

AIR FORCE

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



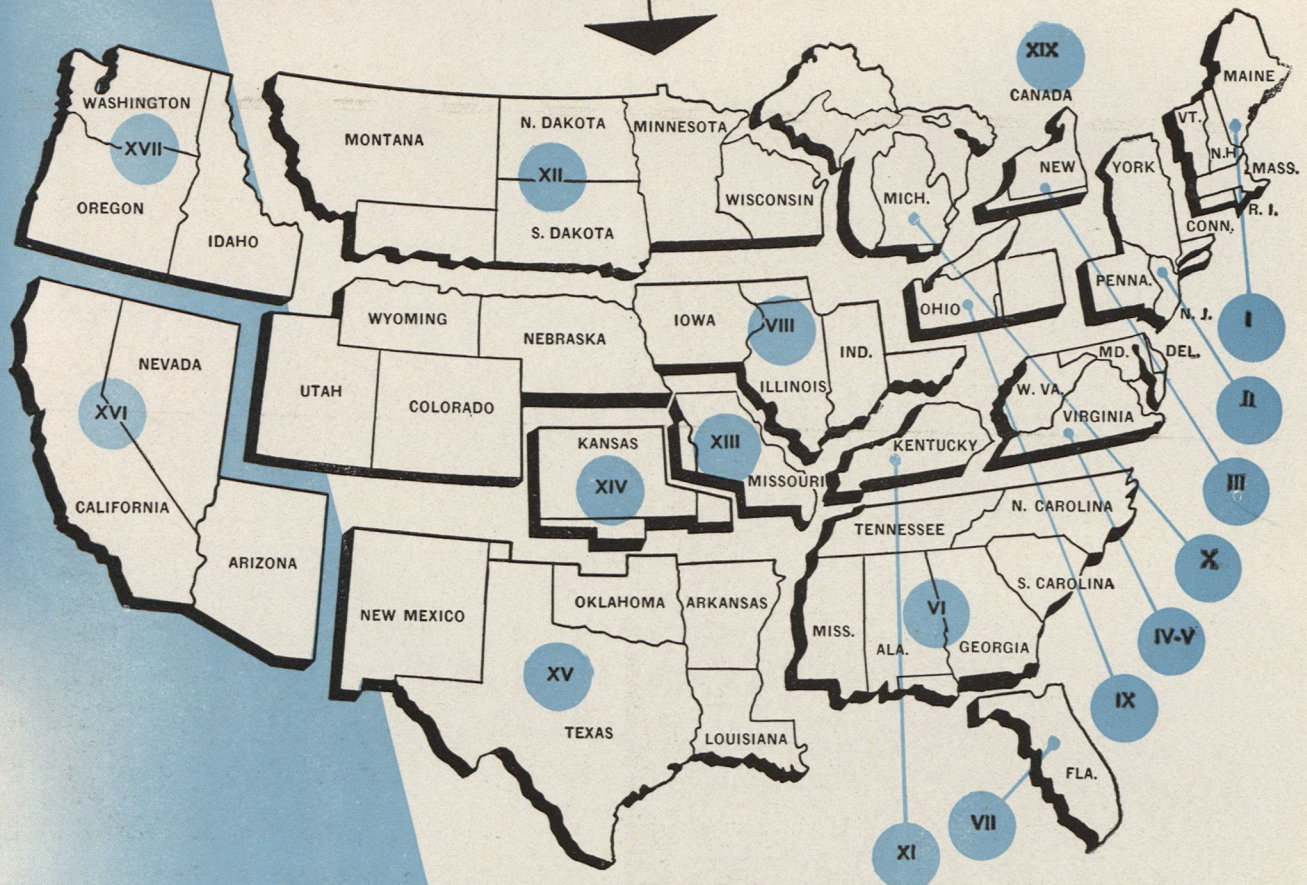
IS
THERE
A FUTURE
FOR WATER BASED
STRATEGIC BOMBERS?

Spit-n-Polish
Still a Part of Every ROTCman's Training



FACTORY SUPERVISED ECLIPSE-PIONEER DISTRIBUTORS

At Your SERVICE... Everywhere!



... To Expedite Your Maintenance Work
with Fine Aircraft Instruments and Accessories

- | | | |
|--|--|---|
| 1. Inter City Aviation, Inc.
Logan Airport, East Boston 28, Mass. | 8. Snyder Aircraft Corp.
5315 W. 63rd Street, Chicago, Illinois | 13 & 14. Standard Products, Inc.
650 E. Gilbert, Wichita 1, Kansas |
| 3. Buffalo Aeronautical Corp.
Buffalo Airport, Buffalo, New York | 9. General Airmotive Co.
Municipal Airport, Cleveland, Ohio | 15. Southwest Airmotive Co.
Love Field, Dallas 9, Texas |
| 2, 4 & 5. Standard Aircraft Equipment Co., Inc.
Roosevelt Field, Mineola, L. I., New York | 10. Servair, Inc.,
Detroit City Airport, Detroit 5, Michigan | 16. Pacific Airmotive Corp.
2940 N. Hollywood Way, Burbank, California |
| 6. Aviation Supply Corp.
Atlanta Municipal Airport, Atlanta, Georgia | 11. Ellingsworth Auto Electric Co.
1003 East Broadway, Louisville 4, Kentucky | 17. Pacific Airmotive Corp.
Boeing Field, Seattle, Washington |
| 7. Barfield Instrument Corp.
3275 N. W. 42nd Avenue, Miami Springs, Florida | 12. Airwings, Inc.
Wold Chamberlain Field, Minneapolis 7, Minn. | 18. Pacific Airmotive Corp., Anchorage, Alaska |
| | | 19. Aviation Electric Ltd.
3483-5 Park Avenue, Montreal 18, P.Q., Canada |

ECLIPSE-PIONEER

TETERBORO, NEW JERSEY

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, New York

LOOK FOR THE PIONEER MARK OF QUALITY
REG. U. S. PAT. OFF.

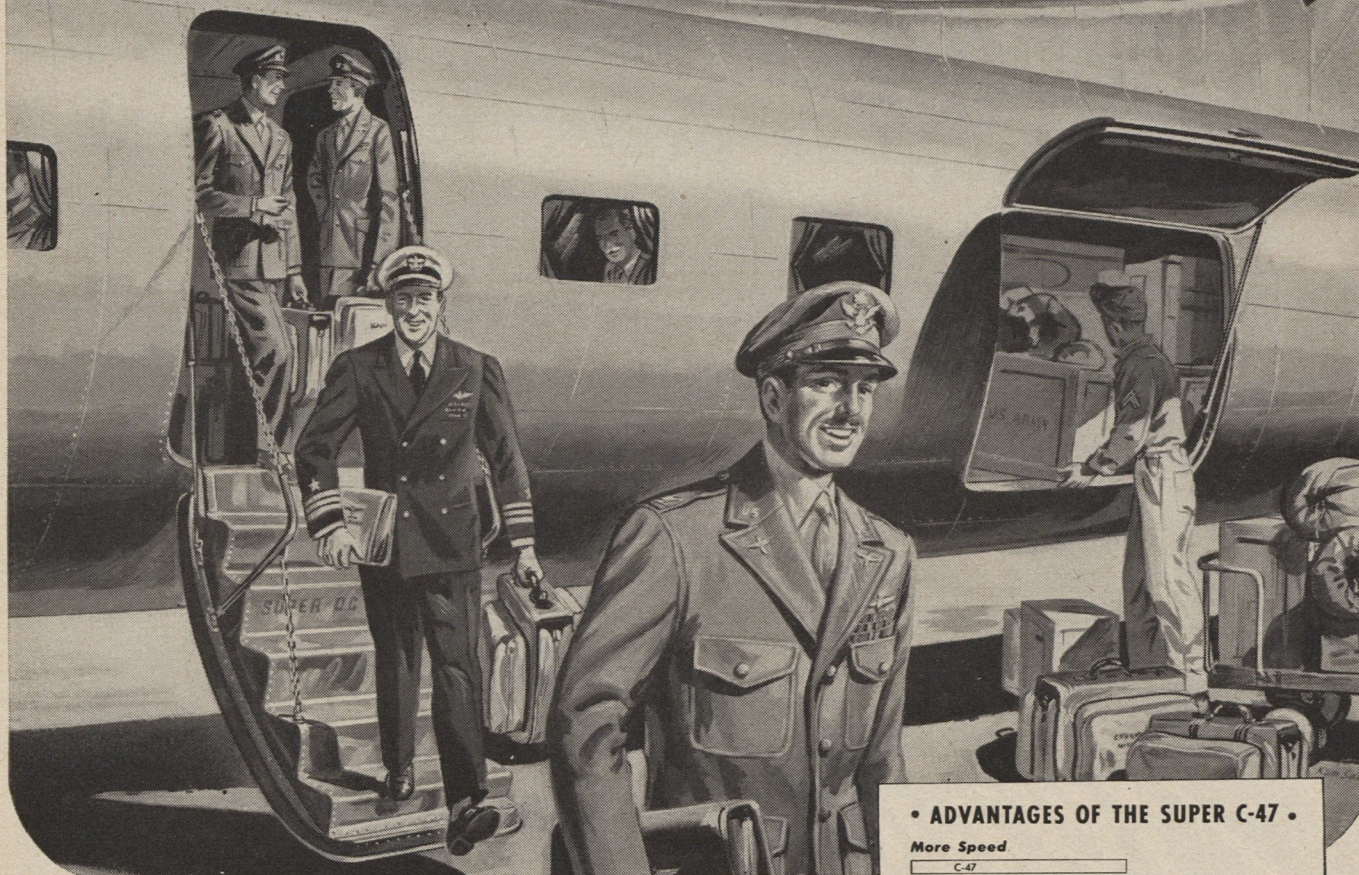
DIVISION OF



A VERSATILE NEW TRANSPORT

... *ready in weeks not years!*

DOUGLAS *Super C-47*



No waiting years to develop, test, and prove *this* plane! It's the Douglas Super C-47—new model of the most famous, time-tested air transport ever built.

In a few weeks, current C-47s can be converted to this swift (250 mph) transport... *without* extensive problems in training, maintenance, or spare parts supply.

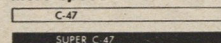
Basic mission of the Super C-47 is to deposit a maximum of personnel, cargo, and/or combat equipment at a base 1,000 miles out and return without refueling. Drop seats for 31 troops. Seats swing up instantly to convert plane to all-cargo carrier.

Comparing favorably with the most modern transports of its class, the Super C-47 is the fastest, most economical means of obtaining efficient military air transports.

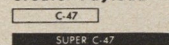
DOUGLAS AIRCRAFT COMPANY, INC., SANTA MONICA, CALIFORNIA

• ADVANTAGES OF THE SUPER C-47 •

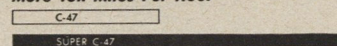
More Speed



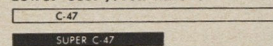
Greater Payload



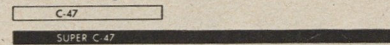
More Ton Miles Per Hour



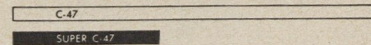
Lower Cost f/Ton Mile



Greater Range



Lower Maintenance Costs



DEPEND ON DOUGLAS

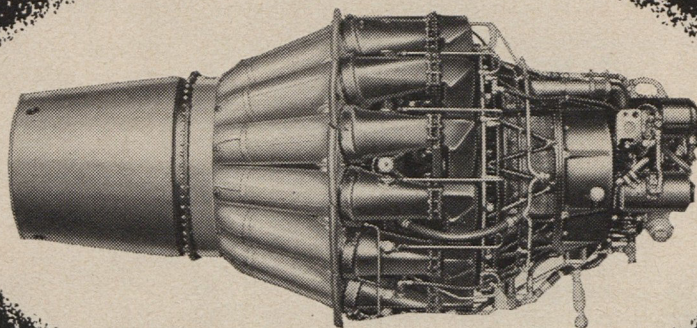


2,000%

MORE OPERATING TIME !

Allison aircraft turbine engines provide more time in the air,
less time on the ground. Allison developments have increased
the time between overhaul from 15 hours to 300 hours.

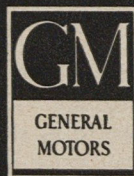
J33-A-23 Turbo-Jet



Allison

Builder of axial and
centrifugal flow turbine engines

DIVISION OF



Indianapolis, Indiana

Allison jet-powered airplanes:

Lockheed F-80 and TF-80 Shooting Star
Republic F-84 Thunderjet
Grumman F9F-3 Panther
Northrop F-89A Scorpion
North American FJ-1 Fury
Lockheed F-94
Consolidated XP5Y
Northrop RB-35B Flying Wing
Martin P4M-1 Mercator
North American AJ-1

AIR FORCE

THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION

PRESIDENT

Robert S. Johnson

Regional Vice Presidents: Meryll Frost (Northeast); William Hensley (Southwest); Arthur Kelly (Far West); George C. Van Nostrand (Central East); Jay J. G. Schatz (Midwest); Jerome Waterman (Southwest). **Secretary,** Julian B. Rosenthal. **Treasurer,** Benjamin Brinton.

CHAIRMAN OF BOARD

C. R. Smith

Directors: John P. Biehn, John H. Caldwell, Thomas D. Campbell, Edward P. Curtis, James H. Doolittle, John P. Edmondson, Merle Else, Robert Gross, George H. Haddock, Albert L. Harting, Thomas G. Lanphier, Jr., L. A. Larson, William D. F. Morrisson, Henry C. Mulberger, Robert Proctor, Earle B. Ribero, W. F. Shipman, Thomas F. Stack, James Stewart, John A. Waters, Otto Wellenseik, Irving B. Zeichner.

FEATURES

- WATER BASED BOMBER: POSSIBILITY OR PIPE DREAM?**.....Ned Root 15
Recent aerodynamic achievements shed new light on an old subject
- THE FARMER TAKES A PLANE.**..... 20
Widespread farm use may bring the airplane within financial reach of all

DEPARTMENTS

- AIR FORCE DIARY: FLIGHT NURSE**.....Charlotte Knight 24
Had there been a popularity contest in the war, these gals would have copped all honors
- IN RESERVE** 26
- IN RESERVE NEWS**..... 26
- IT'S A YOUNG MAN'S BALL TEAM, POP**..... 28
- TECHNIQUE** 35
- TECH TALK**..... 36
- AIR MAIL 5, AIRPOWER IN THE NEWS 7, RENDEZVOUS 11,
SHOOTING THE BREEZE 13, AFA NEWS 31, THE AIRMAN'S BOOKSHELF 33**

EDITOR and PUBLISHING DIRECTOR

James H. Straubel

MANAGING EDITOR

Ned Root

Ass't. Managing Editor, Robert Fleisher

Associate Editor, Jake Culpepper

Art Direction by William A. Dean

Contributing Editor, Douglas J. Ingells

Pacific Correspondent, Charlotte Knight

AIR FORCE MAGAZINE is published monthly by the Air Force Association at McCall Street, Dayton 1, Ohio. **EDITORIAL OFFICE:** 901 Sixteenth St., N.W., Washington 6, D.C., Sterling 2305. Publisher assumes no responsibility for unsolicited material. **ADVERTISING OFFICE:** 369 Lexington Avenue, New York 17, N.Y., MUrray Hill 9-3817. Sanford A. Wolf, Advertising Manager. **MAILING:** Reentered as second class matter, December 11, 1947, at the post office at Dayton, Ohio, under the Act of March 3, 1879. **SUBSCRIPTIONS:** Membership in the Air Force Association, \$4.00 per year, \$2.50 of which is for 1 year subscription to **AIR FORCE**. Subscription rate to non-members, \$1.00. Single copy, 35 cents. **REGISTRATION:** Trade-mark registered by the Air Force Association. Copyright, 1949, by the Air Force Association. All rights reserved under Pan-American Copyright Convention. Printed in U.S.A. **CORRESPONDENCE:** All correspondence pertaining to editorial matters and change of address should be sent to Air Force Association, 901 Sixteenth St., N.W., Washington 6, D.C.

AIR FORCE IS PUBLISHED BY THE AIR FORCE ASSOCIATION

THIS IS AFA

- The Air Force Association is an independent, non-military, airpower organization with no personal, political or commercial axes to grind; established and incorporated as a non-profit corporation February 4, 1946.
- **Active Members** are men and women honorably discharged from military service who have been assigned or attached to the US Air Force or its predecessor services, or who are currently enrolled in the Air Force Reserve or Air National Guard. **Service Members** (non-voting, non-office holding) are men and women currently assigned or attached to the US Air Force. **Associates** (non-voting, non-office holding) are men and women not eligible for Active or Service Membership who have demonstrated an interest in furthering AFA's aims and purposes, or in proper development and maintenance of US airpower.

ITS OBJECTIVES

- To preserve and foster the spirit of fellowship among former and present members of the Air Force, and to perpetuate the identity and group solidarity of wartime Air Force units large and small.
- To assist in obtaining and maintaining adequate airpower for national security and world peace.
- To keep AFA members and the public at large abreast of developments in the field of aviation, and to stimulate community interest in Air Force activities and installations.

NATIONAL HEADQUARTERS

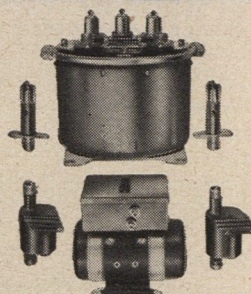
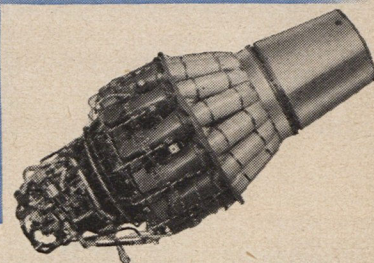
901 16th St., N.W. Washington 6, D.C.

NEW YORK OFFICE

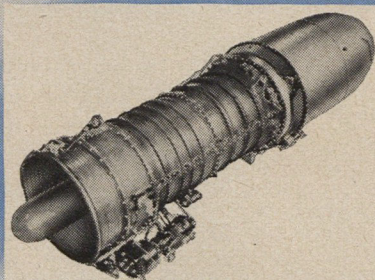
(For correspondence pertaining to advertising matter in **AIR FORCE** magazine only).

369 Lexington Ave., New York 17, New York

THE SPARK OF LIFE FOR JETS...



Bendix-Scintilla* Jet Ignition Systems are specified as original equipment on two of the leading makes of jet engines.



... AGAIN IT'S BENDIX-SCINTILLA!

The fact that Bendix-Scintilla Ignition Systems are used on some of the leading jet aircraft engines is noteworthy in two respects. It is powerful confirmation of their dependable, proven performance in all types of aircraft power plants, and it is a definite recognition of the vast experience,

manufacturing facilities, and resources which form the Scintilla Magneto organization. We believe the past and present performance records of Bendix-Scintilla Ignition Systems warrant primary consideration by aircraft engine manufacturers in every category.

*TRADEMARK



**SCINTILLA MAGNETO DIVISION of
SIDNEY, N. Y.**

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, New York



AIR MAIL

For the Record

Gentlemen: In the article on Bob Johnson (Air Force August, 1949) you state that the 56th Gp. was the first to be equipped with P-47s. Well, my outfit—the 4th Fighter Gp.—received its Bolts early in 1943 and we gave it its world premier in combat. The 4th was also the highest scorer in the ETO with a total of 1,052½, 583½ in the air and 469 on the ground. The 56th Gp. finished third with a total of 585, 316½ in the air and 268½ on the ground. I will bow graciously if I have erred.

Joe Meehan
Boston, Mass.

• *Meehan is right on the P-47s. The 4th Fighter Gp. got their's two weeks before the 56th. According to USAF Hq., the official scores of the two groups are as follows: The 56th scored 674½ in the air and 311 on the ground. The 4th shot down 583½ and destroyed 467 on the ground. If you count air kills alone, the 56th was first; if you include ground kills, the 4th was first.*

Truce

Gentlemen: Being a staunch Navy man, I wish to break down at this time and congratulate you on your magazine. Having a few friends in the Air Reserve, I am fortunate to acquire copies of your publication as they come out. There are a few things which are always argued pro and con insofar as Airpower is concerned; particularly when it concerns the Navy and the Air Force. It appears to me that both organizations are giving too much publicity to the B-36 Navy fighter competition. I heartily agree that the two forces should get together and pool their resources rather than bicker constantly as whether the Navy can outdo the Air Force or the Air Force can outdo the Navy.

Albert Fodor—V-3
Fresno, Calif.

Convention Campaign

Gentlemen: With a backward glance at the last two conventions, it is my opinion that campaign ribbons should be issued in addition to registration buttons. As a veteran reunionite who knows the rigors and perils attached to AFA three-day missions, I feel that such a ribbon would identify the boys who have met briefly in the years before. There may come a day when, as graybeards, we shall join together, each with a chest full of ribbons and nostalgia, telling each other about this ribbon-reunion or that one.

Raymond Ward
Sayre, Pa.

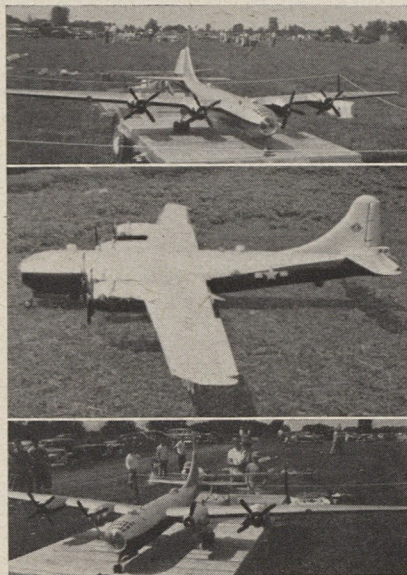
B-29 Models

Gentlemen: In reply to Lt. C. F. Heddeson's letter in Air Force (June, 1949), wherein he requests information as to where he could get plans to build a model of the B-29, the Strombeck-Becker Mfg. Co., Moline, Ill., has a scale model of the B-29 which you make yourself. It has a wing spread of 23½ inches and a fuselage 16½ inches long.

Harold Marshman
Hubbard, Iowa

Gentlemen: I am enclosing some photos of a B-29 model which I built from my own plans over a period of two years. For details and specifications Lt. Heddeson can write me at 619 North Pine St., Indianapolis 2, Ind.

James Nick Poppas
Indianapolis, Ind.



Bombs Against the Sea

Gentlemen: In reference to recent letters in the Air Mail section of Air Force on warship bombing, I submit the following INS dispatch of April 6, 1945. The Sea Hawks were the 63rd Bomb Sq., 43rd Bomb Gp., 5th AF: "A record believed unequalled in the annals of the Army Air Forces was disclosed today when Maj. Gen. Ennis C. Whitehead officially credited one heavy bombardment squadron of his 5th Air Force with destroying or damaging 758,000 tons of vitally-needed enemy shipping during 18 months of combat. This single squadron, which during its operations in the Southwest Pacific and Far Eastern Theaters became known as the 'Sea Hawks,' definitely sank 63,000 tons of Japanese shipping during

March alone, Whitehead added. Once the 5th Air Force's famed 'Ship a Night' outfit, this squadron is America's pioneer unit in low-level night bombardment of Japanese war and merchant vessels. The Hawks started their low-level night assaults nearly three years ago at Port Moresby."

Alvin Handelsman
Homestead Park, Pa.

• *While this is an enviable record indeed, it should be pointed out that the original question was as to the AF record against fully armed warships.*

AROTC

Gentlemen: I have been reading Air Force for over two years now and find it one of the best. Why not do an article on the A.R.O.T.C.? I have just returned from six weeks of summer camp training in conjunction with this program and I can testify to its timeliness, interest and recruiting value. You would be doing the Air Forces a great service.

John H. Scrivener, Jr.
St. Josephs, Mo.

No sooner said than done. See page 28.

No Reserve

Gentlemen: I have been away for the summer and have only recently read your article on the new Air Reserve program. You request reader's opinions. Here's mine: "It shoulda stood in bed." I was a member and a flight commander of a T. O. & E. unit under the old set-up and, if I may be permitted to say so, a darned fine squadron it was, too. Our colonel and executive officer spent the better part of two years whipping it into shape and a great many of us turned down tempting offers with the Air National Guard to make it a good outfit. What happened? Some joker decides to reorganize. The result was that our squadron was broken up. This happened about two months ago. Two or three weeks ago I received a nice little post card informing me that I'm in the Volunteer Reserve. You can just see me going to those no-fly, no-pay meetings, can't you? I suppose my assignment was due to the fact that I live some 40 to 50 miles away from the field presently in operation. I cannot see why that should have any bearing on the matter, however. If I'm prepared to drive what difference if it is 150 miles so long as I can get there, do my work, and get back to my job on time? The crowning blow is that the Air National Guard doesn't want us now.

Pete Henry
New York, N. Y.



\$40,000,000 NUT

To U.S. airlines, bad weather still makes up a large part of the 'nut' (operating expense). How large a nut? "The commercial airlines, operating about 1,000 aircraft, will lose approximately \$40,000,000 (in 1948) due to air traffic congestion, delays, flight cancellations and schedule unreliability."

(Congressional Aviation Policy Board Report, 1948)

Seasonal declines, non-sked competition, low airmail subsidies, and labor costs are often cited as causes of airline deficits. But bad weather is still commercial aviation's costliest problem. Once the Airlines master weather, most of their navigational—and financial—troubles will be over. And GCA is the one navigational aid that masters bad weather.

GCA is airport radar that shows a CAVU picture in all weather of all flight operations within a 30-mile radius of the tower. Each aircraft's position—its distance, altitude and bearing—is clearly and accurately visible on GCA's radar Search Scope. With GCA, tower control now has an even better view of flight operations than tower personnel formerly had on clear weather days.

GCA is the fail-safe solution to the chief operational problems caused by bad weather: holding stacks, landing and takeoff integration, turn-backs and safety-climbs, and rogue aircraft.

Unstacking aircraft in IFR conditions is greatly and safely speeded by GCA. Planes are called out of stacks at 3 mile *space* intervals instead of 10 minute *time* intervals. Traffic congestion is never allowed to develop.

Landings and takeoffs can be closely integrated. With exact knowledge of each aircraft's position, tower GCA can coordinate landings and takeoffs with clear weather speed and safety. Flights now take off and land on time.

Turn-backs and safety-climbs for departing aircraft in IFR weather, another cause of delay and expense, is unnecessary with GCA. Advised by radio of their relative position to other aircraft, departing planes immediately proceed "on course."

When a rogue aircraft threatens, GCA's high-powered

Search Scope immediately picks up its position and the tower brings the rogue under control. Thus GCA eliminates danger of collisions and the time-consuming cost of dispersing all other aircraft until the rogue is safely isolated.

In GCA's first winter (1947-1948) of operation at LaGuardia Airport in New York, the following improvements were noted: "During the winter period 1946-47, there were 3,877 scheduled flights cancelled or unable to land... 4,582 delayed... at LaGuardia due to traffic congestion. In the same period one year later (1947-48), there were NO cancellations caused by air traffic congestion... only 555 flights delayed."

"The average time per aircraft delayed at LaGuardia was reduced during the year from 33 minutes to 11 minutes. The airport capacity at LaGuardia was increased from 10 planes in and out per hour in 1947 to 30 per hour in 1948." (ATA)

True, GCA was not the *only* navigation aid at LaGuardia; but GCA was the only *new* navigation aid added in 1948.

GCA's record proves its competence as a fail-safe, reliable navigation aid. It is the Airlines' answer to the costly effects of weather. By seeking an expanded use of GCA, U. S. Airlines can *save* the greater part of that \$40,000,000 every year. And they can sell more business than they can handle by consistently offering flights "always on schedule with safety."



Gilfillan
LOS ANGELES

RCA International Export Distributors

PIONEER DEVELOPER AND MANUFACTURER OF GCA FOR THE CAA, USAF AND US NAVY

Airpower in the News

THE B-36 INVESTIGATION

FINDINGS OF THE HOUSE ARMED SERVICES COMMITTEE regarding the efficiency of the Air Force's much maligned B-36 will not be revealed for some weeks to come. But this much can be said right now. If the B-36 can operate as well at 45,000 feet as the Air Force chiefs who have been defending it can at the third floor level of the committee's hearing chambers, there is no cause for concern.

LIKE FIRE BOMBS OVER TOKYO, the Air Force has rained destruction on the flimsy charges inserted in the record by the bow-tied bumpkin from Pennsylvania, Representative James Van Zandt. The nation's press, in an understandable effort to be objective and impartial until the committee's final assessment is in, has failed to convey to the public the lopsidedness of the hearing up to the time of its nine day recess August 12th. There have been moments that make the drama of "Command Decision" pale by comparison--moments when Van Zandt surely must have wished for more substance to his congressional immunity, the better to hide his chagrin.

THERE WAS GENERAL GEORGE KENNEY, for example, who was asked if he had reversed his opinion of the big plane because of any influence or pressure brought to bear by his superior officers, or by outside political influence. Originally Kenney had been one of the plane's severest critics, later becoming one of its most enthusiastic supporters. In a low hanging voice, more blistering than the sun of the South Pacific skies under which he once fought, the general replied, "I think anybody that knows me knows that nobody tells me what to think or say. Nothing could sell me a bomber but a bomber." Not even the bow tied member had any further questions.

AND THERE WAS LT. GEN. CURTIS LE MAY, Commanding General of the Strategic Air Command, the outfit that uses the 36. Asked the same question in slightly different words, Le May fixed his jaw at characteristic right angles and answered, "If I have to fight again I will have to order my crews out in those planes. I will be in the lead plane myself." It was an indirect answer, but no one had any doubts as to "Old Iron Pants'" intent.

AIR SECRETARY SYMINGTON, looked equally good. He took up point by point, 16 charges leveled at him personally and at the Air Force generally--charges which were inserted in the record by Van Zandt, and which apparently had as their source a "curious" anonymous paper, paternity of which has not, at this writing, been publicly established. Point by point, Symington put the lie to each, but devastating as his prepared statement was to the opposition's cause it packed less of a wallop than the extemporaneous replies he gave to some of Van Zandt's insinuating questions. From a position in the witness chair, 3 degrees this side of supine, the Secretary threw "yeah's" and "naw's" back to Van Zandt's queries with an artful disdain none of the uniformed witnesses had dared allow themselves. Challenged by Symington to identify the authors of some of the charges he had inserted in the record, Van Zandt referred to an impressive portfolio to quote from two of the sources he "could not ignore"--a Broadway columnist and a Philadelphia news reporter. It was at this ludicrous point that the gallery succumbed to the temptation of unrestrained guffaws. It was at this point also that Chairman Carl Vinson recessed the committee for nine days with a question directed straight to Van Zandt. "Where," asked Vinson, "will you be if the investigation finally discloses that all these charges have been based on nothing more than rumor?" There was no answer from Van Zandt, but after the meet-

(Continued on page 8)

ing, cornered and desperate, he sent up the cry of "whitewash." Indeed, it would have been more becoming and in greater interest of national security had he sent up instead a white flag.

OF ALL THE WORDS IN THE DICTIONARY to describe the hearing to date, it would be hard to find one more inappropriate than whitewash. The Air Force's prepared reports, as recited by a half dozen AF officials, past and present, were so complete, detailed and chronological as to become obvious and boring to many. They began with the situation in the spring of 1941 when it seemed likely that the United States would soon be faced by a hostile world without European allies and with no bases outside the western hemisphere. They ended several pages and 8 years later with the disclosure of a directive issued in May of this year to convert 73 B-36B's to B-36D's with jet pods and new bombing systems.

HIGHLIGHTS OF THE RECITATIONS WERE: The assumption by Robert Patterson of full responsibility for placing of original contract for 100 B-36s in 1943. The former Secretary of War freely acknowledged his own breach of accustomed procedure of granting production contracts only after experimental models had been thoroughly tested. He made the decision, he testified, to speed production. An order for a hundred, Convair estimated, would hasten first deliveries as much as two years. Later testimony by uniformed chiefs of the AF and Symington established that subsequent orders for 38 (April, 1949) and 36 (May, 1949) aircraft were placed only after thorough examination of the project by the Air Force's Board of Senior Officers. In both instances the recommendations of the Board were reviewed and approved by the Chief of Staff, the Secretary of Air, the Secretary of Defense and the President. From this moment it was obvious that credence in the charges could be gained only by proving nearly every top AF official to be an unqualified crook.

EARLY DISAPPOINTMENT IN THE PERFORMANCE OF EXPERIMENTAL MODELS of the plane was widespread according to testimony. The hoped for range of 10,000 miles seemed a less realistic estimate than 6,500 or 7,000. Its speed was "insufficient." Late in 1946 General Kenney suggested to General Spaatz that the order for 100 be cut to a small number of service test models. Opposition to Kenney's proposal, however, (notably that of General Twining, then CG of Air Materiel Command) was firm. Twining pointed out that "rapid changes in science and military requirements make any weapon with a long development cycle seem obsolescent before it is ready for use, but that it would be unwise to abandon a project just when it is nearing completion merely because a better airplane could be built by starting from scratch." General Twining recalled that normal desire for the best rather than for the available tools would have lost us the B-17, the B-26, the P-47 and the P-51. In consideration of the normal "growth" that could be expected of the B-36, plus the fact that a better plane, built from scratch, could not be available until 1953 or 54, General Spaatz accepted General Twining's views. The B-36 contract was retained in full.

FROM DISCOURAGING PERIOD OF GESTATION the B-36 grew into the most phenomenal bomber in Air Force history. Symington-Vandenberg testimony disclosed: B-36 has flown "considerably more than 10,000 miles on a simulated combat mission and has dropped 10,000 pounds of 'bombs' considerably beyond the half-way mark." Plane has flown above 46,000 feet, and has achieved speeds above 350 mph. Top mark in each of these performance categories will not be revealed in open session of the hearing, if at all, but it is safe to assume that there is a comfortable margin between the publicized figures and those

(Continued on page 41)

speed →

safety →

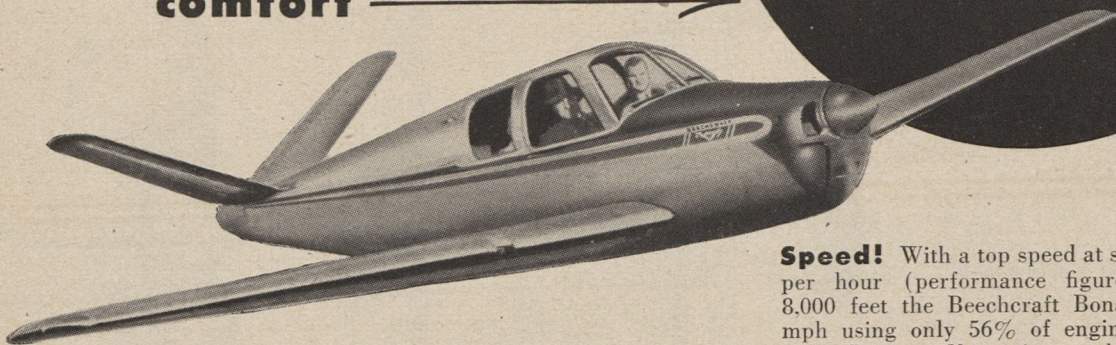
economy →

ruggedness →

comfort →

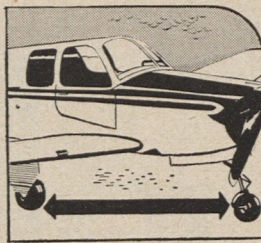
...combined for
greater value in the

Beechcraft
BONANZA



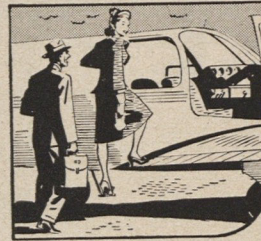
Speed! With a top speed at sea level of 184 miles per hour (performance figures guaranteed), at 8,000 feet the Beechcraft Bonanza cruises at 170 mph using only 56% of engine's maximum rated take-off power. *No engine overload*, so you get extra speed with an extra margin of safety.

Safety! Rated in the *utility* category at *full gross weight*, with a limit flight load factor of 4.4 G's, the Beechcraft A35 Bonanza has been subjected successfully to special, additional tests not required by CAA. Sturdy framework is the secret.



Ruggedness! Just for example, check the low and sturdy landing gear, with its wide tread and long wheel base, and struts exclusively cross-braced. Nose gear position plus long wheel base eliminate pitching, allow greater braking without excessive nose wheel load.

Economy! This Beechcraft has a fuel consumption of only 9½ gallons per hour at cruising speed. It carries four people and more than 135 pounds of baggage at a seat-mile cost of as low as 1¼ cents. You get the *extra speed* you want plus this important *extra economy*.



Comfort! The unique retractable step preserves feminine dignity. The wide sedan-type door and folding front seat help make getting in and out of this Beechcraft as easy as the family car. Plenty of room to stretch out; cabin really sound-proofed.

Compare these performance features

Top speed, 184 mph
Cruising speed, 170 mph
Range, 750 miles
Service Ceiling 17,100 feet
Fuel economy, 9½ gal. per hour

Compare these comfort features

Exclusive retractable step
Limousine entrance
Insulated, sound-proofed cabin
Quickly removable rear seat
Luggage compartment accessible two ways

These are only a few of the reasons why the Beechcraft Bonanza is a better buy! See it today! A note on your company letterhead will bring illustrated brochures describing the Beechcraft Bonanza's many extra advantages. Write to Beech Aircraft Corporation, Wichita, Kansas, U. S. A.

Beechcraft
BONANZA
MODEL A35

BEECHCRAFTS ARE THE AIR FLEET OF AMERICAN BUSINESS

World's most reordered four-engined transport

The internationally-famous Lockheed Constellation is the world's most reordered four-engined transport. In the past year alone, 44 of these luxury airliners were purchased by seven major world airlines.

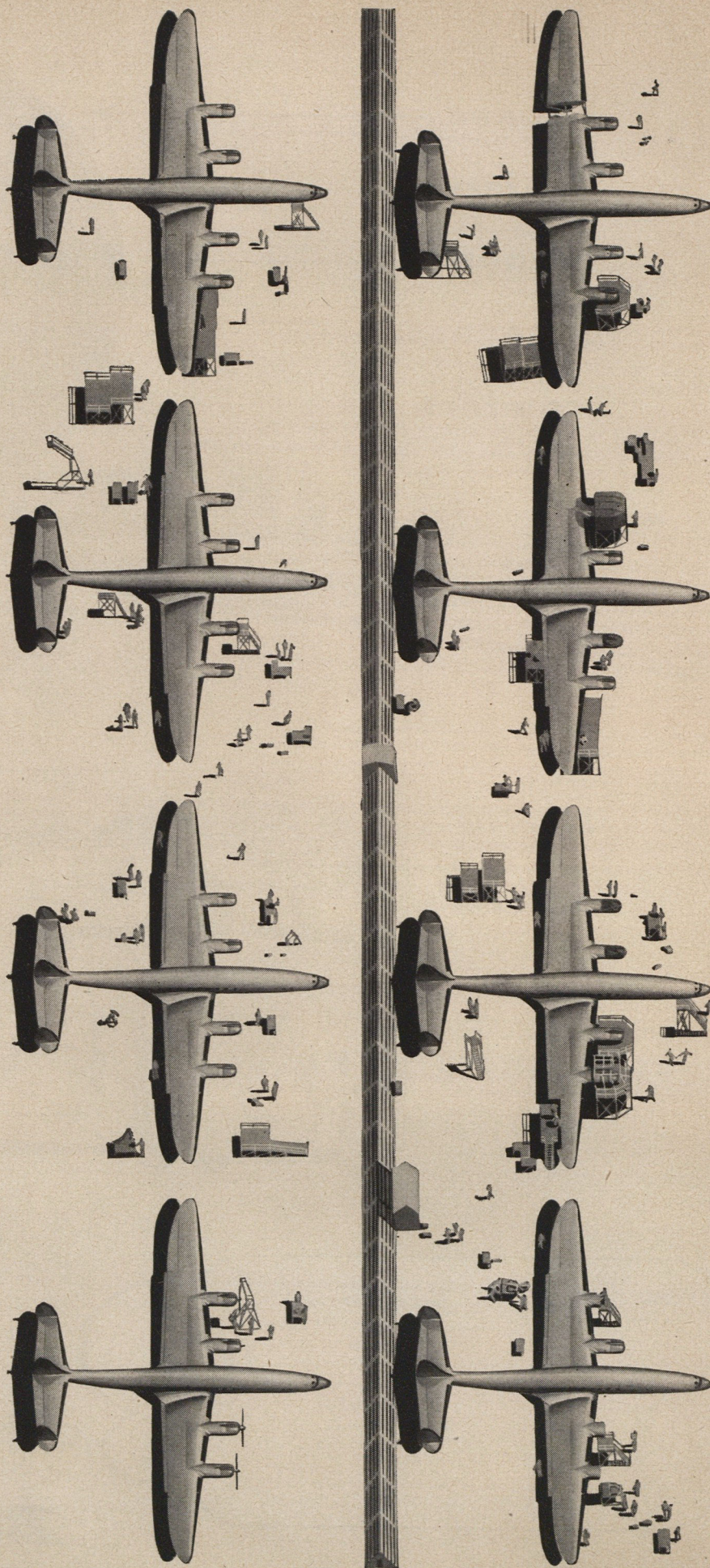
Trans World Airline bought an additional 20, boosting its fleet of Constellations to 55, the largest standardized four-engined fleet in the world. It was TWA's sixth order for Constellations. Eastern Air Lines bought seven more—its third purchase. Air France ordered an additional six—its fifth order. KLM Royal Dutch Airlines bought four new Constellations, the fifth time it has purchased this 320-mile-an-hour transport. The Union of South Africa bought a fleet of four for the South African Airways, newest member of the Constellation family. Air India International bought two, and Qantas Empire Airways, which flies the long Sydney, Australia, to London run, ordered one more.

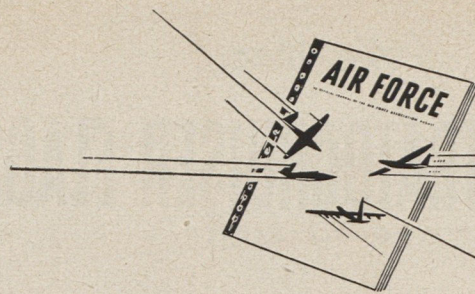
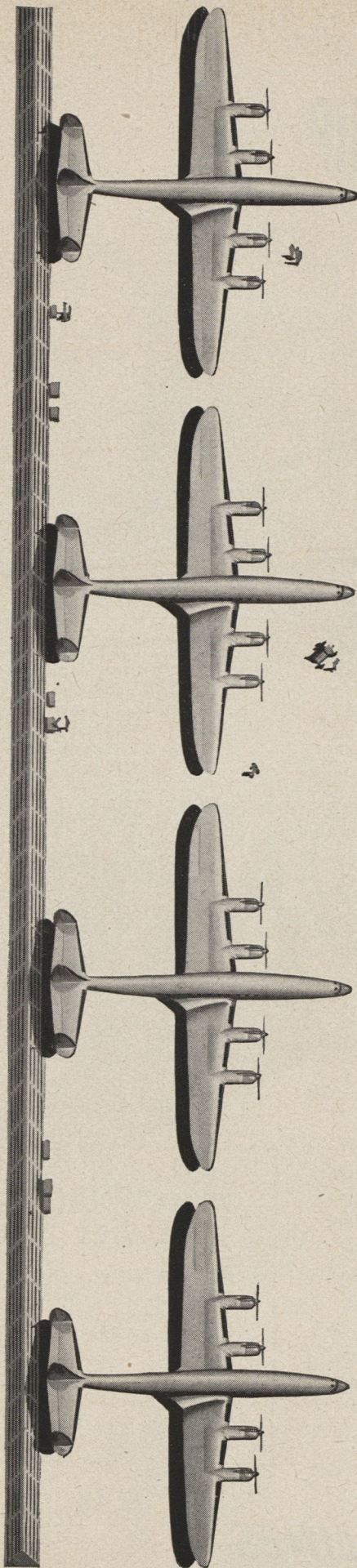
It is this constant world-wide demand for the Constellation that has kept Lockheed's Constellation production line in continuous operation. This production line has never been shut down.

This *tried and proven* luxury transport has now flown 5,000 million passenger miles, including more than 15,000 Atlantic crossings. It is flown by 12 major world airlines.

look to
LOCKHEED
for leadership

© 1949, LOCKHEED AIRCRAFT CORP., BURBANK, CALIF.





RENDEZVOUS

Where the Gang gets together

451ST BG VETS: I would like to get in touch with any aircrew personnel of the 451st Bomb Gp. who served in Italy from the end of 1943 to the end of 1944, especially men in the Los Angeles area. *Joe Landon, 1053 S. Stanley Ave., Los Angeles 35, Calif.*

BUDDIES WANTED: I would like to hear from former members of the 377th Fighter Sq., 36th Fighter Gp., especially William Kindred, Jr., Tulsa, Okla., Arthur C. Halversen, Winona, Minn., John Stu Chambers, Seattle, Wash., and Henry Legere, Maine. *Seymour Weisman, 4114 Stules St., Phila., Pa.*

HEY DOC: Want to get in touch with the first Lieutenant who was in charge of the Eye, Ear, Nose and Throat clinic, Station Hospital, New Orleans Army Air Base during November 1941. Also the captain or major in the dispensary at Hq., 3rd Air Force, Tampa, Fla. from January through November 1945. This is in regard to a claim. *Robert L. Frazer, P.O. Box 471, Allendale, N.J.*

MOGIN'S MAULERS: All pilots and ground officers from the 36th Fighter-Bomber Gp., 9th AF, who are interested in a reunion and in receiving a MAULER'S bulletin, please let me hear from you. We have a convention cooking but need many more names and addresses. *M. K. (True) Swofford, 110 High Street, Weatherford, Tex.*

IS THAT SEIDEL: The picture on page 40 of the July issue interests me. Isn't the officer in the blouse Capt. Walter Seidel, a former Troop Carrier Command pilot and engineering officer? If so what is his address? *D. D. Mast, 2042 13th*

St., Cuyahoga Falls, Ohio.

LOST BUDDY: I would like to contact Lt. Richard Owens last heard of as a prisoner of war in Germany. *Charles Orasood, Kingman, Ind.*

HEY LENNY: Am trying to locate Pfc. Leonard Dalcour. He was a casual with the T-5 Sq., 467th AAFBU (Ord.) Hamilton Field around July 10, 1947 prior to his assignment to Hawaii. *Sgt. James L. Francis, 3257 Lubbock St., Forth Worth, Texas.*

ALTUS AF VETS: On July 4th a reunion of former personnel of Altus AFB, Altus, Okla., was held in Chicago. It is hoped that this is the beginning of a permanent organization that will hold annual reunions. We need more names and addresses. If interested, please contact me. *Peter R. Olfelt, 3032 Lee Ave., No., Minneapolis 22, Minn.*

WHERE'S HARDTACK: Would like to contact Capt. James L. Hardison of Texas. Last I heard he was heading for Germany on Christmas Eve. *O. Dann DeWitt, Bpx 18, Waverly, Pa.*

KIA: The mother of Lt. John L. Slaughter who was killed in an airplane crash at Cambrai, France, November 1, 1944, would like to hear from anyone who knew him. Please address: *Mrs. Claude Slaughter, 3430 West 30th St., Indianapolis, Indiana.*

BUDDIES WANTED: Would like to hear from former members First Combat Sq., 1st Com. Car. Gp. in CBI. *Ed Woodmansee, 860 S. Lincoln Ave., Springfield, Ill.*

REUNION: Hq Sq., 58th Air Service Gp. will hold

its second annual reunion Sept. 3-5 at the Park Sheraton Hotel, N.Y.C. For reservations write *Lester Johnson, 1286 Albany Ave., Brooklyn 3, N.Y.*

CONFERENCE: All former members of the 485th Air Squadron, 715th Air Materiel Sq. and Class 7-43 Delgado now living in New Jersey or vicinity who are interested in a get-together are urged to attend the AFA New Jersey State Conference to be held Sept. 24th at the Haddon Hall Hotel, Asbury Park, N. J. *John Halabrin, DuPont Club, Parlin, N.J.*

LOST BUDDIES: Would like to hear from all enlisted men and officers who served with the 507th Fighter Gp. on Ie Shima. *Ray Stoddard, P.O. Box 311, Avoca, N.Y.*

HEY CARLOS: Looking for Carlos A. Vihafuerte. Think he's in Washington, D.C. Any information concerning his whereabouts will be appreciated. *Angelo Parsonese, R.D. 2, Greenville, Pa.*

P-51 PICS: Want some 8" by 6" pictures of WW II P-51s flying formation. I know the 503rd Sq. of the 339th Fighter Gp. had some and would appreciate getting some if possible. *Robert C. Havighurst, Four Horseshoes Motel, Carpinteria, Calif.*

PASSING THE GREEN: I sure could use some pics of 492nd Bomb Gp. while it was a day bomb outfit and after it started "Carpet Bagger" missions. Am willing to pass the long green. Also, would like to hear from anyone knowing of Lt. Charles Moore, listed as MIA in 1944. *John L. Moore, Decatur, Georgia.*

LOOKING FOR SOMEONE? ANY ANNOUNCEMENTS TO MAKE? WRITE RENDEZVOUS AND RENDEZVOUS READERS WILL WRITE YOU.

The Plane of the Year!

THE NEW STRATOCRUISER FLAGSHIP

(DOUBLE-DECKED)

The Value of the Year!

EXTRA LUXURY BUT NO EXTRA FARE



Sleep Your Way Abroad—
You'll want to stretch out and sleep in the extra-length, luxurious berths (available for only a small surcharge).



Club Lounge above the Clouds—This lower lounge, with large observation windows, reached by spiral staircase, seats 14; features its own service bar.



Now you can fly from New York to London or Shannon, Ireland on the new double-decked Stratocruiser Flagship

• THIS NEW queen of the skies, the most luxurious Flagship ever constructed, is air conditioned and pressurized throughout. A private stateroom, spacious lounges and dressing rooms provide the utmost in passenger comfort. Cocktails and delicious full course meals, prepared in flight, are served with our compliments.

Best of all, you don't pay one cent extra for this new premium service—because it is American Airlines policy to provide you with the best in air transportation at the lowest possible cost.

So, for the fastest and finest in transatlantic travel, see your travel agent or nearest American Airlines office.

TWICE WEEKLY SERVICE

Stratocruiser Flagship departures every Wednesday and Saturday are included in American's 21 weekly transatlantic schedules.



AMERICAN AIRLINES

AMERICAN AIRLINES, INC. • AMERICAN OVERSEAS AIRLINES, INC.

APPLICATION FOR SPECIAL DIVIDEND

NATIONAL SERVICE LIFE INSURANCE

This application to be used by veteran or serviceman only. This form is not to be used if veteran or serviceman is deceased or incompetent. See SPECIAL INSTRUCTIONS on reverse side.

DO NOT WRITE TO THE VETERANS ADMINISTRATION CONCERNING YOUR APPLICATION, OR SUBMIT ANOTHER APPLICATION. SUCH ACTION WILL DELAY PAYMENT OF YOUR DIVIDEND.

Read all instructions carefully before completing this form. The information requested is required to identify your National Service Life Insurance account(s) and to mail a check to you for the dividends earned. This dividend is payable on National Service Life Insurance only. This insurance was not issued before October 8, 1940. The dividend is not payable on insurance issued after December 31, 1947, or insurance which was in force less than 3 months.

● **NAME AND SIGNATURE OF VETERAN.**—Under item 9 sign your name in longhand (*do not print or type*) to correspond with your name as given in item 1. Use identical and exact name under which you served in the Armed Forces, unless the Veterans Administration has been furnished change of name.

● **PERMANENT MAILING ADDRESS.**—Furnish an address where mail will reach you for *at least the next 6 months*. If your address changes, supply your postmaster with a forwarding address. Any change of address which has to be made by the Veterans Admin-

istration in connection with this application will cause delay in paying the dividend.

● **BRANCH OF SERVICE.**—Enter the specific branch of service in which you served on and after October 8, 1940, such as Army, Navy, Marine Corps, Coast Guard, Philippine Army, U. S. Public Health Service, or Coast and Geodetic Survey.

● **INSURANCE NUMBERS.**—If known, list all your National Service Life Insurance policy numbers. If unknown, leave item 7 blank. Please *do not* write the Veterans Administration for unknown numbers.

DO NOT ENCLOSE THIS FORM IN AN ENVELOPE
(Detach on this perforated line and retain the portion above)

1. FIRST NAME—MIDDLE INITIAL—LAST NAME (<i>Type or print</i>)			
2. PERMANENT MAILING ADDRESS (<i>Number and street or rural route, city, zone number, and State</i>)		3. COUNTY	
4. SERVICE SERIAL NO(S). (<i>Give all numbers assigned</i>)		5. BRANCH OF SERVICE	
ENLISTED	OFFICER	OTHER	
6. DATE OF BIRTH (<i>Month — Day — Year</i>)	7. INSURANCE NO(S). (<i>Include prefix N, V, or H</i>)		
8. CLAIM NO. (<i>If any</i>)	I CERTIFY THAT I AM THE VETERAN OR SERVICEMAN WHOSE NAME IS SHOWN IN ITEM 1, AND DO HEREBY APPLY FOR ANY SPECIAL DIVIDEND PAYABLE ON MY NATIONAL SERVICE LIFE INSURANCE, TO BE MAILED TO THE ADDRESS SHOWN ABOVE.		
C-	9. SIGNATURE OF VETERAN OR SERVICEMAN (<i>Do not print</i>)		

(Fold this side in. Place stamp on reverse side and mail without fastening)

VETERANS ADMINISTRATION
WASHINGTON 25, D. C.
OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$300
(GPO)

DIVIDEND APPLICATION NO.
(To be furnished by VA)

Print your name
and address on this
Acknowledgment
Card

(Name)

(Number and street)

(City)

(Zone number)

(State)

ACKNOWLEDGMENT OF SPECIAL DIVIDEND APPLICATION

NATIONAL SERVICE LIFE INSURANCE

DO NOT WRITE TO THE VETERANS ADMINISTRATION CONCERNING YOUR APPLICATION, OR SUBMIT ANOTHER APPLICATION. SUCH ACTION WILL DELAY PAYMENT OF YOUR DIVIDEND.

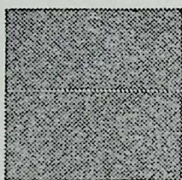
1. This portion of the form when returned to you with a Dividend Application Number assigned on the reverse side will serve as an acknowledgment. *Keep this card until you receive your dividend check.* Until payment has been made, the Dividend Application Number shown on the reverse side is the only means of referring to your application for dividends. This number has no other significance and should not be used in connection with any other correspondence with the Veterans Administration.

2. Payment of your dividend will be made only in cash. Your check for this dividend will be mailed to the address given in your application. If your mailing address changes before you receive your dividend check, leave a forwarding address with your postmaster. Any change of address which has to be made by the Veterans Administration in connection with this application will cause delay in paying the dividend.

(DO NOT DETACH—Fold top portion back for mailing)

RETURN TO

PLACE
ONE
CENT
STAMP
HERE



VETERANS ADMINISTRATION, 9J
WASHINGTON 25, D. C.

V A FORM 9-430
JUN 1949

(Detach on this perforated line and retain the portion below)

Budget Bureau No. 76-R189.
Approval expires 8-31-50.

SPECIAL INSTRUCTIONS

IF VETERAN IS DECEASED this form will not be used. Beneficiaries currently receiving insurance payments or who have been paid completely will receive dividends without application. Other persons entitled to this dividend, accruing to deceased veterans, will be furnished forms direct by the Veterans Administration without request.

IF VETERAN OR SERVICEMAN IS INCOMPETENT.—The guardian or fiduciary should apply by letter, addressed to Special Dividend Applications Unit, Veterans Administration, Washington 25, D. C., including the veteran's or serviceman's name, date of birth, serial number(s), claim number, and insurance number(s), and the applicant's name, address, and official capacity in relation to the veteran or serviceman. If proof of official capacity has been submitted to a Veterans Administration Office, please supply the location of that office.

PENALTY.—The law provides that whoever makes any statement of a material fact, knowing it to be false, shall be punishable by a fine of not more than \$1,000 or by imprisonment for not more than a year, or both.

APPLICATION FOR SPECIAL DIVIDEND

NATIONAL SERVICE LIFE INSURANCE

This application to be used by veteran or serviceman only. This form is not to be used if veteran or serviceman is deceased or incompetent. See SPECIAL INSTRUCTIONS on reverse side.

DO NOT WRITE TO THE VETERANS ADMINISTRATION CONCERNING YOUR APPLICATION, OR SUBMIT ANOTHER APPLICATION. SUCH ACTION WILL DELAY PAYMENT OF YOUR DIVIDEND.

Read all instructions carefully before completing this form. The information requested is required to identify your National Service Life Insurance account(s) and to mail a check to you for the dividends earned. This dividend is payable on National Service Life Insurance only. This insurance was not issued before October 8, 1940. The dividend is not payable on insurance issued after December 31, 1947, or insurance which was in force less than 3 months.

● **NAME AND SIGNATURE OF VETERAN.**—Under item 9 sign your name in longhand (*do not print or type*) to correspond with your name as given in item 1. Use identical and exact name under which you served in the Armed Forces, unless the Veterans Administration has been furnished change of name.

● **PERMANENT MAILING ADDRESS.**—Furnish an address where mail will reach you for *at least the next 6 months*. If your address changes, supply your postmaster with a forwarding address. Any change of address which has to be made by the Veterans Admin-

istration in connection with this application will cause delay in paying the dividend.

● **BRANCH OF SERVICE.**—Enter the specific branch of service in which you served on and after October 8, 1940, such as Army, Navy, Marine Corps, Coast Guard, Philippine Army, U. S. Public Health Service, or Coast and Geodetic Survey.

● **INSURANCE NUMBERS.**—If known, list all your National Service Life Insurance policy numbers. If unknown, leave item 7 blank. Please *do not* write the Veterans Administration for unknown numbers.

DO NOT ENCLOSE THIS FORM IN AN ENVELOPE
(Detach on this perforated line and retain the portion above)

1. FIRST NAME—MIDDLE INITIAL—LAST NAME (<i>Type or print</i>)			
2. PERMANENT MAILING ADDRESS (<i>Number and street or rural route, city, zone number, and State</i>)			3. COUNTY
4. SERVICE SERIAL NO(S). (<i>Give all numbers assigned</i>)			5. BRANCH OF SERVICE
ENLISTED	OFFICER	OTHER	
6. DATE OF BIRTH (<i>Month — Day — Year</i>)	7. INSURANCE NO(S). (<i>Include prefix N, V, or H</i>)		
8. CLAIM NO. (<i>If any</i>)	I CERTIFY THAT I AM THE VETERAN OR SERVICEMAN WHOSE NAME IS SHOWN IN ITEM 1, AND DO HEREBY APPLY FOR ANY SPECIAL DIVIDEND PAYABLE ON MY NATIONAL SERVICE LIFE INSURANCE, TO BE MAILED TO THE ADDRESS SHOWN ABOVE.		
C-	9. SIGNATURE OF VETERAN OR SERVICEMAN (<i>Do not print</i>)		

(Fold this side in. Place stamp on reverse side and mail without fastening)

VETERANS ADMINISTRATION
WASHINGTON 25, D. C.
OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$300
(GPO)

DIVIDEND APPLICATION NO.
(To be furnished by VA)

Print your name
and address on this
Acknowledgment
Card

(Name)

(Number and street)

(City)

(Zone number)

(State)

ACKNOWLEDGMENT OF SPECIAL DIVIDEND APPLICATION
NATIONAL SERVICE LIFE INSURANCE

DO NOT WRITE TO THE VETERANS ADMINISTRATION CONCERNING YOUR APPLICATION, OR SUBMIT ANOTHER APPLICATION. SUCH ACTION WILL DELAY PAYMENT OF YOUR DIVIDEND.

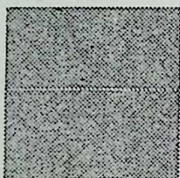
1. This portion of the form when returned to you with a Dividend Application Number assigned on the reverse side will serve as an acknowledgment. *Keep this card until you receive your dividend check.* Until payment has been made, the Dividend Application Number shown on the reverse side is the only means of referring to your application for dividends. This number has no other significance and should not be used in connection with any other correspondence with the Veterans Administration.

2. Payment of your dividend will be made only in cash. Your check for this dividend will be mailed to the address given in your application. If your mailing address changes before you receive your dividend check, leave a forwarding address with your postmaster. Any change of address which has to be made by the Veterans Administration in connection with this application will cause delay in paying the dividend.

(DO NOT DETACH—Fold top portion back for mailing)

RETURN TO

PLACE
ONE
CENT
STAMP
HERE



VETERANS ADMINISTRATION, 9J
WASHINGTON 25, D. C.

V A FORM 9-430
JUN 1949

(Detach on this perforated line and retain the portion below)

Budget Bureau No. 76-R189.
Approval expires 8-31-50.

SPECIAL INSTRUCTIONS

IF VETERAN IS DECEASED this form will not be used. Beneficiaries currently receiving insurance payments or who have been paid completely will receive dividends without application. Other persons entitled to this dividend, accruing to deceased veterans, will be furnished forms direct by the Veterans Administration without request.

IF VETERAN OR SERVICEMAN IS INCOMPETENT.—The guardian or fiduciary should apply by letter, addressed to Special Dividend Applications Unit, Veterans Administration, Washington 25, D. C., including the veteran's or serviceman's name, date of birth, serial number(s), claim number, and insurance number(s), and the applicant's name, address, and official capacity in relation to the veteran or serviceman. If proof of official capacity has been submitted to a Veterans Administration Office, please supply the location of that office.

PENALTY.—The law provides that whoever makes any statement of a material fact, knowing it to be false, shall be punishable by a fine of not more than \$1,000 or by imprisonment for not more than a year, or both.

SHOOTING

Memo to Air Force Veterans:

The current smear campaign against the B-36 strikes directly at the Air Force veteran and his war record.

It is more than a campaign against an airplane, more than an attack on the postwar Air Force. It is one phase of a program cunningly devised to undermine public confidence in airpower.

You are an integral part of this airpower. You made it work. You proved in combat, whatever your individual job may have been, that airpower is our first line of defense and a major instrument for maintaining the peace.

Scheming men who would not have it so, whose selfish interest provokes them to distort the facts of history, are engaged in a crusade against airpower which charges, in effect, that your wartime service was of little or no avail.

This malicious campaign has been exposed to public gaze in the B-36 rumor hearing (see page 7) now underway in Congress. One by one the trumped-up charges that instigated the hearing have been smashed to bits. So flimsy are the charges, so completely has Naval Reservist Van Zandt, who projected them, been shorn of the respect usually given our legislators, that the temptation is to substitute laughter for anger and let it go at that.

The Air Force veteran can ill afford to adopt a complacent attitude. He must see the B-36 hearing and all that surrounds it in its true perspective.

To begin with, it must be recognized that the B-36 is, as Gill Robb Wilson puts it, merely a symbol. "The current B-36 investigation," he explains in his *New York Herald Tribune* column, "shorn of its origin from loose talk and competitive hokus-pokus in the aircraft industry, is fundamentally a struggle between those who look forward and those who look backward. The B-36 is in controversy because it is a symbol of a changing concept in world strategy."

This change in concept—from sea power to airpower—which has been evolving over the years, came of age in our strategic bombing of the last war and reached maturity with the development of the B-36 as an intercontinental atomic bomber.

The translation of this concept into national policy has been accomplished. After several years of evaluating, arguing and downright bickering, the Joint Chiefs of Staff have agreed that strategic airpower, as exemplified by intercontinental bombing, must receive top priority in our national defense program and in the western defense alliance. But however historic this decision may be, it has not deterred the



opponents of airpower; indeed, it has fired them to renewed efforts.

These opponents face the unalterable fact that the application of intercontinental bombing reduces many of the military activities that traditionally have been necessary to carry explosives over the long supply line between the factory which manufactures them and the objective on which they are to be placed.

Reduce military activity in the vast

THE BREEZE

rence in his magazine and newspaper columns, in the pseudo-expert opinions on airpower of Annapolis-graduate Hanson Baldwin in the *New York Times*, in an occasional magazine article by Navy regulars of the Admiral Gallery variety, and at the community level in speeches, statements, clubhouse gossip and letters to the Editor by retired admirals and naval reservists.

At first blush these expressions appear to be independent efforts. Put them together side by side, and a pattern reveals itself. Measure them for what they're worth and you find, for the most part, the same false charges, the same half truths, the same distortions

IMPORTANT!

This official application* will get
YOUR CASH DIVIDEND
on your
NATIONAL SERVICE LIFE INSURANCE
It Means Money in Your Pocket!

Before tearing out see instructions on page 26

*This is the actual application form you will fill out and mail to the Veterans Administration for your Special Dividend. It was obtained from the V.A. by Air Force Association as a service to its members. No other form is necessary.

area between factory and target, with its complex and expensive network of sea-lanes and bases, and you reduce the traditional function of sea power. Reduce it and you reduce the Navy. Reduce the Navy, or reveal such reduction as inevitable, and you uproot the old and venerable Navy Empire; you run headlong into the men who defend the empire, into attacks against the weapon which threatens it and the agency and men who employ the weapon; you run into the type of smear campaign now exposed in the Congressional hearing.

The Air Force veteran should realize that this is a determined, well-calculated campaign. Naval Reservist Van Zandt, who does his rumor-mongering behind the cloak of Congressional immunity, is but one of its mouthpieces. The campaign finds expression as well in the fanatic mutterings of David Law-

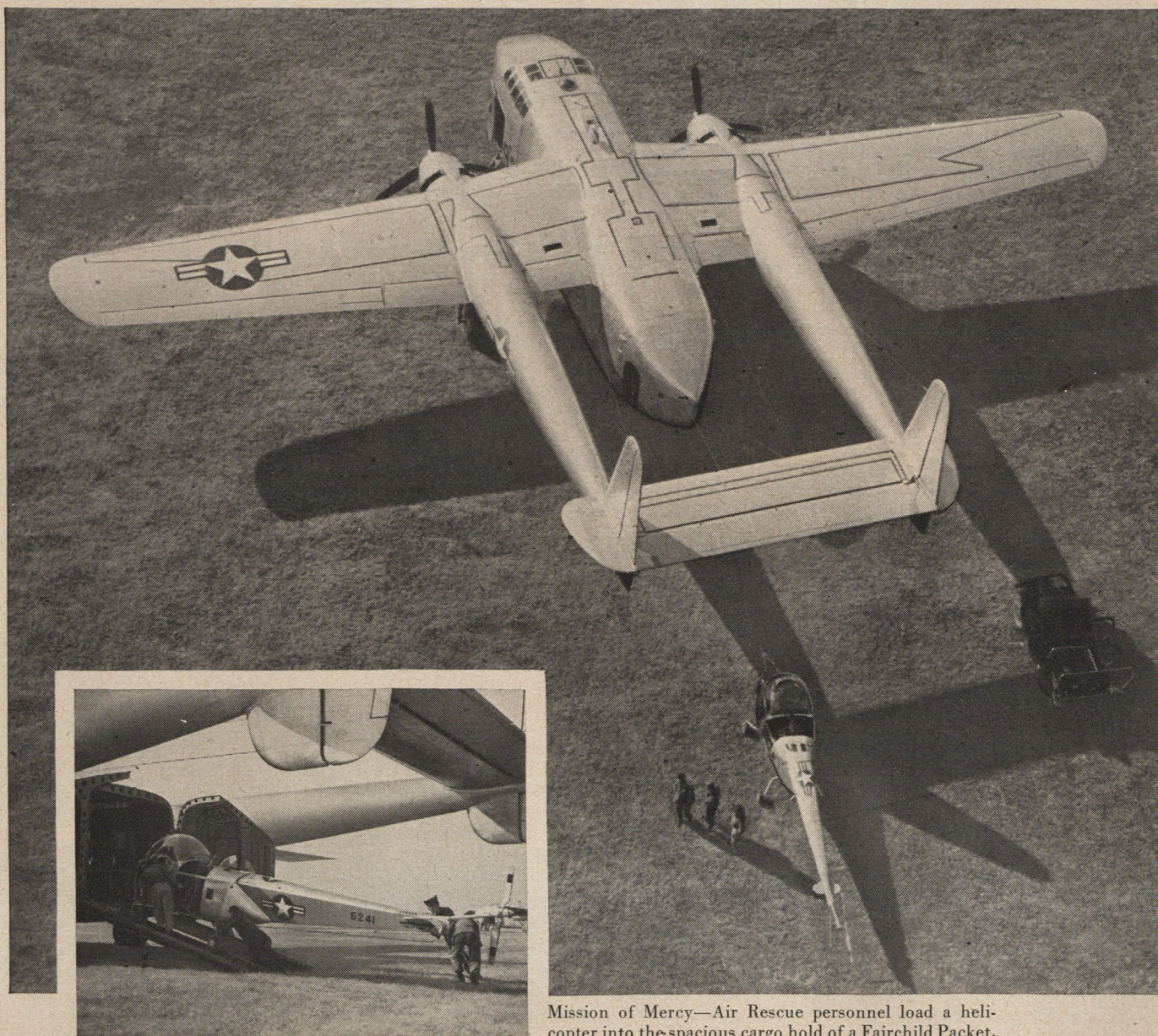
of fact. Check a little more and you find that they adhere comfortably to the party line doctrine of the Navy League.

You may recognize some of this party line thinking: the scare warning against putting "all our eggs in one basket"; the ridiculous and malicious charges that Air Force leaders believe airpower alone can win a war, that the other two services are not needed, that another war can be won in a matter of days (30 days is the usual fabrication); the false and sentimental claim that the Navy is being cut to ribbons; the futile but continued attempt to debunk the atomic bomb; the attacks on strategic bombing as inhuman (as if any type of warfare were human); the repeated wail for "balance" (meaning plenty of Navy) in our military appropriations; the lip service to Unification

(Continued on page 45)

AIR RESCUE

Over faraway jungles, deserts and mountains, helicopters of the USAF Air Rescue Service have flown in search of stranded airmen and passengers. The helicopters got there because they have been given a "mother" ship—the Fairchild Packet—that transports them over distances far beyond their range. Thus, our Air Force has added a new ability to the versatile Fairchild Packet—increasing the importance of its part in the development of modern airborne military tactics.



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

 **FAIRCHILD**

ENGINE AND AIRPLANE CORPORATION
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Divisions: Fairchild Aircraft, Hagerstown, Md. • Ranger Aircraft Engines, Farmingdale, N. Y. • Nepa, Oak Ridge, Tenn. • Fairchild Pilotless Plane, Farmingdale, N. Y.
Al-Fin, Farmingdale, N. Y. • Subsidiaries: Stratos Corporation, Farmingdale, N. Y. • Duramold Aircraft Corporation, New York 20, N. Y.

WATER BASED BOMBER: POSSIBILITY OR PIPE DREAM?

The advent of jet and rocket propulsion, as well as startling advances in aero- and hydro-dynamics, have introduced the prospect of a new kind of strategic bomber. Still on the drafting boards, it is known as the *water based bomber*. It is NOT to be confused with the cumbersome flying boats of World War II.



In the winter of 1947, Alexander Seversky made a speech before students of the Air University at Maxwell Field. With no particular modesty, he titled it "A Lecture on Airpower," and as the name suggests, the discourse covered just about everything from the advantages of air-cooled engines to the disadvantages of un-escorted bomber missions.

Almost parenthetically he brought to the surface a subject which may in the end be of more revolutionary import than anything else he mentioned or *could* have mentioned. "In studying the implementation of long-range strategic planes based on long-range aircraft action," said the major, "I have come to one rather interesting conclusion; namely, that with the advance of jet and rocket propulsion the water-based aircraft many become *aerodynamically* and *tactically* a more efficient aircraft than a land plane."

It was not altogether a new theory. Navy aerodynamicists have been working on the idea for nine years, but so far as is known it was the first time anyone so closely associated with the Air Force has brought the subject so completely out in the open.

"Water based" is a relatively new term. It differs in basic regard to the old amphibious or flying boat concept. Fundamentally the difference is one of design approach. Until now the aerodynamicists and hydrodynamicists have looked upon the seaplane problem as one of making a boat *fly*. But in recent years they have reversed themselves. The new approach is one of making an airplane *seaworthy*—of building a bomber plane that can land on the water without serious compromise of its aerodynamic cleanliness.

The results of the studies have been, to put it mildly, astonishing. Yet little news of the subject has reached the public for a variety of reasons:

► The past has proved that seaplanes have rarely lived up to design expectations. A decade ago for example, everyone expected the flying boat to revolutionize *commercial* air transport. Yet today Pan American, the outstanding pioneer in the flying boat field, would be just as happy if it never heard the word again. It has discontinued its clipper ship operation entirely in favor of long-range planes which PA finds both more

Here is graphic example of the trend in water based aircraft: Above, the slow, box-like old Martin Mariner of not so long ago at that. Right, the sleek new P5Y, built by Convair.

economical and more efficient. From unhappy if not bitter experience, therefore, it is understandable that sea plane designers should guard their claims with some caution.

► Even if the water-based bomber proved itself to be aerodynamically as efficient as the land-based plane, there are many military strategists who are as yet unconvinced of its tactical worth. For many reasons, a few of which we will discuss in a moment, they would still prefer the long-range land-based plane.

► Admitting design and tactical efficiency, the problem then arises as to control of water-based strategic bombers. Would they be the estate of the Air Force, which, according to Joint Chiefs of Staff directive, has "primary" responsibility of strategic bombing? Or would they fall under the jurisdiction of the Navy, which, by the same directive, is responsible primarily for operations at sea? You can argue both ways, and it may be that it is partially for fear of losing the debate that neither the Air Force nor the Navy has pursued the matter with any greater energy, both preferring to keep a watchful eye on the other.

Getting back to aerodynamic efficiency, which is where any consideration of the problem has to begin, there are more things than the advent of jet and rocket propulsion, as Seversky suggests, that have freshened the hopes of the sea plane proponents. Many of them are still secret and may remain so for some time to come. Others can now be discussed.

To be sure, jets and rockets figure prominently. In the past, it has been necessary to build flying boat hulls to considerable heights above the water line to keep propeller tips out of the water and to keep spray out of the engines. Once in the air, the bulky hulls were good for nothing but to add weight and drag. Jet engines, on the other hand, make it possible to reduce hull depth by as much as seven feet. Weight and drag is thereby reduced proportionately.

The obvious question here is what about water in the jet air scoop? Ivan H. Driggs, noted authority and Director of the Research Division of the Navy's Bureau of Aeronautics,

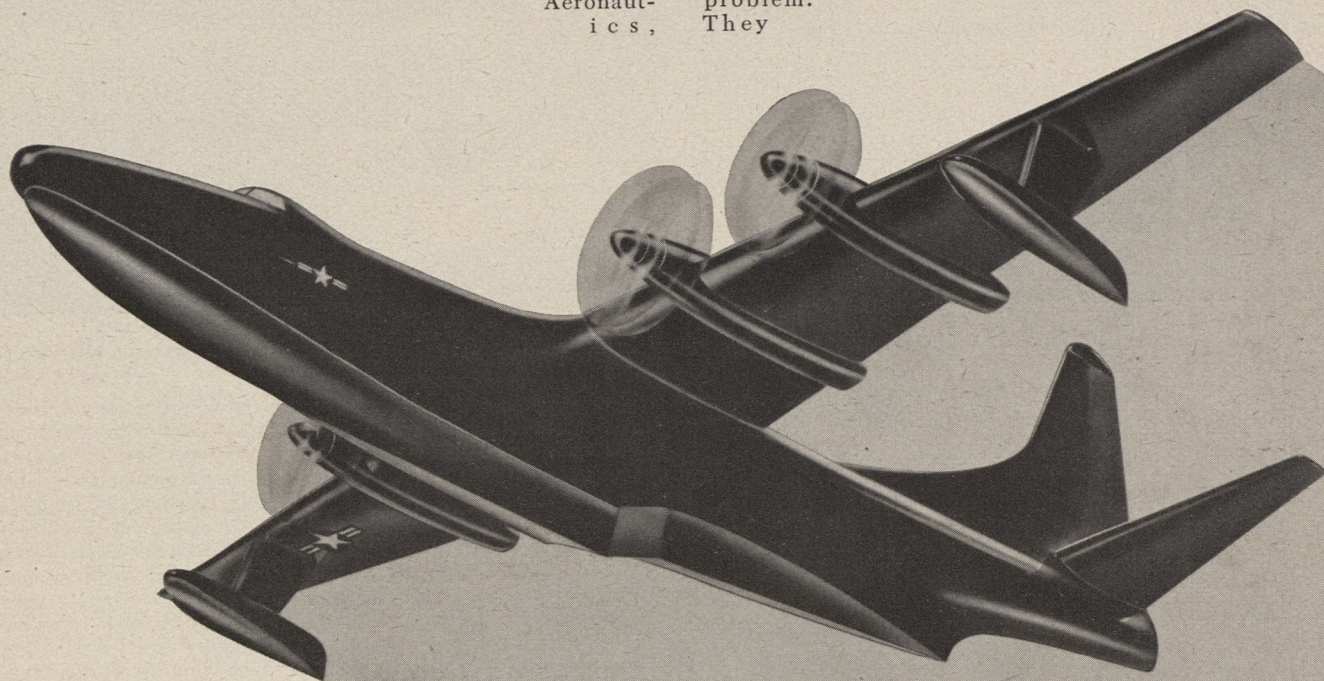
says he, for one, isn't overly concerned. Spray short of "green water," he feels, wouldn't hurt much anyway. In fact, in limited quantities it would have the same effect as water injection. Green water, of course, would put out the fire and "raise hob" with the compressor blades. But Driggs is sure that keeping "fire hose" quantities of water out of the scoop is a rather simple matter of design.

In addition to design placement, several artificial means of water interception are being investigated or discussed. One is a "water lock" that would catch and drain off the water before it got to the engine without cutting the air flow below an acceptable minimum. Another device (so far in the speculative stage only) is the auxiliary intake located, perhaps, in the interior of the plane itself. The auxiliary scoop would be used only to that point in the taxi run where the main scoop was lifted completely out of water danger. Thereafter the intake would be shifted to the regular intake.

THE L OVER B RATIO

Of equal significance in revamping the flying boat's configuration is the new "L" over "B" emphasis. L over B signifies length over beam, and until recently the accepted L over B ratio was five, meaning that the length was five times greater than the width. As any aerodynamicist will tell you, that's a pretty chubby shape to push through the air with any efficiency. How the ratio of five was hit upon in the first place, nobody seems quite able to recall. Probably it gets back to the original thinking of building a boat first and then trying to make it fly later. Boats with an L/B ratio of five were highly efficient. Their water drag was not exorbitant. So without too careful analysis of the problem, the aerodynamicists started from there.

About six years ago, however, the Navy and National Advisory Committee for Aeronautics began a thorough re-analysis of the problem. They



By NED ROOT

made some surprising discoveries. This January NACA released a series of papers based on laboratory studies which disclosed among other things:

► An increase in length-beam ratio from 6 to 15 reduced the maximum vertical accelerations (up and down movement) during landing approximately 25 percent.

► An increase in length-beam ratio from 6 to 15 increased the maximum angular accelerations (pitch) during landing 15 to 30 percent.

► An increase in length-beam ratio from 6 to 15 reduced the motions in trim and rise as well as the maximum trim and rises.

► The hull with high length-beam ratio was less likely to reach a dangerous altitude during take-off than was the hull with low length-beam attitude; the take-off characteristics for the hull with high length-beam ratio was generally less violent.

► With transition fixed, a reduction in minimum drag coefficient of 29% occurred when length-beam ratio was extended from six to 15.

► Increasing the length-beam ratio from six to 15 increased the hull directional instability by increasing the variation of yawing-moment coefficient.

► Incorporating a hull step fairing, which extended longitudinally about nine times the depth of the step at the keel, resulted in a reduction up to 16 percent in minimum drag coefficient.

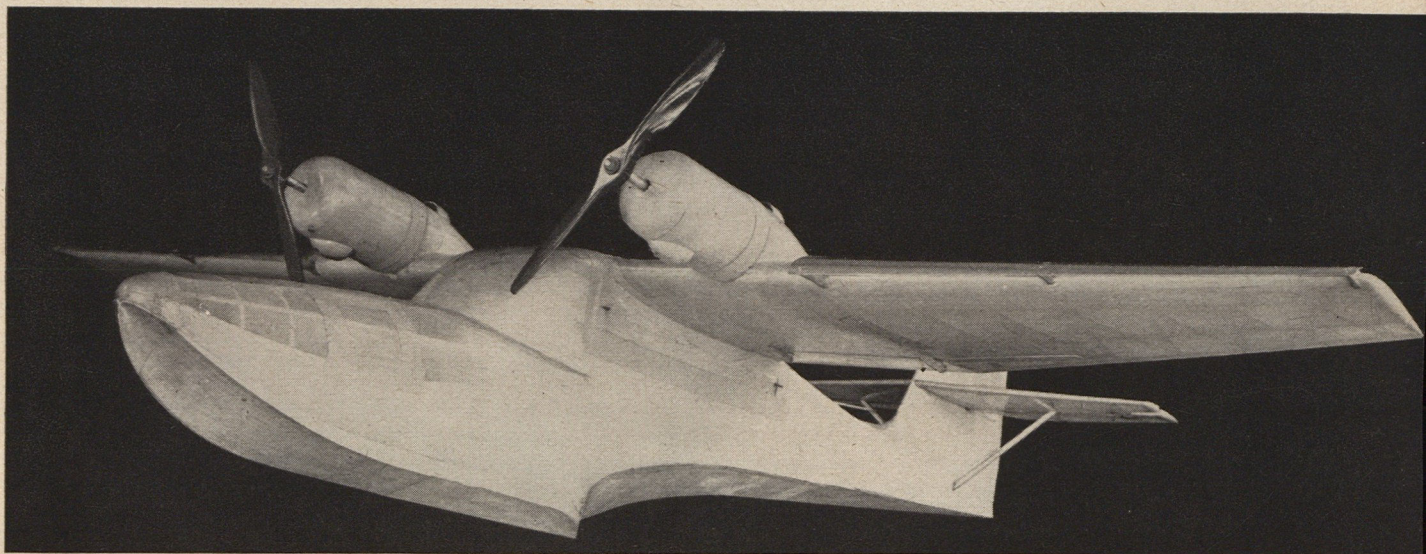
Biggest step to date in slenderizing the flying boats' rather obese frame has been taken with the brand new Consolidated P5Y. The P5Y has an L/B ratio of ten, and as can be seen from

ments which can only be mentioned in passing, but which may yet prove of greater importance than anything so far discussed. Basically their assumption is that an airplane of practically any size can be fitted with retractable "skis" that, during landing, sink slowly beneath the surface of the water as the plane loses speed, the ship coming slowly to rest on its water-tight fuselage at the end of the run. Take-off would be accomplished by pre-setting the skis at an angle that would lift the plane out of the water quickly as it picked up speed. The details of the project are classified, but the possibilities are enormous.

When you get to the point of tactical "worth" of the seaplanes—the point of determining whether or not they should be included in our strategic arsenal even if they are as efficient as land based planes—you have far fewer tangibles to work with. And lacking specific matter on which to base a conclusion, the subject opens itself up for wide debate.

For the most part the Navy takes the affirmative position that water based bombers are just as logical as land based—maybe more so. They would love, they say, to have the money to build a few "experimental" models to prove their point. The fact that they've got money for airplanes and that nobody has told them they couldn't spend it for water-based "patrol" bombers if they wanted to, gives support to the theory that perhaps they're not so anxious to prove their point as they profess, for fear of losing jurisdiction to the Air Force. This, of course, the Navy would deny, and perhaps justly so.

The Air Force, on the other hand, is quite taken by the whole



Front quarter view of Gruman-Widgeon showing planing-tail hull, another step in increase of aerodynamic efficiency.

the pictures accompanying this article, it bears only faint resemblance to the portly old flying boats of World War II. The trend is unmistakable.

Aerodynamically there are many ways of cleaning up the flying boats' hull in addition to extending the L over B ratio and incorporating jet. The "step" has always been a thorn in the seaplanes' side, or in this case its bottom. The step is the squared-off nick in the ship's hull about two-thirds of the way back that "ventelates" the hull during take-off and thereby eliminates suction that would otherwise keep the plane water-fast. Necessary as it is for take-off, it creates tremendous drag once the craft is airborne. A variety of expedients to minimize the drag have been explored, the most successful to date being a tapered step that comes to a point in the center of the hull. A new possibility (although as yet unexamined in anything but theory) is a retractable step built not unlike a retractable landing gear. The only objection to such a device so far advanced is that like a retractable landing gear it would add considerable weight. Whether or not the additional weight would off-set the advantages of streamlining is yet to be proved.

These are among the more conventional approaches to a resolution of the aerodynamic problem. Rapid as the cycle of evolution seems to be, there are other, far more radical approaches that for the most part are being kept secret. The Eddo Float Corporation, for example, is conducting certain experi-

idea—to the point of letting several contracts for design study. But for the most part it views the possibilities with somewhat less enthusiasm than the Navy primarily because of its pre-absorption with its already proven, high-performance land plane.

In explaining their position, Naval officials start out by harkening back to the old business about 76% of the earth's surface being covered by water. This, they admit, includes rivers, lakes, log and debris-jammed harbors, the ice-covered Arctic Ocean, and any and all mud puddles. Nonetheless, it's a point. How much of that 76% is navigable, and how much of it is within operating radius of "any conceivable enemy" spelled USSR is another point. It would be difficult to arrive at a realistic figure because of differences of season, sea conditions and so on. But at any rate the water "advantage" is greatly neutralized when applied to the specific problem at hand.

More difficult to discount is the Navy contention that sea bases are less vulnerable to atomic attack, and here they bring up an interesting new angle. How about servicing water based bombers at sea by submarine? By so doing, they point out, you would gain the advantage not only of reduced vulnerability of your forward bases, but of tactical surprise in that the enemy would never know quite which way you were coming from—a condition denied the land-based force with its fixed air fields. As one Navy official put it, "it allows for a more clandestine" operation. There is one additional advantage, according to the

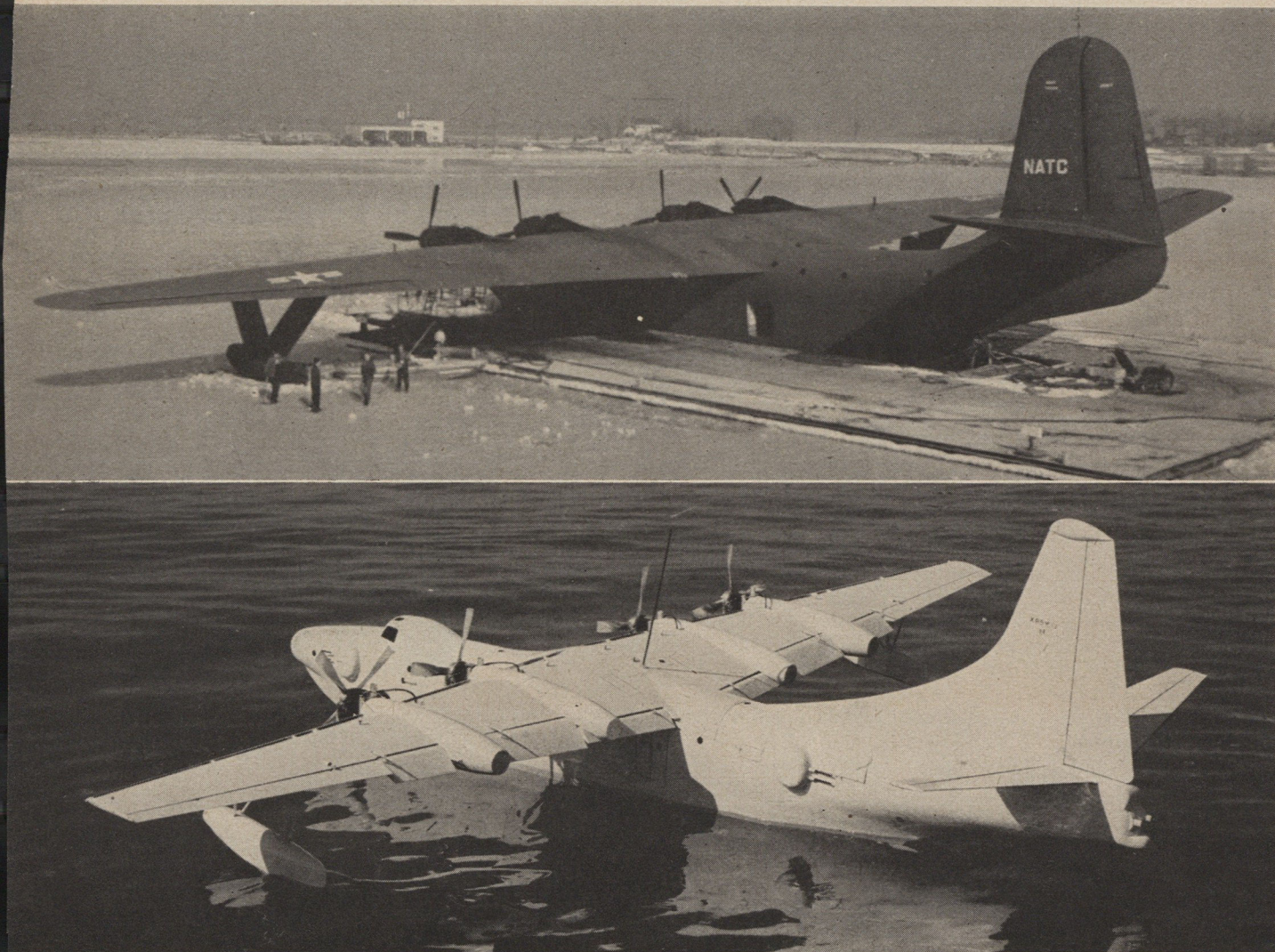
enthusiasts. By submarine servicing "close in" it is possible to transform the "bulk" of the intercontinental bomber into the "speed" of smaller ships. The Navy hastens to add that while there is no target in the world out of reach of a water-based bomber, it, of course, would use them primarily against ports and submarine pens since Navy authority does not extend to inland strategic bombing.

On the other side of the argument the Air Force views with skepticism some of these claims. "While deploring the impression that it believes in an "overnight decision," the AF still raises the question of how long it would take to deploy submarines and seaplanes to tactical position once war began. They certainly could not be relied upon for the initial, all-important "retaliatory" attack, for the simple reason that they would re-

that, while vulnerable to attack, would certainly never be *sunk*?

And from these beginnings the debate goes on. Which would cost the most; a submarine fleet large enough to service a sizable squadron of planes, or an advance land base bought at "stepping stone" expense? And speaking of vulnerability, would you dare expose your A-bombs to the hazards of water base deployment when, with the intercontinental bomber, such risk can be avoided? The pros and cons are endless, and at the moment—at least to the lay observer—the evidence seems inconclusive on either side. Perhaps it is a mistake to approach the subject with an "either-or" frame of mind. Perhaps the answer lies in a combination of the two techniques. But even here the evidence is inconclusive, for you can give good support to the argument that duplication of machines to do a common job is both ex-

"Nor wind nor sleet" does not apply to JRM-2, below, which has been thoroughly "stayed" by ice encrusted northern lake.



A controlled model of Consolidated P5Y. Note powerful turbo-prop engines. Real plane is nearing completion in California.

quire days to get to their battle stations. Only the intercontinental bomber could fly the bombs from the *place of their storage* to the target in the very opening phase of the conflict. Generally speaking, the Air Force is also less optimistic than the Navy about submarine servicing even after the war is into its pattern. Refueling might be accomplished without too much difficulty, but anything more than the most prefatory engine or airframe maintenance, the AF feels, would be likely to present monstrous and costly problems.

The Air Force doesn't propose to do all its strategic bombing with intercontinental bombers, and it therefore acknowledges the necessity of advance bases. But when it comes time to build advance bases wouldn't it be better (all other things being equal, which of course they never would be) to build bases

pensive and inefficient. So it goes.

But if the tactical worth of the seaplane is debatable, it is not nearly so much so as the question of which arm of the service would have jurisdiction over such an operation. And about the only thing we can do here is wind up right where we began—with a quote from Major Seversky. "In the final analysis," he says, "it does not make any difference whether an aircraft rises from water, land, or from a catapult. The important thing is what it is designed to do after it becomes airborne. If it carries attack to the strategic enemy installations and is capable of sustaining an air battle, then such a plane belongs to the Air Force. If, on the other hand, it is designed purely for the purpose of enhancing the efficiency of ships and naval task forces, then the plane is part and parcel of the Navy.

THE FARMER TAKES A PLANE

Agriculture and forestry may
create a need for the airplane which will
bring it within the financial reach of the average man

When the day comes, and it will surely come, that the airplane falls within the financial reach of the American public it will be due largely to a need created by the tenders of our farms and forests.

We are a big country with vast prairie lands and tall, thick forests. When we have forest fires, they destroy 31,000,000 acres annually and when sagebrush wrecks our grazing land, it wrecks 110,000,000 acres of it. The weeds and the insects and the barren soil must be taken care of. More and more this is a job for the airplane.

Planes are now being used for dusting and spraying against insect pests, for weeding, seeding, fighting fires, counting cattle, checking fences, killing grasshoppers and in a dozen other ways. Under proper conditions, the airplane has already proved itself the most efficient instrument for doing some of these jobs. In other cases, its future is not so clear, but in any event aviation's place in the agricultural world is an ever-expanding reality.

In 1948 over 3,000 planes were licensed for low-flying dusting and spraying operations alone. In June of that year nearly 1,000 operators were engaged in that business compared to 200 in May 1946. One can assume that this measure of growth is typical and that the use of airplanes for agriculture has increased by about 500% since the war's end.

Many things have combined to bring about this enormous rise. Firstly, we had the planes. Air Force and Navy trainers are easily converted into sprayers, dusters, weeders and planters. There were plenty of these planes to be had on the postwar surplus market. Secondly, we had the pilots and the mechanics, some fresh out of military service looking for jobs, others recent flying school graduates who had taken advantage of the GI Bill of Rights to learn a trade. The organizations were there, too. When business began to drop in the large mid-west flying schools, the owners looked around for something more lucrative and it was to dusting and spraying that they turned. And most important of all, we had two new powders, the insecticide DDT developed during the war, and the weed-killer 2,4-D developed in 1945.

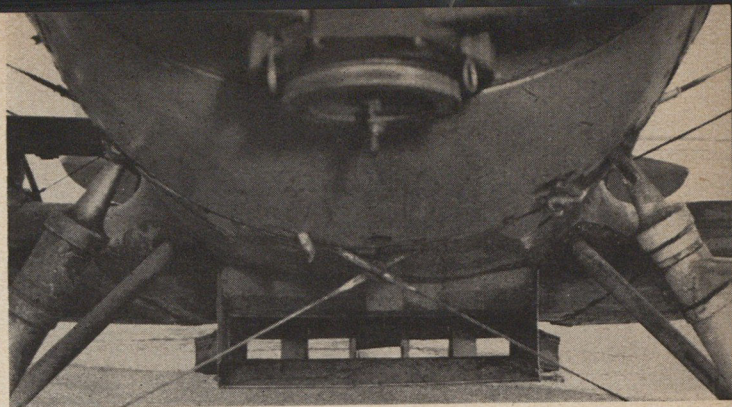
While private industry has done most of the actual flying, the Department of Agriculture has taken the lead in developing new techniques. They were the ones who brought out 2,4-D. This killer will take care of nearly all the standard

These converted Navy trainers are dusting a DDT mixture on Arizona crops. The sugar beet field below is inches under the duster's wheels.



weeds if applied properly. It will also take care of a good many valuable crops, and the accidental spraying of cotton fields by inexperienced pilots flying 2,4-D laden ships has caused four states—Louisiana, Texas, California and Arkansas—to pass laws regulating the aerial use of the killer to such a degree that some farmers feel it isn't worth while fussing with it and have gone back to ground weeding devices. It is a fact that 2,4-D will kill all broad-leaf plants, leaving members of the grass family intact. Cotton, tomatoes, beans and small trees as well as many different kinds of garden plants are highly susceptible to 2,4-D. When used in a powder form, a five mile an hour wind is sufficient to make accurate dusting impossible and while the target may be farmer Jones' wheat field, there is no guarantee that his tomatoes and Mrs. Jones' petunias won't get the shrivel treatment along with his wheatfield weeds. The use of dusting with 2,4-D has therefore, been pretty well done away with. It is perfectly possible, however, to put the weed killer into an aerosol solution and spray instead of dust. This method is not nearly so dependent on perfect weather conditions for accurate application and it has worked out sufficiently well so that one can say that with further technical improvements, this is the way we weed our fields from here on in.

Closely allied to weed killing is pest control. Here the airplane had long ago established itself as an efficient spraying instrument, for we have always had insecticides of one sort or another while practical chemical weed-killers are a product of the postwar world.

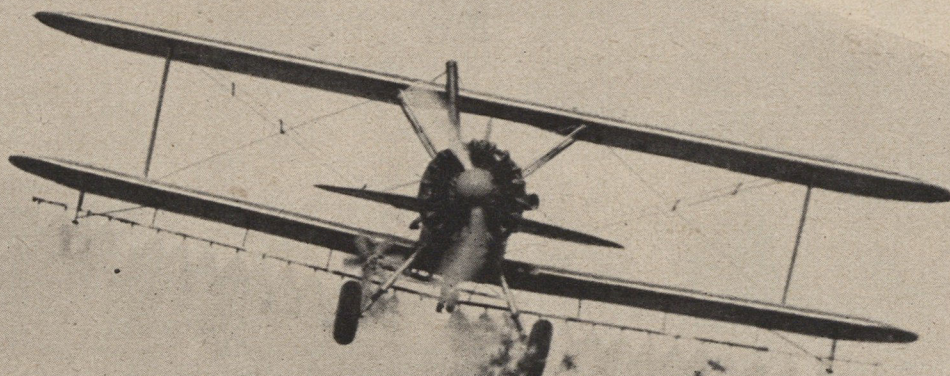


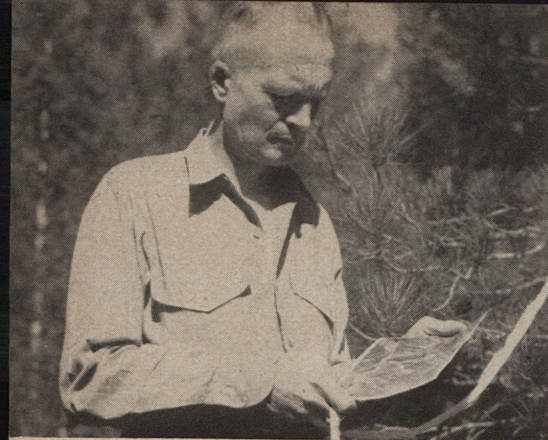
An under-fuselage view of this Forest Service plane shows the Venturi spreader that distributed a mixture of seed and sawdust on burned out Maine forest.

The whole spraying and dusting industry has, however, received a tremendous boost with the discovery of DDT for this is by far the most efficient insecticide on the market and cheap enough to make large scale application practical for the average farmer. In the state of California, for example, 132,000 crop acres were aerially sprayed for insects in 1942. In 1947, the last year for which statistics are available, this figure has zoomed to over 600,000 acres. There is no reason to assume that this figure will not continue to rise as better techniques and cheaper costs are achieved.

Re-seeding areas devastated by fire and left naked by killed-off sagebrush has always presented a problem to the agriculturist in terms of technique, time and, especially,

Citrus crops get sprayed with a mixture of DDT and water at the rate of ten gallons per acre. Extreme bottom, a forestry man loads pine seeds in hopper.





Above, a fire chief studies photo of fire taken and developed in air and dropped to ground. Below, a fully-dressed smokejumper ready to go.



A helicopter of the U. S. Forest Service lands on an emergency field near the scene of a forest fire. Helicopters are used to watch fire's progress.

money. Barren hillsides are an invitation to soil erosion and flood, and burned out forests represent an enormous waste in natural resources.

Because it is difficult and slow to operate ground seeding equipment over rough, inaccessible areas, every effort has been made to develop a technique for seeding by air, using planes or helicopters, depending on the seeding problem.

In general, seeding by air has not been successful. The problems are manifold. Forest seedlings are so delicate and need so many "ideal" conditions before they will take hold, that seeds have usually been planted in nurseries where conditions can be controlled and then replanted in forest areas when the seedlings were large enough so that a reasonable number of them might be expected to live. Naked seeds are subject to too many hazards: competition from fast-growing weeds, mice, birds, sun and rain, too much or too little shade, etc. Oddly enough a moderately hot forest fire does away with many of these hazards. Most small animal life, such as mice and squirrels are killed or driven off. Shrubbery, which would rob the seeds of necessary sunlight, is burned off and the blackened soil is a good absorber of heat which might otherwise burn the wrong seedling.

In October 1947 an uncontrollable forest fire swept through York County, Maine turning into a wasteland what once had been thousands of acres of valuable white pine. The Department

of Agriculture decided to make one of the first large-scale aerial reseeding experiments on this burn. A modified Navy trainer, flying about 80 miles per hour, 50 to 75 feet above tree level was used. Seeding was done during February 1948 when the ground was covered with two feet of snow. The snow surface was frozen and pitted, the pits acting as traps to catch and hold the seed. The plane was equipped with a 17 bushel hopper in front of the cockpit and a mixture of pine seed and sawdust was poured into the hopper where agitators kicked it through a fishtail spreader attached to the underside of the fuselage. The slipstream blew the mixture out through Venturi vents designed to spread the mixture evenly.

Because of the experimental nature of the project, different seed densities were used. One thousand acres were sown at a density of 4,000 seeds per acre. Another 1,000 acres got 8,000 seeds per acre and three small tracts totaling 120 acres were sown at densities of 20,000, 40,000 and 56,000 seeds per acre. It was expensive, because white pine seed is difficult to collect and therefore costly. But compared to the cost of individually planting nursery grown seedlings, the cost was small and from that angle, the experiment may be called a success. Regardless of cost, however, the success of the experiment must be measured in terms of results. It is still too early for accurate judgment on this score, but seedling counts made last summer and fall show reasonably satisfactory results. Area

One of the first pictures of an aerial patrol by members of the U. S. Forest Service is this of a 1921 blimp before it took off on a fire-spotting job.





Four tons of poisoned bait were loaded on this DC-3 in a spectacular effort to halt a grasshopper invasion of Montana and Wyoming. Operation succeeded.

seeded at the rate of 8,000 seeds per acre yielded as many as 2,500 seedlings per acre—a very good showing. Results varied with the type of burn. Severely burned areas failed to come anywhere near this figure, probably because the high soil surface temperature and lack of moisture were not conducive to seed growth. In no case could the reseeded areas be considered “completely stocked,” but with the reasonable expectation of improved methods and techniques, the airplane is here to stay as a fast, inexpensive tree seeder.

There has recently been a popular boom in the use of pelletized seed. In a recent article, Senator Elmer Thomas of Oklahoma, Chairman of the Senate Committee on Agriculture, spoke favorably of this technique whereby seeds are enclosed in a pellet containing fertilizer, rodent and bird repellent and other ingredients favorable to proper germination. The additional weight of pelletized seed in itself makes its distribution easier to control.

The idea is not new, but the attention it has received since the war has caused the Department of Agriculture to re-examine the whole problem. In these tests, pelletized seed of many kinds has been sown on forest lands and prairie, by air and on the ground and in nearly every case, the results were poor—in some cases less effective than naked seed. Since no promising leads were uncovered, the Department of Agriculture does not feel that the time is ripe for further large scale experiments. The fact of the matter is that

pelletized seeding has more disadvantages than advantages. In the first place no really effective rodent repellent which can be incorporated into the pellet has been found and since the pellet, unlike a naked seed, may reasonably be expected to lie around on top of the ground until firmly rooted, this is a serious drawback. Another factor is the financial one. The cost of pelletizing seed is such that to equal the cost of straight seeding, on ranges for example, the price of seed would have to increase about 300% or the present cost of pelletizing would have to drop to about a quarter of what it is now. This financial discrepancy could also be overcome if pelletized seed were three or four times as efficient as naked seed. But this is not the case and it does not seem likely that it will be in the foreseeable future.

A type of aerial planting that has proved extremely efficient is the mustard seeding that has been done on the burned watersheds of southern California. When fires sweep the hillsides around Los Angeles, the naked soil loses most of its ability to retain moisture, and sudden rainstorms, pouring down these hillsides, play havoc with the towns below. The problem here is not reforestation. It is simply a question of “cover”—roots in the earth that can prevent erosion and hold moisture. After a fire it is a matter of years before natural foliage and shrubbery may be expected to take hold in sufficient quantity to protect the hills, and “first-aid,”

(Continued on page 45)

This Air Force helicopter was one of several used in tests conducted cooperatively with the U. S. Forestry Service in California in the summer of 1946.



Below, a smokejumper lets himself down by rope after a tree landing. Above, firefighting equipment and supplies are dropped to men below.



FLIGHT NURSE

If there had been an Air Force popularity contest during the war, these competent, courageous girls would have won hands down.

November, 1944: The war entered its final winter. On the continent, American troops of the First and Ninth Armies pierced the vaunted Siegfried Line, while to the north, British planes bombed the German battleship Tirpitz to the bottom of the sea. American bombers struck Tokyo for the first time since Doolittle's famous raid. And everywhere a new breed of woman, the U. S. Army flight nurse, tended the wounded with skill and compassion . . .

Flight nurses at a 9th Troop Carrier base in England had been alerted for a month. Across the field was a stockade filled with paratroopers ready for an order to scramble into the C-47s. That afternoon a car with a four-star insignie had been seen on the field. But restrictions had been on, then off, a dozen times, and Flight Nurse Frances Sandstrom thought surely she would have time to enjoy the lonely luxury of a soapy shampoo. She went to the shower room, turned on the water, soaked her hair—and the invasion began.

Lieutenant Sandstrom dressed hurriedly, pushed her dripping hair into a knitted GI cap, and ran out to the flight line to join the other nurses.

"It never fails," she explains breathlessly. "If I wash my hair, something always happens!"

The Skytrains thundered down the runway, loaded with paratroopers. Nurse Sandstrom watched them go, too excited to feel the water trickling out of her cap and down her neck.

"We stood there until they were all gone, then we waited for them to come back," she said. "We knew most of the crews, as we had been restricted to the base so long. I guess we nurses were like a cheering station at 0200 when they began coming back. As soon as we could see the number of a plane we'd yell, 'There's Jack . . . there's Mike . . . there's Jimmy, hooray!' and we kept it up until every plane was safely back.

"Next trip they hooked up the gliders and took off again with air-borne infantry. We knew the first surprise was over, that the Germans would be expecting them. And believe me, this trip we really sweated them out. After a long time they started coming back, but this time it was different. The planes were shot up. Some of the crews were wounded, and some of the C-47s had ragged holes in their wings. We waited on the line, counting each one—finally, again they all got back."

The nurses had not long to wait and just watch the skies. Exactly four days later, five nurses from that base flew to France. On D plus 9 Nurse Sandstrom made the first of her many trips to Normandy.

"We took off that morning and flew over the Normandy beach and landed. We were the first plane to land on the first steel-mat strip put down by our advance engineers. They had just finished the job when our C-47 came in.

"Wrecked gliders were scattered all over the countryside. The troops were fighting only three miles away, and we could hear land mines exploding around



Above, a pistol packin' Flight Nurse of the 5th Air Force checks her ambulatory patients with the pilot who will fly them from Hollandia to Lae. Below, a soldier badly wounded on Bougainville is quickly unloaded at a Guadalcanal base hospital under the competent supervision of Lt. Rial Smith.



By CHARLOTTE KNIGHT

us. I was told to stay inside the plane, since all German snipers had not been cleared out and were taking occasional shots across the landing mat.

"About sundown we went back to the beach and picked up our patients, sixteen litters and two ambulatory cases. This was a clearing station where men were brought in ambulances from where they had been wounded.

"I had my first contact with new invasion casualties when the loading teams brought my patients aboard. Most of them were badly wounded. They were dirty, right out of the fox-holes. Many of them were suffering, but I had not one murmur of complaint from any of them. It was hot and dusty, but they were calm and asked for nothing except water. Each time I gave a man a drink he smiled, or tried to, and thanked me as if I had done something very heroic and wonderful."

Lieutenant Sandstrom's plane landed at a holding station in England, and her patients were taken off by an unloading team. Watching her men taken off the plane, she saw that they were handled gently and assured them that the next hop would land them in a general hospital.

"The men all looked back from their litters and said good-by," she said. "The biggest thrill I ever got was when one corporal, badly wounded, looked

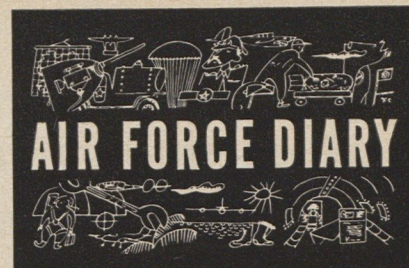
me in the eye and said, 'Nurse, I want you to know how much I appreciate this. I've never had such consideration before.'"

Nor is the corporal alone in his gratitude. Men in every theater know these women by now. Seventy-two hours after U.S. forces landed on Tarawa, flight nurses were there too, helping to evacuate the wounded from that bloody beachhead to hospitals in Hawaii and the finest medical care a man could get.

They were at Bougainville, at Sicily, Salerno, Anzio. The Burma front—and the south of France. Name any big push. Flight nurses were on the scene within a matter of hours after our troops moved in. They were the first white women on Munda, Guadalcanal, and the other South Pacific islands since war began; they were the first U.S. Army nurses to reach China.

To the South Pacific went some of the first flight nurses graduated from Bowman Field's School of Air Evacuation. This was early 1943. Men who were in that theater can add some chapters of their own about these women. They saw them put up with everything—scorching suns, torrential rains, swarms of mosquitoes everywhere, the presence of malaria and dengue fever, inadequate quarters, chow out of mess kits while standing ankle-deep in mud.

There were no quarters for them on Guadalcanal at first, so the overnight stop on the long trip from New Caledonian headquarters was generally Espiritu Santo. Up at 0100, take-off at 0300, arrival at Henderson Field at



0730, to pick up battle casualties sent down from the fierce fighting up New Britain way. When the plane landed, a jeep would drive up with coffee and sandwiches, which would be gulped down between swatting the flies away. As a matter of fact, K rations eaten aloft constituted the chief bill of fare for these commuting nurses. There was never time for a square meal for days at a stretch.

Things picked up considerably with the construction of Guadalcanal's "Hotel de Gink," a hostelry in name only, which did at least provide a screened-in mess hall of comparative luxury to nurses stopping for brief periods between flights.

The first landings which flight nurses made on that battle-torn island, incidentally, are not likely to be forgotten. Most of the men stationed there had not seen a white woman for more than a year. Word that a woman had landed spread quickly throughout the field, was as quickly denied by GI wiseacres who knew it couldn't be possible. Nevertheless, hundreds crowded

(Continued on page 46)

Lt. Harriet Thomas, a Flight Nurse in an Admiralty Air Evacuation Unit, prepares wounded GI for a trip to the rear.



IN RESERVE



VA Ready to Split Nearly Three Billion Bucks in NSLI Premiums

ATTENTION

Inserted between pages 12 and 13 of this issue is an "Application For Special Dividend". It is the official form prepared by the Veterans Administration for individual refund of the National Service Life Insurance bonus. Remove it carefully, fill it out as indicated in the specimen copy at right, and mail it. Your refund will be mailed sometime after the first of the year. These forms are furnished as a special service of AFA to its members.

In the final days of last month, the U. S. Veterans Administration began one of the biggest jobs of its career—divvying up a surplus pot of \$2 billion 800 million among 16 million GI's, past or present, who at one time or another have held National Service Life Insurance policies for three months or longer. Also eligible will be the beneficiaries of deceased policy holders.

To help with the job, VA asked Congress for \$11 million for extra staff and equipment. But so far Congress has turned a cold shoulder. It is likely therefore, that dividing of the chips will take many months. While VA urges all policy holders to get and fill out applications as quickly as possible, it does not expect to begin mailing refund checks until sometime in January.

Method by which the Administration will compute the amount due each policy holder is a closely guarded secret. The system is so complex, officials say, that to try to explain it would only lead to confusion and an additional work load. Estimates as high as a third of the premiums paid have been circulated, but have been given no credence by VA.

In announcing distribution of applications, Administration officials stated that requests for refunds would be considered only if submitted on the correct form. (See notice above.) They become a part of the individuals permanent record and must be on a special paper of correct size and weight to be processed by automatic computing and recording machines.

Prior to distribution of the applications, VA microfilmed 22 million premium record cards on file in the 14 regional offices across the country. The microfilm records will be used in the central office in Washington to determine the amount each applicant is due.

APPLICATION FOR SPECIAL DIVIDEND NATIONAL SERVICE LIFE INSURANCE

This application to be used by veteran or serviceman only. This form is not to be used if veteran or serviceman is deceased or incompetent. See SPECIAL INSTRUCTIONS on reverse side.

DO NOT WRITE TO THE VETERANS ADMINISTRATION CONCERNING YOUR APPLICATION, OR SUBMIT ANOTHER APPLICATION. SUCH ACTION WILL DELAY PAYMENT OF YOUR DIVIDEND.

Read all instructions carefully before completing this form. The information requested is required to identify your National Service Life Insurance account(s) and to mail a check to you for the dividends earned. This dividend is payable on National Service Life Insurance only. This insurance was not issued before October 8, 1940. The dividend is not payable on insurance issued after December 31, 1947, or insurance which was in force less than 3 months.

● NAME AND SIGNATURE OF VETERAN.—Under item 9 sign your name in longhand (do not print or type) to correspond with your name as given in item 1. Use identical and exact name under which you served in the Armed Forces, unless the Veterans Administration has been furnished change of name.

● PERMANENT MAILING ADDRESS.—Furnish an address where mail will reach you for at least the next 6 months. If your address changes, supply your postmaster with a forwarding address. Any change of address which has to be made by the Veterans Admin-

istration in connection with this application will cause delay in paying the dividend.

● BRANCH OF SERVICE.—Enter the specific branch of service in which you served on and after October 8, 1940, such as Army, Navy, Marine Corps, Coast Guard, Philippine Army, U. S. Public Health Service, or Coast and Geodetic Survey.

● INSURANCE NUMBERS.—If known, list all your National Service Life Insurance policy numbers. If unknown, leave item 7 blank. Please do not write the Veterans Administration for unknown numbers.

DO NOT ENCLOSE THIS FORM IN AN ENVELOPE
(Detach on this perforated line and retain the portion above)

1. FIRST NAME—MIDDLE INITIAL—LAST NAME (Type or print)

JOHN H. DOE

2. PERMANENT MAILING ADDRESS (Number and street or rural route, city, zone number, and State)

111 EAST MAIN ST.
CENTERVILLE 4, OHIO

3. COUNTY

BROWN

4. SERVICE SERIAL NO(S). (Give all numbers assigned)

ENLISTED

15090469

OFFICER

OTHER

5. BRANCH OF SERVICE

ARMY AIR FORCE

6. DATE OF BIRTH (Month — Day — Year)

MAY 1 1919

7. INSURANCE NO(S). (Include prefix N, V, or II)

N-18-129-658

8. CLAIM NO. (If any)

C-13072648

I CERTIFY THAT I AM THE VETERAN OR SERVICEMAN WHOSE NAME IS SHOWN IN ITEM 1, AND DO HEREBY APPLY FOR ANY SPECIAL DIVIDEND PAYABLE ON MY NATIONAL SERVICE LIFE INSURANCE, TO BE MAILED TO THE ADDRESS SHOWN ABOVE.

9. SIGNATURE OF VETERAN OR SERVICEMAN (Do not print)

John H. Doe

(Fold this side in. Place stamp on reverse side and mail without fastening)

VETERANS ADMINISTRATION
WASHINGTON 25, D. C.

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, \$300
(GPO)

DIVIDEND APPLICATION NO.
(To be furnished by VA)

Print your name
and address on this
Acknowledgment
Card

GPO c9-c6-16-58971-1

JOHN H. DOE

(Name)

111 EAST MAIN ST.

(Number and street)

CENTERVILLE 4 OHIO

(City)

(Zone number)

(State)

USAF to Recall Limited Number of EM Reservists

Tour of 21 months in Reserve grade is alternate to 3-year hitch in grade "determined" by AF. Overseas assignments are offered

Provision for the voluntary recall of a limited number of enlisted air reservists was announced last month by the Air Force. Assignments will be authorized in all Air Force Commands in the U. S. and in overseas areas where duty tours permit. Length of the tour will be 21 months and will be in the grade the EM holds in the Reserve.

New recall plan offers an alternate to airmen desiring to re-enter the AF. When enlisting now in the Regular Establishment, they are required to enlist in grades determined by the Air Force and for a period of three years. The AF believes the 21 month, "in grade" tour may be preferred by many.

To be eligible for active duty under any recall program, the applicant must:

- Be an enlisted member of the US Air

Force Reserve, Organized or Volunteer.

- Meet minimum physical standards as prescribed for enlistment in the Regular Air Force.

- Meet the same mental standards as prescribed for regular AF enlistment.

- Have a minimum of 21 months remaining in his current inactive Reserve enlistment.

- Meet general AF enlistment requirements.

Eligibility is not extended to airmen below the first three enlisted grades who have dependents, to retired personnel, or to those drawing a pension, disability allowance, or disability compensation. Applications of interested Reservists should be made to the commanding general of the numbered Air Force in the area in which they live.

Faricy Heads Civilian Components Policy Board

President of Railroad Association accepts appointment by Johnson. Board of 18 to study Reserve problems of all service branches

William T. Faricy, President of the Association of American Railroads, has been appointed by Secretary of Defense Louis Johnson to the important post of Chairman of the Civilian Components Policy Board. The appointment was made after the job had been turned down by former Secretary of War Robert E. Patterson.

Faricy will head a group of 18 officers selected from the Reserve Components and the Regular Establishment. No EM appointments will be made to

the body which will have the responsibility of studying and evaluating all questions affecting the organized reserves of each of the services. Names of the balance of the group are yet to be announced although it has been revealed that Alva Fenn, a National Guard officer, has been hired as Secretariat.

Faricy, who is 56, has been President of the Association of American Railroads since March, 1947. Previously, he was VP of Chicago and North Western Railway.

All Set for "Operation Lookout"

Civilian supervisors for "Operation Lookout", have been selected, according to AF announcement, and are now completing arrangements for the mammoth air defense maneuver which will last seven days beginning September 10th. The tests will extend over ten North Atlantic states and will employ 25,000 civilian volunteers. Approximately 1200 observation posts will be necessary to cover the area involved, plus five filter centers which will correlate reports from observation posts.

Plans call for the observation posts to be manned four different four-hour periods each day for the first five days of the operation, and for a single 24-hour period starting noon of the sixth day. Air Force cadres have been stationed at the filter stations for several weeks, installing plotting equipment and training civilian personnel.

It is hoped "Operation Lookout" will signal the development of an adequate plan for air defense and air raid warning. The results of the operation will determine the manner in which a nationwide air defense system will be operated. The maneuver is being conducted by Air Defense Command under Maj. Gen. Gordon P. Saville, the officer primarily responsible for the elaborate radar net now being readied for installation. Mock air attacks will be made by a variety of aircraft at pre-determined times during the games.

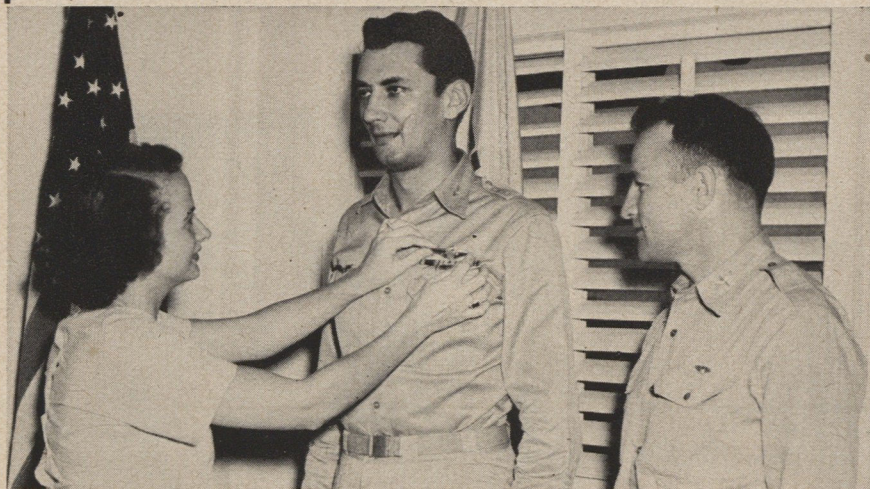
Bonus for Reserve Pilots to be Axed by Bill in Congress

The highly controversial \$500 bonus paid to AF Reserve pilots for each year of federal service will likely be axed very soon, it has been disclosed. The Air Force, along with the Navy and National Military Establishment, has indicated that it no longer favors the bonus, and has therefore made no objection to a bill introduced in Congress late last month to kill it.

Under the terms of H.R. 5921, introduced by Representative Carl Vinson, Chairman of the House Armed Services Committee, "no further credit shall be allowed for any period of service performed after June 24, 1948, in computing lump-sum payments to Air Force Reserve officers or their beneficiaries, under Section 2 of the Act of June 16, 1936 (49 Stat. 1524) as amended, nor to Reserve officers of the Navy or Marine Corps or to their beneficiaries, under Section 12 of the Act of August 4, 1942 (56 Stat. 738).

The new bill, officials point out, safeguards officers against loss of any credit accrued prior to June 24, 1948. The bill was recommended by the Committee on Civilian Components of the National Military Establishment. The Committee also recommended that Reserve officers affected be allowed to resign from the service if they so desired.

JACKPOT RESERVIST

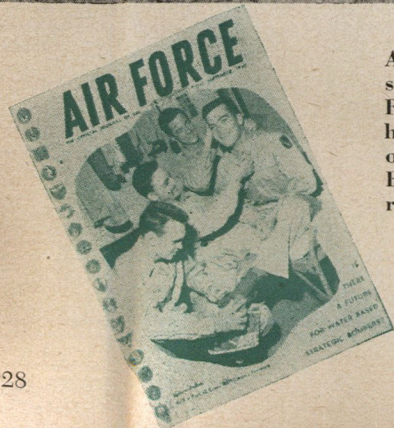


Surely among happiest Reservists is Capt. Herbert Wolff Jr., of Howard AFB, Panama, who won following during summer encampment: Senior wings (pinned on here by his wife) F-84 certificate, green card, and two Air Medal clusters.



IT'S A YOUNG MAN'S BALL TEAM, POP

Average age of the Air-ROTC graduate is 24, and getting younger—which is one of the reasons the Air Force is turning to him to take the load off the rapidly-aging veteran Reservist



A Douglas B-26, above, goes into simulated strafing attack as Air-ROTC cadets at Orlando learn to hit the deck. Exercise was part of two day bivouac along Florida's Banana River. T/Sgt. M. E. Fulp, right, checks new cadets into base.





No this isn't issue, it's just part of cadet's instruction in Supply. Capt. Dick Drane keeps close eye on merchandise.

The young men pictured here and on the cover are a few of the 5,800 Air-ROTC cadets who are just now completing their 1949 summer training period. These pictures were taken at Orlando Air Force Base, Florida, but for the most part the scenes were repeated at nearly a dozen other camps from Hamilton Field, California to Stewart Field, New York. Except that they were far bigger (last year's total enrollment was 3,800) there was little to distinguish this year's encampments from those that have preceded them since 1946. As is the custom, most of

the time was spent in practical application of the theoretical instruction students had been given during the winter at 110 different colleges. The individual camp they went to was determined by their chosen specialty—engineering, armament, administration, and so forth. Still lacking, however, was any practical application of the very basic theory of flying. While the Air Force has hopes of correcting the situation at an early date, there is still no provision for Air-ROTC trainees to get any actual flying training either during their advanced courses in col-

lege or in their six weeks summer meet.

Routine as Orlando and other encampment activities were, there was one factor that made them highly significant. It was the youth and energy of those who participated. The average age of the Air-ROTC graduate who is commissioned a second lieutenant is 24, and will probably go down several additional years as World War II veterans are worked out of the college pipeline. The average age of the officer in the Air Reserve as a whole, on the other hand, is slightly over 30 and will march inexorably up as the years go by.

Cadets at Orlando summer encampment required no special training in art of stacking chow tray. From left, P. L. Caldwell, University of Mississippi; Harry Boehme, University of Miami; and Steve Carter, University of Florida.

Chapel attendance was high at Orlando. This trio of freshly-pressed cadets is on way to Sunday service.



IN RESERVE



Had they known they would wind up in a pup tent, Air cadets Charles McCanless and Kirk McKay might have chosen the Navy.

To an Air Force that leans heavily on its civilian components for its war-time strength, and an Air Force that also leans heavily on *young* men, this age differential is extremely important. The weight the Air Force attaches to the Air-ROTC can be gauged by this illustration: Within a year or so the AF hopes to award 10,000 Air-ROTC commissions a year. At the moment there are slightly more than 50,000 of-

ficer berths in the Organized Reserve. Thus if each Air-ROTC graduate assumed a position in the Organized Reserve upon his graduation, it would be only five years before all present jobs in the Organized Reserve would be taken over by ROTC men.

Obviously this will not be the case. Since today's ROTC graduate is not a flyer he could not replace the veteran who is. In addition many ROTC grad-

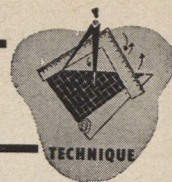
uates will not join the active reserve. But it is none-the-less true that from now on in, the burden of AF Reserve strength will rest more and more heavily on the young college graduate rather than on the aging veteran.

Further note on the expansion of the program is the announcement that the number of colleges giving Air-ROTC training will soon be jumped from 127 to 140.

They may command F-86's someday, but first all Air-ROTC cadets must qualify with the carbine, even as the group at left below taking a lesson from Lt. L. M. Podraze. At right, the end of a strenuous day—a quick dip in nearby Lake Suzannah.



AFA STATE ROUNDUP



CALIFORNIA

Oakland: Plans are being formulated for a second statewide AFA membership drive in the California Wing. According to tentative plans, this campaign will culminate at the second annual Wing convention, which is to be held in Oakland, October 7, 8 and 9.

Winner of the Wing Membership contest which ended June 15 was Dave Barrows, commander of the new, active San Bernardino Squadron, who brought in 18 new members.

Van Nuys: Stiles B. Merrill, 7942 Norwich Ave., was recently elected commander of the newly-formed Van Nuys Squadron, AFA. Other officers are George W. Warren, vice-commander; Williard R. Erbeck, secretary; and R. M. Thomason, treasurer. Council members include Robert W. Dorothy, Douglas Dorman, Jimmy Khougaz and Eugene Dobson.

Inglewood: Gordon A. Ballantyne, 107 South La Brea, was named commander of the recently-chartered Inglewood Squadron, AFA. Other officers are David C. Johnson, Jr., vice-commander; Ray Vida, secretary; and Gil Vizcarra, treasurer. Council members include Paul Koechritz, Jr., Richard H. Hein and Kenneth W. Barnet.

ILLINOIS

Chicago: Charles F. Stebbings, 1714 West 74th Place, was elected Chicago Group Commander at the Chicago Group meeting held on August 2.

George A. Anderl was named commander of Squadron 101 at an election held on July 29. Other officers are Walter E. Nelson, vice-commander; Walter Hinz, secretary; Morrie Paul,

treasurer. Council members are William P. Bunnell and H. D. Amey.

INDIANA

South Bend: A \$550,000 terminal building designed to meet the air transportation needs of South Bend, Indiana, and the surrounding area for many decades was dedicated and formally opened on June 11 and 12, at the St. Joseph County Airport with a display of military air power, an open house of commercial aviation facilities, and addresses by county, state and national officials.

The two-day celebration, which was opened with a flag-raising ceremony and climaxed by a flight of jet aircraft, was sponsored jointly by the South Bend Squadron No. 1 of AFA, the South Bend Junior Association of Commerce and the Mishawaka Junior Chamber of Commerce.

The military demonstrations were presented by an Indiana National Guard unit from Stout Field, Indianapolis and by an Air Force fighter squadron from Selfridge Air Force Base. The AF squadron flew F-80 Shooting Stars. An Air Force static display was presented by the Air Force Exhibit Unit.

Shepard J. Crumpacker, Jr., headed the committee that arranged for the dedication. Crumpacker was assisted by Fred Hotop, commander of the local AFA Squadron.

NEW JERSEY

Atlantic Highlands: The First annual convention of the New Jersey Wing will be held at the Hotel Berkeley-Carteret in Asbury Park, N. J., on Saturday, September 24, 1949.

The schedule of events follows: 3 p. m.—Showing of latest USAF films.

4 p. m.—Symposium on status of air reserve in New Jersey. 5 p. m.—Cocktail party and reunion. 8 p. m.—Air-power banquet.

Full information can be obtained by writing Warren De Brown, Convention Chairman, 65 John Street, Red Bank, N. J.

NEW YORK

New York City: "Operation Wing Ding" will be shown at the September meeting of the WAC Squadron No. 1 on Sept. 9. The membership drive is being continued until later in the fall.

A beach party for patients at the U. S. Marine Hospital, Neponsit, L. I., was sponsored by the WAC Squadron on June 25.

PENNSYLVANIA

Harrisburg: Facilities of the new hangar of Harrisburg Squadron No. 1, AFA, provided the ideal rendezvous point in Harrisburg, Pa., on July 15, for veterans of the 37th Service Group attending the first reunion of the Will Rogers Field "Boys from Pennsylvania."

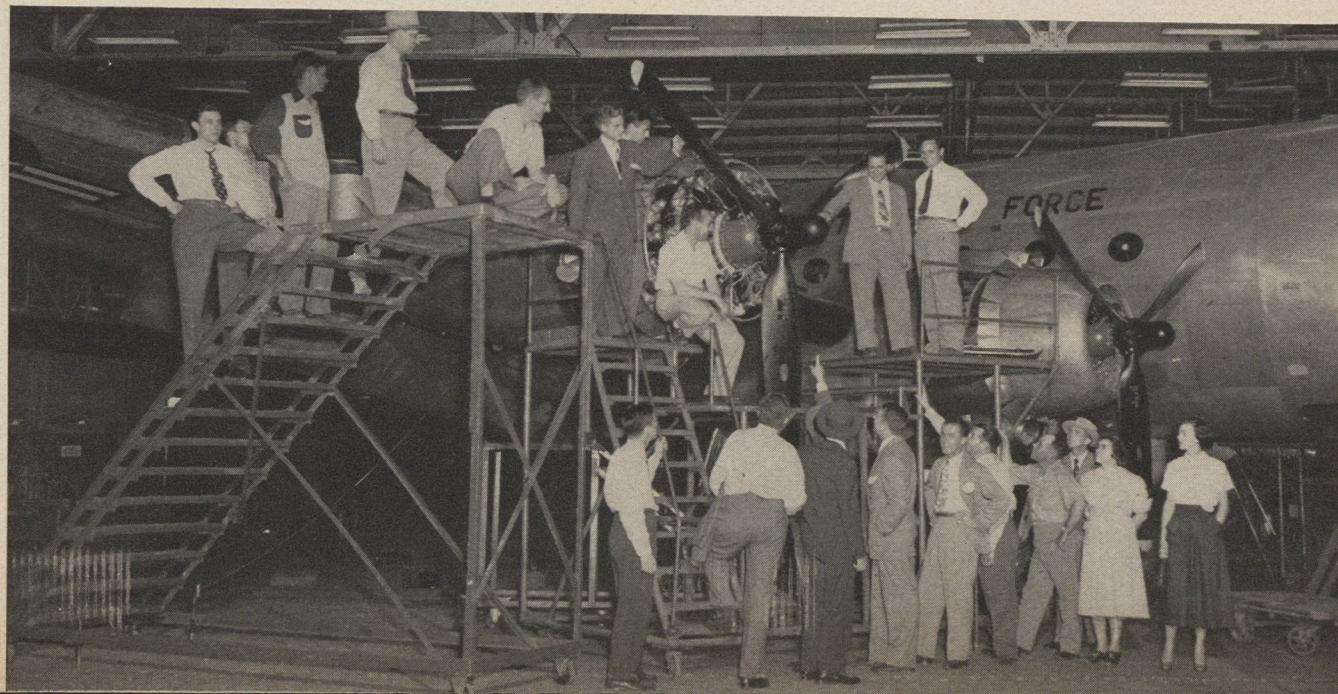
The reunion banquet, which was attended by more than fifty men who had served with the group in Africa and Italy following their recruit training in 1941 at Will Rogers Field, was held the following evening at the Officers Club, Middletown AF Base near Harrisburg.

Mrs. Edith "Mom" Clem, Oklahoma City YWCA worker travelled 1500 miles to attend reunion of "her boys." She was banquet guest of honor.

Lewistown: The flight of four F-80 Shooting Stars from Langley Air Force Base over the Mifflin County Airport was the

(Continued on page 44)

Dallas Squadron members inspect one of the several-score Berlin Airlift C-54s which they saw on a field trip through the Texas Engineering & Manufacturing Company plant near Dallas. TEMCO was one of many plants visited during year.



Special Prepublication Offer

GLOBAL MISSION

BY H. H. ARNOLD

General of the Air Force

This is the Old Man's story. From his boyhood on a Pennsylvania farm to his retirement at the end of World War II, "Hap" Arnold recounts the things that happened in the salty, human style that one would expect of him. Since the Wright Brothers taught Hap to fly in 1911, he has been inseparably linked to the growth of American Airpower. In GLOBAL MISSION he tells the inside story of how that airpower was developed. The book tells about the earliest pioneers of flight, the air lessons of World War I, how America invented the buzz bomb in 1917, Billy Mitchell's court-martial and Hap's own exile. His descriptions of things which aroused his interest range from the meetings of the Combined Chiefs of Staff to "Joe" Stalin's private bottle. He tells how he got the real low-down on the Luftwaffe at a baseball game and how, for a few horrible moments, the Quebec Conference feared that one of the Combined Chiefs had murdered a colleague. Arnold has written one of most important books to come out of World War II.



Prepublication price \$4.50

\$5.00 After September 21, 1949

"A Tent on Corsica," "The Eagle in the Egg" and "Volume II of The Army Air Forces in World War II" are three of the most important "Air Force" books to be published this summer. Each one is different and each is interesting and valuable in its own way. From solid history to a great yarn, you can find the kind of reading you like in these three books. The general public is snapping them up like hotcakes. Why not order your copy now, while it's convenient?

- **VOLUME II OF THE ARMY AIR FORCES
IN WORLD WAR II**
EUROPE—TORCH TO POINT BLANK
(August, 1942 to December, 1943)
University of Chicago Press **\$6.00**

- **THE EAGLE IN THE EGG**
By **OLIVER LA FARGE**
Houghton Mifflin Co. **\$3.50**

- **A TENT ON CORSICA**
A Novel by **MARTIN QUIGLEY**
J. B. Lippincott Co. **\$2.75**

AIR FORCE BOOK DEPARTMENT, BC-10

c/o AIR FORCE MAGAZINE

369 Lexington Ave., New York 17, N. Y.

Please forward the book(s) I have listed below.

I enclose check or money order for \$.....

.....

.....

.....

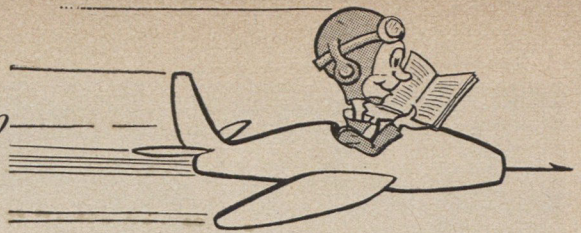
Sorry, NO COD's

Name.....

Street.....

City.....Zone.....State.....

The Airman's Bookshelf



General Kenney Reports

by General George C. Kenney, Duell, Sloan & Pearce. \$4.50.

The literary output of high-ranking wartime military leaders has, in general, been greeted with favor by the reading public, which still wants to know what happened, how it happened, and why it happened.

It is a military axiom that when a soldier receives an order he obeys it whether he understands the reasoning behind it or not. The reasons for the more important decisions are usually known only to the War Department and to that tight fraternity of general officers upon whom the decisions rest.

The understanding of what went on in the minds of these men must necessarily wait for war's end and so it is only now that we can fill in the blank spaces in our knowledge of the war with books like "General Kenney Reports," which will be published by Duell, Sloan & Pearce in October.

The book is what its title implies: A report. General Kenney has used his wartime diary as its basis and although it is obvious that he is not a professional writer, Kenney brings to his book the same forcefulness and direct approach that characterized his leadership as Commanding General of the Allied Air Forces of the Southwest Pacific.

The summer of 1942 found our Air Forces in the Pacific in a chaotic state still suffering from the confusion and low morale precipitated by our heavy losses at Pearl Harbor and the Philippines. The same summer found General Kenney sitting in an office in San Francisco in command of the 4th Air Force. It seems inevitable that Kenney should have gotten the South Pacific job. MacArthur was screaming for someone to put the Air Force on its feet to a point where it was capable of undertaking even limited operations. General Arnold wired him that he was sending Kenney whom he considered the best man for the job. MacArthur's reply was substantially an "alright, but he'll have to show me."

Kenney showed him. By the time the war was over the two men had nothing but admiration and respect for each other.

One cannot review this book without reviewing the qualities which make the man. In the simple day by day account of General Kenney's wartime career, those qualities come inevitably to the surface. Kenney stepped into a situation that might have made a lesser man despair. Our Air Force, if you can call it that, in the South Pacific area really existed in name only. Morale was at its lowest. Leadership was lacking. Planes were few and far between and the crews were untrained. It was not uncommon for them to jetti-

son their bombs at the first sign of an enemy aircraft. They believed that one bullet in the bomb bay was enough to detonate their load. It took six B-17s one hour to get off the runway. Often they never did succeed in making rendezvous, and proceeded to their targets alone. It was a rare occasion when more than one or two planes succeeded in dropping on target.

Kenney brought to this problem, imagination, ingenuity, and an unfailing ability to pick the right man for the right job. He had no use for paperwork commanders. He wanted men who could get things done and get them done quickly, and it wasn't very long before he had weeded out the dead wood and replaced them with men he knew could do the job. It is to Hap Arnold's credit that Kenney got cooperation from Washington on this. When he wanted a man, he got him.

Next, Kenney, taking stock of the situation in the area, threw the book away and devised his own methods of attacking enemy shipping and air-dromes: two of the most important South Pacific targets. For shipping he developed and sold to his men the skip-bombing technique. Even before he arrived at MacArthur's Headquarters, Kenney had borrowed a B-26 at one of his island stops, loaded it up with dummy bombs and, using a coral knob for a target, tried out the new technique, flying at different altitudes and dropping bombs at different distances from the target. Kenney convinced himself of the practicality of the technique and his squadrons soon bore him out in practice.

A second Kenney inspiration was the parafrag bomb. In 1928 Kenney was fooling with a way to drop low bombs at altitude without having fragments hit the plane. Parachutes, which opened as the bomb left the plane, seemed to be the answer. The bombs were equipped with a supersensitive fuse that kicked the thing off as soon as it made contact with anything at all—even a leaf on a tree. It took Kenney from 1928 to 1936 to get Ordnance to manufacture about 5,000 of them for test purposes. Two thousand were actually tested and the others got buried in some depot until Kenney dug them out and had them shipped to Australia that summer of 1942. He thought they might wreck Jap planes caught on the ground. They did. Kenney ordered and got several hundred thousand more after his original supply was used up.

One of Kenney's biggest problems was getting planes. The European war had first call on nearly all types as they came out of the factories. Kenney got what was left and building up the 5th Air Force proved to be a slow and painful process. Kenney was forced to improvise and no man could have done

the job with more ingenuity. When he found that his skip-bombing B-25s needed far more forward firepower, he commissioned his gadget man, Pappy Gunn, to work the thing out. Gunn modified the nose of the bomber to accept a nest of 50 caliber machine guns. When the device had been installed on 25 B-25s and was working perfectly, Kenney, on one of his trips to Washington, asked that it be installed at the factory on all Mitchells to be delivered to him. A solemn group of officers from Wright Field assured him that it couldn't be done. It would throw the plane out of balance—make it nose heavy. Wouldn't fly right. Arnold, in whose office the meeting took place, threw them out of the office and told Kenney to send his man Gunn back to the states to show them how to do it.

Kenney doesn't describe his methods and tally his results in a bragging manner. He is simply reporting. This is what happened—the good things and the bad, the exciting and the routine. As a matter of fact it is this factual approach which makes for the one weakness in the book. General Kenney, no doubt in the interest of accuracy and completeness, has described so many combat missions with statistical facts on each one that they tend to run together and the dramatic effect which they might have had individually is lost in a morass of facts and figures. A little judicious cutting might help here.

The Air Officer's Guide

The Military Service Publishing Co., 567 pp., \$3.50.

The second edition of this standard reference book for Air Force Officers has recently been published. The first edition, which came out soon after the Air Force was set up as an independent unit, merely adapted the Army Officer's Guide to Air Force problems. The new book purports to have been directly written for the Air Force. The book covers every subject of interest to an officer from how to report to your commanding officer and customs of the service to how to handle a drunken enlisted man. There is no chapter on what to do about drunken officers.

The Air Officer's Guide not only covers the factual material which must be learned by the young officer before he can function properly in his duties, but it contains what the book jacket calls "a healthy amount of good, sound advice written by officers with extensive experience." It is our feeling that most officers need not be told how to behave properly and as for the others no text book will change them. For its factual material, however, the book is undoubtedly an invaluable addition to the Air Force Officer's library.

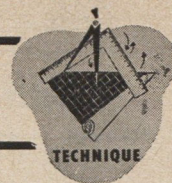


a New Star!

Again, Chase engineering has demonstrated its resourcefulness in answering the need for larger, more durable, more versatile transports. The C-123 offers utility, versatility, ease and economy of operation on a grand scale. For, within the 77 ft. fuselage and 110 ft. span is a spacious cargo compartment capable of accommodating a 155mm Howitzer and truck, 60 fully equipped troops, 50 litter patients. Truly, Chase has placed a new star in the aircraft firmament.

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





Automatic Pilot is Latest in AF Synthetic Trainer String

Latest addition to the USAF's string of synthetic flying training devices is an automatic pilot trainer that is equally useful in the instruction of both flying and ground maintenance personnel. Built by Link Aviation Devices, Inc., the new contraption is currently under test by the Instrument and Navigation Unit, Training Branch, Wright Field.

The machine is constructed on a platform with actual aircraft controls so that airmen can actually "fly" both manually and on auto-pilot. Both wheel and stick controls are available for the operator—pilot or co-pilot. An instrument panel with necessary flight dials makes it possible for the flyer to check the reactions of the auto-pilot handily. In addition the platform has moveable ailerons, elevators and rudders which also show various control responses. The entire platform climbs, dives and turns in simulating flight attitudes.

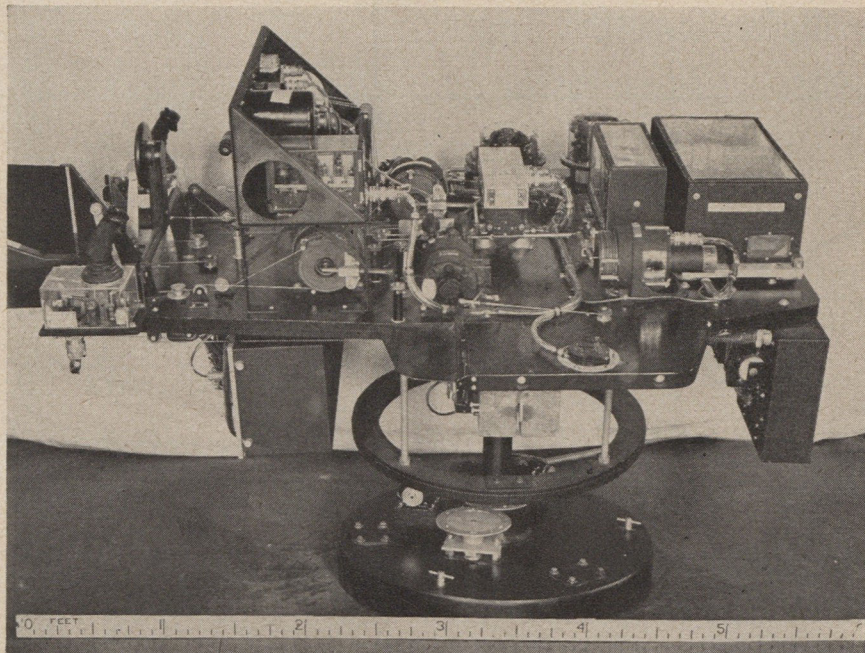
The automatic pilot itself is a Sperry Gyroscope E-4 model. It is mounted on the platform so that the pilot can observe both it and his instruments at the same time, thus providing opportunity for careful study of both principle and operation.

For ground maintenance instruction, although it is also useful to the pilot, special lucite casings for the various auto-pilot mechanisms have been used to permit observation of the instruments various parts and controls. The maintenance instructor can disconnect lines, remove parts and generally create simulated interference problems to test the ability of students in repairing them. The automatic pilot trainer is one of an extensive new series of trainers now being incorporated by the Air Force.

Wright Field Gets New Landing Strip-Inside Test Laboratory

Having accomplished the impossible during the war in the matter of building landing strips, no one should be surprised now to learn that the Air Force has managed to construct one inside a Wright Field laboratory.

The new strip was built to enable engineers to simulate all-weather landing conditions for model test purposes. The principal device, a steel flywheel, is expected to duplicate landings at speeds of 250 mph. A plane tire pushed against the revolving flywheel receives the same initial shock as it would experience when touching an actual runway.



Automatic pilot and controls all in a single unit make up this machine for training airmen and mechanics in operation and maintenance of auto pilots.

Air Materiel Command Opens Air Research Office

New unit designed to bolster basic and applied research and to bring about closer cooperation between USAF and other agencies

An Office of Air Research, designed to strengthen the Air Force's program of basic and applied research in the physical sciences, aviation medicine, and advanced technology, has been announced by the Air Materiel Command at Wright Field.

Creation of this office is expected to fill an increasingly realized need for closer coordination between Air Force research, private institutions throughout the country, and government research organizations other than the USAF such as the Bureau of Standards, the Office of Naval Research, and various Army research labs.

Establishment of OAR is in line with the recommendations contained in the Eberstadt Report of the Hoover Commission for increased attention to the advancement of research in peacetime to develop advanced techniques and material for use in possible future wars. The OAR is expected to insure:

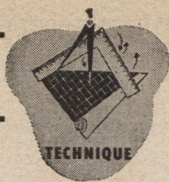
- ▶ That research is not neglected for immediate materiel development needs.
- ▶ That Air Force materiel development is abreast of latest scientific knowledge.
- ▶ That new ideas for the future are fostered, and necessary research accomplished.

Nucleus of the OAR is a small research section which has been in existence for several months as a part of

the AMC Engineering Division. The strength of this office is being augmented by recruiting of top scientists in all fields. This recruiting is being carried on under Public Law 313, a law passed by the 80th Congress which authorizes each of the services to employ a number of outstanding scientists by offering them compensation commensurate with their ability and experience. About eight of these scientists will be members of the new unit.

When plans are completed, the office will have the latest scientific instruments and a well-equipped laboratory available to each scientific group. It is expected this lab will make possible a high standard of scientific quality by permitting OAR members to keep in touch with advancements in their own fields. Most of the research, however, will be carried on by contracts with universities and other private or industrial research institutions.

Included in the new agency will be specialized scientific groups in the fields of Applied Mathematics, Aerodynamics, Physics (including Electronics, Geophysics, and Nuclear Physics), Chemistry, Metallurgy, Mechanics, Ceramics, and Biophysics. The office will also contain a computation section, equipped with the latest in digital and analogue computing machines.



Introduce Disposable Oxygen Mask for Airline Passengers

The latest thing in oxygen masks for non-combat fliers and commercial air travelers—when they need it—is a simple type unit made of paper, pliofilm and plastic.

Developed by the H. L. Burns Company of Portland, Ore. the new type mask has been undergoing tests by the Wright Field Aero-Medical Laboratory. Tests indicate it may be one answer to the long-time problem of a cheap, easy-to-wear, operable "breather" for the air passenger who sometimes is subjected to altitudes where lack of oxygen makes it uncomfortable.

Essentially the mask consists of a porous paper face piece, a bellows fashioned from very thin pliofilm and a plastic tubing which connects with the plane's oxygen supply. It snaps on with a little elastic fastener. Weighing only a few ounces the mask is comfortable to wear and works on the same principle as the standard in-service type A-8B constant-flow mask or demand-oxygen breathing equipment.

Engineers of the Aero-Medical Laboratory are quick to point out the masks are not intended for use in military fighters or bombers. It is primarily designed for "temporary periods of oxygen want" at altitudes up to 25,000 feet.

Exhaustive tests have already been run with the new mask by Aero-Med specialists and researchers at the University of Washington. Early results indicate that the disposable mask will perform satisfactorily for 4 or 5 hours endurance.

In cases where a non-pressurized airliner, for instance, must fly extremely high (above 8,000 feet which is considered still normal breathing) to avoid weather or for other reasons, the inexpensive mask will permit passengers to have their individual oxygen supply. At present airlines use merely a tube which enables passengers to "suck" their bit of oxygen when it is needed. The mask will also serve for pressurized cabin aircraft in emergency cases where something might happen to the cabin to suddenly decompress its ground-level air.

From the military standpoint the cheap masks may be used in troop carrier planes where there are a great number of men involved. It would permit ample supply of oxygen at a minimum cost.

The idea behind the inexpensive oxygen mask is that it can be used once and then thrown away.

According to its designer and builder when in mass production the mask can be manufactured for as little as twenty-five cents apiece.

TECH TALK By Douglas J. Ingells

Some inside stuff on the new Boeing Stratocruiser, the commercial airliner version of the C-97 cargo: The giant complete with cocktail lounge, will carry a crew of seven and 75 passengers, but it only takes 16 passengers and a ton of cargo to make a given flight of 500 miles start paying off. An estimate says it can haul passengers for six cents per mile and cargo for .20 per ton mile. That's plenty cheap for the 300 to 340 mile-an-hour speeds. But by far the big plane's most attractive feature is summed up by a passenger's comment: "For the first time a person can get up and walk around from one deck to the other which is *numb* fun, eh, kid?"

Up front in the pilot's compartment which they call the "Bridge", the Stratocruiser has something new in the way of instrument lighting. Both red and white lighting is available with the former being a boon to night vision because—according to tests—it is relatively insensitive to the "rods" or night vision "receivers" in the human eye. The lighting has been scientifically engineered to permit neither glare nor deflection and it can be regulated to precise intensity required by outside lighting conditions. Last month, incidentally, the airlines celebrated the 20th anniversary of the first transcontinental passenger airline—Transcontinental Air Transport's air-rail service across America which began on July 7-8, 1929. Interesting is this historical record which puts a different light on most twisted air passenger statistics. In the first two decades of operations, steamships on the Great Lakes alone averaged 5,000 fatalities per year for their passengers. Air crashes have never hit this high and never will!

No more iced up windshields, according to recent tests with a newly developed Nesa anti-icing window glass, a product of Pittsburgh Plate Glass Co. Panels are made up of two laminated sheets of glass sandwiching a layer of plastic to afford strength. A thin coating of the new Nesa material capable of conducting an electric current between the two glass panes, reportedly heats up the windshield sufficiently to melt away any ice accretion on the outer surface.

A very old idea is getting top consideration again from certain aeronautical engineers who believe enough data are now available to begin doing something about it. The idea centers around a convertible of the air; a plane that can be both slow like the helicopter and fast like the more conventional type aircraft. Some companies are seriously considering plans for the new roadable airplane. One design study calls for a plane that will go along the highway, telescope its wings and take off like an autogyro; land by a rotor like a helicopter. In the air the big supporting rotor-wing will also serve as a prop to obtain high speeds. The plan has long been under consideration by the Air Force. Helicopter people just don't want to talk about it. One expert, however, ventured the possibility that such a plane could conceivably fly at near sonic speeds!

Hotter and Hotter. A recent report on jet engine research indicates that Titanium-cobalt turbine blades for jet engines are showing excellent heat-resistance in the 2400 to 3000-degree F. range. Also that hollow blades of S-816 alloy and Inconel "X" with 24 fins for water cooling indicate that operation around 3500-degrees is now practical. It may mean super powered jet engines.

An interesting biological study of airplane controls made by the Naval Medical Research Institute says something should be done about the rearrangement of cockpit controls in consideration of sitting height, thigh-leg comfort and arm reach. At present, the study shows, pilots in some planes have to bend forward, stretch their arms and even "bury their heads" in the cockpit simply to carry out routine and essential operations. Recommendation? A course in biology for the aeronautical engineer.

WOULD YOU?

do business with THIS Company!

Glendale News-Press

MONDAY, NOV. 22, 1948

PAGE 4-B

Integrity in Business

Although business concerns, both large and small, have long been pointed to as the "big bad wolves" of our economic life, the fact is that most business organizations are considerably better members of the economic family than certain minority groups would have us believe.

Integrity in business is the rule, rather than the exception. But even so, it is interesting and encouraging to find such evidences of business integrity as recently have been demonstrated by the Grand Central Airport Co., right here in Glendale.

This company, one of Glendale's most important industries, recently completed an interesting contract for the Chinese Air Force, in the performance of which 100 C-46 Curtiss Commando cargo airplanes were overhauled and modified.

The planes had been left in storage at Walnut Ridge, Ark., at the cessation of hostilities following World War II. Grand Central sent a crew of experts to Walnut Ridge to "ready" the planes for flight, after which they were flown to Glendale, completely overhauled and modified, and then flown to China.

Obviously this was a difficult and an unusual undertaking and one which brought commendation from all quarters of the aviation industry. It becomes more outstanding when it is realized that every one of the planes flown from Walnut Ridge to Glendale and worked over by the highly trained Grand Central technicians arrived safely in China, being flown via Honolulu, Wake, Guam and thence to Shanghai.

To the layman, however, the most noteworthy part of the entire accomplishment lies in the method of charging for the job.

The work on the planes was contracted for by the Chinese Air Force at a fixed price for a fixed number of hours. But the Glendale concern, by the efficiency and skill of its operation, was able to reduce substantially the number of hours required for the job. Instead of pocketing the difference, however, Grand Central passed the savings on to the Chinese.

The company recently has received a letter of commendation from Gen. Pang-tsu Mow, deputy commanding general and Chinese Air Force representative in Washington, D. C. It is understood that funds for the work were originally advanced to the Chinese by the United States.

A similar instance of "integrity in business" came to light following the completion of a contract by Grand Central to overhaul 24 C-54's, the Douglas four-engined transport now being used by the United States Air Force on the Berlin air lift.

The ships required a complete general overhaul and the company was given a contract at a flat rate per hour, following rigid specifications, with no top amount set by the government.

As with the Chinese contract, the local company completed the job satisfactorily and on schedule. And again, by careful planning and the use of highly skilled technicians, Grand Central turned out these planes at approximately \$15,000 per job cheaper than other concerns doing exactly the same work. So a saving of approximately \$360,000 was effected—this time for the United States government.

The history of business in the United States must have many similar chapters. But it is of special pride to Glendale citizens to realize that in Grand Central Airport Co. the community has one of the organizations that takes pride in practicing integrity in business.

Which probably is one of the important reasons why the concern, which operates the important Grand Central Airport as well as its large shops and a technical school, has continued to stay in business and to prosper since 1929, even in the face of strong competition.

Similar action by every business would be of great aid to the fight against inflation and for lower prices.

(REPRINT OF AN EDITORIAL, IN
GLENDALE NEWS-PRESS, NOV. 22, 1948)

GRAND CENTRAL AIRPORT CO.

C. C. MOSELEY, PRESIDENT AND CHAIRMAN OF THE BOARD

Specializing in Overhaul, Repair and Conversion of Airplanes and Engines... and its subsidiary

CAL-AERO TECHNICAL INSTITUTE

Specializing in training of Aeronautical Engineers and Master Aviation Mechanics

GLENDALE, (Los Angeles County) CALIFORNIA

TECHNIQUE



Boeing Develops Stabilizer for High Speed Jets

New device automatically compensates for directional change and yawing effects induced by rough air. Not a part of auto-pilot

Development of an automatic stabilizing device for high-speed jet aircraft, which allows smoother flight in rough or gusty air, has been announced by Boeing Airplane Company.

Designed originally for the XB-47, the new control device automatically compensates for changes in direction and yawing effects induced in high speed aircraft by gusty air.

Completely separate from the usual automatic pilot controls of the B-47, the innovation practically eliminates objectionable "Dutch Roll" characteristics which have been common to most recent very-high-speed, swept-wing military aircraft.

Dutch Roll, named from the odd side-to-side swinging motion reminiscent of a Dutch ice skater, starts from a side gust of air which displaces the airplane and starts a "tail wagging" sequence that is only gradually corrected by the vertical tail.

Such a change in direction on a final bombing run could affect the accuracy of the bombardier's aim. Likewise, it would make riding anything but comfortable for the passenger in a future jet-powered airliner. On earlier aircraft, a large vertical tail effectively minimized such oscillations.

●The new Boeing device, nicknamed "Little Herbert," actually is an auto-

matic device which with no help from the pilot applies suitable rudder movement to prevent "Dutch Roll."

Technically, "Little Herbert" consists of a gyroscope, electronic amplifiers and a small electric motor. Operationally, the gyro measures the rate of change of direction in the airplane's compass. Amplifiers send these rate-of-change signals to the small electric motor, which instantaneously pushes or pulls the rudder into proper position to offset the effect of the gust.

Gunners to Get Crack at New Three-dimensional Air Target

Aerial gunners are now going to get a crack at new fast moving targets which in reality are three-dimensional non-powered aircraft.

Originated by the Navy, the new type tow target designated the 27-A according to engineers is capable of higher speeds at higher altitudes than any previous type tow target ever used by either the Air Force or the Navy.

Although a Navy design, the target aircraft is also being tested by the Air Force in a joint development program using high performance tow planes.

The 27-A is in itself a powerless air-

craft. Shaped like a bullet, its tubular fuselage is 19 feet long with V-shaped nose and tail control vanes, a 24 foot mid-wing. It is towed behind an F-80 or a B-45 bomber.

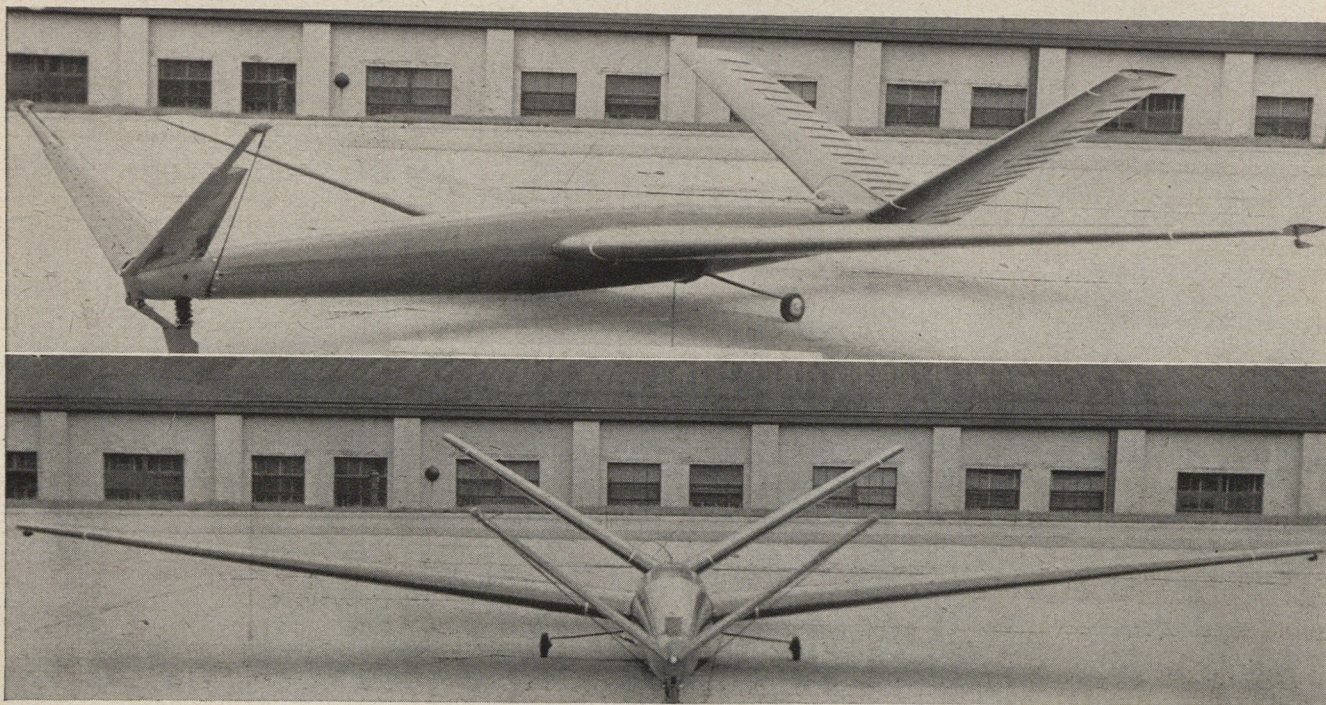
In giving gunners this three-dimensional target to shoot at, training experts believe they have hit on an improved method for setting up accurate simulated ranging problems. Using previous type tow targets—banners or sleeves—gunners get practice only in azimuth and elevation. The new target plane whose good-sized wing span injects the third dimension factor permits full use of new ranging techniques.

A safety factor for the towing aircraft is built into the design. Its V-shaped wings in the nose facilitate a special bridle tow arrangements which causes the target to maintain its flight path far behind and below the towing aircraft insuring that tow-crews and craft are out of danger of stray bullets.

In take off the target is towed at short range, 150 to 250 feet behind the mother airplane. It rests on a tricycle gear, two small wheels underneath the mid-wing and a nose skid. Take-off is like any powered aircraft or glider.

Immediately after take-off a special release mechanism extends the nose skid and cocks a special trigger device which kicks free the tow-cable when landing. The cable carried in the towing aircraft can vary from 1,000 feet to 12,000 feet and is controlled by the mother aircraft.

In landing the tow aircraft reels in the tow line until the target ship is 150-250 feet behind. Normal landing is made. Upon contact, nose skid releases tow line and a six-foot diameter parachute is automatically released from packet in tail of the fuselage to slow down the target plane.



Latest target tows. Here are two views of the high-speed X-27A three-dimensional tow-target being tested by Air Force and Navy for use in training aerial gunners. Non-powered, the plane permits new use of ranging devices in air practice.

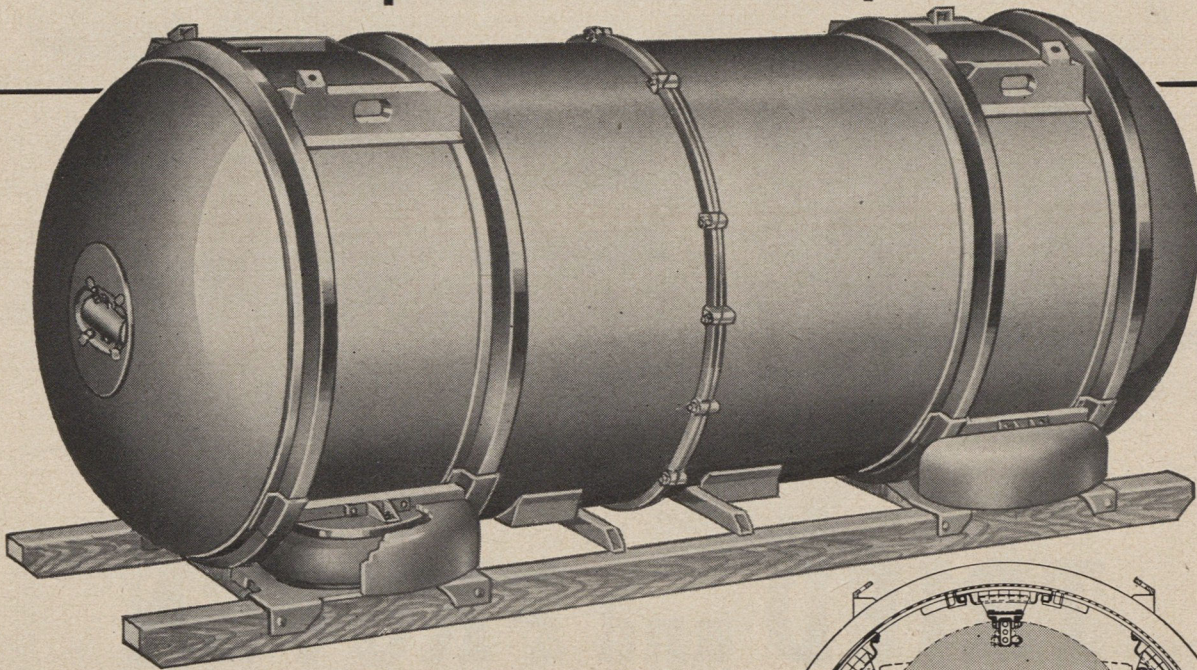
NOW!

Firestone

AIRPAK

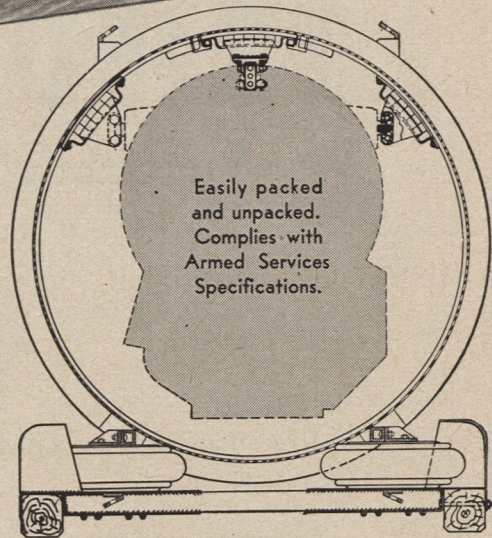
FOR SHIPPING JET ENGINES

Shockproof—Moistureproof

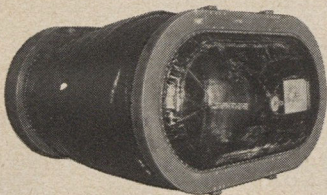


NOW you can ship jet engines anywhere—even overseas—without danger of breakage or corrosion. Firestone AIRPAK is a revolutionary new pressurized, moisture-proof steel container supported by four combination pneumatic-hydraulic shock absorbers. You get *double* protection against damage. The pneumatic action absorbs high frequency vibrations, protects delicate engine parts; the hydraulic action cushions severe shocks and jolts.

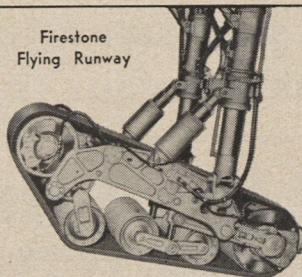
The AIRPAK is another in a long series of Firestone developments that has helped make aviation history. If you have any problem involving the use of rubber or rubber-to-metal, our engineers will be glad to work with you. Simply write The Firestone Tire & Rubber Company, Aviation Products Division, Akron 17, Ohio.



Copyright, 1949, The Firestone Tire & Rubber Co.



Bullet-Sealing Fuel and Oil Tank



Firestone
Flying Runway

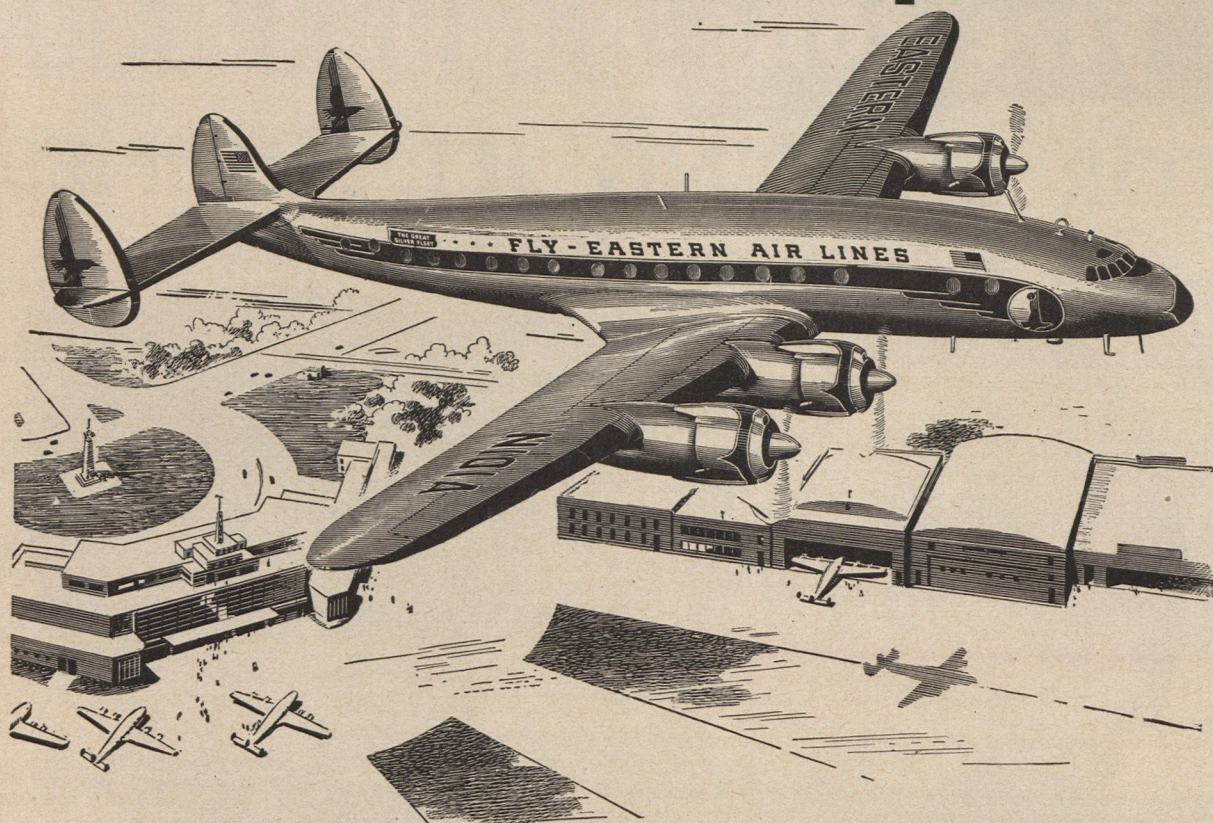


Sky
Champion
Gear Grip
Landing
Wheel Tire



Sky
Champion
Leakproof
Tube

When you travel—by all means FLY! FLY EASTERN for Double Dependability



"TRIED and PROVEN"

OVER BILLIONS OF PASSENGER MILES

Dependable airliners and dependable personnel—that's the Double Dependability you get when you fly Eastern Air Lines.

Eastern's employees are specially trained and highly skilled in the all important job of making your flight more comfortable and enjoyable.

Eastern's magnificent New-Type Constellations, famous DC-4's and DC-3's have been "Tried and Proven" over billions of passenger miles!

On your next trip, for business or pleasure, team up with DOUBLE DEPENDABILITY!

SAVE 10% on return ticket ALWAYS BUY ROUND TRIP

MAKE ADVANCE RESERVATIONS NOW...

Call EASTERN Air Lines or your travel agent

EASTERN Air Lines

21 YEARS OF DEPENDABLE AIR TRANSPORTATION



being withheld. Furthermore, according to AF testimony, the plane is still "growing". It can be expected to continue to break its own records for some time to come. NOTE: Strangely enough, testimony of Kenney and others regarding anticipated accuracy of bombing at high altitude has drawn little attention from press. Kenney intimated he could drop bombs from B-36 at 40,000 feet at night with results as good as were obtained with B-17s in daylight bombing at 25 or 30,000 during WW II. This is best clue so far to efficiency of new highly secret radar bombing systems now being installed in all 36s.

CONCLUSIVE AS THE EVIDENCE THUS FAR PRESENTED SEEMS TO BE, it must be remembered that the opposition has not yet come to bat. It is risky to predict the course of the investigation from this writing on. From a standpoint of logic there is little more to do than identify and take testimony from the "cowardly" authors of the scurrilous anonymous charges, hear from a few more witnesses like Secretary Johnson, Floyd Odum, Generals McNarney and Norstad and quit. Conceivably this could be accomplished by the end of the first week of September. There is no doubt that a quick finish to the matter is the desire of 99 percent of the committee. But the Van Zandt faction can be expected to put up a desperate fight to prevent this sort of wind-up. Unmercifully beaten in their original attempt to discredit the 36 and the men who built and fly it, their only remaining hope is to rechannel the hearing away from its initial purpose and to lose the import of the evidence thus far presented in a sea of irrelevant and extraneous subjects. The toughest job of the hearing, so far as Chairman Vinson is concerned, lies ahead in keeping the committee to the point. Given half a chance, the opposition will undoubtedly revoice the old "don't put all your eggs in one basket" plea. This in spite of simple facts already pointed out by General Vandenberg that "the B-36 is only one part of strategic air power, and strategic airpower is only one part of the Air Force as a whole." And further that "The degree of emphasis placed upon developing and maintaining the components of the Air Force is directly proportional to the contribution which these forces make toward the fulfillment of the overall mission of the Armed Forces under the governing strategic concept adopted by the Joint Chiefs of Staff."

BUT THE EGGS IN BASKET ALARM will, if allowed to creep into the hearing, make it possible to revive the once dead but not yet buried question of the super aircraft carrier. Nothing would please Van Zandt, and his friends more. So far the hearing has been marked by the cool good humor and wit of the committee's chairman. But Carl Vinson will prove himself "patience on a monument" if he retains that humor in the vexing days he has ahead.

HEARING SIDELIGHTS: Successor to the B-36 is now well on the way but may not be operationally available for another five years. It is the all jet B-52, built by Boeing. Anticipated performance is still classified. Recent upping of heavy group strength from 18 to 30 B-36s was made on the findings of Gen. LeMay that the intercontinental plane could be serviced and maintained nearly as easily as B-29, therefore making it possible to keep a group of 30 in operation with far fewer men and less housekeeping equipment than originally planned. Given the choice of 70 groups or 48 groups and 1½ billion dollars arms aid to Europe, Gen. Vandenberg told the committee he would take the latter. Whether this was personal conviction or party line is anybody's guess. Vandenberg did testify that on purely military considerations he still believed the Air Force needed 70 groups.

(Continued on page 42)

Airpower in the News CONTINUED

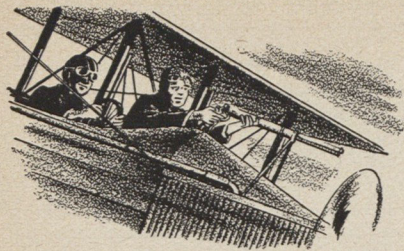
THE ARMED FORCES PAY INCREASE BILL, which has passed the House, is on the Senate calendar . . . The Wherry Housing Bill, which permits contractors to build housing units on government-owned land to be rented to military personnel, was made law on August 6.

A NEW AMENDMENT TO THE 1948 ARMY AND AF RETIREMENT ACT, which would defer effective date for earning retirement credit to July 1, 1949, has passed the House. Date was changed to allow sufficient time to permit institution of program under which active Reserve personnel could qualify for retirement credit. First bill to amend act was vetoed by the President, for it included a supplement that was against the Administration's policy . . . "A small well-trained active military force, with difference made up by reserve contingents," is favored by Mr. Truman. Gen. Vaughan quoted the President at recent press conference . . . USAF Medical Service will commission 300 civilian physicians now serving as internes, as first lieutenants on active duty with AF Medical Reserve Corps. Maj. Gen. Grow, Surgeon Gen. of AF, announced on August 16 . . . A Judge Advocate General's Department Reserve has been authorized by AF, and organization and functions will be announced in near future . . . Delivery of complete sets of training aids to each of AFRTCs is scheduled for early date under arrangements completed by Air Force Reserve with Technical Training Aids, Inc., Tulsa, Oklahoma, through Air Materiel Command . . . Field Economic Mobilization courses for Army and Air National Guard officers will be conducted in sixteen cities throughout the country by Industrial College of Armed Forces during 1949-50 academic year.

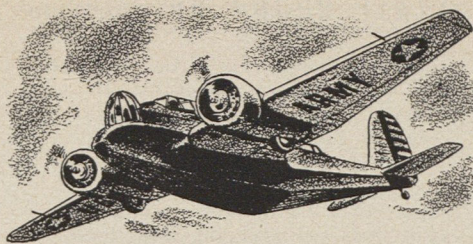
A BILL RELATING TO RETROACTIVE PENSIONS AND COMPENSATION BENEFITS payable to disabled or deceased veterans of World War II who were prisoners of war is awaiting the President's signature . . . Bids for construction of 500-bed Veterans Administration general medical and surgical hospital at New Orleans, Louisiana, have been received by New Orleans District Engineer and are now under consideration . . . AFA Statement of Policy adopted at recent Chicago convention was read into July 25 issue of Congressional Record by Rep. Paul W. Shafer of Michigan . . . Sec. Johnson has announced selection of 95 per cent of supervisors who will take part in "Operation Lookout," the air defense exercise for civilian "spotters" in ten North Atlantic states, scheduled for September.

RAIN-MAKING EXPERIMENTS HAVE BEEN DISCONTINUED BY USAF because it has found that man-made rain is not practical, either in economic or military sense . . . Tiny semi-tailless jet plane known as Northrop X-4S is undergoing research tests at Muroc AF Base. It is one of smallest planes ever built for AF. . . A new metallic compound which will withstand high temperatures of modern gas turbines, jet and rocket engines, has been developed under Office of Naval Research contract with American Metals Corporation. . . A handbook which brings together in one publication engineering reference material for use by manufacturers of civil and military aircraft in calculation of allowable stresses or minimum strengths of typical structures, has been issued by Aircraft Committee of Munitions Board.

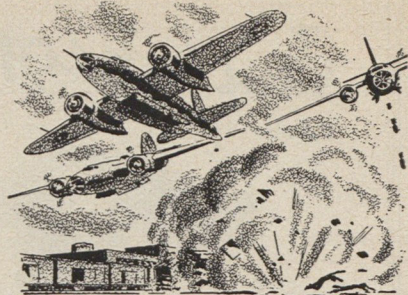
USAF IS SCHEDULED TO FIRE FIRST OF SERIES OF "AEROBEE" ROCKETS at Holloman AF Base, N. Mex., this month to inaugurate program investigating composition of atmosphere at altitudes up to 75 miles above earth. This will supplement program at White Sands, N. Mex. . . Trade publication AVIATION WEEK reported that it has learned that Boeing Aircraft Company, makers of B-50s, has developed its own refueling system while in flight. AF officials have declined to discuss report. . . One million units of a newly developed combat food packet have been ordered by USAF.



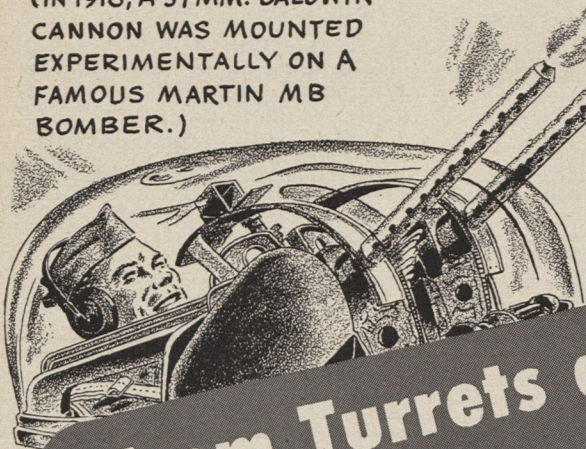
THIS WINCHESTER-ARMED 1913 PURSUIT PLANE WAS ANOTHER MARTIN FIRST! (IN 1918, A 37 MM. BALDWIN CANNON WAS MOUNTED EXPERIMENTALLY ON A FAMOUS MARTIN MB BOMBER.)



REVOLUTIONARY B-10 (COLLIER TROPHY) BOMBERS FEATURED THE FIRST ENCLOSED TURRET, A MARTIN DEVELOPMENT.

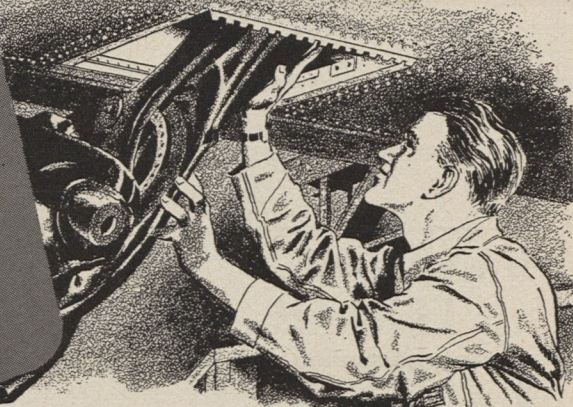


DURING WORLD WAR II, MARTIN WAS THE LARGEST BUILDER OF ELECTRICALLY-OPERATED GUN TURRETS.

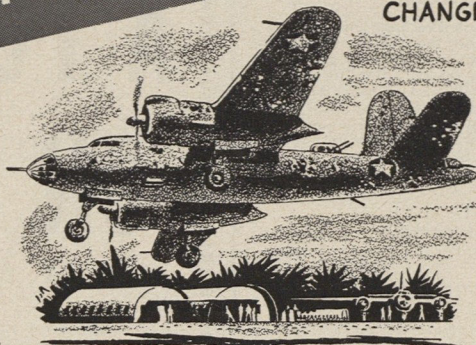


IN 1936, MARTIN PRODUCED AMERICA'S FIRST POWER-OPERATED TURRET. TODAY, MARTIN ELECTRONIC FIRE CONTROL SYSTEMS MAINTAIN THIS HISTORIC LEADERSHIP. ELECTRONIC "BRAINS AND MUSCLES" TO LOCATE, TRACK AND FIRE AGAINST ENEMY AIRCRAFT.

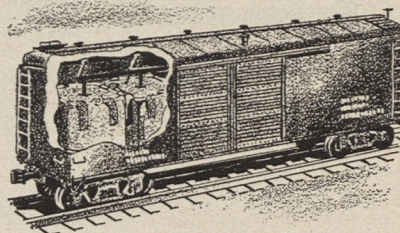
From Turrets and Tanks to Electronics and Elastomerics
Pioneering by Martin paid off here, too!



AS LONG AGO AS 1918, MARTIN EXPERIMENTED WITH BULLET-PROOF FUEL TANKS ON THE MB.



THEIR SELF-SEALING FEATURE SAVED THE LIVES OF THOUSANDS OF AMERICAN AIRMEN AND HUNDREDS OF PLANES DURING WORLD WAR II



MARENG CELLS HELPED LICK TANK CAR SHORTAGE DURING EARLY MONTHS OF WORLD WAR II BY CARRYING GAS IN BOX CARS.



AMAZING MARTIN MARENG CELLS WERE DEVELOPED AS GAS TANKS IN THE LATE '30s TO FIT PLANE WINGS LIKE FOOTBALL BLADDERS.

Martin
AIRCRAFT

Builders of Dependable



Aircraft Since 1909

Aerial gun turrets and versatile Mareng Cells (licensed to U. S. Rubber Co.) are typical Martin developments which have gone hand in hand with the building of a long line of great aircraft. In research and in the air, rely on Martin for results!

THE GLENN L. MARTIN COMPANY, BALTIMORE 3, MD.

Luxenberg

The Finest Military Cap in the Land

NOW

5% OFF

TO AFA MEMBERS

Luxenberg, the most distinguished name in military caps for 25 years now offers Reserve and Regular Officers who belong to AFA a special 5% discount on the new Blue 84 cap, \$19.50 value for \$18.50. Get the best and save yourself a buck in the bargain. Hand-made of the finest felt, calfskin visor and straps, featuring the famous "Lux-Roll-Edge" that insures perfect lines always.

TO AFA MEMBERS ONLY \$18.50

WHICHEVER YOU CHOOSE, THERE'S NO FINER CAP AT ANY PRICE

Perfect fit assured, if you send your correct hat size. Mail orders shipped postpaid promptly on receipt of your check or money order. BE SURE AND GIVE CORRECT SIZE.

WRITE DIRECT TO AIR FORCE ASSOCIATION
ATTENTION DEPT. K
901 16th St., N.W. Washington 6, D. C.

STATE ROUND UP CONTINUED

star attraction of the second anniversary Air Show sponsored recently by Mifflin County Squadron No. 1 of AFA. Approximately 6000 visitors jammed the Airport for the show.

Features of the afternoon were the flights over the field by military aircraft, four P-47's of the 104th Fighter Squadron of the Maryland Air National Guard and 12 Corsairs flown by the 451st Fighting Marine Squadron from the Willow Grove Naval Air Station. Other attractions included a T-6 plane from the 53rd Wing at Harrisburg and five C-47's from the 148th Fighter Wing at Reading.

W. Randall Leopold, commander, expressed the squadron's satisfaction with the program and said that it went off on schedule except for the unexplained failure of Sherwood E. Cole, internationally-known parachutist, to appear as contracted.

TEXAS

Dallas: Needing a shot-in-the arm to boost attendance and also believing it should get better acquainted with the area's private and commercial aviation industry, the Dallas Squadron of AFA has conducted a unique but successful series of field trips. Al Harting, Squadron C. O. who is also a new AFA national director, reports that the year-long program accomplished its pur-

poses and believes that the visits will result in closer cooperation between AFA and the local industry in the future.

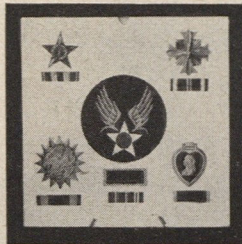
The field trips were conducted every other month. On alternate months representatives of typical aviation operations were invited to speak to the Squadron at its downtown meeting room. Tours were made through the municipal airport terminal building, Braniff International Airways headquarters, Texas Engineering and Manufacturing Company and Carswell Air Force Base. The Air Base trip was an all-afternoon visit which was climaxed by a barbecue and dance in the Carswell Officers Club. Top brass of the Eighth Air Force went all-out to give the Dallas AFAers a better understanding of the B-36 and the global theory of air warfare.

WEST VIRGINIA

Beckley: The Raleigh County Memorial Airport was catapulted into reality recently as about 12,000 Raleigh Countians went to the polls to approve \$300,000 in a special levy for the project.

The heavy voting came after an intensive "get-out-the-yes-vote," campaign by the Beckley Squadron, AFA, and other civic and professional groups within the county.

HANDSOME CERAMIC WALL PLAQUE



With reproductions of your own medals and theater ribbons baked in—in color

Here is a distinctive and unique new memento of your own war record. A ceramic (high-gloss tile) wall plaque—ideal for living room, study or den—with full-color, baked in reproductions of the Air Force emblem and your own medals and ribbons. Basic plaque with USAF insignia in center and wall hanger postpaid, only \$2.00. Medals 25c each. Ribbons 15c each. Size: 6" by 6". A perfect gift for any Air Force veteran.

Send your order direct to:

AIR FORCE ASSOCIATION

Department "M" 901 16th St., N.W. Washington 6, D. C.

AIR FORCE ASSOCIATION

Dept. "M"
901 16th St. N.W.
Washington 6, D. C.

Gentlemen: Please send the new ceramic Air Force plaque as quickly as possible to the following:

(name)

(address)

(city & state)

.....AIR FORCE PLAQUE, with hanger, Air Force emblem
only in center, postpaid \$2.00 each

PLUS The Following Checked Medals at 25c each:

.....Silver StarAir Medal
.....Distinguished Flying CrossPurple Heart
.....Bronze Star	

PLUS The Following Checked Ribbons at 15c each:

.....Silver StarPresidential Unit Citation
.....Distinguished Flying CrossAmerican Theater
.....Bronze StarE.T.O. Theater
.....Air MedalAsiatic-Pacific
.....Purple Heart	

I enclose check or money order in the total amount of \$.....

We dare you to put this
book down!

A Tent on Corsica

BY MARTIN QUIGLEY

A gunner's eye view of the air war over Italy—of men who knew the odds were 3 to 1 that they'd never finish their tour of duty.

● "A lot of drink, a lot of flak, and the normal, wholesome bitterness toward the High Brass and the Army Rules . . . the man-to-man comradeship which made their Army years the richest experience in life for more men than like to admit it."—*N. Y. Herald Tribune*

● "We strongly recommend that you read A TENT ON CORSICA."—*N. Y. Times*

\$2.75 at all bookstores

Philadelphia • J. B. LIPPINCOTT CO. • New York

while branding efforts to strengthen the defense establishment as "trends toward dictatorship."

Anonymous documents designed to plant wrong conclusions in the right places are a major factor in this anti-airpower campaign. Several of them, prepared by those who do not have the guts to sign their names, have figured prominently in the Congressional hearing on the B-36. Another of these gutless-wonders has turned up under the title of "The Strategic Bombing Myth," and has been circulated to people of influence. It represents an ingenious application of the half truth. Ignoring completely the overall conclusion of the United States Strategic Bombing Survey that strategic bombing was "conclusive" in the defeat of Germany, it presents in 54 pages excerpts from that report which attempt to prove that only tactical bombardment (the only type bombing with which the Navy can be identified) was instrumental in the European war. It says, in effect, that those of you who participated in or supported our strategic efforts in the ETO failed in your missions. It says so, despite the fact that your success in

those missions has been accepted by highest authority as greatly responsible for Germany's defeat and for establishing the airpower concept as national policy.

Well, that's the way they're playing it, and the dirty work has just begun. As an Air Force veteran, your position is clear. You have a job to do. You know from first-hand experience what airpower has done. You know a lie when you hear it. You can stomp out the lies before they spread. You can shout the truth across the barroom, at home and in the factory, in club meetings and at parties, on the street and in the bowling alleys. You can write your editors and challenge your speakers. You can help smash the smear campaign.

Postscript

A few days after the B-36 rumor hearings got underway in Washington, Naval Reservist Van Zandt, who instigated them, picked himself up from the floor of the hearing chambers and flew off in a Navy transport to Altoona, Pa., his home town and the center of his Congressional district.

Here a week-long Centennial Celebration, the relish of politicians, was

coming to a close. Speech-makers during the week had included "Veep" Barkley, the Governor, and Admiral "Bull" Halsey. The blundering Van Zandt had been scheduled for an address on Saturday, the day before, but had failed to appear. Now, on Sunday, at an AFA-sponsored Air Show climaxing the big Centennial, he was prepared to make up for it. As he strode from his plane to the speakers' platform, he rustled the heavy set of papers that made up his prepared speech. Already on the platform was another native son, Brig. Gen. Robert E. Nugent of the US Air Force.

While Van Zandt took last minute peaks at his lengthy address, the Master of Ceremonies told the thousands of spectators that since they had come for an Air Show that's just what they would see. The speech-making had been done the day before, he explained; they would get no speeches today.

At this the big Van Zandt jaw took a power dive, and it was right on the deck a minute later as the M.C. introduced the honored guests. To the Air Force's General Nugent the crowd gave an unprecedented burst of applause, and to the Navy's Congressman Van Zandt an equally unprecedented burst of SILENCE.

J. H. S.

THE FARMER TAKES A PLANE CONTINUED

until this happens, is therefore needed.

Because of the nature of the terrain, seeding by ground equipment proved impractical and seeding by hand costly and slow. Aerial seeding worked moderately well—that is it did the job much faster at about half the cost. It did not spread the seed as evenly or as accurately as could be done by hand. In the helicopter, an instrument was found which combined the speed of aerial seeding with the accuracy and thoroughness of hand sowing.

Perhaps nothing is as destructive to our natural resources as the forest fire. The forestry service of the Department of Agriculture estimates that there are approximately 208,000 fires a year, 12,000 of them on national forest lands.

Man's battle against these devastating conflagrations is as old as the centuries. It was always an uneven battle, for, in many cases man could not overcome the time lag between the spotting of the blaze and the bringing up of fighters and equipment before the blaze really got a toe-hold.

The possibilities of the airplane were early recognized, and the Forest Service pioneered its use in 1919, just after the first World War. At first the planes were used for fire spotting purposes, but air patrol has never succeeded in doing away with ground lookouts, the difficulty being that planes would have to be in the air constantly and the expense would therefore be prohibitive. Even in fire spotting, however, the plane is a good auxiliary instrument. It can fly over areas that are blinded to lookouts. During periods of low visibility, fires that are not visible to

ground observers can sometimes be seen from the air. This is especially important after thundershowers have set numerous fires in the vast forest areas of the west.

Once the fire is spotted, it becomes a question of getting there quickly with men and equipment, and in this aspect of fire fighting, the airplane has really come into its own as the most efficient, and, in the long run, the cheapest tool.

As a general rule, the most serious forest fires occur in the Pacific northwest and are caused by lightning. The seriousness of the fires is due to the fact that the vast areas are almost inaccessible and it is a tremendous task to get men and equipment to the fire quickly. Men must trudge vast distances through thickly wooded areas to reach the fire and by the time they get there, they are so exhausted that they can no longer be efficient.

During the past ten years, therefore, there has grown up a new breed of man: The smoke jumper. There are 250 of them stationed in the northwest—tough, thoroughly trained youngsters, many of them college men on their summer vacations.

When a fire is spotted, the jumpers load into an old Ford Tri-motor plane, one of the service's favorites, loaded down with as much equipment as an Army parachutist. They circle the fire, studying terrain and wind direction, before jumping. They arrive at the scene of the fire fully rested and ready to receive fire fighting equipment parachuted down to them. The plane is then used much as an artillery spotter

was used during the war. While it would take a man on the ground a day or more to scout the fire and check on the work of his men, an aircraft equipped with camera and radio can send quickly a steady stream of intelligence to the fighters below.

In the forest and on the farm, these are the broad fields in which aviation can expect a growing future. We have only dented the surface, for many problems remain unsolved and many techniques are only now being developed. Until now, converted military trainers have been serving well as sprayers and dusters, but farsighted planners in the Department of Agriculture are already dreaming of a plane designed from the bottom up for their particular requirements. Spraying is one job where the pattern of air currents *behind* the plane is more important than the patterns passing around the fuselage and wings. It has been discovered that a peculiar swirl of air currents behind the wing tips of the conventional plane sucks up the spray or dust and shoots it off into the atmosphere thus making target spraying and dusting more difficult. The Agriculture people want a plane so designed that air currents will not interfere with accurate spraying. They are also conducting research on new equipment such as spray nozzles and cockpit control devices and on methods of application such as the most efficient width of swathe, height of plane, etc.

Although the American farmer has not yet completed the turnover from horse to tractor, he has already started to use the airplane in quantity. It is a long step toward the Air Age.

ANNOUNCING

THE AIRMAN'S GUIDE

NEWEST IN A LONG LINE OF BEST SELLING "KNOW-HOW" BOOKS

Just Released! Written especially for the Airman who is looking for jet-propelled success in the new Air Force. You need it because it is the only book to tell you What to do, When to do it, and how to do it. You'll like the humorous cartoon-like illustrations, and the price, too

only \$2.50

Military Service Publishing Co.
Telegraph Press Bldg. Dept. M.
Harrisburg, Pa., U. S. A.

Celebrating a quarter of a century
of service to servicemen

SPECIAL FINANCING SERVICE to COMMISSIONED OFFICERS

Army, Navy, Marine Corps,
Coast Guard, Air Force and
Public Health Service



By an Organization Founded in Nineteen Hundred and Twenty-four for the Purpose of Rendering Financial Assistance to Officer Personnel at the Lowest Possible Rates. It Will Pay You to Investigate.

Address Dept. A.

FEDERAL SERVICES FINANCE CORP.
Home Office
718 Jackson Place, Washington 6, D. C.

BRANCH OFFICES

Warrington, Fla.	Long Beach, Calif.
31 Murray Blvd.	Ocean-Center Bldg.
Honolulu, T. H.	Columbus, Ga.
Pier 11 Bldg.	330 Martin Bldg.

FLIGHT NURSE CONTINUED

around just to witness the miracle. Soldiers too far away from the runway used binoculars. And no matter how many times the nurses have flown in since, there continue to be astonished cries of "Good Lord, there's a woman!"

"Just as I was stepping out of a jeep to enter the Hotel de Gink once, a boy ran up to me and shook me hard, as though he couldn't believe I was actually human," Nurse Gerda Bouwhuis related. "'Are you the real McCoy?' he shouted. 'I haven't seen a white woman since I said good-bye to my wife 18 months ago. I'm going to write home and tell her I've finally seen an American girl and that it was almost as good as seeing her.'"

Flight nurses get their share of attention wherever they are, but they claim this is because they are merely symbols, that they only serve to remind a man of the wife or sweetheart he left behind. And they're frank enough to admit that upon occasion this can be slightly annoying, too. "One night at a party in New Caledonia," reported Lieutenant Seraphine Petrocelli, "there were about a hundred fellows around, and I was the only girl. Sure, it was wonderful. A lieutenant and I walked down to the beach and sat on a rock and looked at the moon. But do you know what he did? He spent the entire evening telling me about his girl back home!"

The nurses' dates, by the way, took on an aspect rather more practical than romantic in that theater. Nurses could afford to be independent—and admitted it. They accepted invitations with considerable foresight. During those first months a flatiron in a man's house gave him a better line than etchings ever did.

"We would go on ironing dates," the girls explained. "Keeping our clothes neat was our toughest problem at first. We had water three times a day—for a couple of minutes each time—and that was all. We could always wash our clothes in the river, but we couldn't iron them because we didn't have electricity at that time. The fellows did, so we'd take our clothes over to their place and spend a quiet, domestic evening at the ironing board. They didn't mind—too much. Said it lent a homey touch to the place."

Nurses in most of the Pacific theaters fly an average of about 80 hours a month. One month a girl spent 118 hours aloft in her evacuation plane. Flights usually average from four to eight hours' flying time. And the long over-water hops are not made easier by the turbulent atmosphere usually encountered in that area, or by the possibilities of enemy attack on a heavily loaded, unarmed plane.

Always her patients come first. It's up to the nurse to care for them, make them comfortable, and see that they arrive at the destination in as good physical condition as expert nursing care can assure. And where air travel is concerned, that means being pre-

pared to cope with the unexpected. Several months ago, the plane on which Lt. Dorothy Shikoski was flight nurse was forced down at sea. In the crash Nurse Shikoski's back was seriously injured. Yet, she helped her patients into life rafts, cared for their wounds, and attended them constantly.

Once an evacuation plane is airborne, the cabin becomes literally a hospital ward, with the nurse in charge. "Routine nursing care," it is called, but any man evacuated by air knows that it's more than just watching symptoms, changing dressing, giving plasma, or bringing out the morphine when she sees fists clenched in silent pain.

Maybe it's a lot of little things—like the subtle way she has of keeping a boy's mind off fears of losing his injured leg. Or the manner in which she calms a fellow's nerves when she can see how jumpy he is about taking his first flight. Or the way she asks, "Wouldn't you like a cup of chocolate?" "how about a cigarette, Sergeant?" "Here are some books," or "Here's a new game we picked up on the last flight." Maybe it's the fact that, busy as she is, she still has time to talk.

A patient's own troubles begin to be forgotten in admiration for the nurse aboard his plane.

YOUR OWN AAF PICTORIAL

AAF Pictorials each contain over 250 pictures of air combat — bombers — fighters — flak — and other scenes about the particular air force they cover.

"The 5th Over the Southwest Pacific" — From the early days in the Philippines to VJ Day. Over 250 photographs — Weiwak — The Carolines — Coral Sea —

Formosa — Hollandia — Okinawa — Japan — and many other spots. Contains Official War Dept. History.

"The 9th Sees France and England" — Your stay in the ETO. London — Colchester — Cambridge — Paris — France. Contains Official War Dept. History.

"The 12th Over the Mediterranean" — North Africa — Italy — France — Egypt — Corsica — Contains Official War Dept. History.

"The 20th Over Japan" — From India to the last bomb — China — The Marianas — Japan — THE ATOMIC BOMB. Contains Official War Dept. History.

"The 15th Over Italy" — Your stay in Italy and the Middle East — Rome — Naples — Capri — Cerignola — Cassino — Cairo — Palestine. Contains Official War Dept. History.

"The 8th Sees England" — Your stay in the ETO. London — Norwich — Ipswich and many others.

All AAF Pictorials are \$3 each postpaid. Specify books desired by title name. Let us know what other Air Force books you would like published. Also Life-time Plastic Glass Ash Trays with crest of any of the above air forces, 3 for \$1 postpaid. Send cash, check or M.O. C.O.D.'s accepted.

AAF PUBLICATIONS COMPANY
1631-95 10th St. Santa Monica, California

Learn AVIATION

BIG DEMAND FOR GRADUATES

Every month new CAL-AERO graduates are hired by employers who say "We positively can't use anyone right now but experienced men." Why? . . . one look at sample of work the applicant has performed does it. Since 1929, Aircraft Industry employers have recognized the real experience inherent in CAL-AERO training and look to CAL-AERO for the best, most practical, Aeronautical Engineering Designers and Mechanics — Approved for Veterans.

Write for full information — Dept. AF

CAL-AERO TECHNICAL INSTITUTE
GRAND CENTRAL AIR TERMINAL
GLENDALE 1 - CALIFORNIA

ZERO *reader*

the pilot's instrument

✕ Sperry's background and experience in developing precision flight instruments to make flying easier for the pilot under all conditions is reflected in the new ZERO READER* . . . truly, the pilot's instrument.

✕ For the Sperry ZERO READER combines the type of information usually supplied by five essential instruments — relieves the pilot of complex mental calculations — gives him more time to concentrate on other factors vital to the success of his flight plan.

✕ The ZERO READER — developed by Sperry with the encouragement and cooperation of All-Weather Flying Division, USAF and the Air Transport Association — makes military and commercial aviation increasingly independent of weather . . . helps pilots to make cross-country flights, approaches and landings with greater ease and safety regardless of visibility.

✕ The ZERO READER takes its place in a long chain of Sperry "firsts" including the Gyro-Horizon, Directional Gyro, Gyrosyn Compass and Gyropilot. Like them, it was evolved from Sperry research, engineering, precision manufacture and flight testing.

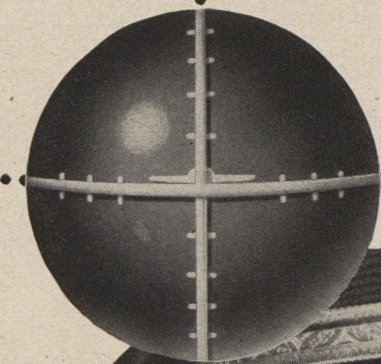
*TRADEMARK
PAT. PENDING

SPERRY

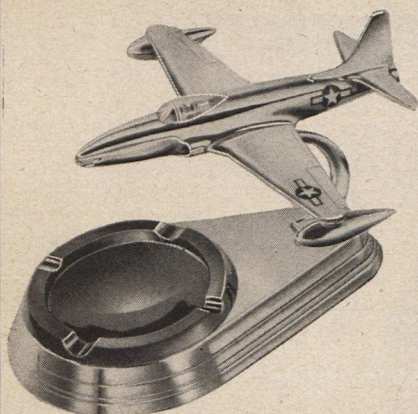
GYROSCOPE COMPANY

**DIVISION OF THE SPERRY CORPORATION
GREAT NECK, NEW YORK**

**NEW YORK • CLEVELAND • NEW ORLEANS
LOS ANGELES • SAN FRANCISCO • SEATTLE**



COMING TO YOU OUT OF THE BLUE



Here it is! A magnificent ash tray replica of the beautiful P-80 shooting star, in miniature. Every detail a masterpiece of reproduction. Beautiful chrome finish to make it an attractive desk piece for any room or office. Your friends will marvel at its reality, as they view the pilot crouched behind the instrument panel, sealed beneath the plastic "Bubble Canopy" cockpit enclosure.

Now Only \$8.95

Also available—Mustang fighters. **\$8.95**

\$14.95 Famous B-36 \$14.95

Send check or money order to:

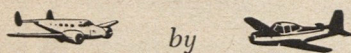
BARNI SALES

708 No. Cordova, Alhambra, Calif.

We pay postage—Include 3% sales tax

AIRBORNE RADIO

FOR ALL CLASSES OF AIRCRAFT



by

Aircraft Radio Corporation

Equipment for:

- TWO-WAY VHF
- STANDARD LF RANGES
(with homing loop)
- VHF OMNI RANGES
- LOCALIZERS
- GCA VOICE
- ISOLATION AMPLIFIERS
(10 inputs — 2 outputs)

Name of nearest sales and
installation agency
on request



Aircraft Radio Corporation

BOONTON, NEW JERSEY

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.

INDUSTRIAL ENGINEERING graduate with some graduate work would like executive trainee position with progressive firm. Has car and pilots license. Work anywhere in U.S. Write Box E-A-4 Air Force. 2

QUALIFIED GENERAL INSURANCE man, age 28, 3 years insurance experience, wishes position in Ariz., Calif., or Texas. Now studying for CPCU exams. Will consider buying small agency. Write Box E-B-3 Air Force. 2

DISABLED AF VETERAN, age 37, recent business school graduate, seeks permanent position as accounting or general office clerk trainee with aviation or industrial firm. Electrical-radio background. Write Box E-G-3 Air Force. 2

AF VETERAN, age 24, former armament specialist, desires position repairing or manufacturing of small arms and larger pieces. Married. Will travel. Write Box E-G-4 Air Force. 2

DRAFTSMAN-MECHANICAL BEGINNER, age 24, former A-26, B-25 crew chief, night student in Machine Design, desires work in New York or New Jersey. Salary secondary. Write Box E-K-1 Air Force. 2

AF VETERAN, age 31, married, experienced in railroad office clerical work, seeks opportunity in Los Angeles area. Good at typing and shorthand. Write Box E-O-1 Air Force. 2

AIR FORCE AND INFANTRY VETERAN, age 31, married, private pilot, high school graduate, will accept job anywhere he can take family. Write Box E-M-7 Air Force. 2

LICENSED A & E MECHANIC, age 31, desires permanent position. 7 years general airplane and engine experience in inspection, maintenance and overhaul of 2 and 4 engine aircraft. Write Box E-A-3 Air Force. 2

AIR FORCE VETERAN, age 30, with 2 years experience as airplane mechanic in Service, desires mechanical work. Experienced in cargo handling. Write Box E-R-1 Air Force. 2

EX-AF SUPPLY CLERK, young, seeks change to anything along merchandising lines. Position must have promise. Presently employed as export manager in New York. Write Box E-E-9 Air Force. 2

PHOTOGRAPHIC TECHNOLOGIST, 25, former AF pilot and B-29 flight engineer, specializing in photographic sensitometry, desires position in experimental or production control work. Will travel. Write Box E-J-9 Air Force. 2

LICENSED A & E MECHANIC, 2 years experience, 4 years with AF, desires permanent position with commercial or private aviation. Aircraft mechanics school graduate. Prefer Northeast. Write Box E-M-9 Air Force. 2

ACCOUNTANT, Cost Analyst, Office Manager, 30, desires construction work, 4 years experience largest construction company in West. Former AF Navigator-Bombardier, college graduate, single, will travel. Write Box E-E-10 Air Force. 1

FORMER AF FIGHTER & BOMBER PILOT desires job as executive pilot. C&I 287793 with all ratings, 5000 hrs. 28 years old, 2 years college, free to travel. Write E-J-10 Air Force. 1

PUBLICIST, available Sept. 15, 24, college graduate in journalism, ex-NCIC Public Relations 1st AAF BU, former regional publicity director of national organization, seeks opportunity in New York area. Write Box E-A-5 Air Force. 1

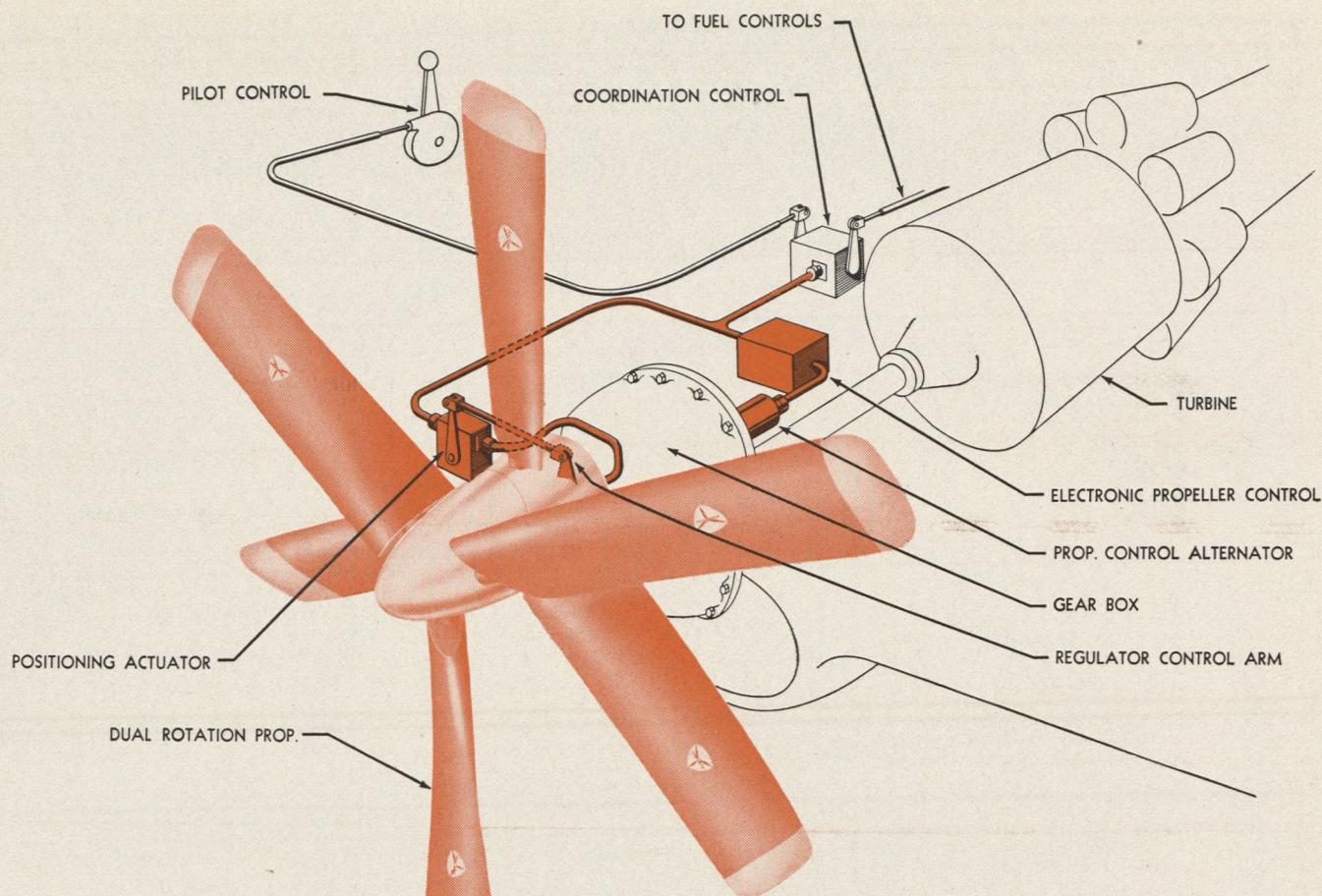
ANALYST and Statistician, college degree in mathematics, economics & statistics, 8 years experience in economic research, with ATC during war, seeks position preferably on West Coast, but will go anywhere. Single. Write Box E-C-3 Air Force. 1

AFPR SPECIALIST, 26, AB, now in advertising, needs change. Prefer copy cub spot. Philadelphia and vicinity only. Write Box E-C-4 Air Force. 1

SKILLED ADVERTISING, PR, sales promotion manager, wants job with future. Widely traveled with college training. Diversified newspaper, airlines, motion picture, women's wear exp., age 30, single. Write Box E-M-10 Air Force. 1

FORMER AF RADIO OPERATOR MECHANIC, high school graduate, seeks position anywhere on the East Coast. Write Box E-K-2 Air Force. 1

PUBLIC ACCOUNTANT, university graduate, 2 years public and 2 years private experience, desires position with New York City public accounting firm. Ambitious and conscientious and is anxious for position with future. Write Box E-B-4 Air Force. 1



Aeroprops—with Electronic Turbo Propeller Controls

Precise Automatic R.P.M. Selection . . . RPM is automatically scheduled by the pilot's selection of an operating setting. The precise RPM for best performance and fuel economy is thus assured.

Instantaneous Control . . . Response of the system to offspeeds is instantaneous. Pitch change is obtained by biasing components which are already in motion, thus eliminating inertia and friction time lags.

Acceleration Sensitivity . . . Acceleration Sensitivity is a requirement for effective turbo propeller

control because of the high inertia involved and the great sensitivity necessary to satisfy close speed limitations. The Aeropproducts control provides simple, effective acceleration sensitivity.

Complete Safety at All Times . . . Additional powerplant protection over that provided by the normal governing system is obtained from a single propeller-contained hydraulic governor of a type proven by years of service. Protection against involun-

tarily entering the feathering or negative thrust blade angle ranges is provided.

● Aeropproducts Division of General Motors Corporation has developed propellers and a control system fulfilling the requirements of turbine engine installations, and provide in addition automatic synchronization for multi-engine installation. Let Aeropproducts—backed by General Motors Research—help with your Turbo-Prop planning now.

Aeroprop

BUILDING PROPELLERS FOR AIRCRAFT TODAY
DESIGNING PROPELLERS TO MEET TOMORROW'S NEEDS

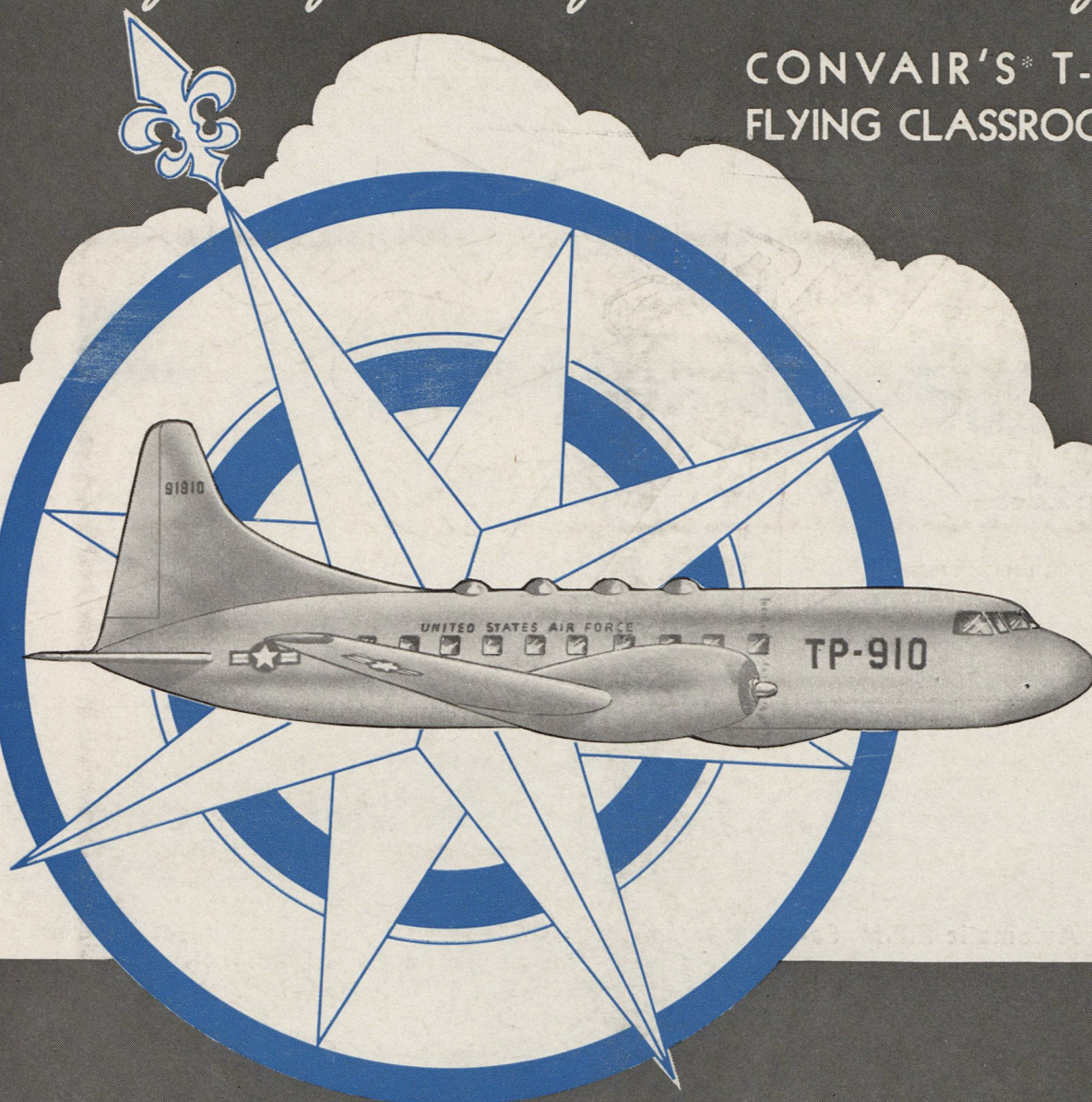


AEROPRODUCTS DIVISION • GENERAL MOTORS CORPORATION • DAYTON, OHIO



"Leading the way and training the men who lead the way"

CONVAIR'S* T-29
FLYING CLASSROOM



Soon to be flight-tested for the United States Air Force is the Convair T-29, the first post-war, high-speed, multi-place trainer.

A development of the Convair-Liner, proved by millions of miles of airline service, this flying classroom is fully equipped for the mass training of student navigators.

*CONVAIR
REG. U.S. PAT. OFF.

Consolidated Vultee Aircraft Corporation
San Diego, California • Fort Worth, Texas