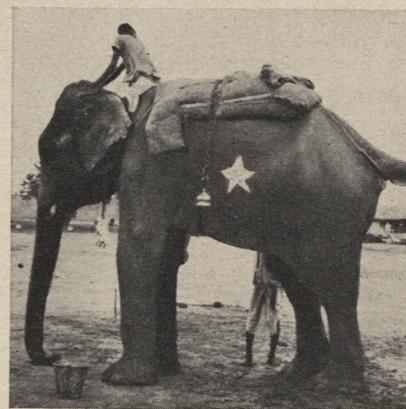
During the next few weeks, our maintenance squadrons and the depot group for our rear-echelon bases were shipped out of the States. Supplies were 98 per cent at the embarkation port by the middle of January, when a letter reached me, advising: "You have coming to the theater enough supplies to cover about 150 acres piled 100 feet high . . ." And this represented only our initial requirements.

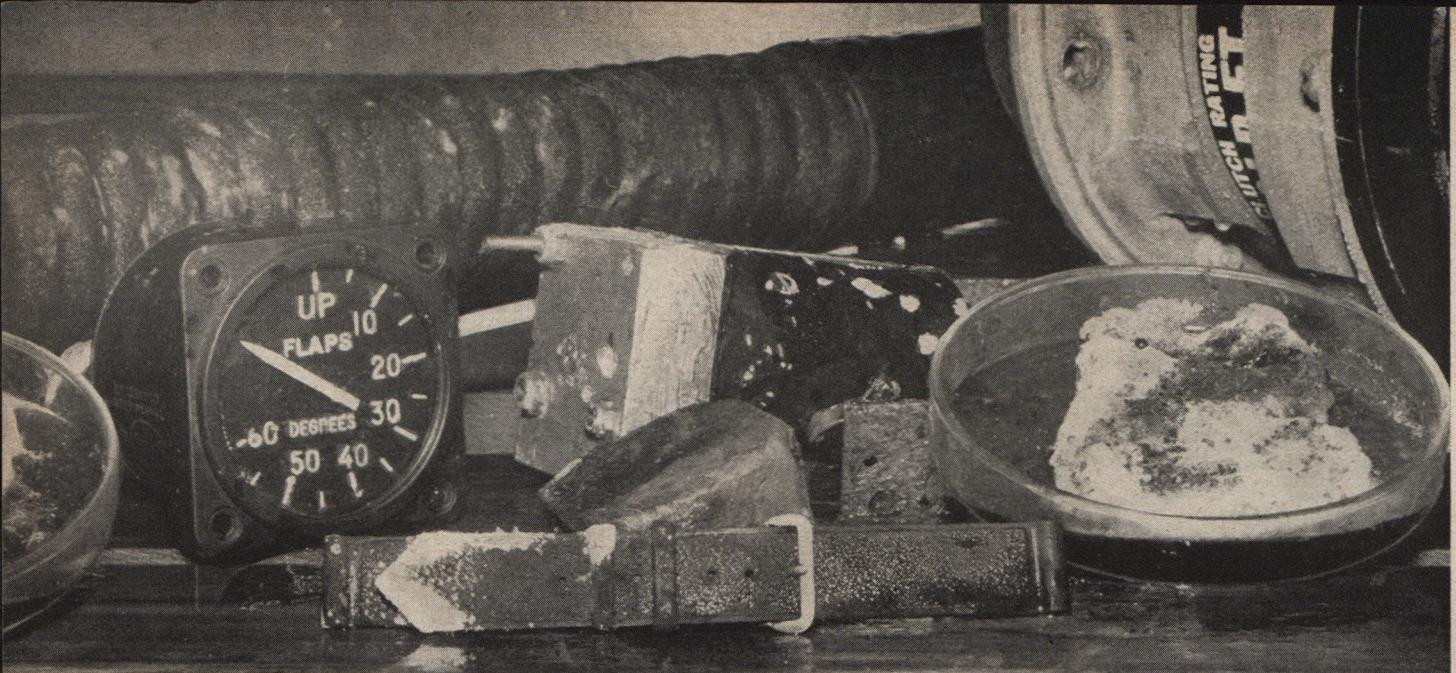
To expedite delivery of needed supplies from India to China, a number of C-87s were assigned by ATC as cargo carriers for the B-29s. C-46s later supplemented this force. However, the supply requirements of the advance China bases were so great that, after their arrival in April, B-29s flew thousands of tons of gasoline, bombs, and supplies over the "Hump" for their own use.

In February a depot group, assigned to the B-29s for work at our rear bases, arrived in India. Maintenance squadrons docked during the following two months and prepared for the arrival of our air echelon at bases being rushed to completion by engineers and Indians.

(Continued on page 48)

Indian bases were built with native labor and transportation. Army insignia lends GI touch to the elephant.





This is what Air Force equipment looks like after various species of South Pacific fungi set up light housekeeping

WAR UNDER A MICROSCOPE

Wright Field scientists find that small particles of dust can bring a plane down as effectively as a 20 millimeter cannon burst

By Douglas J. Ingells

One day an Air Force transport plane loaded with important cargo and very important passengers was scheduled to take off from Johnston Island in the Pacific bound for Honolulu and the States. During engine warm up, the flight engineer, scanning the instrument panel, saw the needles on two indicators swing wildly. Simultaneously, the pilot spotted the trouble, cut the switches and ordered the plane grounded until mechanics could find out what was wrong.

Ground crewmen soon found the trouble—sluggishness in the gears of a propeller hub. They yanked out the whole works, put in a new "box" as simply as a garage man might remove and replace the battery in your car. As

far as the mechanics were concerned that was the end of it. They watched with satisfaction as the plane took off and headed east.

But an alert engineering officer wasn't quite so easily satisfied. He picked up the discarded propeller hub from the junk heap and shipped it 11,000 miles to a little-known, seldom talked about laboratory at Wright Field. Here, technicians and experts disassembled the hub and put the different parts under microscopes. They found a fungus growth had formed inside the gear box and clogged the movements so that they could no longer function with precision. It succeeded in growing because tropical mites of the South Pacific had spilled their stool on the metal parts thereby providing an ideal medium for the growth of fungus. To beat the problem, engineers redesigned the hub using a new sealing technique and improved anti-fungi protectives. That particular difficulty never cropped up again.

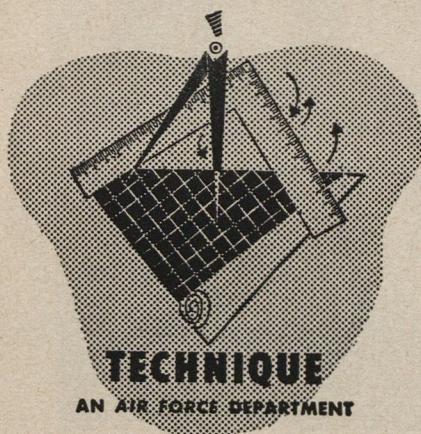
That laboratory at Wright Field specializes in "Environmental Engineering". Here, all types of aviation equipment are subjected to climatic conditions found everywhere in the world with complete aircraft weather-proofing the final goal. The importance of this cannot be overestimated since our experience in World War II proved that heat and cold, dampness and dust, fungi and other tropical growths succeeded in keeping our planes on the

ground more successfully than Zeros or Messerschmidts.

This indeed is a laboratory with the world inside. In one compartment with thick glass windows fine desert sands roar through a miniature wind tunnel, sandpapering the tiny buckets of a turbine wheel, heart of the modern jet engine. In another, jungle fungus growth eats through a hair-thin crack in an instrument casing. A steamed window reveals the corroding action of sea-air fog salting away an electric generator like a piece of pork in a barrel. Ice crystals form fascinating patterns on a propeller hub. A water spout does its best to rip open the bottom of a rubber life raft. Hail shreds the fabric of a rudder assembly and a sun lamp, its heat intensely magnified, beats down on a plexiglass cockpit smoking it up like cellophane.

In one place or another, similar conditions have seriously interfered with normal Air Force operations. Funny things have happened. High octane gas vaporized into nothing, and instruments went haywire. The carbon brushes in generators wore out in two hours instead of 200. Desert sand chewed up engines. Even at home planes operating from airfields near the ocean had to do something about the corroding effects of salt fog.

By war's end, the whole problem had been pretty well licked. But with the advent of jet planes flying at sonic and supersonic speeds and with rocket engine



and guided missile experimentation reaching an advanced stage, a whole new set of problems were introduced. And the Air Materiel Command's Equipment Laboratory is throwing all its resources into finding the answers to questions like these: Will the effect of cosmic rays, which can detour spark gaps, force us to throw our intricate aircraft electrical systems out the window and come up with something new? Can the effects of oven-like temperatures (500 degrees Fahrenheit and up), which are believed to exist above 100,000 feet be counter-acted sufficiently to permit the possibility of man-carrying rocket ships? Will ambient heat, the result of skin friction on plane surfaces at supersonic speeds, warp or melt metallic covered wings or make cabins too hot to live in, and, if so, what type of cooling system can counteract such heat? How long can a spinning turbine shaft last under the abrasive conditions of a dust storm? Will the humidity and jungle rot of tropical climates necessitate new maintenance techniques for jet and rocket planes? These are only some of the questions which must be answered.

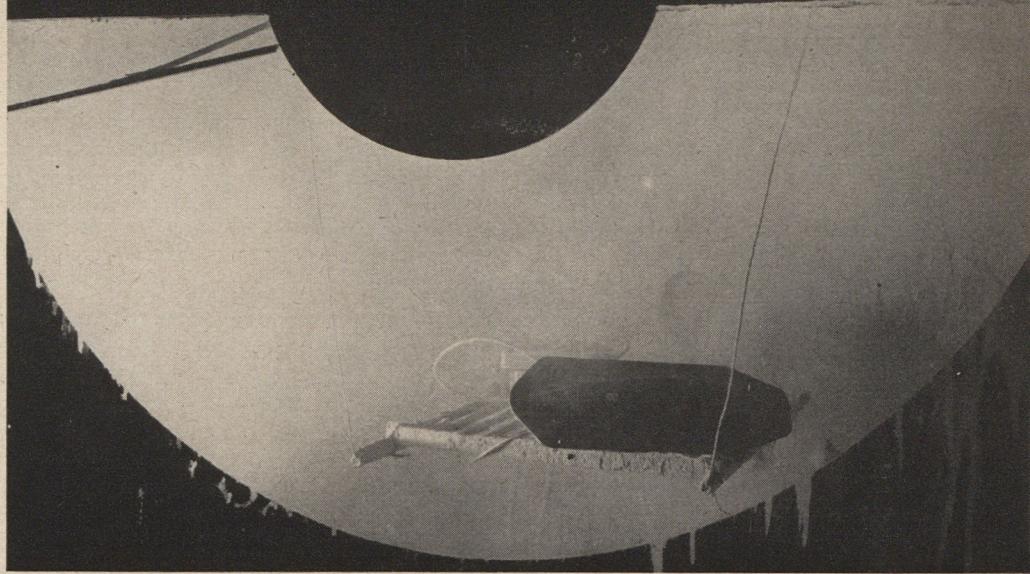
Extremes in temperature continue to be the most widespread cause of mechanical trouble which continue to plague Air Force planes based in arctic or tropical climes.

For this reason, a huge icebox, capable of housing an entire plane, has been set up at the laboratory. As one of the engineers put it: "We can study more accurately, with precision instrumentation, the effects of cold climates on engines and other equipment inside this huge frigiditorium than we could by actually running the engines and using other equipment in Alaska, Greenland or other frigid locales."

The temperature inside the chamber is about 60 degrees below zero, colder than any temperature you might expect to find at any airport in the world. A two-engined trainer with wings clipped to fit the limited space sits there with its engines turning over. Two test pilots are running things from the cockpit while a galaxy of instruments, which you couldn't put up in the sky, record every throb of the engines like an electro-cardiograph measuring a heartbeat. Other gadgets measure the BTUs (British Thermal Units) of cabin heaters and a unique counter registers the energy and stroke pressure of a windshield wiper fighting newly formed ice.

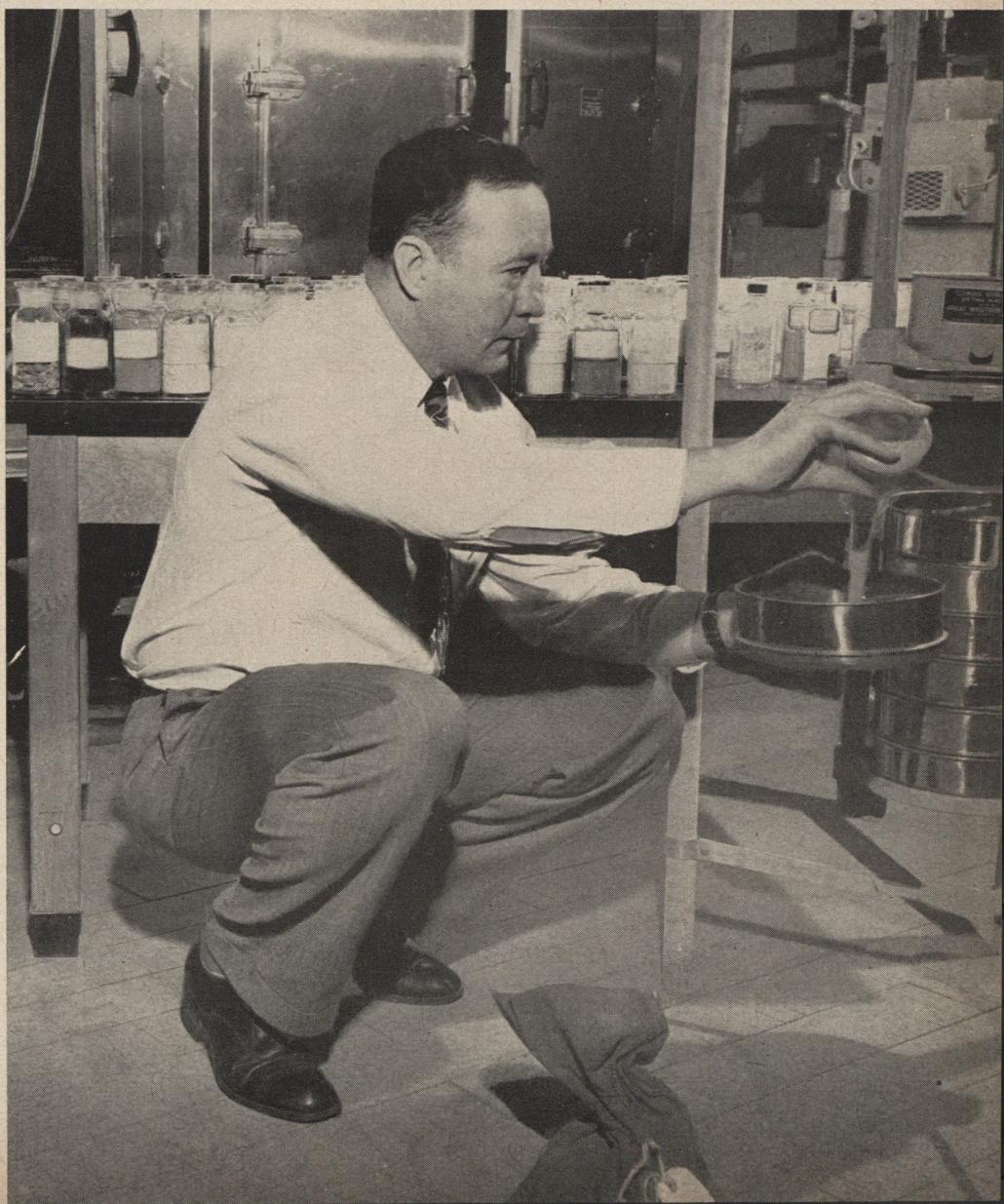
Behind the thick glass windows, the man who controls conditions inside the chamber turns "thumbs down" indicating that he will drop the temperature still lower. At 85 degrees below zero, the engines roar on, never missing a beat, but the pilot signals distress. His cabin heater had failed which meant that tomorrow further tests would have to be undertaken on it and certain new modifications tried out.

And so the never ending struggle against the elements goes on. This is a frontier which will never be completely pushed back, because new speeds and new altitudes means a new set of problems for the scientists to solve.



This is a cockpit view of a man-made dust storm whipped up in Wright Field laboratories to study sandpapering effect on various types of plane finishes. This may be a Sahara "storm." One from Mojave may come five minutes later.

Engineer puts sample of sand from Saipan in strainer for careful analysis. Stack of pans at right center contain samples of soil from India, China, Cairo, and other far off countries. Atmospheric study is being expanded at Wright.



New heavyweight jet ready for first taxi tests

A single-seat, penetration fighter, the XF-90 is almost as big as the DC-3, designed to operate deep within enemy territory

The new Lockheed XF-90 jet penetration fighter, a two turbo-jet engined plane combining speed, range and maneuverability, started its first taxi tests recently at Lockheed's Burbank, Calif., plant.

Although it is a single-seat fighter, the XF-90 weighs about 25,000 pounds, almost as much as a DC-3 transport. Its 40-foot wings sweep back from the fuselage at a streamlined 35-degree angle and this rakish design is carried over to control surfaces in the high tail section. The plane is 55 feet long, 40 feet wide and 15 feet high. Its expected speed, range and ceiling were not disclosed.

The needle-nosed jet was designed as a penetration fighter to operate deep within enemy territory against enemy aircraft and targets of opportunity. For that reason, every precaution was taken, while the plane was being designed, to make it as invulnerable as possible to battle damage, since the nature of its missions would necessarily subject the craft to heavy enemy counterattack. It will depend upon speed and maneuverability for its defense.

The plane has conventional landing gear and is equipped with a pilot ejection seat, a pressurized cabin and air conditioning.

Taxi-testing of the XF-90 has already begun and the plane will soon be prepared for flight tests. Previously, six steel and plastic models of the plane were dropped from high altitudes and their descents were studied by radar and radio recordings.

At the same time, the Air Force has revealed some details of the new XF-91 jet fighter, a high-altitude interceptor built by Republic Aviation Corporation.

The XF-91 is smaller than the XF-90, having a wingspan of approximately 30

feet and an overall length of just over 45 feet. The XF-91 is powered by a single turbo-jet engine and is equipped with auxiliary rocket motors for accelerated takeoff and climb as well as for operation at extreme altitudes.

The landing gear is composed of two wheels in tandem under each wing and a conventional nose gear. It has a pilot ejection seat, pressurized cabin, and a cockpit refrigeration system which will operate when high speeds make the cabin too hot for comfort.

The razor-thin wings are swept back and give the appearance of being wider at the wing tips than at the junction of the wings and fuselage. Horizontal and vertical tail surfaces are also swept back.

Both the XF-90 and the XF-91 must undergo a critical flight test period during which every phase of the airplanes' designed performance and serviceability will be studied to determine whether they should be chosen for manufacture and further development.

The debut of both the Republic and the Lockheed planes serve to debunk the theory that the USAF has forgotten the fighter in its passion for high-performance strategic bombers.

Flyers' life span analyzed in 27-year study of AF officers

The School of Aviation Medicine at Randolph Field, Texas, has recently completed a 27-year study on the effects of flying on officer personnel as reflected in their medical histories, and has found that flying duty materially reduces life expectancy and anticipated period of active duty.

The histories of flying and non-flying officers were recorded from 1920 to 1947 and the accumulated data, tabulated during the past two years, show that a man entering flying duty at the age of 22 has a life expectancy of 37.6 additional years, whereas a comparable non-flying Air Force officer may expect to live an additional 48.5 years, a difference of 11 years in favor of the ground man.

At 22, a flyer has an average of 24 years active duty ahead of him, while the non-flyer can look forward to 29.9 years in uniform. Thus, flying reduces the period of active duty by six years.

An important consideration in the interpretation of these observed differences is the risk of death in an aviation accident. Flyers run an average risk of dying in an aviation accident equal to 9.1 per 1,000 per year, whereas the risk of death in a service-connected accident for non-flyers is only 0.8 per 1,000 per year.

Test new swamp rescue craft

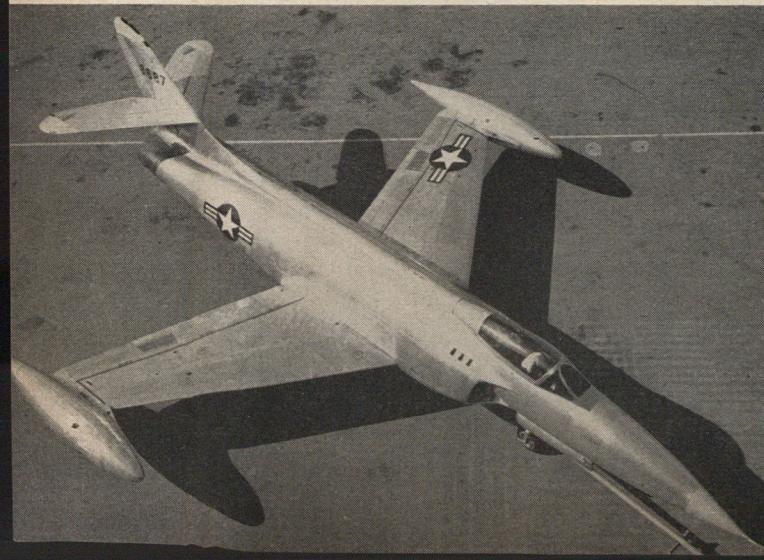
A new jet propelled swamp glider designed specifically for shallow water rescue operations has been planned by the Air Force and built by the Hanley Engineering Company. The boat has been designed to replace the familiar propeller driven sleds for swamp rescue work and preliminary tests have already been successfully completed.

The craft looks much like a speed-boat, but its very shallow draft enables it to skim over the surface of the water. The jet unit, simply stated, is a pancake centrifugal type single suction pump which takes water from a sea chest and discharges a larger volume of water under high pressure through a jet unit in the rear. The unit is controlled by a shut-off valve and mounted on a swivel permitting forward or reverse motion as well as left and right turns.

The hydro-jet pump action is operated by a 95-horsepower, gasoline-powered Chrysler Marine engine.

The craft has recently been turned over to the Navy for further testing and will probably be adopted by various rescue units for swamp operations.

Here are two pictures of the Air Force's new XF-90, 25,000 pounds of long-range, high-speed, hard-hitting airplane.





Designed for shallow-water operation, this new jet propelled swamp glider has completed its preliminary tests.

Two-layer infra-red film used in camouflage detection unit

A new camouflage detection film first used experimentally during the war, has recently been perfected by the Eastman Kodak Company in cooperation with the Air Force Photographic Laboratory, Air Materiel Command.

The film is made up of two layers, one of which is sensitive to infrared light. All natural vegetation contains a substance called chlorophyll, which gives off infra-red radiations. These radiations show up red on the sensitive layer of the camouflage detection film, while all inanimate objects photograph green. In other words, a truck painted green and hidden in a forest will photograph green, but the forest itself will photograph red. These complementary colors offer maximum contrast for rapid interpretation purposes.

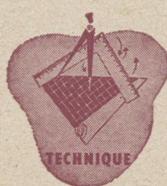
"CD" film, as it is known, can be used in any conventional aerial camera at altitudes up to 30,000 to 40,000 feet. The film may be developed with the same chemicals used to develop aerial Kodacolor film.

The Photographic Laboratory is experimenting with different techniques with which the new film may be used. It will probably be most effective in detecting factories and workshops hidden in the woods, though presumably it may not be able to spot buildings which have been covered with shrubs or low-growing trees.

At the same time Army engineers have been experimenting with counter-measures, but, at the moment, no practical, inexpensive method of combating camouflage detection film has been perfected.

On the medical front, the Air Force School of Aviation Medicine has come up with a new single-lens, reflex-type research camera which incorporates its own electronic self-ionizing light source to eliminate shadow areas and supply a

more balanced light within the body cavities. Right now the machine is in the test stage, but with continued success it may be used generally by diagnosticians to observe physiological functions.



TECH TALK

By Douglas J. Ingells

TIME magazine's "man in a hurry" man, who wrote the rapid-fire profile on Chuck Yeager, Wright Field faster-than-sound flyboy, overlooked one very good quotable quote: He tells of how a civilian test pilot turned down something like \$150,000 to fly the X job at sonic speeds and how Yeager, being in uniform, was given the task as part of his "line of duty." The truth is when the civvy test pilot turned down the offer one of AMC's flight test pilots at Wright Field, a young Lieutenant from Dixie, went to his boss and pleaded as follows: "Colonel," he said with a slow southern drawl, "Ah, hear that that man doesn't want to fly that there airplane. Ah only make about \$135.50 a month but ah'll give you mah paycheck for the next three months if you'll let me fly that thing that goes so fast." The boys all wanted a crack at it; and why not? History remembers names like that.

There's still a future for the propeller! Recent tests with propellers of new designs are showing that the airscrew can propel aircraft very efficiently at 500 mph and, according to some engineers with optimistic views, the props with even newer refinements may soon increase this figure to 600-m-p-h which will be somewhat of a record for conventional propeller-driven airplanes. Trend in blade design is toward thinner, wider tips. Engineers—after exhaustive tests with new props—claim that the propeller has a definite advantage as a propulsive device in the just below sonic speeds—say 500 to 700 mph. It doesn't have the "wasted energy" that pure jets build up.

Ramjet engines were tested recently by flying them at high speeds on the back of Martin-built guided missiles. Developed by the University of Southern California, the particular ramjet tested is 7 feet long and 20 inches in diameter and is suspended below the fuselage almost at the tail of the missile, a type known as the Gorgon IV. The missile was an all-metal high-wing monoplane, 22 feet in length with a ten-foot wing span, piloted by remote control, launched from a parent aircraft. Results of the tests were telemetered back to ground stations to supply valuable data on speed, altitude, brake drag, controllability, and engine operation. The information may be used in future studies for driving missiles at supersonic speeds.

The largest supersonic wind tunnel in this country was recently revealed by the NACA at its Cleveland laboratories. The big tunnel is capable of producing winds of about 1,500 mph. It has an axial-flow air compressor with more than 1,000 blades and is powered with the most powerful single-shaft electric motor known to date. The tunnel has a 6 x 8 foot test section. Its motors operate at 900 rpm and are the largest ever built to run at that speed.

Some details have finally been announced concerning the new passenger dirigible being planned by the Goodyear Corp. Plans call for a commercial airship 950 feet long, to fly a range of 7,000 miles at speeds between 75 and 90 mph. It will carry 112 passengers, has a freight capacity of 80 tons—160,000 pounds by comparison with the 100,000 pound payload recently lifted in the Convair C-99 cargo airplane. Some airlines reportedly are interested in airship travel to provide new luxuries, deluxe travel on two or three-day ocean crossing, competing with the luxury surface liners. Goodyear is also building at present a 324-foot long-range ocean and polar patrol blimp for the Navy. It is the largest non-rigid lighter-than-aircraft, ever contracted for by the US and will have a helium capacity of 8,025 cubic feet. Something new in airship design is the incorporation of engines inside the gondola or control car where they are accessible for maintenance and repair during flight. Its propulsion means will be two 18-foot reversible, controllable-pitch propellers connected with the internal engines by a system of long transmission shafts and gears. The engines are mounted in out-rigger nacelles.

★

Private Capital in PUBLIC SERVICE

- In the United States air transportation is operated as a private enterprise. In other countries it is conducted by the government. The United States continues to lead, as it always has, in the development and utilization of air transportation. No other country has a comparable standard of airline service. We believe it is to the nation's interest, as well as to our own, to continue to operate under the system that made this possible.

If, however, private enterprise is to retain the spirit and initiative which makes for progress, it must be convinced that its service is useful and that results are largely dependent on its own effort. A result of our effort is:

In three years, 1946, 1947 and 1948, American Airlines, Inc. invested \$60,000,000 in new airplanes and equipment:

This provided business for the aircraft factories and employment for their men, strengthening their ability to contribute to national air power.

It provided one hundred twenty-five airplanes of the most modern design—the largest single fleet of modern transport aircraft in the world, and a direct contribution to national air power.

It provided a new 300-mile-an-hour fleet for the air routes of the United States, assuring time-saving, dependability and safety—more comfort for the passenger and greater speed for all forms of travel, transportation and communication.

In the same three years, American Airlines, Inc. invested \$6,000,000 in new and more efficient shop buildings and equipment:

This has provided jobs for trained technicians and modern machinery for their use.

It, thereby, provides an important reserve of skilled personnel available for national air power.

It has provided operating economies which will be reflected in contribution to profitable operation and, ultimately to reduction in charges for air transportation.

It has provided maintenance and overhaul facilities, strategically located, which constitute a reserve for national air power.

Every dollar of the \$66,000,000 came from private investors. None of it was borrowed from any agency of the government nor was any of it government subsidy.



AMERICAN AIRLINES INC.



What Air Mail Subsidy?

A common misconception is that all of the airlines are supported by government subsidy. Let's discuss this:

American Airlines is paid for the transportation of mail at rates established by order of the Civil Aeronautics Board. The rate at which American is being paid was certified by the Board to be "fair and reasonable in terms of quality of service and was not designed to meet the financial needs of the carrier." That rate includes no subsidy.

The United States Post Office Department is American Airlines' largest customer in dollar volume, and we continue to give it the best of service.

It should be remembered also that we transport passengers, express and freight. In 1948, our revenue from those sources was \$84,615,000. Our total revenue for the transportation of mail was \$4,769,000.

Of the total revenue of American Airlines in 1948 more than ninety-four per cent (94%) came from the transportation of passengers, express and freight. Less than six per cent (6%) came from the transportation of mail.

If, during 1948, the total revenues received for the transportation of mail, \$4,769,000, had been the only funds available to meet our expenses we would have been able to operate only 19 days during the year. We did operate 365 days.

American Airlines is a business institution. We take pride in the fact that we have been able to make substantial progress and improvement, with private capital usefully employed in the public's service.



AMERICAN AIRLINES INC.

China hands and Sky Pilots join Air Force Association

Remember the days the Flying Tigers were the only defenders of Burma? Remember the long hauls "over the hump", when everything the 14th needed had to be hauled into China by air? Remember the days when the 14th was known as the "forgotten Air Force", when the war-toughened G. I. fly-boys and patriotic Chinese worked night and day to keep the Japs out of China? Ever since VJ Day, wherever two or more CBI airmen get together, this always ends the conversation. China Hands, the 14th boys call themselves.

When Fred Thompson, who served as the 14th's special service officer, returned home after the war was over, he and his wife, now always known as "Sunshine", spent many long evenings reliving CBI days. Their memories of war in China became a constant companion to them both. They decided to do something about it. Confident that many who had served with the 14th must feel the same way, they looked for some means of uniting the China Hands, so that their records, acquaintances and memories would be preserved always.

They began the long hard task of obtaining the names and home town ad-

resses of anyone who had served with the 14th, including the A. V. G. and what was called the China Air Task Force. For months, Thompson, better known in the 14th as "Coach", and "Sunshine" wrote hundreds of letters and post cards. They found the fellows very responsive to their appeals. Col. Fred C. Milner, who served as Adjutant General of the 14th, gave the Thompsons a helping hand.

After hundreds of answers were received from former 14th members, the ground work was started for the formation of the 14th Air Force Association. By the time plans were completed for holding the first national convention of the 14th Association at Dayton, Ohio, on September 17, 1948, 1302 China Hands had been enrolled as charter members of the Association. During the convention, Gen. Claire L. Chennault, war-time leader of the 14th and its predecessor outfit, was made Honorary President. Col. C. D. Vincent was elected the first President, and Fred Thompson was chosen to head the Board of Governors. The aims and purposes for which the Association was formed stemmed from three basic principles: To provide a

means of renewing and perpetuating the friendships of those who served with the 14th; to promote friendship, sympathy and co-operation with the Chinese people; and to promote the ever mounting importance of airpower.

Before the 14th Association had been in operation a year, world events began to increase the importance of the latter objective—promotion of airpower. To those who knew the importance of superior airpower to a nation, this became their major concern. They began to figure how they could accomplish this objective the best. After looking around, they found that while they were forming their own organization, other air-minded wartime groups had been formed; each listing the support



Roy M. Terry heads Chaplain group

of airpower as one of its main purposes.

One of the largest organizations to be formed after the close of the war was an air organization—the Air Force Association. After a series of special meetings by the Officers and Board members of the 14th group, it was agreed to merge its efforts with AFA. Letters were sent to AFA officials, and negotiations began for making the 14th a part of the Air Force Association. They will officially ratify this at the AFA national convention.

SKY PILOTS—that's what a lot of the fellows in the Air Force called their Chaplains. Quite often the Chaplains were just as responsible for the victories as the gunners and pilots.

Not long after the close of the recent war, when various organizations were being formed to provide a means of retaining the friendships and memories gained by those fighting together, the Chaplains were thinking along the same lines. Why shouldn't the Chaplains, who knew what all kinds of wars and battles were like, unite themselves. If supporters of airpower could accomplish their objectives by uniting, then the work of the Sky Pilots could be even more effective if united into an organization. Realizing the role and value of airpower, those Chaplains who had served with the airmen began looking for an air organization with which to affiliate. They had no desire to isolate themselves in their own private organization, for they had proven that the best way to influence people was to mingle with them.

Desiring to affiliate with an air organization representing all airmen, the Sky Pilots turned to AFA. Rev. Roy M. Terry of West Reading, Connecticut had been elected to head the Chaplain group. He contacted AFA officials, and shortly after the 14th Air Force Association joined AFA's support of airpower, the Chaplains Division of the Air Force Association was formed. The mission, strategy and mechanics of the Chaplain Division will be worked out during its Reunion at the AFA convention in Chicago on July 1.

A Letter From The 14th's Head Man

交通部民用航空局直轄空運隊
廣州天河機場

CIVIL AIR TRANSPORT
TIENHO AIRFIELD, CANTON.

28 February 1949

Mr. Mathew G. Robertson
Vice Commander
14th Air Force Association
New York, N. Y.

Dear Robbie:

Thank you very much for sending me a copy of your letter to C. R. Smith dated 9 February.

I heartily concur in the plan to affiliate with the Air Force Association for I am in sympathy with the Air Force Association's objectives and believe that we could do a great deal of good by uniting with other airmen to obtain those objectives. We can certainly maintain our own identity while joining the Air Force Association to fight for overall objectives.

Most sincerely yours,

signed/ C. L. Chennault

AIR FORCE ASSOCIATION

TAKES TO THE AIR

Not many weeks ago Maynard H. Smith, World War II Congressional Medal of Honor holder, called a group of Washington AFA members together to see that the Capital City would have an AFA Squadron. Raymond Guay, a university student, volunteered to serve as temporary commander. Even before the group applied for their charter, they had selected a name and designed an insignia. Cardinal Squadron was to be the name, and the insignia a proud, cocky Cardinal bird, with climbing planes in the background. On the Cardinal's chest, the letters "AFA".

The members decided an ordinary charter presentation ceremony just wouldn't do. They wanted something to call Washington's attention to its newest organization. Guay, Lloyd Streifus and other Squadron members set out to stage one of the most unique charter presentations any organization ever held. It was to be done in the air—at 5,000 feet—in one of Capital Airlines DC-4 luxury liners.

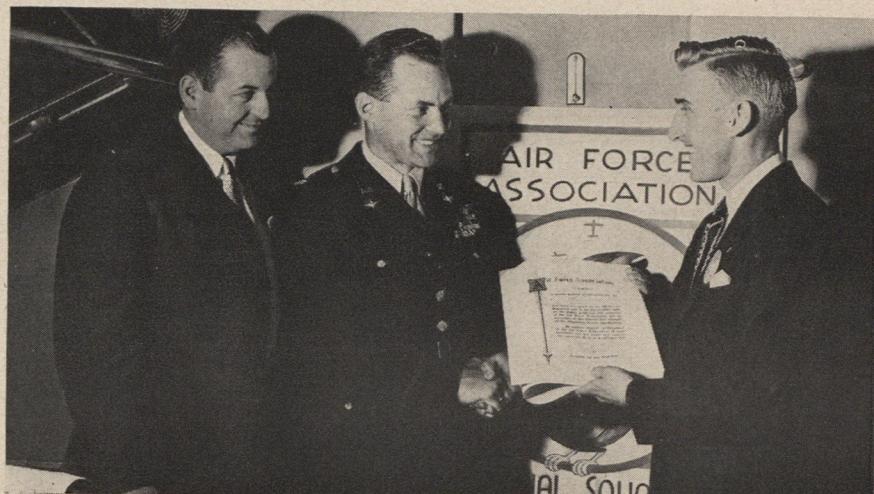
At 12 noon on May 1, the Squadron members met at National Airport. At 12:20 Robert S. Johnson, a Major in the Air Force Reserves, and a top AF Fighter ace, with 28 aerial victories, landed his F-47 Thunderbolt and was welcomed by Brig. Gen. J. P. McConnell, Deputy Special Assistant for Air Reserve Forces. Jody Miller, widely known as Miss Washington, officially welcomed Johnson to the Capital City.

At 1 p.m. the Capital Liner took to the air, the Squadron charter members aboard. When the pilot leveled off at 5,000 feet, Johnson presented Commander Guay the Squadron's permanent charter, while George D. Hardy, Commander of the D. C. Wing, looked on. Father James Galvin, Assistant Squadron Chaplain, blessed the charter.

As the plane touched the runway, Guay opened the first official Squadron business session, the election of Miss Washington as Miss Cardinal Squadron for '49. A special pin was given her and a luncheon held in her and Johnson's honor. The Cardinal members intend to make the Squadron as well known as the name.



Jody Miller, Miss Washington of 1949, gets special AFA pin and new title—Miss Cardinal Squadron—from Ray Guay while Major Bob Johnson looks on.



Commander Guay takes squadron charter from Johnson in Capitoliner at an altitude of 5,000 feet. George Hardy, left, is D.C. Wing Commander.

AFA Awards Scroll to "Skyway to the Stars"



AFA's Bob Johnson (right), a busy man last month, awards an Association scroll to cast of radio's "Skyway to the Stars" program for its services in "informing the American public of the significance of airpower in maintaining world peace. From left, Skyway reporter Tex McCrary, singer Kay Armen, producer Roland Martini, and orchestra leader Raymond Paige. Show was sponsored by USAF.





CALIFORNIA

Los Angeles: The California Wing recently held its first group meeting in Fresno. AFA Squadron and Wing officials from throughout the State gathered to exchange ideas and prepare resolutions and recommendations for presenting at AFA's Third National Convention in Chicago on July 1, 2 and 3. Tom Stack, Commander of the Wing, presided over the meeting. Brigadier General Ned Schram, Chief of Staff of the 4th Air Force, was the principal speaker. Other well known California aviation supporters, including Rex Whittemore, Department Commander of the American Legion and Arthur Kelly, Vice President of AFA and former Wing Commander, spoke at the meeting.

Bert Lynn, Secretary of the California Wing, announces the formation of two more new AFA Squadrons as a result of the Wing's Operation Membership. Twenty-five former Air Force members who served together in the Pacific during the War met and formed the Pacific Air Force Squadron of AFA. Robert Enger of 11829 Pacific Avenue in Culver City was elected to head the outfit. He will be assisted by Dr. Theodore Stonehill as Vice Commander; Robert Gross, Secretary; Christopher Condon, Treasurer; and James Burns, Lauren Malcolm, Mel Bennett and David Rachner as Councilmen.

San Jose boasts the newest of the California Squadrons and certainly one to be commended for its initial enthusiasm. The Squadron was formed in late March and before the application for charter was received in AFA headquarters it was already sending out its own newsletter, which is quite an attractive four-page publication, entitled "Fly Boys." Bernard Barrett of 661 Emery Avenue in Campbell, California is the Commander. The officers elected to assist Barrett are: E. A. Ball, Vice Commander; Glenn Edick, Secretary; Lee W. Johns, Treasurer; Carl Whipple, Sergeant at Arms; Ted Steiner, William J. French, Joe Marchisella, Councilmen.

NEW JERSEY

Jersey City: The Hudson County AFA Squadron has undertaken one of its greatest projects to promote aviation and air power throughout that section of the State. The Squadron is joining with two other cosponsoring organizations to assist the State Department of

Conservation Aeronautics Section in staging one of the biggest aviation exhibits ever held in the State. A huge exhibit and display of aviation equipment will be opened on June 25 at Linadin Park Lodge and will run until October 2. Present plans call for changing the exhibits several times each month so that the public will frequent the display many times during its operation. In addition to the ground exhibits there will be many aerial demonstrations and special displays which will be of interest to every air minded resident in that part of the country. Special programs are being worked out for celebrating July 4 and Labor Day. All AFA members in New Jersey and surrounding areas are invited and urged to attend this exhibit, and Joseph J. Benedetto of 2163 Hudson Boulevard, Jersey City is heading the AFA committee and will be glad to answer all inquiries pertaining to the exhibit.

NEW HAMPSHIRE

Laconia: At a recent meeting of the Lakes Region Squadron new officers were elected to head the outfit for the coming year. Elliott W. Chase will serve as Commander and he will be assisted by Robert J. Wade as Vice Commander; Cecil Richardson, Treasurer, and Theodore E. Shastany of 24 Summer Street in Laconia will serve as Secretary. Arthur Allen, Reginald E. Perry, Charles F. Malone and J. Clinton Roper are the new Councilmen. The Squadron meets the first Monday of each month and all prospective AFA members are urged to contact Secretary Shastany for details on Squadron activities.

NEW YORK

Brooklyn: John V. Favorita of 430 Sterling Place in Brooklyn was elected to head the First Brooklyn AFA unit for the current year. Favorita succeeds John Most who headed the Brooklyn Squadron during its organization. Other officers of the Squadron are: Irwin L. Kranz, Vice Commander; Beatrice Tarhoff, Secretary; Jerome J. Briefner, Corresponding Secretary; and Joseph T. Hallek, Treasurer. Herbert Heinberg, John Most and Joseph Haffey will serve as Councilmen.

New York City: Bob Johnson, one of the top Air Force fighter aces of World War II and founder of the Manhattan Squadron has been succeeded by Robert E. Timmerman as Commander for the coming AFA year. Timmerman will be assisted by Donald J. Waterous as Vice Commander; J. E. Eddy, Secretary; and Frank Johnson, Treasurer. Donald MacAusland of 116 Central Park South in New York is serving as Corresponding Secretary. He can be reached at Circle 71554. The Squadron meets at the New York Wings Club and members in the Manhattan area are urged to contact MacAusland.

OHIO

Cleveland: The Cuyahoga Founder Squadron is holding its first annual AFA dance at the Towne Club at 2612

Prospect Avenue on June 17. It was announced by Kenneth Vetter of 2679 East 121st Street, Commander of the Squadron. Music will be by Ralph Peca and his orchestra and all AFA members are urged to attend. Reservations can be made by calling Superior 4308. Proceeds from the dance are to be used in obtaining a permanent clubhouse for the Squadron.

Columbus: Members of AFA from throughout the State of Ohio gathered in Columbus in May for their Wing Convention, and elected Ferd Pickens of 2007 Arlington Avenue to succeed John Anderson as Wing Commander.

C. R. Smith, Association President, and George Van Nostrand, assistant to the president, were among the guests attending the event. Commander Pickens presented a special AFA plaque to Dick Wolfe.

RHODE ISLAND

Cranston: At a recent meeting of the Cranston Squadron No. 1, Charles G. Bailey, Jr., of 109 Wentworth Avenue was elected to head the AFA outfit for the new year. Other officers of the Squadron are: Chester B. Shippe, Jr., Vice Commander; Henry Minkema, Jr., Treasurer; and James B. Thatcher, Secretary. All AFA members in and around Cranston are urged to contact Bailey and participate in the Squadron's activities.

Attention MICHIGANDER AFA'ers !!!

Plan to attend Michigan's second
Wing Convention in Detroit . . .

June 11th and 12th
Headquarters, Tuller Hotel—

Here's the agenda . . .

June 11:

9 am: Registration.
9 pm: AFA Dance—
(English Room,
Book Cadillac Hotel)

June 12:

10 am: Brunch Banquet.
(Tuller Hotel)
11 am: Business Sessions.

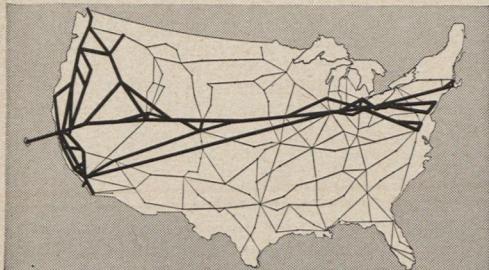
•
Registration Fee: \$1.00
•

Send reservations to:
Tuller Hotel
Attn: AFA Convention
Detroit, Michigan

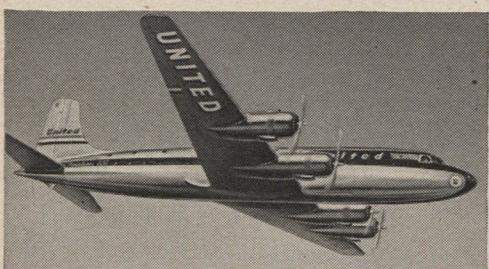
AFA's "Wing Ding" film
will be shown!



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United is the only airline that offers you direct service linking the East, the Midwest, all the Pacific Coast and Hawaii.



The great DC-6 Mainliner 300 takes you across the nation in 9 hours and 50 minutes, and from the Mainland to Hawaii in 9½ hours.

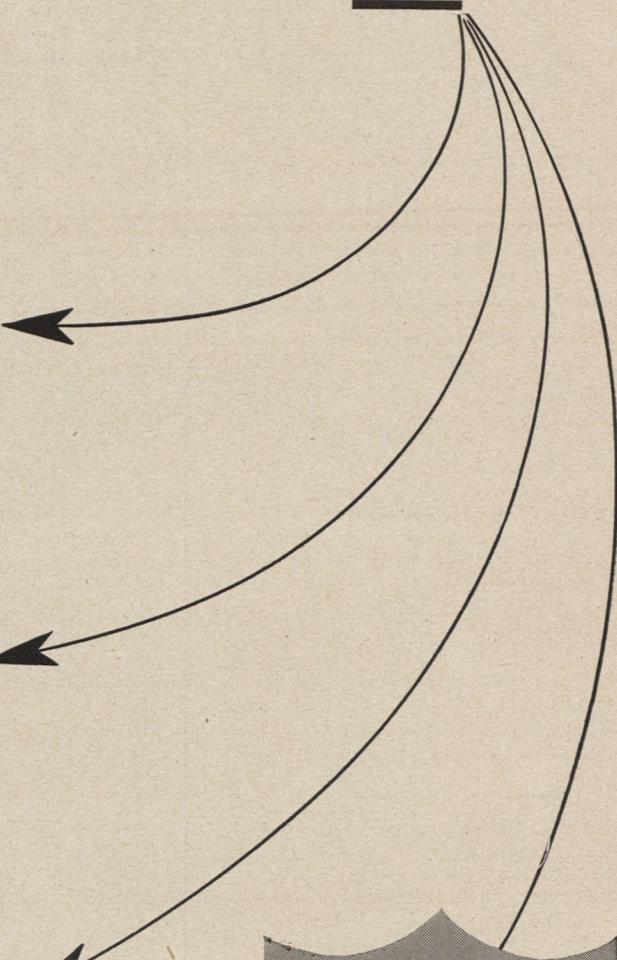


The gracious attentions of charming stewardesses, delicious meals prepared by Continental chefs in United's own kitchens, plus other inviting service features.



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SPEED**

**and
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CLASSIFIED

Space in this department is made available to AFA members without charge as one of the Association's personal services. It is reserved exclusively for members seeking new employment. Ads will be run for two issues unless a "kill" request is received within two weeks after the first issue. If members desire insertion beyond two issues regular rates will apply. Ads must be limited to six lines of six words each. Address insertion requests giving full particulars and qualifications to Classified Adv. Dept., Air Force Magazine, 1616 K St. NW, Washington 6, D. C. Insertion will be made in the earliest possible issue. Inquiries regarding the ads will be forwarded promptly to the individuals placing them. The Air Force Association assumes no responsibility for the statements made in these ads.

ADVERTISING, PROMOTION & PUBLIC RELATIONS SPECIALIST, 10 years experience, desires career position with industrial firm or agency, prefer aviation field. Engineering and mechanical background, college graduate. Write Box E-N-1 Air Force. 2

TELEVISION STUDENT, 2 years college, single, AF veteran and POW, age 25, desires position with TV station or ad agency. Studio and production experience, photo store manager. Will travel. Write Box E-C-2 Air Force. 2

EXPERIENCED ACCOUNTANT, university business administration graduate, former AF navigator, desires permanent position with industrial firm or airline. Mid-west preferred, references. Write Box E-A-2 Air Force. 2

FORMER AIR FORCE PILOT, 28 years old, married, college background, all CAA ratings, over 4,000 hours in 40 types of aircraft, desires pilot position, or sales or technical. Write Box E-B-2 Air Force. 2

EXPERIENCED GUARD PATROLMAN, M.P. school graduate, 2 years guarding prisoners, 5 years short order cook, desires position as guard patrolman. Will go anywhere. Civil Service score 90. Write Box E-D-3 Air Force. 2

U. S. GOVERNMENT ADMINISTRATIVE OFFICER, personnel, supply and budget experience, desires position either continental or overseas. AF veteran, B.S. degree, completing M.S. in Foreign Service. Write Box E-D-4 Air Force. 2

EXPERIENCED AF MECHANIC, engineering mechanic-gunner 25 months, college training, graduate of airplane mechanics school, desires position in aircraft structural inspection and maintenance. Prefer Southeast. Write Box E-S-7 Air Force. 2

AERONAUTICAL ENGINEER, 3 years with airline, 2 years engineering training, 2 years toolmaking, 15 months B-29 Flight Engineer In-

structor, desires position in New Jersey area. A & E license. Write Box E-S-8 Air Force. 2

FLIGHT ENGINEER AND ENGINE MECHANIC, 3 years experience, also 3 years as wood pattern apprentice, desires steady employment. AIR FORCE veteran, age 25. Write Box E-S-2 Air Force. 2

4-ENGINE PILOT, college art major, year-book editor, two years trade school radio design; experience in layout, lettering, design, copy and selling. Will consider all offers. Write Box E-D-1 Air Force. 2

SINGLE MAN, age 25, 15 months experience in industrial traffic dept., desires position with airline or railroad as freight solicitor trainee. One year of college, business administration, car. Box E-B-1 Air Force. 2

AIR FORCE VETERAN, 38, excellent background in general, personnel, governmental and industrial administration. Seeks opportunity in Los Angeles area. Write Box E-A-1 Air Force. 2

HYDRO-ELECTRIC OPERATOR, 3 years experience at textile plant (1000 & 625 KVA generators), desires employment in larger plant. Experienced magneto telephone and residential wiring. Write Box E-W-1 Air Force. 1

AIRCRAFT AND ENGINE MECHANIC, with commercial pilot license, also electrical specialist on B-29, C-47, C-46, C-54 and Constellation. Will consider all offers. Will travel. Write Box E-P-1 Air Force. 1

EXPERIENCED TEACHER, B. S. degree in education and 3 years Kansas certificate, experienced, cooperative, desires high school position in Social Science and commerce. Write Box E-M-5 Air Force. 1

RADIO OPERATOR, ex-Air Force, 4 years pre-war experience as polisher and buffer, sales experience, desires position overseas if wife can accompany, will consider state-side work. Write Box E-R-1 Air Force. 1

FORMER AF AND INTERNATIONAL AIRLINE PILOT, age 29, 4200 hours, including 610 DC-6, seeks work commensurate with experience. Travel foreign or domestic. Write Box E-L-9 Air Force. 1

EX-AF MAJOR, age 34, AB and MA degrees, desires administrative or sales position. Experienced athletic coach and school administrator. Prefers non-travel job. Write Box E-S-10 Air Force. 1

LICENSED A & E MECHANIC, age 31, 10 years experience aircraft and engines, desires permanent position. Crew chief and chief inspector on 7 different types of aircraft. Write Box E-M-8 Air Force. 1

AF VETERAN, age 24, graduates June 10 from Ohio State in Journalism and Advertising, desires work in advertising, radio, public relations or some related field. Write Box E-M-6 Air Force. 1

The MEN of the B-29s

CONTINUED

First plane to reach India was that of Colonel Harman, who settled the big bomber down on the runway of our dry and busy base on April 2.

Keeping our planes in commission was a major problem. During the day they were peppered with hot, dry, dusty winds, and at night they were drenched in the humid atmosphere. Air crews joined ground crews in their constant maintenance and repair work.

Whenever possible during the next two months, we would load up the Superfortresses with bombs and gasoline and fly nonstop to our bases in China, building up a reserve of supplies for our first missions. This flying—a distance of more than 1,000 miles at an altitude above 22,000 feet—provided crews with excellent operational flying experience in the theater before our first mission was scheduled.

Only once did Jap fighters attempt interception. Five of them made passes at a B-29 over the "Hump," but they inflicted no damage. When under fire, one of the enemy planes fell out of control and in flames into the clouds below.

By the first of June, just one year after our B-29 unit was activated, we were ready to fly our first tactical mission. Bangkok, Thailand, the rail and shipping funnel for Jap military supplies to Burma, was selected as our target on the shakedown mission. This was the dress rehearsal, the critical mission that would give us the final information on the capabilities and limitations of our crews and planes.

Early on the morning of June 5, scores of B-29s roared down the runways, soared into the hot, humid air of a monsoon daybreak over India. Weather was bad, making formation flying virtually impossible. Navigators and pilots and flight engineers sweated out one of the toughest flights they had ever made. Over the target, they found 7/10 cloud cover. They dropped their bombs and fought off a small attacking force of nine Jap fighters between 20,000 and 25,000 feet, scoring one probable and two damaged. Flak was heavy, but only one B-29 received a minor hit, in the tail.

The mission was an operational success. We were ready to launch our attacks on Japan.

On June 15, as summer twilight settled down, our B-29s lifted their wheels off the runways of our Chinese bases, with bombs for Japan. Many of our crews personally were avenging the Jap attacks of December 7, but strategically we were doing even more—we were ending forever the immunity of the Jap homeland from destruction by our bombs.

Many hours later, our radio operator at the home base waved his arms and shouted, "Betty! Betty! Betty!"—the code word we all were waiting to hear.

Our B-29s were over the target. It was "bombs away" on Japan.

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Application of propellers to turbine engines has introduced many unique control requirements, among them being more precise governing, increased stabilization, and a greater range of operating blade angles.

Now these and other requirements are met by the Aeroprop Control System, which not only fulfills the demands of a turbine engine installation, but also provides automatic synchronization for multi-engine installation. This tested control provides *precise automatic R.P.M. selection, instantaneous control* which is

unimpeded by friction or time lags, effective acceleration sensitivity, and automatic synchronization permitting withdrawal of one or more engines. Complete safety, above that of normal governing systems, is obtained from a simple, time-tested propeller-contained hydraulic governor acting as a standby to the electronic system.

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- Detailed information is provided in the Aeroprop Turbo Propeller Control Booklet, No. APA-2F. Write for a copy on your own letterhead. If you need detailed installation information, ask us to send an engineer. Let Aeroprop—and General Motors Research—help with your Turbo-Prop planning now.

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THE
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"AERIAL
JACK
OF ALL
TRADES"



A folding-wing military liaison-ambulance plane, the L-13 is an all-purpose aircraft designed for front line field operation under the most rigorous conditions of climate, terrain, and enemy action.

Ruggedly constructed and easy to maintain, the L-13 is an all-metal, single-engined, high-winged monoplane, characterized by its load-carrying capacity and its ability to take off and land within very limited spaces.

Now in service with components of the United States Air Force and United States Ground Forces, the L-13 has proved itself in test and actual field operation.

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