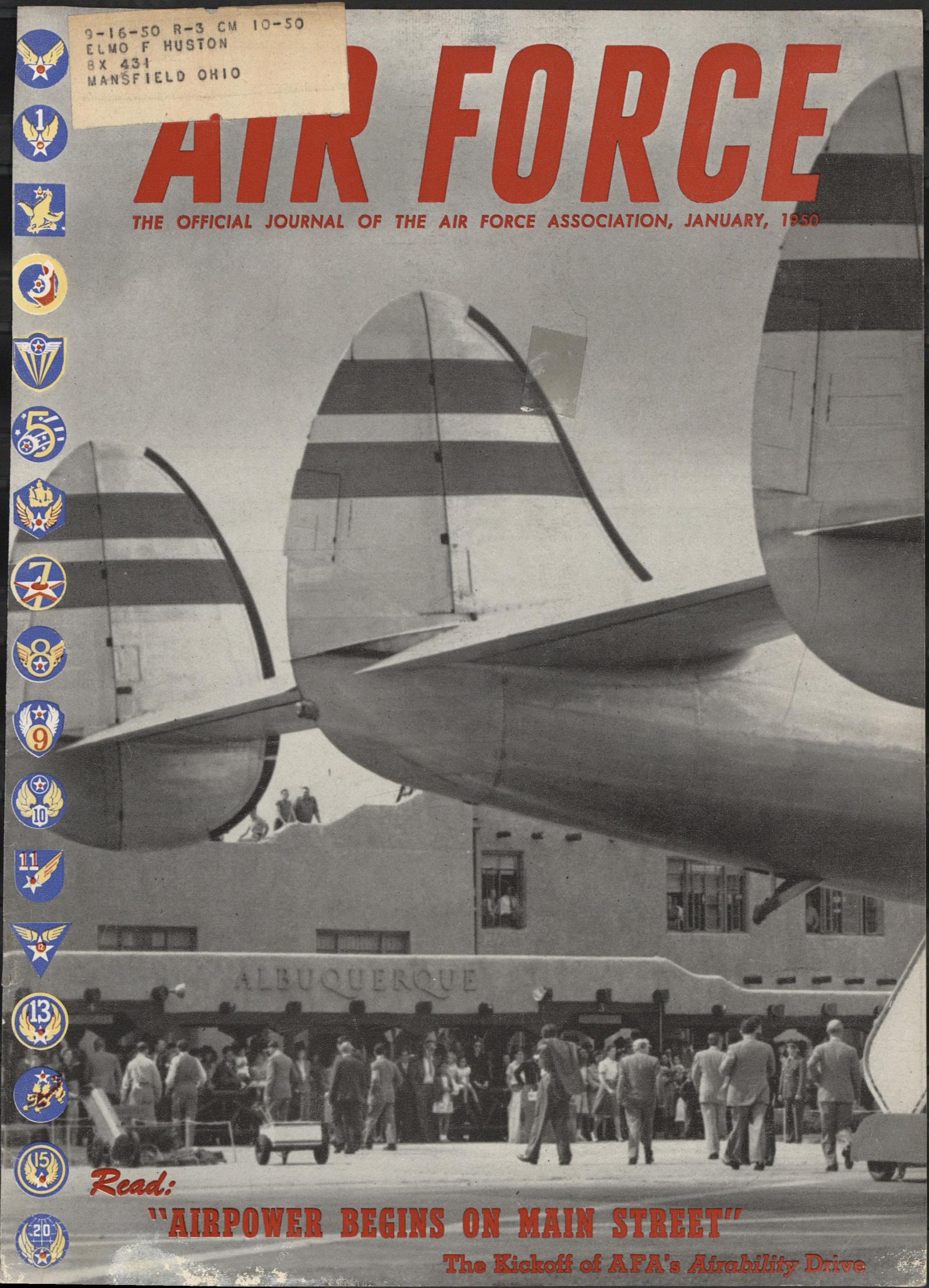


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AIR FORCE

THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION, JANUARY, 1950



Read:

"AIRPOWER BEGINS ON MAIN STREET"

The Kickoff of AFA's Airability Drive

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Why not let this combination of engineering experience and manufacturing know-how help solve your fuel metering and landing gear problems.

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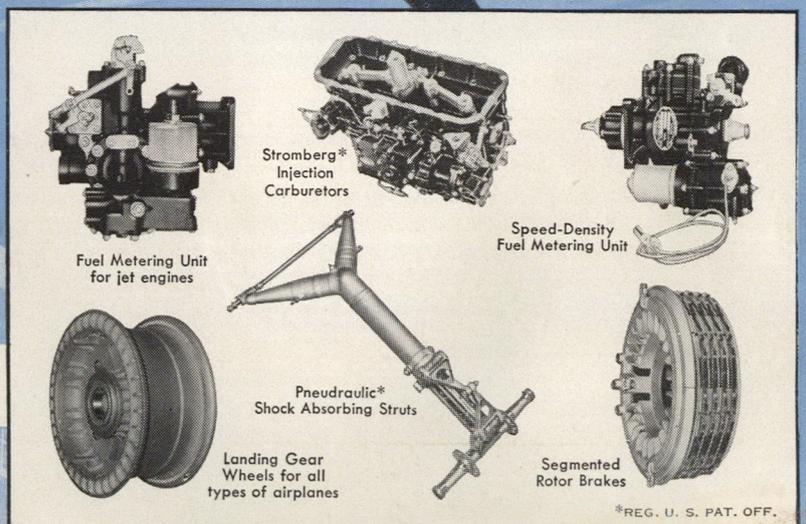
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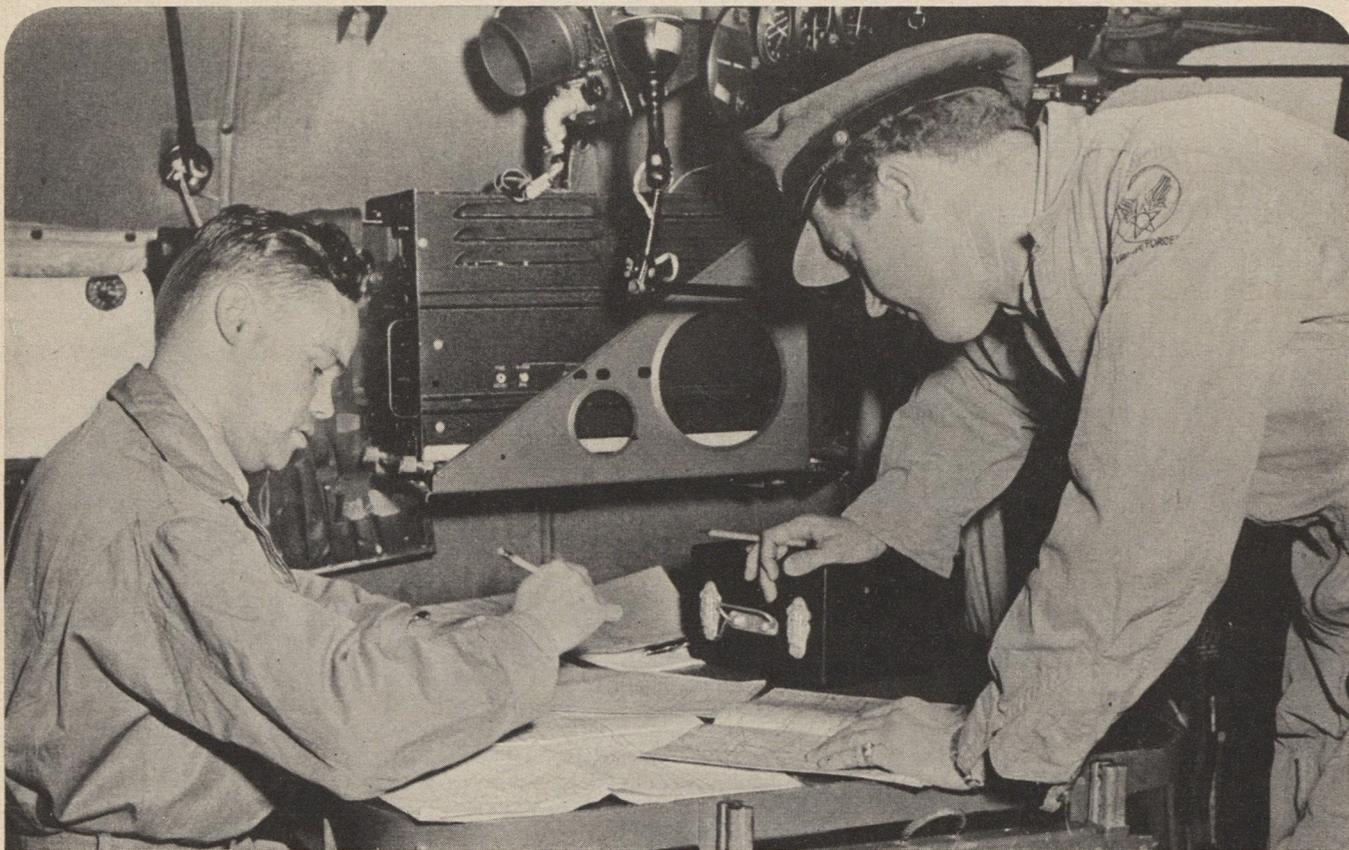
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When You're a U. S. Air Force **NAVIGATOR** You're a Key Man on the Air Force Team

New and attractive opportunities are being offered to young men who can qualify for training as a navigator in the United States Air Force.

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You'll be an Aviation Cadet! And, you'll receive free uniforms, meals, quarters, flight clothes, equipment, medical and dental care, a monthly allowance . . . and a \$10,000 Government life insurance policy with all premiums paid during your one-year course!

Training? You'll receive the best available, including 184 hours in the new T-29 "Flying Classroom"—a trainer version of the Convair airliner! There's academic classroom study, too, with plenty of time for sports and recreation during leisure hours.

For single men with at least two years of college; between the ages of 20 and 26½; U. S. citizen; with high physical and moral qualifications. Inquire at your nearest Air Force Base or U. S. Army and U. S. Air Force Recruiting Station, or write: Chief of Staff, U. S. Air Force, Attention: Aviation Cadet Branch, Washington 25 D. C.

Then, graduation, when you'll win your wings as a navigator and a commission as a Second Lieutenant in the U. S. Air Force! Outstanding graduates receive regular commissions immediately. Others receive Reserve commissions, have the opportunity to compete for Regular commissions during active duty tours.

You'll receive a 30-day leave with pay. Then come interesting, challenging assignments as navigator with the Strategic Air Command or the Military Air Transport Service—in the "front office" of mighty bombers or long-range transports—like that of the C-97 pictured above.

Be among the first to win your wings as a U. S. Air Force navigator under the new navigator training program.

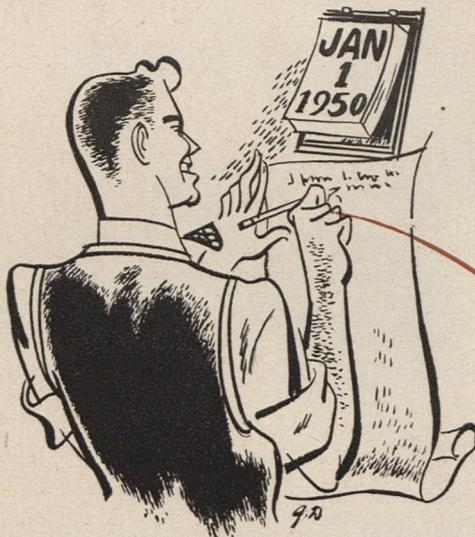
Be a key man on the Air Force team!

WIN YOUR WINGS



U. S. AIR FORCE

FOR THE TOP OF YOUR RESOLUTION LIST



1. I promise to tell at least one of my friends about Air Force Association* in the next month — and see that he accepts my invitation to join —

MAKE 1950 AFA'S BIGGEST YEAR

Most of the people who read AIR FORCE and who belong to AFA have a very real and genuine interest in airpower. Most of them, since they are air veterans, know from first hand experience the value of a strong Air Force in keeping this nation secure from aggression. Most of them, since they have lived aviation for years, know the benefits of airpower—civilian airpower—can bring in terms of better transportation, improved farming techniques, happier leisure hours and so on.

And most of them, since they have kept abreast of the times, know there is more to be done in the next twelve months in selling airpower to the nation than in any twelve month period since the war. There's a job—a big job—to do in building an Air Force strong enough to meet the increased striking power of foreign air arms. There's also a big job to do in making the advantages of civilian aviation apparent to the man on the street, the farmer, and the business man.

No group can do the coming year's job better than Air Force Association. But to be most effective AFA must have more and more members. *Every added voice is added strength.* Do your part. Get at least one new member in the next thirty days—two or three if possible. See that the application blank below gets in the hands of an eligible member. If you want more blanks just drop us a card. Remember, as a member of AFA you have two responsibilities. First, to see that America is strong in the airways in all ways—to see that airpower is understood and accepted by the people. And second, to see that AFA continues to grow in numbers, the better to do its job—your job.

★ HERE'S WHAT YOU CAN SAY ABOUT AFA

1. Air Force Association is the nation's largest fraternity of air veterans.
2. Air Force Association is an independent, non-military organization with no personal, political or commercial axes to grind.
3. Air Force Association is devoted to preserving and fostering the spirit of fellowship among members of the Air Force—past and present.
4. Air Force Association is pledged to assist in obtaining and maintaining adequate airpower for national security, and world peace.
5. Air Force Association strives to keep the public at large abreast of developments in the field of aviation, and to stimulate community interest in both military and civilian air affairs.

SEE THAT THIS COUPON GETS IN THE HANDS OF AN ELIGIBLE MEMBER

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

Please enroll me as a member of AFA and send me my lapel emblem and membership card. I enclose \$4 for annual dues (\$2.50 of which covers a year's subscription to AIR FORCE).

- I have been honorably separated from the AAF, or
 I am now on active duty with the U. S. Air Force

My Air Force Unit Identification	Signature
	NAME
	ADDRESS
	CITY.....ZONE.....STATE.....
Air Force.....	Print Plainly
Command.....	
Other.....	

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- Twelve issues of the inside of Air Force affairs
- Twelve issues of Air Reserve and Air Guard news
- Twelve issues of the latest Research & Development notes
- Twelve issues of AFA news
- Twelve issues of gossip from The Hill in Washington
- Twelve issues of industry and commercial aviation news



AIR FORCE

THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION

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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.

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"A NATION'S AIRPOWER IS ITS TOTAL AVIATION ACTIVITY, CIVILIAN, MILITARY, COMMERCIAL AND PRIVATE, POTENTIAL AS WELL AS EXISTING."

H. H. Arnold

SHOOTING



THE BREEZE

As we ring in a new year, Air Force and Navy are again concentrating on Mach Numbers and Schnorkles instead of each other, and we gratefully take advantage of this lull in the Battle of the Potomac to glance around a bit within our own organization.

Come February fourth of this new year 1950, the Air Force Association will be just four years old. If it seems more, if we feel forty instead of four, it only means that the fight for adequate airpower is not easy when you're on the firing line.

The eye teeth we cut fighting for Unification back in '46 were sharp and strong for the Unification fight of '49, and if we added a few grey hairs along the way they were well worth it.

In so doing we have proved the basic premise: That Air Force veterans with first-hand airpower experience are best suited to present the airpower story to the people. The proof is in the doing. After four busy years we are the largest independent air outfit in the country.

And yet, we are well aware that organized support of airpower is hardly the exclusive privilege of those who applied airpower in wartime. So we have added non-veterans who work side by side with us as AFA Associates, though they neither vote nor hold office. And we have fostered the growth within AFA of ladies' auxiliary units to strengthen our community programs.

In building our network of local units we have proved another basis premise: That service veterans can band together into an effective organization without the usual self-seeking objectives—bonuses, retirement benefits, job preferences, and the like. The proof is evident in the fact that our membership has consistently and overwhelmingly turned down proposals to establish such objectives for AFA.

At the same time, we recognize that our members need and have a right to expect service on personal matters. So we have created an Information Section which each day fills dozens of requests—expedites applications for reserve and active duty assignments, assists reservists on commissions, promotions and field training, provides information on G.I. schooling, housing and training, finds

wartime friends, locates sources of lost records, unit histories and insignia, and performs a multitude of similar services.

And we have, after four years, formulated a program which conceives of airpower in its broadest sense—encompassing commercial and private aviation as well as military—and translates that broad concept into action at the community level. This is the "Airability" program (see page 13) with which AFA welcomes the new year.

Our airpower activity since 1946 has, of course, stressed the military side—for the simple reason that first things come first. AFA was weaned on concern for the nation's "postwar slumber regarding military preparedness". Our members early expressed their "steadfast belief in a strong US as the best insurance for world peace and in airpower as the key to our strength."

These words appeared in AFA's first Statement of Policy adopted at its first national convention held at Columbus, Ohio, in September 1947. That was the real start of the Air Force Association, and it featured several "New Year's resolutions".

In September, 1947, the Association hailed the Unification Act of that year as "the first hesitant move to improve an outmoded system", added its belief that "still greater economy and efficiency and power can be attained through one Air Force," and called upon Congress for "continued study and review of the Unification measure, with modernization and increased efficiency the basic aim". Again in 1949, AFA fought hard for Unification, for the Act which achieved some of its own objectives. And again AFA urged a unified air establishment for increased efficiency and economy. But inevitable though it must be, a single air force seems to offer as many headaches to the politician as it does benefits to the taxpayer, and is not yet in sight.

In their first Statement of Policy members of the Air Force Association

exclaimed in unison "We demand a better organized and financed reserve program", and added, "We find little or no incentive for enlisted veterans of the Air Force to participate in the enlisted Air Reserve program; we urge greater recognition of and personal benefits for these reservists". A "better" Air Reserve has since become fact—though it could hardly have become worse. But whether it is good enough remains to be seen. There is evidence that it still falls short of adequacy. Certainly little or no improvement is evident in the enlisted program. And while we're on the subject, we have come to the conclusion that much of the trouble starts at the top, at the policy level, where enlisted reservists are barred. Air Force Association as the largest organization of Air Reservists in the country, and the only one with enlisted reservists in quantity, is now represented at this level. Last month AFA president Bob Johnson, a reserve major, and AFA leader George R. Weinbrenner of Detroit, a reserve lieutenant colonel, became members of the Air Staff Committee On Reserve Policy, highest Air Force policy group of its type. Johnson became the first reserve officer below the rank of lieutenant colonel to sit on the committee, but that's only half the story. In the strong belief that enlisted Air Reservists should be members of the committee, AFA proposed that its representatives be non-commissioned. It was then we learned that the law which established this policy committee specifically provides that *only* officers be represented on it. AFA doesn't like that law, and intends to tell some people about it.

Association members in 1947 reserved some of their strongest language for aviation research and development. Its status at that time, they said, was "a crime against the American people", adding, "The current approach toward Air Force research appropriations virtually implies a complete lack of understanding of the era in transportation and military science that is at hand". Congress has since overcome some of the deficiencies with increased appropriations, and the belated approval of an aviation development center and a

START THE NEW YEAR RIGHT . . .

GET A MEMBER FOR

joint long range proving ground for guided missiles—both urged by AFA—are essential steps in the right direction. But we are still subject to the rude fact that Russia may have bested us in aviation technology. The whole research and development program demands constant scrutiny.

And Association delegates at that first convention took up "the desperate plight of the aircraft industry", which they called a "national tragedy". Later, AFA supported the production minimums recommended by the Finletter Commission—minimums which have not yet been attained. And AFA in 1947 stressed "adoption of the industry's five-year planning program". Again in 1949 we expressed the vital need "for procurement planning, programming and actual procurement on a five-year basis". But the aircraft industry is still forced to do the job on a wasteful, inefficient hand-to-mouth, year-by-year basis.

In its first four years AFA has also urged stepped-up development of all weather flying; an air transport system immediately available for military service in an emergency; continued expansion of our national airport program; increased emphasis on aviation courses in high schools and colleges; a uniform method of procurement for all the armed services; at an appropriate time and under appropriate conditions, necessary steps to combine Air Reserve and Air National Guard into one federalized component force; provision for transfer of personnel between Air Force and Navy; and an early warning radar screen covering continental US—to mention a few of our "old year" resolutions. Many of our Association objectives have, of course, been achieved in the four years just passed, and that gives us hope for the future.

As we ring out the old year—one which gave birth to the atomic bomb of our only potential enemy—and enter the new year 1950, we do so with this thought from our current Statement of Policy foremost in our minds:

"The total objective of peace and security for ourselves and a free world, at a cost which permits a free and acceptable national economy, is not an easy target. Yet with a sound strategic concept based on the efficiency of airpower, and with careful budgeting based on the balance involved in that concept, we believe that objective obtainable. To the furtherance of this objective the Air Force Association once again dedicates its influence and its resources, with the firm conviction that airpower is the balance between a world dominated by tyranny and a free world".—J.H.S.

AFA



Performance

Outstanding cargo transports designed to operate from short or undeveloped landing fields—to carry troops or supplies to forward combat areas speedily, efficiently, safely.

The 25,000 lb. XC-123 required only 500 feet of runway for its initial takeoff—came to a stop six seconds after landing—positive proof of performance capabilities.



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American Airlines, Inc. announces

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Meals of your choice may be purchased at the intermediate stop.

AMERICA'S LEADING AIRLINE

AMERICAN AIRLINES INC.

Airpower in the News

AIR FORCE PLANS TO SPEED COMPLETION OF FIRST PHASE OF RADAR SYSTEM FOR U. S. AND ALASKA, authorized at past session of Congress, by cancelling or reducing other approved projects to extent of \$50,000,000 from its regular 1950 appropriations.

APPOINTMENT OF AN AF ACADEMY SITE SELECTION BOARD, headed by Gen. Spaatz, was announced on December 2 by Secy. Symington. Board estimates that approximately 9,000 acres will be necessary at site with facilities sufficient to train 2,500 cadets under normal conditions and 5,000 cadets under expansion requirements.

NAVY WILL DECOMMISSION 28 NAVAL AND SEVEN MARINE CORPS AIRCRAFT SQUADRONS and will reduce the operating status of six air bases within next four months. The cutbacks, necessitated by current and projected budget reductions, will drop Navy's attack carrier groups from fourteen to ten, its patrol bomber squadrons from 30 to 25, and its Marine Corps fighter squadrons from 23 to sixteen. . . Meanwhile, USAF has put machinery in motion to separate 3000 more non-Regular officers from active list by June of 1950. This number will make total of 5,454 ordered separated in two economy reduction quotas thus far announced.

THIRTY EXCESS AF B-17 FLYING FORTS ARE BEING TRANSFERRED TO NAVY for continuing research and development of AEW (Airborne Early Warning) equipment. . . John F. Floberg of Chicago was administered oath of office as Assistant Secretary of Navy for Air by Secy. Johnson on December 5.

GENERAL VANDENBERG RECENTLY ORDERED GROUNDING OF AF B-29s which have not as yet been "modernized" and which have been subjected to maximum operating stress pending inspection by aircraft technical experts. . . USAF plans to modernize 700 T-6 training aircraft.

INITIAL FLIGHT TESTS HAVE BEGUN ON AF'S LATEST HELICOPTER, H-19, built by Sikorsky Aircraft Division of United Aircraft Corporation, Bridgeport, Conn. Eight instead of three litters may be carried by new plane, plus one attendant; or ten passengers may be carried. The H-19 has crew of two.

MUROC AF BASE HAS BEEN REDESIGNATED EDWARDS AFB in honor of Capt. Glenn W. Edwards; and former Shreveport Quartermaster Depot has been renamed Slack AF Depot for Major J. Stewart Slack, Jr. . . Lubbock AF Base, Tex., will be renamed Reese AF Base in honor of 1st Lt. Augustus F. Reese, Jr., and Camp Hood AFB, Tex., will be renamed Gray AFB in honor of Capt. Robert M. Gray.

RCAF HAS TAKEN OVER TWO AIRFIELDS IN QUEBEC PROVINCE, MINGAN AND PORT CHIMO, WHICH HAVE BEEN OPERATED BY USAF'S MATS since wartime days. The bases have served MATS as emergency landing strips and include communications facilities and weather stations. . . AF will relinquish its bombing and gunnery range at Monomoy Point, near Chatham, Mass., releasing land and water area for civilian use.

MORE THAN HALF OF \$48,834,770 APPROPRIATED FOR USAF CONSTRUCTION IN ALASKA AND OKINAWA WILL BE USED TO HELP ALLEVIATE CRITICAL HOUSING SHORTAGE in these areas. Balance of funds will be used for construction of operational facilities in the two areas. Approximately 130 family apartment units, costing \$6,002,880, and bachelor officer quarters and barracks for airmen costing \$6,526,550 will be constructed at Eielson AFB, Fairbanks, Alaska.

(Continued on page 45)

AIR MAIL



Third Strike

Gentlemen: In your November issue a Michigan reader questioned your references to the B-26 having been built by Douglas—page 28 September issue. As a former Martin B-26 pilot, I suggest that your answer to him was incorrect. You stated that the war-time Douglas A-20 has been redesignated the B-26 by the Air Force. Actually the A-26 was redesignated the B-26.

Hue E. Nunnallee
Wichita, Kansas

Gentlemen: Both of you should be able to recognize the A-26 or B-26 when you see it. The planes in the picture are B-26s formerly designated the Douglas



A-26. The Douglas A-20 is now obsolete although a few have been converted into one of the fastest commercial executive type planes now flying.

Jack K. Rollins
Houston, Texas

Gentlemen: I wish to point out that the model recently redesignated as the B-26 by the Air Force is what was known as the A-26 Invader during the war and not its fore runner, the Douglas A-20 Havoc. This has no doubt been pointed out at least 50 times by your readers. The magazine as a whole, however, seems to get better each month. There must be a saturation point somewhere.

Michael Parr
Tacoma, Washington

• We quit counting how many times it was "pointed out" after the first week. We could say it was just a typographical error, but the fact is it was one of those boners which send an editor out into the night screaming like a banshee (excuse the expression) and tearing out hair by the fistful.

Cover Photo

Gentlemen: On the front cover of Air Force for October, there appeared a photo of four Air Guardsmen "sweating 'em out." I would like to request a credit line for identification of the men and the photographer. The guardsmen are four members of the 191st Fighter Sq., Utah Air National Guard. They

are (standing) Sgt. Ray Woodbury; (kneeling left to right) Sgt. William W. Edstrom, S-Sgt. Max L. Richards; (sitting) S-Sgt. William L. Horrocks. The photographer was myself.

S-Sgt. Edward P. Lile
Salt Lake City, Utah

A Shock

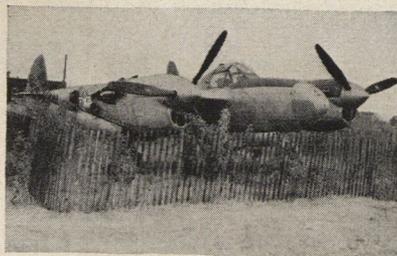
Gentlemen: While on my vacation I happened to stop at Poplar, Wisc. to see the plane that was sent there by the government to be used as a memorial to Major Richard I. Bong, Air Force Ace of Aces. What I found was a bit of a shock. The plane, a P-38, was off behind the depot sitting in a field with a snow fence around it and large amounts of weeds. Is this the memorial to Major Bong? As a member of the Air Force during the last war and as a member of AFA I just wonder if we couldn't make it a project to help Poplar, which seems to lack funds, make a real memorial to our Air Force ace. Who else deserves a memorial more than Major Bong—a man who destroyed 40 Jap planes and later lost his life testing a jet fighter?

Don Swenson
La Crosse, Wisconsin

Gentlemen: I was deeply shocked to read of the sad condition in which the so-called memorial to Major Richard I. Bong has been kept. I want to do something about it. Enclosed is a check for five dollars to start the ball rolling. With a few contributions we can easily make a shrine of Richard Bong's P-38 and thus give proper respect to our dead hero.

Daniel R. Samuelson
Austin, Texas

• Reader Samuelson's check will be forwarded to the Richard Bong Memorial Foundation at Poplar, Wisconsin.



Norman H. LaPole, chairman of the foundation advises that in spite of a serious shortage of funds, plans are going ahead for a permanent resting place for the famous Lightning. Architect's drawings, finished within the past month, call for landscaped grounds, rest

rooms, a sheltered mount for the plane itself, and a "memento" room which will contain much of Bong's equipment and many of his souvenirs. At the moment the foundation is \$15,000 short of the minimum \$25,000 it needs to complete the job. If other AIR FORCE readers, like Daniel Samuelson, wish to contribute, they may send their donations to AIR FORCE, 901 Sixteenth St. N.W., Washington 6, D. C. The money will be forwarded at once to the foundation.

Pro

Gentlemen: I would like to see the "Technique Section" enlarged. This is a new and fast Air Force, it will take more briefing to keep us abreast of the rapid changes.

Capt. Joseph Green
APO 334

and Con

Gentlemen: There is too much technical jargon used in the ads and articles. Hamilton Standard may be enthused about "strip analysis", but many of the



readers must be poorly equipped to catch the import of this discovery.

Thomas J. Clohesy
Boston, Mass.

Plans and Drawings

Gentlemen: I have always recognized Air Force as being a good magazine, but I never expected to find the home I want in it. Will you please let me know where I can get the plans and drawings for the house you have the floor plan of on page 15 of the November issue?

Ben Brown, Jr.
Memphis, Tenn.

Gentlemen: The house plan on page 15 of the November issue of Air Force looks good to me. Could you tell me where I could get a copy of the blueprint?

Edward Sanmna, Jr.
Lewiston, Idaho

• These plans are the property of J. Wilmer Smith, Architect, 808 17th St. N.W., Washington, D. C. We suggest that readers interested in obtaining full blue prints contact Mr. Smith directly.

Look at the Beechcraft from every angle

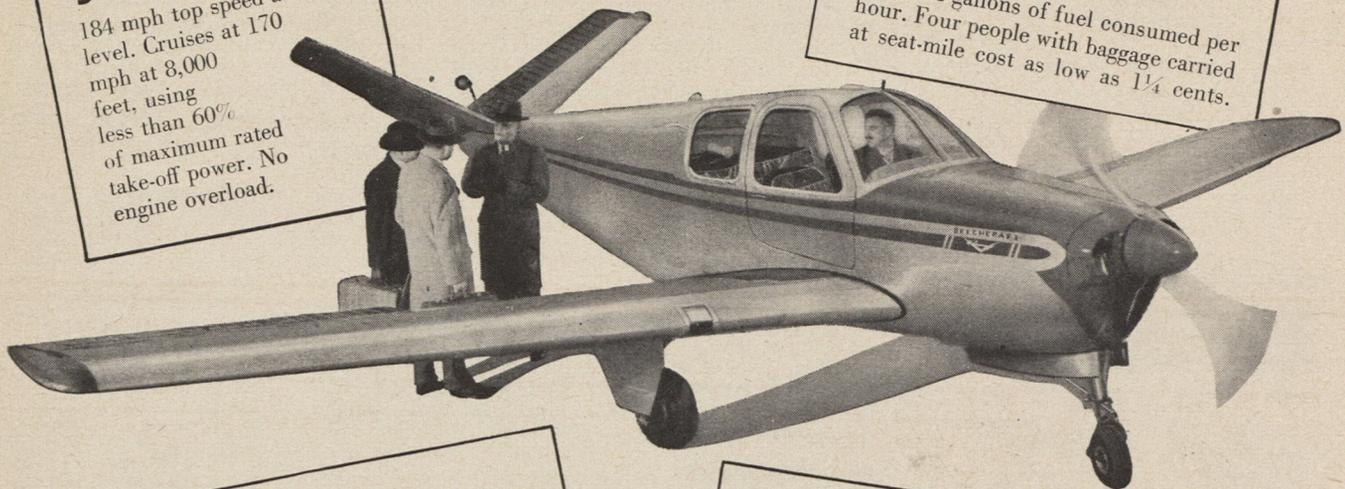
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184 mph top speed at sea level. Cruises at 170 mph at 8,000 feet, using less than 60% of maximum rated take-off power. No engine overload.

economy!

Only 9½ gallons of fuel consumed per hour. Four people with baggage carried at seat-mile cost as low as 1¼ cents.



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Sturdy framework results in extra safety margins. Rated in utility category at full gross weight, with limit flight load factor of 4.4 G's, plane was subjected successfully to special tests not required by CAA.

strength where it counts!

Note low, sturdy landing gear with wide tread and exclusive cross-bracing of struts. Nose gear position, plus long wheelbase, eliminates pitching, allows greater braking.

style and comfort!

Sound-proofed cabin, handsome roomy interior, room for four six-footers. Ease of entry and exit because of wide autotype door.

... then you'll see why it's a better buy!

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

You'll find other "extras" you'll appreciate when you actually see the Beechcraft Bonanza—like the exclusive retractable step, two-way accessibility of the luggage compartment, and maximum visibility. Go over the ship yourself, soon. And for illustrated brochures that go into more details, write today on your company letterhead to Beech Aircraft Corporation, Wichita, Kansas, U.S.A.

Beechcraft

BONANZA

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Where the Gang gets together

SWAMP ANGEL: Would like to hear from anyone who knows what happened to a B-24 named "Swap Angel" that our crew ferried to England in January 1944 and then had taken away from us. *Charles Landells, 511 Post Ave., Lyndhurst, N. J.*

WHERE IS I. S.: Does anyone know the address of I. S. Erdman, ex-AAF Captain who used to be stationed at Edgewood Arsenal, Md., 614th AAFBU. I think he lives in Baltimore. *Edward D. Sanman, Jr., 711-10th Ave., Lewiston, Idaho.*

PHOTO EQUIPMENT: Will make available photographic supplies at reduced prices to members of the Air Force Association. Interested individuals may write the undersigned stating their needs and giving their old rank and serial number. If there is no evidence of military service, there is no reduction in price. *Mrs. Margery E. Jahoda, 13 Fairview Ave., New Paltz, N. Y.*

BAUER'S BUDDIES: Trying my darndest to locate M-Sgt. Jewell E. Aiken from Florida, M-Sgt. Jefferson D. Armstrong who was stationed at Fort Totten, N. Y. and M-Sgt. William Neuber who used to be at Fort Bragg. *T-Sgt. William Bauer, 307th Supply Sq., MacDill AFB, Tampa, Fla.*

LOST SILVER: When I retired from the service earlier this year, a barrel containing my wife's silverware was apparently shipped overseas by mistake with someone else's furniture. Anyone knowing the whereabouts of said barrel please contact *Thorvald Lauritzen, 110 1/2 Damon St., Stinson Homes, San Antonio, Texas.*

IN PURSUIT: Would like to hear from old members

of 18th Pursuit Sq., 1940-1941, and former members of 70th Fighter Sq., 18th Fighter Gp., 1941-1943, South Pacific. *Abe Neiden, 1717 R St., Lincoln, Nebraska.*

ATTENTION OLD TIMERS: The 9th Strategic Reconnaissance Gp. desires your assistance. Our outfit is the oldest in the U. S. Air Force dating back to March 1913 when the 1st Provisional Aero Sq. (now 1st Strat. Recon Sq. Photo) was activated at Texas City, Texas with Captain Chandler in command. In 1916 Captain Foulois (Maj. Gen. Benjamin D. Foulois) took the 1st Aero Sq. into the U. S. Air Force's first combat flight in the Mexican expedition to route out Pancho Villa. World War I saw the outfit as the first Air Force unit in France. The 5th Aero Sq. trained pilots at Kelly Field for World War I. The 99th comprising these three squadrons was activated at Mitchell Field in August 1922. The Group flew during World War II as the 9th Bomb Gp. The history of the group and squadrons prior to 1941 is very thin. We need information as to personalities, accomplishments, types of airplanes assigned and photographs if available. Help bring your old outfit up to date by sending information to *Maj. Ralph K. Watts, Historical Officer, 9th Strat Rcn Gp., Fairfield-Suisun AFB, Calif.*

SUNNY REUNION: Would like to hear from ex-92nd Bomb Gp (especially 326th Sq.) boys to make plans for a possible reunion in sunny Florida. *Thomas R. Demery, Jr., P.O. Box 2072, Tampa, Fla.*

ABERDEEN COMMANDOS: What happened to the fellows who were in the Proving Ground Command. Particularly interested in whereabouts of

former Aberdeen Commandos, especially T-Sgt. Andrew C. Stark and M-Sgt. William F. Ribble. Last known address of both was Hamilton Field, Calif. *Earl Sobel, 2723 Pacific Ave., San Francisco, Calif.*

YAAF REUNION: If you missed the fourth YAAF reunion this year, that's too bad—but for 1950—it's Yuma. Plan now to keep the date for October. The committee guarantees sand, stars, clouds and wind—and a barbecue on the old flying field. *John R. Upton, M.D., 2440 Pacific Ave., San Francisco, Calif.*

MOBILE CHUMS: Am looking for former buddies from the 3rd Radio Sq., Mobile (G) Detachments A, B, C and D. Wonder if we can't get together. *Henry Small, 915 Shreve Bldg., San Francisco, Calif.*

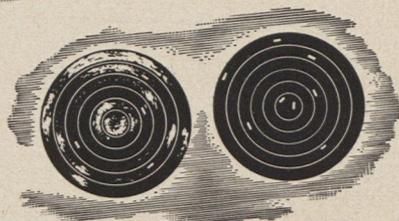
REUNION: There will be a 1950 reunion of the 451st Bomb Sq., 322nd Bomb Gp. A permanent association of former members has been formed and our first periodical news bulletin published. If you haven't been contacted, please write R. E. *Potratz, 6348 South Larrobe Ave., Chicago, Ill.*

REUNION: Plans are being formulated for a reunion of the 397th Fighter Sq. 368th Fighter Gp. to be held possibly in New York sometime in July 1950. Write *Thomas Ahern, 162 Madison Ave., Hartford, Conn.*

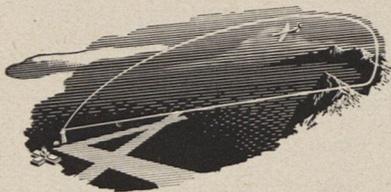
COMBAT MARKINGS: Am planning a book on AAF Combat markings in World War II and need further information. Will all those who remember their squadron and group markings including colors and all letter or numeral codes carried, please pass information on to A. E. *Ferko, 736 N. Ellsworth Ave., Salem, Ohio.*

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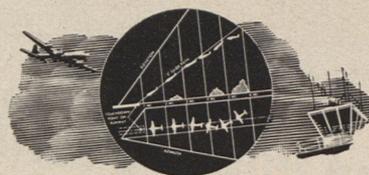


MTI Gilfillan's Moving Target Indicator eliminates "ground clutter." Tracking and identifying aircraft no longer requires the tedious concentration of a special radar operator. Exact bearing and range of aircraft are now seen instantly by all control tower personnel. Only Gilfillan has produced a reliable, drift-free, range-selectable MTI.



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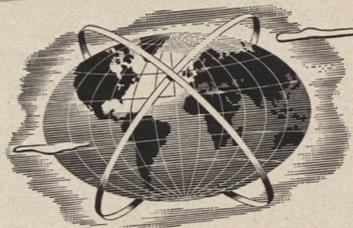
New Gilfillan GCA extends search coverage to 10,000 feet altitude over a 30-mile radius. Early GCA was limited to solid surveillance 18 miles out and 4,000 feet up. This seven-fold increase of original GCA coverage is a Gilfillan "bonus," vital to air traffic control.



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TOWER CONSOLE Gilfillan's desk-size, one-man GCA console is in startling contrast to the 22-ton, five-man wartime trailer. By remoting the radar data to the control tower, air traffic personnel now have accurate plane position information instantly available. Consolidation of all GCA features into a compact console is an exclusive Gilfillan improvement.

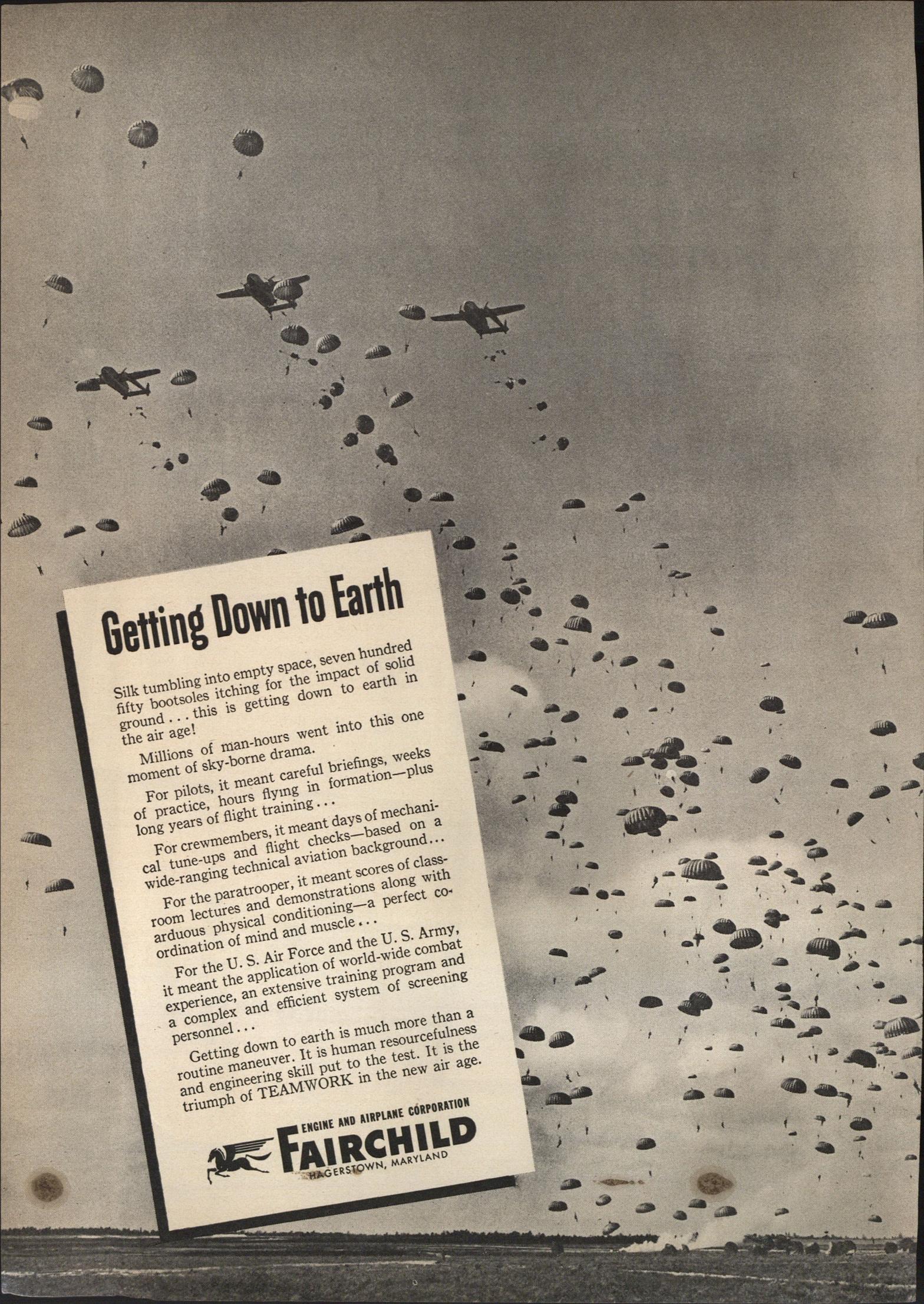


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superior speed and performance at high altitude, yet handle effectively at low altitude for carrier landings.

These experiments and many others in this advanced aircraft design offered a lot of challenges. But, they are about ready to pay off — because the Cutlass, which in 1945 was only a gleam in a designer's eye, is emerging as one of the nation's top fighters.

It is fast — as fast as they come. Its rate of climb is meeting and exceeding performance requirements. It is highly maneuverable even at speeds in the neighborhood of the speed of sound. It has the firepower to deliver a telling blow in combat. It is equipped with the finest and most modern in radio, navigational aids, pressurization, instruments, hydraulic controls and other cockpit equipment. Flight-wise, the Cutlass has proved to be a pilot's dream.

Now, it is ready to start down another long trail: production, refinement and actual service in defense of the nation.

Yes, the end is only the beginning.

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SPEED

Top speed of the Cutlass is a military secret. But here's a hint — it's in the "over 650 m.p.h. class". And, it's not a one-altitude fighter. At four hundred feet or at forty thousand, it will compete with anything in the air.



MANEUVERABILITY

The Cutlass can execute any aerobatic maneuver like a scared jack-rabbit. At one mile up, or eight, it can overtake any existing bomber or fighter — and turn inside it.



RUGGEDNESS

Structural stamina has been built into this newest Vought fighter. Severe and rugged tests have been imposed on it and it is already evident that the Cutlass is endowed with traditional Vought ruggedness. The Cutlass can give it — and "take it".



The de Havilland Comet which Doolittle says is destined to exercise a profound effect upon air transport in the next decade.

HOW SLOW OUR JETS

Something over three years ago, in London, I gave a short, impromptu talk before the Royal Aeronautical Society. The Royal Aeronautical Society there compares generally with the Institute of the Aeronautical Sciences here, except that it is much older and far more steeped in convention and tradition. Both the Society and the Institute, as you know, have memberships largely composed of aeronautical scientists and engineers, airplane and engine manufacturers, and airline operators. I said, in substance, that in air transportation too much importance was being given to speed. Had it not been for the inherent forbearance of the British, and the fact that I was the guest of honor, I'd probably have been thrown out. My statement started a "heated discussion". Again considering the proverbial British self-control, a "heated discussion" over there compares roughly with a riot here.

I went on to say that, in my opinion, the future development of air transportation should proceed with emphasis as follows:

One—SAFETY—which must always be paramount and with which there can be no compromise.

Two—RELIABILITY—meaning the ability to adhere to schedule—to fly regardless of weather conditions and to

Speaking before the TWA Management Club in Kansas City, Gen. Doolittle warns that American sluggishness in developing commercial jet planes is a threat to our aviation industry and to national security

James H. Doolittle

get passengers to their destinations on time.

Three—ECONOMY—while the primary purpose of any airline is to give a public service, it must operate in the black or it cannot remain in business.

Four—PASSENGER CONVENIENCE—this consists largely of handy schedules and the avoidance of inconvenience and annoyance on the ground—in getting to and from the airport; in the handling of tickets, baggage and customs; and particularly, in prompt and courteous treatment by air-traffic personnel.

Five—PASSENGER COMFORT—with particular reference to comfort in the air.

Six—And last—SPEED.

A self-appointed spokesman for my British audience very forcibly pointed out that, in their opinion, I had the whole thing upside down; that speed was all important.

Even then, knowing that they could not catch up with American reciprocating engine air transport aircraft development, they were planning, designing, and working full out to play leap-frog over our conventional aircraft with

Although conveniently powered, huge Brabazon is another example of British determination to get ahead in transport field.



a full line of gas turbine, ultra high-speed transports. This was a sound approach from their point of view.

Last month, while in England, I had an opportunity to go through the de Havilland Airplane Factory at Hatfield, carefully inspect the Comet on the ground, and see it fly. It took off readily in 33 seconds at a gross weight of 85,000 lbs., the heaviest it had taken off up to that time. This was a few days before it made the flight to Libya and back. It is a beautiful airplane. It is very clean aerodynamically and looks something like the Constellation—including the "droop snoot"—except that it has only one vertical tail instead of three.

Designed to a gross weight of 100,000 lbs., the Comet carries 2,000 Imperial gallons of fuel in integral tanks in each wing and another 2,000 gallons in a bag in the center section. British gas turbine fuel weighs 8 lbs. per Imperial gallon (which is 20% bigger than a U. S. gallon), so a full fuel load of 6,000 Imperial gallons weighs 48,000 lbs., or almost exactly half of the maximum all-up weight. The airplane is intended to carry 32 passengers for short hauls, or 24 on the transatlantic route.

The Comet is powered with four de Havilland "Ghost" jet engines of 5,000 lbs. thrust each. Jet thrust at low speeds is very inefficient, but at 375 mph a pound of thrust is the equivalent of one horsepower. At 500 mph, a pound of thrust may be said to equal $1\frac{1}{2}$ horsepower, so the effective horsepower of the Comet at high speed is about $1\frac{1}{2} \times 4 \times 5,000$ —a total of 26,700 horsepower. (Against, say, 10,000 hp total at full power—or 5,200 hp at normal cruising speed—for the considerably larger Constellation.) As the engines will burn a prodigious amount of fuel at low altitudes—and probably about 250 Imperial gallons per hour each, or 1,000 gallons per hour for the airplane at optimum speed and altitude—it appears that flight refueling or an intermediate stop will be required between Shannon or Prestwick and Gander, at least, on the westward flight.

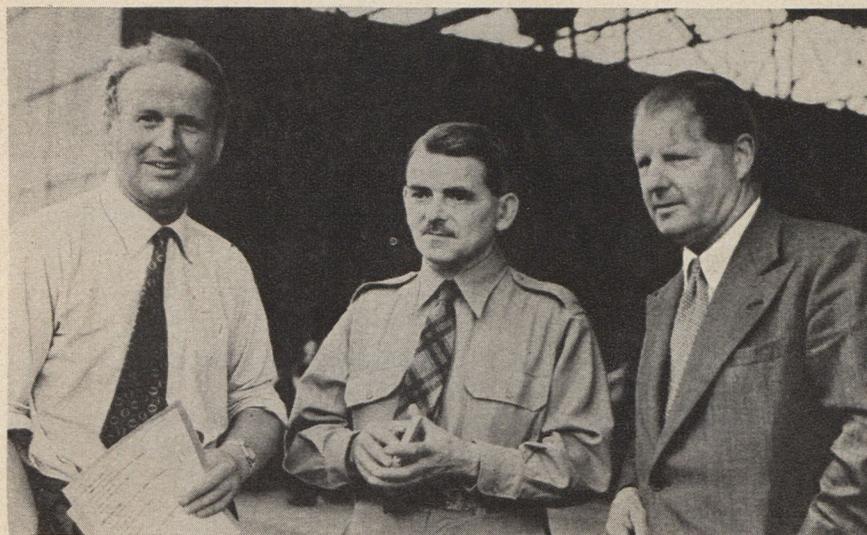
A major problem with jet transport aircraft on transatlantic crossings will be their relative inability to select favorable altitudes—those with minimum effective westerly winds. They must fly at high altitudes, because only there are the engines relatively efficient. There are many other problems to be solved before jet transports can be used commercially. They cannot wait around at low altitude for their turn to land. Their fuel consumption is too high. Therefore, in bad weather there can be no stacking. The traffic direction must be straight in—in turn—with no delay, as in the Berlin Airlift. This means a complete revision of traffic control procedure. It also means more accurate weather forecasting. It must be proved if present communicational facilities can accommodate a 66% increase in cruising speed (from 300 to 500 miles per hour). The effect of rough air on the passengers and on the aircraft structure at these higher speeds must be definitely established. A jet airplane must be able to slow down

(Continued on page 28)



Above, Britain's four-engined, turbo-prop airliner, the Handley Page Hermes V. Below, the Portuguese Ambassador to Great Britain, Dr. Armindo Monteiro (left) greets one of the men who gave England edge in jet development—Geoffrey de Havilland, designer of the DH.108 "Swallow". He was killed while testing it.





A jet triumvirate. Test pilot John Cunningham, Sir Frank Whittle, pioneer jet engine designer, and Maj. Frank Halford, designer of the Comet's "Ghost" engine.

rapidly when it enters rough air. This means that the high-speed jet airliner must be equipped with some sort of decelerator or air brake. I flew a B-45 four engine jet bomber at Muroc Dry Lake Air Force Base last year, and at high speeds, this type of aircraft hits rough air in a way which would be seriously discomforting to passengers.

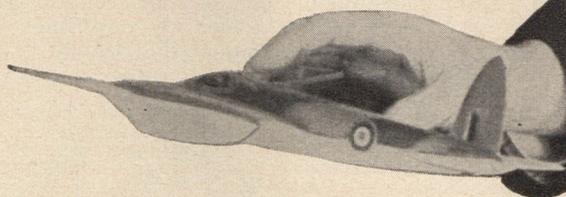
There are many other problems yet to be solved in high-speed air transportation, and I would like to suggest that some wide-awake airline make a deal with the U. S. Air Force to run a one-year shakedown test for them with a half-dozen B-45's. If these planes were put on a mail, express, and cargo carrying schedule, we could quickly learn a great deal about scheduled high-speed operations, and make up in part the lead that our friends across the water have achieved in the development of high-speed commercial aircraft.

If in the above I have made the problems of high-speed flight sound insuperable, then I have expressed myself poorly. The problems are there, they are difficult; but they are all capable of solution and must be solved. The de Havilland Comet and its successor jet transports are destined to exercise a profound effect upon air transportation within the next ten years.

I had a chance, while in England, to fly in a Dakota (C-47) mounting two Armstrong Siddeley Mamba turbo-prop engines of about 1,400 hp, plus 400 lbs. jet thrust. This airplane had excellent performance and was very quiet and quite vibrationless. These engines have only had a limited amount of flight time but after they are proved and debugged, would make suitable power plants for the Douglas Super DC-3.

I also flew in, and for awhile piloted, the new Vicker Viscount, which mounts four Rolls Royce Dart turbo-prop engines of about the same power as the

Chief designer of England's all-jet Comet is R. E. Bishop, right, who also "gave" England the de Havilland Mosquito bomber he holds.



Mambas. This is an excellent airplane. It is almost unbelievably vibrationless and quiet. In its reworked form it will weigh about 50,000 lbs. and will carry 40 passengers. It will have tank capacity for 1,800 Imperial gallons of fuel, which will give it a reasonable range.

In my opinion, the principal advantages of turbo-prop powered aircraft lie in the relatively short haul field. Another advantage is their ability to break in two the 200 mph jump from 300 to 500 mph. This will permit going from 300 to 400 to 500 mph in two increments of 100 mph each, thus making it much easier to solve the problems involved in the greatly increased speed of pure jet transports.

Much progress has been made in passenger comfort in the last few years, but there is still room for substantial improvement. In dealing with comfort, we should consider both physical comfort and peace of mind. There are several primary factors which contribute to passenger comfort or discomfort.

First is seating. If full advantage is to be taken of airline speed, it is necessary that the passenger arrive at destination physically refreshed rather than physically bushed. In order that an individual be capable of doing an alert day's work on arrival, it will eventually be necessary to provide, on long overnight flights, facilities which will permit passengers to lie down and sleep. For long non-stop daytime flights ability to move

around and "get a stretch" is essential on first class flights.

Second, changes in pressure as a plane gains or loses altitude materially effect passenger comfort. Increase in cabin pressure often leads to ear irritation and popping, and in some instances, to severe earache. Also, with decreased pressure, some unfortunate people who have eaten gaseous foods experience great discomfort. This can be serious. In 1942 in the Mediterranean Theater, on several occasions, because the crews had been fed gas producing foods, stomach pains at high altitudes were so severe

A trio of English turbo-prop commercial



that it was necessary for planes to abort important bombing missions.

A reduced supply of oxygen over a sustained period slows down a person both mentally and physically. Cabin pressurization has reduced the discomforts that come from changes in pressures and oxygen deficiency. However, much remains to be done in connection with cabin pressurization, ventilation and temperature control; and it is necessary that more thought and engineering time be devoted to their improvement.

Third, noise is one of the greatest indirect contributors to the passenger's discomfort. Noise causes not only physical but mental fatigue. The noise level in present day modern aircraft is very much lower than in the planes of ten years ago. However, it is not low enough. It should be decreased by at least half. In addition to the employment of improved soundproofing techniques, the noise level may be reduced by the utilization of propellers with lower tip speeds and the installation of muffling exhaust gas collector rings. A final cause of noise in flight is the movement of air over the outside surfaces of the plane. This noise is greatest over irregular surfaces, which cause discontinuities in flow, and can be decreased through improved streamlining.

Fourth, vibration contributes materially to passenger discomfort. It makes writing and reading both difficult and tiring, and it detracts from the relaxation one should get from a smooth vibrationless flight. From the mechanical viewpoint, a substantial reduction in vibration can increase instrument and equipment life and reduce maintenance requirements.

These remarks should not be construed as a lack of appreciation of the tremendous strides the airlines and aircraft manufacturers have made in recent years toward increasing passenger comfort, but there still exist opportunities for additional improvement.

The utilization of turbo jet aircraft will not only increase speed, but will also improve passenger comfort through reduced vibration and noise. The employment of gas turbine power plants, which utilize a higher boiling range fuel, will greatly reduce fire hazard in case of a crash and will, in turn, promote passen-

ger comfort by removing one normal fear.

Except for Canada, which has built and is now flying the prototype of the Avro Jetliner, a pure jet job which is powered by four Rolls Royce Derwent turbo jets of 3,500 lbs. thrust each, Great Britain is, as far as I know, the only nation which has a jet air transport prototype flying or under construction.

Britain now has flying six air transports to be powered by either turbo props or pure jets. These range from the giant Brabazon, about the size of the B-36 and grossing nearly 300,000 lbs., down to the Marathon II, a light feeder plane designed to carry up to 22 passengers. English manufacturers now have on their books from Great Britain's airlines orders for some sixty gas turbine powered planes.

The question may rightly arise why Britain is so far ahead of the United States in the production of commercial jet aircraft. There are three reasons for this.

First, a wartime decision. It was agreed that because of America's greater safety from bombing, and its huge industrial capacity and massproduction "know-how", the major portion of allied airframes and engines for the combat units would be made in the United States. Logically, much of the development work on conventional piston or reciprocating engines was carried on in this country, while Britain concentrated on research leading toward the design, construction, and production of jet engines which were introduced there by Air Commodore Sir Frank Whittle, some two years before we started working on them.

Second, Britain, immediately after the war, met with serious reversals in her attempts to build conventional commercial aircraft which could successfully compete with existent American transport planes. Therefore, the British made the obvious decision and directed their efforts toward the development of gas turbine powered transport planes.

Third, to help maintain British prestige and her position in world commerce, the British government has heavily subsidized her aircraft manufacturers in order to enable them to develop and produce new planes to be used on her

nationalized airlines. She hopes these new planes will be good enough to permit her to sell them in other countries, including America, and thus substantially improve her position in the world's aircraft market. Subsidies on the Viscount, I am advised, have amounted to approximately 20 million dollars, and although de Havilland courageously took considerable risk in the construction of the Comet, it is reported that the developmental cost was partially financed by the British Ministry of Supply to the extent of about \$17,000,000.

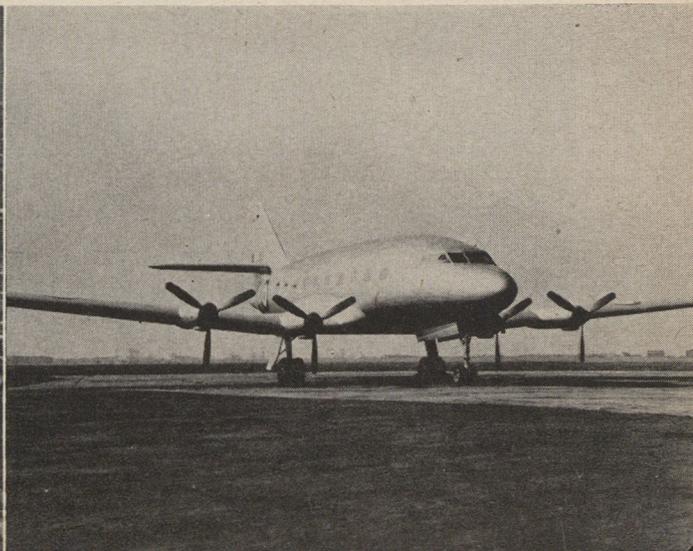
While we are behind the British in the development of commercial jets, we are not behind them in the development of all jet aircraft. In this connection I would like to point out that the U.S. Air Force has in production, and in its combat units, the fastest jet fighters in the world, and that the first multi-jet bomber was flown here in America some two years before the first English multi-jet bomber became airborne. Exclusive of aircraft still classified as secret, the United States has a total of 34 different types of jet aircraft flying, or being evaluated, as compared to the 24 jet plane types shown by Britain at their recent annual aviation exhibition at Farnborough. However, all of our jet planes are military aircraft.

Our aircraft manufacturers have the "know-how", the facilities, and the desire to build jet airliners, and I am confident that every major airframe builder in this country has at least preliminary plans for jet airliners on their drawing boards. Only firm orders for these planes are needed to put plans into action.

There may be some advantage in waiting a little longer before starting on jet transports here in order that we may benefit from the experience of our English friends—but we should not be lulled into inaction too long by that pleasant theory. British jet planes should be ready to go on the airlines in limited numbers in from two to three years. It would, if we started from scratch, take from two to three years to build a prototype, about two years of flight testing, and on top of that, another year of operational testing before it would be in regular airline service. About two years

(Continued on page 48)

airliners. From left, the Vickers Armstrong "Viscount", center the short-haul Mamba "Marathon", and the medium range "Apollo".





AFA STATE ROUNDUP

CALIFORNIA

San Bernardino: Fred Padgett, 716 West 5th Street, was recently elected commander of the San Bernardino Squadron, AFA.

Other officers selected were: Charles Dulaney, vice-commander; L. T. Shar-

rar, treasurer; Alren Vincent, Secretary.

Council members elected were: M. D. Hartline, T. K. Foster, and M. J. Hedg-peth.

HAWAII

Honolulu: The four squadrons of AFA in

Hawaii have been given considerable credit for their assistance in getting the Air-ROTC program started at the University of Hawaii.

The program was opened with one general course, in Administration and Supply. USAF has advised that a specialized course is required to maintain an Air-ROTC unit. After a study of the needs of local air units and worldwide requirements the Air Installations course was selected by PACD-MATS officers as the most suitable.

Approval of this course will come up before the next meeting of Board of Regents.

ILLINOIS

Chicago: Nathan Wolfberg, Room 1114, 39 South LaSalle Street, Chicago, is commander of the Fifteenth Air Force Society which was chartered on November 30, 1949, by AFA Headquarters.

Other officers are Irving B. Siden, vice-commander; Ralph J. Waters, secretary; and Joseph Rubin, treasurer.

Council members are Ray C. Rivera, Meyer Z. Reuben, John A. Waters and Robert A. Rolfe.

The next meeting of the Society will be at the Congress Hotel on Wednesday night, January 11, 1950. Entertainment will be provided and members and former members of the Fifteenth Air Force and attached units are invited.

MASSACHUSETTS

Taunton: Arnold R. White, 19 Broadway, was elected commander of the Taunton Squadron, AFA, at a recent meeting. The squadron was chartered on November 16, 1949.

Other officers selected were: Joseph T. Smith, vice-commander; David W. Leckart, secretary; and Austin E. Chandler, treasurer.

Council members are: Hugh Mayher, Alfred Brodeur, Manuel Rose.

MICHIGAN

Lansing: The second annual "Operation Wing-Ding" dance sponsored by the Lansing Squadron No. 1, AFA, was held in the Reo clubhouse on December 3.

Bud Bell and his orchestra played at the affair, which was an open party.

Dance proceeds will be used for a building fund for the squadron.

Committee members for the dance included: Mr. and Mrs. George G. George and Mr. and Mrs. Leonard W. Wood, general chairmen; Russ A. Koch, Jr., ticket chairman; Mr. and Mrs. Frank Miller and Mr. and Mrs. Harold Patrick, door prizes and decorations; Mr. and Mrs. Leland Crum and Mr. and Mrs. James Kennedy, orchestra and public relations; Mr. and Mrs. Paul Huff, finance; Mr. and Mrs. Irving J. Swenson and Roy Halser, concessions; and Mr. and Mrs. Crum and Mr. and Mrs. Nyme Farage, publicity.



AFA's President Bob Johnson, who regularly flies Republic's F-84 jet fighter, thanks the USAF's Capt. Joe Wolfe (left) for a buggy ride in North American's new B-45 jet bomber. Bob reported the B-45 a fine plane—if you like bombers.

OHIO

Cleveland: Members of the Cuyahoga Founders Squadron, AFA, are planning a campaign to raise \$10,000 to establish a downtown headquarters and club-rooms available to Air Force veterans and groups for meetings. They are searching for a site and hope to be in business by next spring when the AFA state convention is held there, according to Erwin Cooper, AFA group Commander.

Members of Cuyahoga Founders' Squadron, AFA, hold regular weekly classes of instruction on how to build models for Junior Aviators. Classes are held in Boystowns and recreation centers.

Lloyd Vandervoort, instructor at Dudley Blossom Boystown, heads the program for AFA.

PENNSYLVANIA

Oil City: A color sound film, "Of This We Are Proud," was shown at a meeting of the Oil City Squadron, AFA, held recently in the Chamber of Commerce assembly rooms.

NEW YORK

New York City: New officers of the Show Business Squadron, AFA, are: Lester Moak, 118 West 22nd Street, New York City, commander; Lawrence E. Gross, vice-commander; Laurence D. Weaver, secretary; and Norman Frank, Treasurer.

The squadron council consists of: Frank Daren, Betty Dover, George W. Faison, Jr.; Alice W. Fischelis, Peter Geiger, Beatrice Harwood, Irving Pearlman, Jack K. Rimalover and Ezra Stone.

The squadron, whose membership is made up of AFA veterans now associated with the entertainment, literary and allied fields, has embarked on a busy season with plans for welfare programs at veterans' hospitals, air scout sponsorship and lectures by Air Force personnel, in addition to its regular monthly meetings and social activities.

New York City: Major Lee Levert, AFR, ex-commander in USN, and author of "Fundamentals of Naval Warfare", spoke on "The Battle of Leyte Gulf" at a recent meeting of the Manhattan Squadron No. 1.

The luncheons held during the summer will be continued through the winter months. They are held on the third Thursday of each month at the Chalet Suisse at 1 p. m.

New York City: A Christmas party for patients at the U. S. Marine Hospital, Rockaway Point, L. I., was sponsored by the WAC Squadron No. 1 on December 10.

Each of the 300 patients received a gift, and door and ward prizes were given.

Chairmen of the event were: Beverly Hoppelman, entertainment; Betsy Evans, refreshments; and Ruth Storn, decorations.

At a recent meeting the squadron discussed a dinner to celebrate their third anniversary in January.

New York City: The Queens Squadron, AFA, is considering the purchase of a war-surplus airplane for members to work on and fly.

CHICAGO GROUP ACTIVATES ALL-WAF SQUADRON



In Chicago, Air Force Association has activated a new all-WAF squadron. Discussing future plans above are AFA Group Officers (standing) John Waters; Charles F. Stebbins, Chicago Group Commander; and Ira Lipshutz, Membership Chairman. Seated, from left, are Zola C. Wist, Secretary of the new squadron; Eva Rabenaus, Vice Cmdr; Francis Barzycki, Cmdr; Marguerite Miller, Treas.

WEST VIRGINIA

Beckley: The Beckley AFA Auxiliary assisted with the mailing of tuberculosis seals to citizens of Raleigh County. The entire membership worked with Mrs. Cecil Kincaid, chairman, for two days last month.

At a recent meeting Mrs. Don Lilly and Mrs. John H. Davis were appointed to contact Red Cross and Department

of Public Assistance officials in an effort to locate a needy family that can be adopted by the organization.

A Pinecrest patient will be sponsored following the report of Mrs. Joe Kacsmark at the December meeting.

Mrs. James Wauhup and Mrs. Davis were appointed during the meeting to assist Mrs. I. Devasher with the scrap-book project.

COL. LIN HONOR GUEST OF OAHU SQUADRON



Col. Lin Wen K'wei (second from left) finds something to his liking in AIR FORCE during recent stop-over in Honolulu where he was guest of honor at a meeting of the Oahu AFA Squadron. From left, L. H. Baker, Col. Lin, Arthur Gordon (who served with Lin as Flying Tiger) and Col. R. E. Churchill of the AF.



IN RESERVE

VA Issues Revised List of Benefits for Veterans

New Compendium Written in Consideration of Changes of Law Which Have Affected GI Benefits or Eligibility Requirements

Because there have been several changes in laws governing veterans' benefits under the GI Bill of Rights, the Veterans Administration has issued a new fact sheet to keep the public up to date. Here are some of the high spots:

MEDICAL BENEFITS

Hospitalization—World War II veterans, if discharged or separated under conditions other than dishonorable, are entitled to V-A hospital treatment, under the following priority system:

1. Emergency cases.
2. Those suffering from injuries or diseases incurred or aggravated in line of duty during wartime service.
3. Those who state under oath that they are unable to pay hospital charges for treatment of nonservice-connected disabilities.

Domiciliary Care—Domiciliary care is designed to provide a "home" for those veterans who have a chronic condition which incapacitates them from earning a living and who require minimal medical attention. Requirements for admission for domiciliary care are essentially the same as for hospital treatment.

Outpatient Medical Treatment—More

generally known as "home-town treatment," outpatient medical care is available for veterans with service-connected disabilities.

Under this plan, eligible World War II veterans may receive treatment at V-A hospitals or clinics, or from approved private physicians. Each veteran's eligibility must be determined by V-A before treatment of this type can be authorized. Necessary drugs may be obtained from "home-town" druggists at government expense by veterans who are authorized to report to private physicians for treatment.

Outpatient Dental Treatment—Veterans entitled to outpatient dental treatment may, upon V-A approval, be furnished dental treatment by private dentists at government expense. Here, again, the condition must be determined by V-A to have been incurred in, or made worse by, the veteran's wartime service before treatment can be authorized.

Examinations—Free medical examinations will be given veterans filing compensation claims. Veterans desiring to reinstate their National Service Life Insurance may receive a physical examination free of charge at any V-A clinic.

VOCATIONAL REHABILITATION

Eligible disabled veterans may receive education or training at Government expense, with tuition, supplies, and, in many cases, subsistence allowance provided by the Vocational Rehabilitation Act (Public Law 16, 78th Congress, as amended).

Eligibility—Disabled veterans are eligible if: (1) they had active service between September 16, 1940, and July 25, 1947; (2) they were discharged or separated under conditions other than dishonorable; (3) they have a service-connected or aggravated disability which would entitle them to compensation (even if they are not receiving disability compensation); and, (4) V-A determines they need vocational training to overcome their handicap. All four conditions must be met.

Length of Training—Eligible veterans may get training for as long as is necessary to restore their ability to work, up to a total of four years. Veterans may apply for vocational rehabilitation at any time after their discharge but in time to complete their training by July 25, 1956.

Eligible veterans may be: (1) enrolled in schools or colleges; (2) placed in apprenticeship or other training on-the-job; or, (3) entered in institutional on-farm training programs or other programs which combine school and job training.

Subsistence Allowances—While in training and for two months after rehabilitation, the disabled veterans may receive subsistence allowances in addition to their disability compensation.

Maximum monthly subsistence rates for disabled veterans studying full-time in schools and colleges are \$75 without dependents, \$105 with one dependent, and \$120 with more than one dependent.

Maximum rates for job trainees are \$65 without dependents and \$90 with one or more dependents.

Rates for veterans enrolled in combination types of training may be somewhat higher than the job training rates.

Additional allowances may be provided, depending on the veterans' degree of disability and the number of additional dependents they have.

EDUCATION AND TRAINING

Eligible veterans may receive education or training at Government expense, with tuition, supplies, and in many cases, a subsistence allowance provided by the GI Bill.

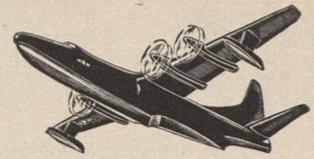
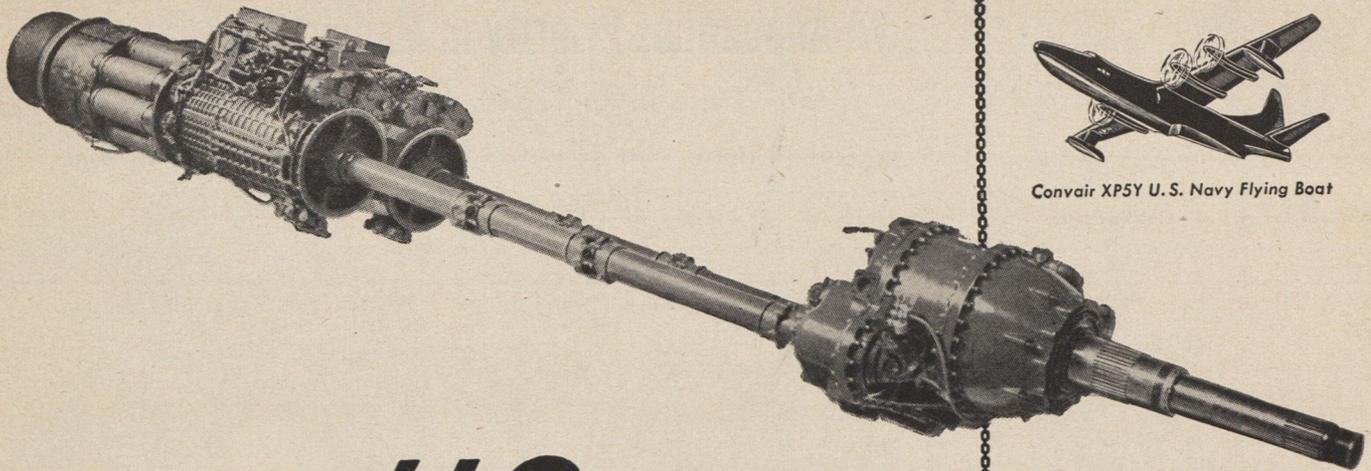
Eligibility—Veterans are eligible if: (1) they were in active military service some time between September 16, 1940, and July 25, 1947; (2) they served 90 days or more or were discharged before 90 days of service for a disability actually incurred in service; (3) they were discharged under conditions other than dishonorable.

(Continued on page 34)

Whole Family Joins Reserve in Long Beach



Air Reserve Training became a family affair for C. W. Hutchins, right, and his wife Georgia Lou when the couple enlisted together last month in the 448th Bomb Wing at Long Beach AFRTC. Sgt. Hutchins will serve as a crew chief, while his wife works in the legal dept. S/Sgt. Don Lea, left, handled enlistment.



Convair XP5Y U. S. Navy Flying Boat

New U.S. Aircraft Engine

Navy sponsors most powerful propeller-type engine ever cleared for flight!

A new American aircraft engine — the most advanced type in the world — is now revealed by the U. S. Navy. It's the new Allison XT40 *turbo-prop* which develops more horsepower per pound of weight, with good fuel economy, than any propeller-type engine ever built by any nation. The engine currently is rated at 5500 horsepower.

The new Allison *turbo-prop* will enable any propeller-driven aircraft — for the military services or commercial airlines — to fly faster and carry increased pay loads over longer distances at higher altitudes.

This outstanding performance is accomplished through the engine's high power, small size and light weight. Yet, fuel economy comparable to the best present-day commercial engines is retained.

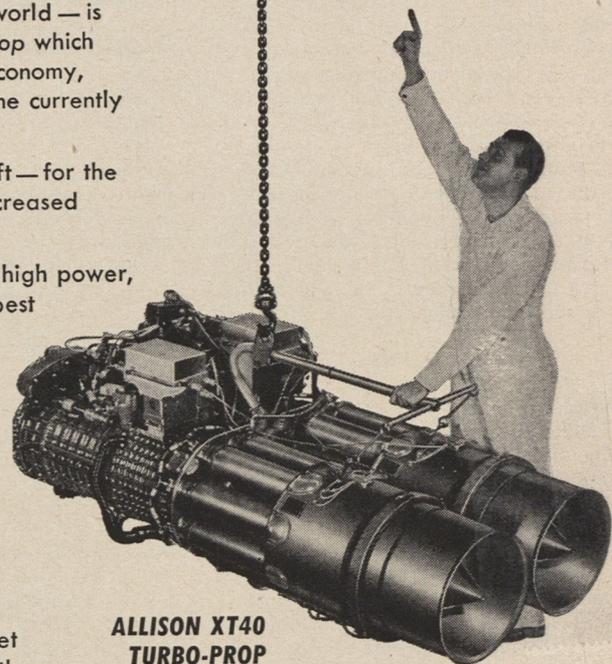
Horsepower-to-weight ratio, including extension shafting and reduction gear, is double that of our best present-day reciprocating engines — actually more than two horsepower per pound of engine weight.

The new Allison XT40, consisting of two super-powered gas turbines, achieves these important results through high-compression ratio and the flexibility of the twin power plant.

By outperforming reciprocating engines now in use, this new *turbo-prop* engine becomes a highly valuable stablemate for the turbo-jet engines which power today's very high speed military airplanes. Both these turbine-type engines use the same low-grade, readily available fuel; they do not need high-octane aviation gasoline.

The ease and flexibility of installation of this type engine are demonstrated by its first application in the Navy XP5Y Convair flying boat. Designers can utilize this compact, more powerful engine in all types of aircraft — both military and commercial — to gain improved range and performance.

Once more Allison, a world leader in aircraft engine development and production, has made an outstanding contribution to help keep America first in the air.

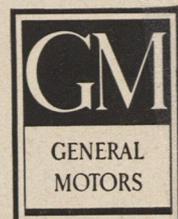


**ALLISON XT40
TURBO-PROP**

Compare the small size of this engine, developing 5500 horsepower, with the man in the photograph above

Allison

**DIVISION OF
INDIANAPOLIS, INDIANA**



Builder of the famous J33 and J35 turbo-jet aircraft engines



IN RESERVE

BENEFITS CONTINUED

Length of Training—Eligible veterans may get a course of training not to exceed one year plus a period equal to the time served in the armed forces between the above mentioned dates. All veterans must start their training within 4 years from date of discharge or July 25, 1951, whichever is later, and complete it by July 25, 1956.

Type of Training—Eligible veterans may choose their own course of training in any school or establishment approved by the appropriate State Approval Agency. The school must have been in operation on its own for at least one year prior to the date of the veteran's enrollment. Veterans may: (1) enroll in schools or colleges; (2) take apprenticeship or other training on-the-job; (3) enroll in institutional on-farm training or other programs which combine school and job training; or (4) select correspondence school courses.

The law does not permit a veteran to take a course for avocational or recreational purposes.

Subsistence Allowances—Veterans entering any type of training (except correspondence schools) may be eligible to receive subsistence allowances.

Maximum monthly allowances for veterans studying full-time in schools and colleges are \$75 without dependents, \$105 with one dependent, and \$120 with more than one dependent.

Maximum rates for job trainees are \$65 without dependents and \$90 with one or more dependents.

GI BILL LOANS

A veteran who served at any time between September 16, 1940 and July 25, 1947 and was discharged under conditions other than dishonorable after at least 90 days active service (or for service-incurred disability in less than 90 days) may qualify for a GI loan.

Three types of loans are available: (1) to purchase, construct or improve a home; (2) to buy a farm, farm land, stock, feed and seed, farm machinery and other farm supplies and equipment; and (3) to buy a business or otherwise to enable a veteran to undertake or expand a legitimate business venture.

Under certain conditions, loans may be obtained to liquidate delinquent indebtedness incurred in connection with these three categories.

V-A does not lend money to the veteran. He makes his own arrangements for the loan through the usual financing channels. V-A then guarantees the lender against loss up to 50 percent of the loan, with a maximum guarantee of \$4,000 on real estate and \$2,000 on non-real estate loans.

Veterans have until July 25, 1957 in which to apply for GI loans.

VA Announces Priority in Mailing NSLI Dividends

Last Three Digits in Applicant's Serial Number Chosen as Means of Determining Who Is To Get First Dough for Christmas Bills

The formula for determining the order in which checks will go out to the first large group of applicants for their share of the 2.8 billion-dollar National Service Life Insurance dividend was made public recently by the Veterans Administration.

Checks, which will begin flowing in January in time for Christmas bills will be issued on the basis of the last three digits of the applicant's Service serial number. The Veterans Administration emphasized the fact that the full serial number is of no significance.

Applications will be broken down into groups as they are received. These groups will be separated into 10 processing units, one for each of the last serial digits from zero to nine. The first large group of applications is now being sorted in this manner.

Thus, a veteran whose serial number is 35,469,000 will be included in the first mailing because the last three digits of his serial number are three zeros; whereas, a veteran whose serial number is 100,990 will be included in the later mailing because the last three digits of his number are 990.

There is a voucher-writing machine for each of the 10 groups, and each machine is expected to handle 200,000 accounts per day.

The Veterans Administration explained that this method of payment was selected after a careful study of all factors as the most non-discriminating system that could be devised.

For veterans who had more than one serial number while in service, the one that appears on the applicant's NSLI certificate will be used.

New Identification Cards for Reserve Officers

All Reserve and Air Guard Officers Eligible for New Boards, but Distribution Will Be Made Only Upon Application of Individual

All officers of the Reserve and National Guard will receive new identification cards by following a procedure outlined in AF Reg. 45-47 dated December 8, 1949. The new cards are designed to replace all old cards previously issued.

The card, officially designated DD Form 2AF, is 2" x 3" and printed in red. The form is identical for all branches of the armed service with the exception of a box in the right hand corner where the seal of the applicable service will identify the holder as a member of the Air Force Reserve, Army Reserve, Navy Reserve or National Guard.

The cards will not be issued automatically but must be applied for through channels. Those reserve officers not on extended active duty must submit AF form 279, "Application for Identification Card," to the Regular Air Force organization having custody of his field personnel file. The Air Force organization commander will forward the application to the issuing authority designated by the Continental Air Command to serve the area in which the applicant's permanent home address is located. Upon receipt of the application, the issuing authority will furnish instructions regarding specifications for photographs and identification information which must appear on the card. Officers will receive the blank cards, enter necessary data, obtain finger prints, submit two 1" x 1 1/2" photographs and return card and photos to the issuing authority for countersigning and processing.

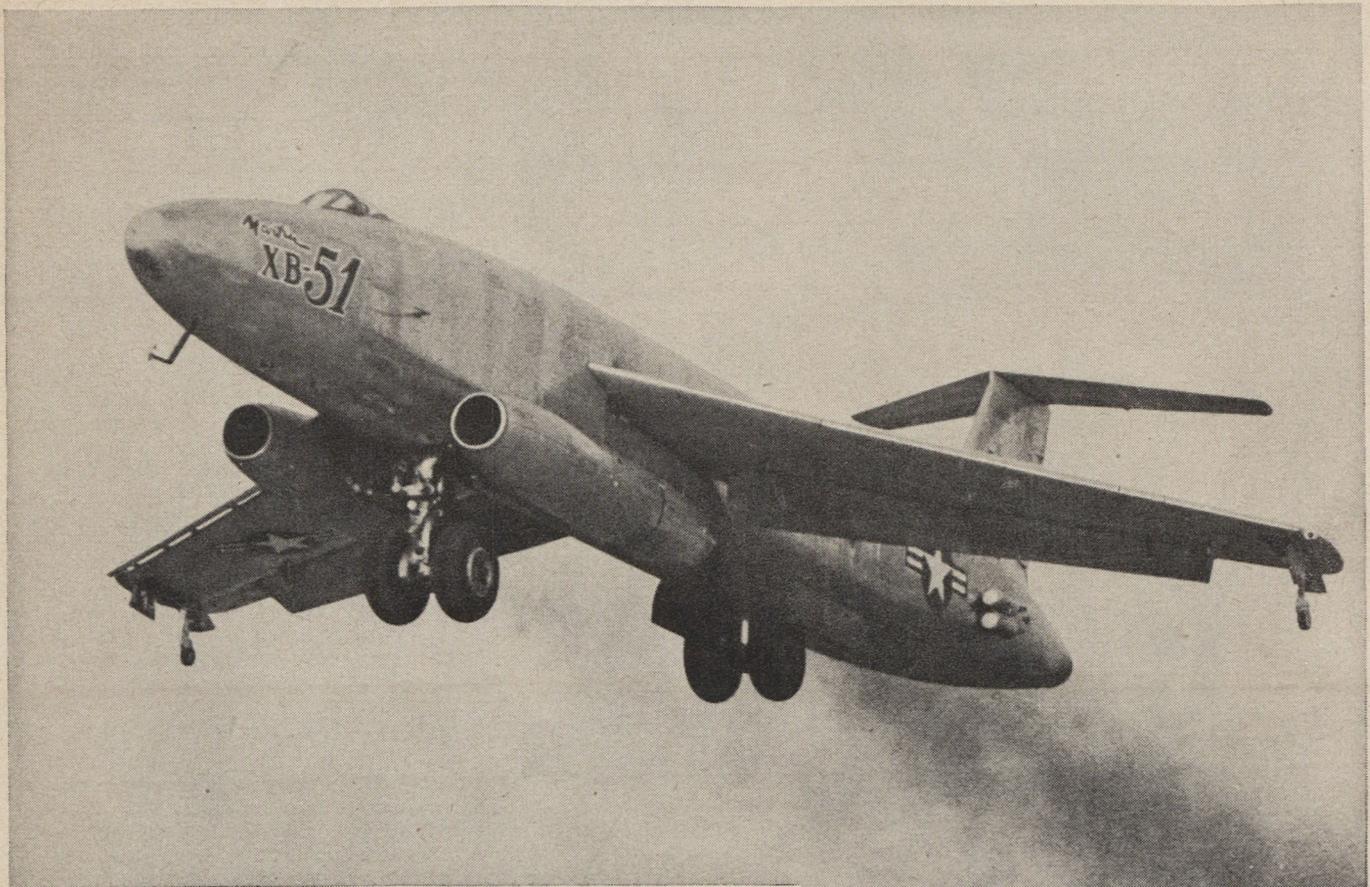
The application form may be obtained from any Air Force activity and must be filled out in duplicate. Much the same process will be followed by Air National Guard officers although the National Guard has not yet issued detailed instructions on procurement procedure.

USAF Insists Reservists To Be Told of Commission Lapses

In October, AIR FORCE reported that Air Force Reserve officers who failed to apply for renewal of their commissions would be automatically dropped at the end of their original five year appointments. The reason given was that the Air Force had neither the facilities nor the personnel to handle paper work involved in giving each of some 260,000 reservists notice of impending appointment lapses.

The Air Force now reports, however, that "full publicity" on renewal procedures will be given prior to the earliest possible date of any expiration which will be June 23, 1950.

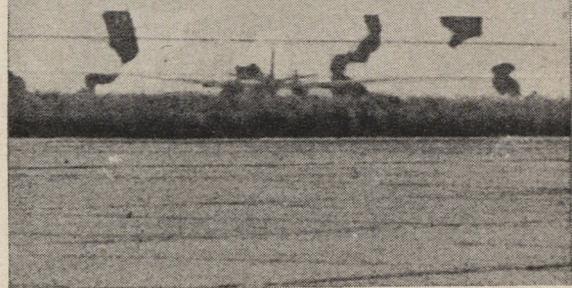
Individual notification is still not contemplated. Presumably the publicity will reach reservists through the public media of press, radio and magazines. What the procedure itself will be, has not yet been announced, but it isn't expected that any difficult re-qualification standards will have to be met. What will happen to the reservist who isn't reached by the publicity is unknown.



To Support the Ground Forces

THE high-speed Martin XB-51 is the Air Force's first postwar plane specifically designed for blasting enemy supply lines and installations in support of ground forces. In addition to its unique power plant arrangement, this revolutionary new plane has drastically swept-back wings, a T-shaped tail and tandem landing gear . . . plus many features still classified under military security regulations.

This trail-blazing aircraft is a typical product of the highly skilled engineering team Martin offers its customers today. Mathematicians, physicists, servo-mechanism experts, electronic, metallurgical and aeronautical engineers . . . all pool their talents as Martin extends research frontiers in advanced design aircraft, rocketry, jet propulsion, supersonic missiles and other far-reaching developments. THE GLENN L. MARTIN COMPANY, Baltimore 3, Maryland.



Martin

AIRCRAFT

Builders of Dependable



Aircraft Since 1909

In Final Judgment...



A Flyer's Airplane

The prime purpose of the U. S. Air Force's new Northrop Scorpion F-89 all-weather interceptor is to locate, intercept and destroy enemy aircraft by day or night, under all weather conditions. That's a large order.

The same specialized craftsmen who built the famed Black Widow F-61 have designed the Scorpion F-89 to meet this rigid requirement. All the technical ability and manufacturing skill of Northrop's engineers and production experts have been used to produce a rugged air destroyer with rapid climb, very high speed and complete electronic "X-ray eyes" — the radar search equipment which enables the Scorpion to seek out enemy planes at night, in blinding storms, or in the deep-blue semi-darkness of the stratosphere.

And like the Black Widow, this simple, sturdy and hard-hitting new fighter is a "pilot's airplane." It is honest, rugged, easy to fly and will rate "superior" in the final judgment of the U. S. Air Force men who must pilot, service and maintain it in the field.



NORTHROP AIRCRAFT, INC., Hawthorne, Calif.

Builders of the RAIDER C-125 transport



IN RESERVE

Air Force Tackles Huge Job of Straightening Reservist Files

The individual records of all 428,000 members of the United States Air Force Reserve will be given a thorough shake-down under a revised program now underway, according to Colonel Neal J. O'Brien, Adjutant General of Headquarters, Continental Air Command at Mitchell Air Force Base, New York.

The program was designed to perfect the master personnel records and locator systems of the entire reserve.

Because many reservists have failed to report changes of addresses, separate files exist at various Reserve installations throughout the country where the individual concerned has undergone training. These scattered files will be consolidated and placed under the control of the six numbered Air Forces within the Continental Air Command.

Reservists living in states under the control of the First Air Force will have their records located at First Air Force Headquarters, Mitchel AFB, New York. Similarly, records of other personnel will be maintained by their responsible Air Force Headquarters.

When a Reservist moves from one area to another, his master file and locator card will be forwarded to his new responsible Air Force headquarters, thus affording officers and airmen a readily accessible source of information regarding pay, retirement and other pertinent data, and "lubricating" the whole Reserve administrative machine.

8000 Reserve Officers To Go

At least 8,000 Reserve officers will be removed from active duty rolls during the next month, according to a recent Department of Defense announcement.

About 3,000 of these officers are members of the Air Force Reserve and will definitely be dropped soon. An additional 2,500 will be given the option of leaving the service or going on non-flying status with lower pay.

These reductions in strength came on top of cuts already carried out. The Air Force had previously announced the separation of 2,400 reserve officers and the reversion of 1,400 to non-flying status.

Similar reductions have been announced by the Army and the Navy. About 950 Naval Reservists will be released during the next few months unless they are willing to stay on as enlisted men. About 2,600 have been similarly released or dropped to enlisted status since last March 1.



Airpower Begins on Main Street

Air Force Association launches its "Airability" program to integrate all phases of aviation into the Community life of the nation

In recent months, the pages of AIR FORCE have been devoted almost exclusively to affairs of the moment in military aviation—or more precisely, to the affairs of the United States Air Force. There has been little on the private or commercial side of the picture. Rather than a story on the performance-plus features of the new twin-engine Beech Bonanza, we have given the space to the performance-minus features of present day fighter planes. Instead of sounding the alarm for help for our hometown airport, we have been thumping the tub for the intercontinental bomber.

The one-sided focus was deliberate. In the family of aviation activities, it has been the military branch that has demanded the most attention in the months just past. This

AIRPOWER BEGINS ON MAIN STREET CONTINUED

does not mean that Air Force Association is any less interested in the other members of the air family, any more than special paternal attention to a child with a bad cold indicates disinterest in his brothers and sisters. In our case, we felt it was simply a case of a "crisis" in the family that had to be met.

Now, although it is far from the truth to imply that the military emergency is over, there *is* at last time to give a little more attention to the other aspects of aviation. There is time to get back to the Hap Arnold definition of airpower; "A nation's airpower is its total aviation activity, civilian, military, commercial and private, potential as well as existing."

There is time now to launch AFA's long contemplated *Airability* program. In its Washington headquarters, AFA's officers have been laying the groundwork for the venture for more than a year. It has involved conferences with officials in nearly every major aviation organization in the country—CAA, AOPA, the Air Force, Air Transport Association, and many more. It has involved the correlation and consolidation of many ideas, and the abandonment of many more. And it has led to the conclusion that effective "total airpower", in the Arnold sense, can be attained by nothing less than total effort.

Perhaps the program can best be explained by stating its objectives. To begin with, its aim is to give members of Air Force Association the means and the tools with which to acquaint their own communities with the unrealized (or at least unaccepted) possibilities of the airplane. Let's face it. For all its forty-odd years, the uses of the plane, either as an instrument of war, a means of transportation, an aid to business or farming, or simply as a thing to be enjoyed, are still understood by remarkably few people. Moreover, and perhaps even more serious, outside the relatively few enthusiasts, there is surprisingly little "intellectual curiosity" or inquisitiveness about the subject. We're still faced with the "if-the-horse-was-good-enough-for-Grandpa-he's-good-enough-for-me" attitude. We're still up against the human animal's inborn inertia, and his inescapable resistance to change.

If it were only a matter of persuading John Q. to open his eyes to the bright horizons of the new air age for his own selfish purpose, the program we are starting here might not be worth the effort. If a man prefers horses to airplanes he can tell you with good logic that it's his own business and none of yours. Up to a point you can't argue with him.

But in a broader sense, John Q's personal regard for the airplane is a matter of *national* rather than selfish interest. If he's a farmer and wants to ride his fences on a Mustang with four legs instead of in one with wings, it's his affair. It is, anyway, if his choice is based on a fair evaluation of the two animals. It's a matter of some national concern, however, if he fails to give the winged critter a fair chance. It's in the nature of an offense against national security if he chooses the horse be-

cause he's too lazy or too lacking in interest even to consider the advantages of a plane.

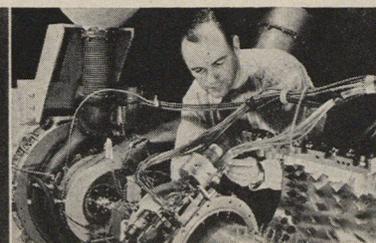
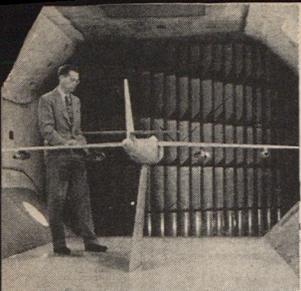
It's an offense for this reason. America as a nation will never learn to utilize the airplane to the fullest extent of its potentialities until every John Q in the land takes sufficient interest to study it personally. The recent Congressional investigation is a good example of the sad lack of interest.

Ask ten people what they thought of the hearing. Pick ten who don't know you or are not acquainted with your Air Force background. If they're completely honest they'll probably have to scratch their heads in the first place to give an opinion at all. Then they'll admit they're not authorities on the subject but it seems to them that our armed services ought to get along with one another. They'll say maybe this guy Crommelin should have been a better soldier and stuck to orders from his bosses to shut up, but on the other hand if it's true that the fly boys in the Air Force are trying to scuttle the Navy maybe it was time to bring the thing out in the open. They won't be at all sure that the Navy didn't get the short end of the stick, and right about now they'd probably be perfectly happy to have Congress vote about a billion bucks of their money for a bigger Navy—just to sort of even the score.

Try to get the ten people out of such broad generalization. Ask them to forget "Navy", "Air Force", "Bradley" and "Crommelin." Ask them for their personal opinions of the *arguments* that were presented. Ask them if they have faith that the B-36 will do what the Air Force says it will, or if the Navy is right in saying that it's a billion dollar blunder. You'll draw a complete blank. They just don't know.

But suppose those same ten people had had a little broader background in aviation matters. Suppose they had flown from New York to California in a big airliner in something like ten hours. Suppose they personally knew a farmer who sprayed his crops by air in about one tenth the time it could be done by any other means. Suppose they had been to Europe and seen for themselves what the airplane had done in places like Ploesti and Nuremberg. If they had been *educated* beforehand you can bet your last buck they would have had an opinion on the Congressional hearing. And you can give odds they wouldn't be feeling a little sorry for the Navy right now. If the nation as a whole had been educated it's more than likely we would be on our way to a 70-group Air Force right now instead of making further re-trenchments. Getting people to take a personal interest in the air age is like a Fuller Brush man leaving a sample vegetable brush. Even if the customer doesn't buy, he becomes acquainted with the product. He learns to think in terms of what the salesman is selling.

Let's put it this way. Aviation is a non-fissionable substance. There's no chain reaction in the airpower concept. One convert doesn't automatically set off another. A fire has to be started under each man individually—a personal fire.



This Airability check list is designed to help AFA members rate their own communities. With check lists from all over the country, AFA can rate the *nation* and can proceed from there to improve the weak spots.

CHECK LIST

A GUIDE FOR SURVEYING THE "AIRABILITY" OF YOUR TOWN



I. CIVIC PARTICIPATION

- Does your city have official commissions or committees working on aviation matters? If so, how active are they?
- Have long range plans been laid for progressive development in aviation within your community? What are they?
- Do your public libraries get all aviation books as soon as they are published? Do they have regular aviation sections?
- Is there opportunity for adult education in aviation matters? If so, of what does it consist?
- Does your community have aviation celebrations regularly? What are they?
- Does the community support the Air Reserve, the Air National Guard, Civil Air Patrol, Air Scouts, Air-Rotc, etc.? How?
- What are the opportunities for vocational education in the field of aviation (as differentiated from general adult orientation) in your community?



II. PRIVATE PARTICIPATION

- Do local newspapers and radio stations give regular coverage to aviation matters?
- Do local groups sponsor aviation programs? How often? Of what type? Lectures? Exhibits? Shows? Forums?



III. AIR SERVICES

- Does your community have established airline facilities? If so, of what type? Trunk? Feeder? Charter?
- Does the community have air equipment for emergency use by police, fire, and disaster units?



IV. FLYING INSTRUCTIONS

- Are there reliable flying schools within the immediate vicinity? If so, what type of equipment do they have and what are their rates?



V. COMMERCIAL AVIATION

- To what degree do the people of your community avail themselves of existing commercial aviation facilities? For general transportation? Sales? Inspection? Customer servicing, etc.?
- Are air cargo facilities available? If so, are they used extensively?
- To what degree do agricultural interests make use of air equipment for general transportation; for spraying, seeding, inspecting, marketing, etc.



VI. AIRPORTS

- How many airports are there in the neighborhood area?
- What sort of ratings do they have from CAA, AOPA, State, etc.?
- How accessible are these ports by surface transportation?
- How lucrative are the non-aviation revenue producing facilities (restaurants, parking areas, news stands, etc.) at these airports?
- Are there recreational facilities at the airports?
- Are there hangar, overhaul and maintenance facilities available for private plane owners? If so, do the owners consider them adequate?
- How would you rate the airports on general maintenance and appearance?



VII. FLYING AIDS

- What air marking facilities are available on the air approaches to your community?
- What communication facilities are available?



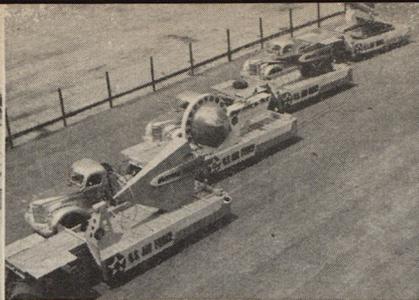
VIII. YOUTH EDUCATION

- Do the public schools offer aviation courses? If so, of what type are they and in what grades are they given? What is the experience of the instructors? What text books are used? Is vocational guidance in aviation available?
- Are there non-school educational opportunities for youth in the field of aviation? If so, what type? Model building and flying? Air Scout, Wing Scout, Civil Air Patrol Cadet activity?



IX. CIVIL DEFENSE

- Does your community have a plan or a program for civil defense in the event of war emergency? If so, what type? Air raid warning? Air shelter, etc.? Is it coordinated with federal agencies?



AIRPOWER BEGINS ON MAIN STREET

CONTINUED

This is where Air Force Association members and the Airability program come in. The first objective is to remove the inertia and to break down the resistance—on the local level. The first job is to leave a vegetable brush so to speak, and to build a fire.

It's not so easy as it sounds. It does more harm than good, for example, to convince the head of some local business concern that he needs an airplane to help him get around in his business if, in reality, he can do better without one. One of the country's private plane builders found that out the hard way. After several post-war years of selling planes to everybody they could find with a bank balance large enough to cover a down payment, the company discovered that some of their buyers were queering more sales than their own purchases were worth. Some of the people who bought planes couldn't really use them to good purpose and were therefore disappointed in the plane. One sour customer, the company found, could do more damage than a dozen enthusiasts could correct. So they took a very smart step. They made a personal analysis of the requirements of each prospective customer *before* the sale was made. How much would the buyer use it, how valuable was the time he would save, how many purposes could the plane serve, and so on. With this information the plane company now makes a completely honest appraisal of the deal and gives the customer a completely objective opinion as to whether or not the purchase would be wise. The system has worked most successfully.

In the Air Force itself, *over* selling has been one of the past's biggest blunders. In arousing an apathetic public to what the airplane *could* do, the Air Force has sometimes given the erroneous impression that there was little or nothing that it *couldn't* do. The results often have been disastrous.

It would be a mistake, therefore, for AFA members to launch a program of "selling aviation" without restriction or reservation. The job, and it's a huge one, is to stimulate an active interest in aviation on the part of the general public *without* getting out on the limb of exaggeration. After the interest is there, the second job will be to direct it into constructive channels for local self-improvement. Planning the step by step process with all the pitfalls and all the objectives constantly in mind is what has taken AFA officers all the time.

After months of thought, AFA decided that before the program was undertaken, a wealth of background information as it exists *today* was required. It was determined that it was logical to start a program of community improvement only after a thorough study was made of the package to be improved. That's where we begin right now.

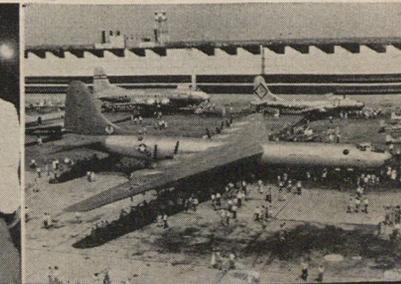
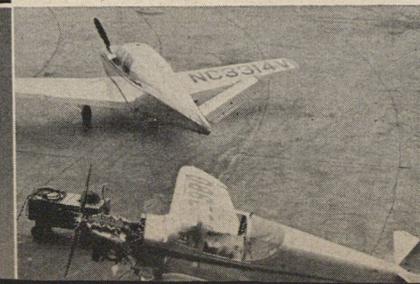
On page 15 there is a suggested check list for the use of AFA squadrons or individuals in collecting information in their own localities and forwarding on to AFA headquarters in Washington. As this issue goes to press, headquarters is also

preparing a memorandum to each squadron giving supplemental data on the list and how to use it. Actually it is meant only as a suggestion—a guide to help you or your squadron in collecting the dope needed in Washington. Doubtless you will find in the survey of your town that there are many things of relevance that are not covered in the list. Give us a report on them anyway. The objective of this initial survey is simply to gather as much factual poop from across the nation on aviation matters as possible. If you'd rather write a letter than use the check list, it will be just as acceptable. The point is that the sooner you or your squadron send in the information, the sooner the next step can be taken. With all the aviation organizations in the country, it may be surprising to some that an airability index such as this has never been undertaken before. It was a surprise to AFA's Washington office. We found that many surveys had been taken by organizations interested in one particular phase of aviation—such as airport facilities or private plane utilization—but nobody had thought to survey the total airability of the nation's individual communities. Everyone we talked to thought it was an excellent idea, and all agreed that AFA was well qualified to do the job.

From the bulk of information received from all its members then, AFA will do several things. First, it will select a board of rating officers from all phases of aviation—commercial, private, military—to rate all the communities considered according to their relative standing in aviation affairs. The cities or towns that have the most advanced aviation programs or plans will be given awards at AFA's annual convention. Since the first award will be in consideration of programs that now exist, they will, in effect, constitute recognition of past accomplishments.

The second thing to be done with the information will be the compilation of a set of yardsticks by which AFA members will be able to measure the airability of their own towns in comparison with what it might be. The yardsticks will cover the nine basic fields included on the chart on page 15. They will endeavor to take into consideration all the variables so as to be as fair as possible. For example, they will not penalize a community (as far as rating is concerned) for not having national airline facilities if the town is off the beaten path and couldn't get airline service no matter how badly it tried. The yardstick will also try to point out the hazards of over-selling and provide something of the sort used by the private plane company to determine when a particular air activity is warranted and when it isn't.

We are of the complete conviction that the Airability program can be the biggest and most important project AFA has ever undertaken. We urge every member who reads these pages to lend his assistance in making it a real contribution to national security and to the air age.



FIVE DAYS AROUND

AFA's record breaking 'round the world flight in less than 120 hours by scheduled airline is a superb example of the nation's "airability" in action

By Tom Lanphier, Jr.

I have just ridden regularly scheduled airlines around the world in less than five days. Thanks to the miracle of modern commercial aviation, you too might do the same. Provided of course, you have the time, the money and some sort of reason for wanting to travel 22,140 miles in a hurry, just to wind up where you started.

My reason was a message from President Truman commemorating the forty-sixth anniversary of the first hop of the Wright brothers at Kitty Hawk. The object of the Air Force Association—which sponsored my flight as the kickoff of its Airability Program—was to carry the President's letter around the world as quickly as commercial airlines could bear me, as the Association's way of dramatizing the progress aviation has made in the few years since that first 120-foot flight at Kill Devil Hill in North Carolina on December 17, 1903.

The Air Force Association, which also co-sponsored the Wright Memorial ceremonies in conjunction with the Kill Devil Hills Association, had me routed around the world by the quickest regularly scheduled route, which called for me to leave New York at noon on Friday, Dec. 2, and to travel by way of Gander, London, Brussels, Basra, Karachi, New Delhi, Bangkok, HongKong, Okinawa, Tokyo, Midway, Honolulu, Los Angeles, Chicago and back to New York in four days, 23 hours and 50 minutes.

To the credit of Pan-American, United and American airlines, I made the global flight three minutes ahead of schedule.

That schedule, by the way, was a full day and three hours faster than any previous passenger had ever made the circuit. Edward P. F. Eagan, New York state's boxing commissioner, made it in six days and three hours, just a year ago.

Ahead of schedule at almost every stop, I rode 83 hrs. 43 mins. flying time on five separate planes during the trip. Pan-American's Constellation Clipper

"Paul Jones" took me all the way from New York around to Hong Kong; I rode a Pan-American DC-4 to Tokyo; a Pan-Am Boeing Stratocruiser to Hawaii; a United DC-6 to Chicago; and an American Airlines DC-6 for the final leg into La Guardia.

Understandably, I had little time for close-up sight-seeing on the way around; though I did manage to get downtown to London, Karachi, Hong Kong, Tokyo and Honolulu long enough for a bath or at least a Reader's Digest look at the town. Altogether, of the five days I was gone, I spent about a day and a half on the ground.

I stayed nowhere long enough to become an expert on the local political situation. And I didn't have time to talk to enough people to find out how the rest of the world feels about the United States. All I saw of much of the earth was a sort of blurred succession of airports, most of them in darkness, several of them in the rain. I also saw thousands of miles of ocean and undercast.

I did, however, experience and note a few things about flying around the world in this air age which might be news to those who haven't had a similar opportunity.

For instance: It costs \$1548.75 to fly completely around the world, including \$45.75 in taxes. If you took no voluntary side jaunts into towns along the way, that sum would suffice to get you all the way, since it includes all meals, a few drinks, and any expenses you might engender as a result of enforced delay en route. The ticket, by the way, is the same sort of booklet used by domestic airlines. Unlike the long, accordion-pleated strings of tickets needed for railroad travel, the airline ticket around the world is but one page, with a carbon and the booklet itself.

For baggage, I carried a camera, a handbag, a typewriter, a suitcase and the Truman letter in a huge envelope which I had stamped by postal officials
(Continued on next page)

1. WASHINGTON, D. C.



2. NEW YORK, N. Y.



3. GANDER, NEWFOUNDLAND



4. LONDON, ENG.



1: Lanphier (right) and Truman message begin trip with farewell from Robert H. Burgess (left) Deputy Assistant Postmaster General, and S. L. Beers, Assistant Curator of the Air Museum, Smithsonian Institution. Jo Brown, American Airlines hostess lends charming touch. 2: Jimmy Doolittle and Edward Heil, postoffice official, greet Tom in New York. 3: Lanphier and his pilot Jimmy Henriksen (left) hold the presidential envelope for cancellation by Gander agent. 4: On second day out, the letter is stamped by postmaster at London airport.



5. BRUSSELS, BELGIUM

At Brussels Tom found best airport outside U.S. A Belgian police courteously inspects his passport.



6. DAMASCUS, SYRIA

In Damascus two Syrian Air Force officers climbed atop the field's administration building to be photographed with Tom against background of native Damascus sign.

NO PICTURES ALLOWED

7. BASRA, IRAQ

In Basra no coaxing would persuade Iraq officials to relax prohibition against pictures of natives in costume.

AIRPOWER BEGINS ON MAIN STREET CONTINUED

in each of the 12 countries and territories visited. The whole outfit, bags and all, weighed 72 pounds, which was well within the limit of 88 pounds allowed the 'round the world traveler.

In the suitcase I had a half a dozen books, an extra suit and pair of shoes, spare shirts, socks, several cartons of cigarettes, which I had some sort of idea of using for barter somewhere along the line, and the latest copy of Air Force magazine. I never used the cigarettes, the books nor any of the clothing in the suitcase but the spare suit. I lived out of the handbag, in which I had an extra nylon shirt, nylon shorts, nylon socks, a shaving kit and a couple of ties. All the planes on which I rode had hot water, with which I shaved and washed my shirts, shorts and socks daily.

Not having a passport, I had to go through the procedure of getting one. Found it painless. I filled out the forms in Washington one day, and got the passport the next morning. The green-backed passport itself cost \$10; the several photos required for it cost \$3 at a nearby photographers who does overnight jobs if requested. The only substantiating papers required are a birth certificate (or statement of birth from a parent and a statement from an acquaintance of at least two years). I also had to get visas for Pakistan, Iraq, and India; and military permits to pass through Okinawa and Japan. Had to have a smallpox inoculation to get back

into the United States, as well as typhoid, tetanus and typhus boosters for passage through the Middle East. Having lost my Air Force records of shots taken on active service and in the Air National Guard, I had to get the works all at once. Consequently, I took off from Washington on the preliminary leg of my trip to New York with a sore arm.

At New York, Jim Doolittle, first president and continuing bulwark of AFA, accompanied by AFAers Mary Gill and John Most, New York state Wing Commander, was on hand to certify to the time of takeoff on the first leg of the 'round-the-world phase of the flight. Mr. Edward Heil, district superintendent of U. S. air mails, was also present to stamp the envelope.

Left New York for Gander, Newfoundland at eight minutes past noon, Friday, December 2. The Constellation was half filled with passengers about half of whom were Americans on business trips to Europe and the Middle East, the other half being Europeans and Indians on the way home for Christmas. One white-haired, 80-year old Syrian who lived in New York was on his annual Christmas visit to his native home in Damascus. An Indian family of father, mother and infant was en route to Karachi, half way around the world. Whether a natural born air traveller, or lulled to somnolence by the pressurized cabin atmosphere at the smooth riding altitudes of 17,000 to 20,000 feet at

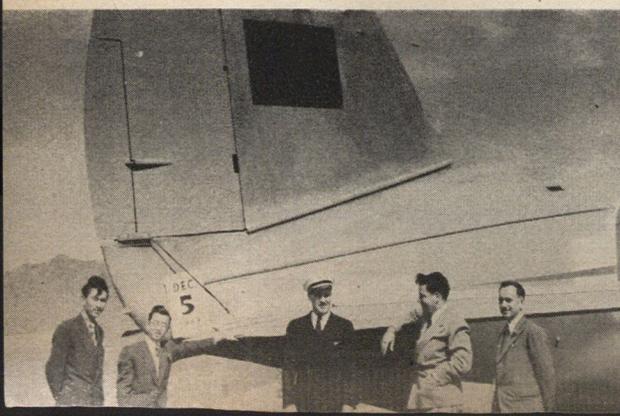
which the transoceanic and trans-continental flights are flown, this baby as well as the dozen or more others who rode with us on various legs of the flight were, for the most part, quiet passengers.

The crew on the Connie consisted of six men and a girl. In addition to the pilot, or Captain, as the airlines call him, there were two other pilots aboard; the first officer (co-pilot, to you); and the second officer, who actually served as navigator. There was also an engineer, the busiest man on the plane, working his console of instruments and gadgets at a board and desk behind and at right angles to the pilots. And a radio man, who worked as far as London, and was not replaced until Damascus. The radio operator, incidentally, is a vanishing member of the crew; the increasing use of radio telephones over both oceans and certain continental runs gradually is obviating the need for key-tappers on ships of modern global air commerce.

Vested with the care and feeding of the passengers were the purser and the stewardess. The purser is a combination ticket-taker, cook and bar-tender, on whom falls the considerable burden of turning meals frozen in New York into hot and edible repasts for passengers all the way around the world to Hong Kong. To the credit of the five men and two women who served as pursers on the seven crews it took to get me into San Francisco, all the meals en route were tasty with the minor exception of one fish dish over the Atlantic that might have been better left unserved.

11. HONGKONG, CHINA

With the war nearby, Tom and hosts inspect CNAC plane with painted square ready for identifying markings of either Reds or Nationalists.



12. TOKYO, JAPAN

By December 6, the globe-girdler was ready for a shoe shine outside gates of Tokyo's Doolittle recreational park.



13. MIDWAY ISLAND

Across the date line and back to December 5, Tom has a chat with a gooney bird setting in beach brush at Midway.





8. KARACHI, INDIA

Karachi gate keeper (center) wouldn't allow picture until he was invited to get in it.



9. DELHI, INDIA

By December 4, Tom was in Delhi and visibly conscious that he was a long way from home. Here customs officers solemnly inspect his credentials.



10. BANGKOK, THAILAND

In Bangkok, a Siamese Air Force Officer proudly presents Tom with an emblem of his service. A clerk at PanAm terminal announces new day.

The boss pilot on the trans-Atlantic run was Jimmy Henriksen, a personable and highly capable airplane driver who, like all the other pilots with whom I rode on the trip, is a married man and a parent. Jimmy flew the global airlanes as a contract pilot for the Air Force during the war, and had a decade of airline and other flying experience in his log-book even before 1941.

While very much an individual in personality and background, Henriksen is typical of the men who fly you around the world these days in that he has been ten years or more, at his job, goes back to flying school every six months to keep current on equipment, techniques and regulations, and radiates an easy confidence which, with probable calculation, inspires faith in him and his crew on the part of his passengers, the majority of whom he takes the trouble to meet during the course of the flight.

A sample of the never-ending practice in which Jimmy and his cohorts indulge was the landing at Gander where, though we had left New York City at high noon but three hours earlier, we arrived in complete darkness. Though the weather was clear, Henriksen requested and was brought in on a simulated GCA approach. He wanted to keep his hand in, and at the same time show off the prowess of the GCA crew, an ex-Marine outfit from the Pacific which both operates and maintains what all the global pilots agreed was the best GCA approach system on the route around the world. The GCA crew and Henriksen worked together perfectly—

which, of course, is par for the procedure they were simulating.

Henriksen said that, unlike many domestic airline pilots who do not yet accept GCA aid in landings, most overseas pilots welcome its help, having learned to trust it during their service in the war years.

Unfortunately, the world is not yet girded with such aids to blind landing. The next GCA unit beyond Gander is clear around at Okinawa. In fact, it was a surprise to me to learn that radio ranges for aid in navigation are few and faulty across Europe and the Middle East. The station at Damascus, for instance, is so unreliable as to be effective no more than half the time.

Thirteen hours after leaving New York, we were having breakfast in London, a 95-knot tail wind having hustled us across the Atlantic in seven hours and 56 minutes on a pressure course from Gander. Henriksen tried to explain how, by the use of his radio altimeter, he was able to find and stay on the pressure course of the highest tail winds even though above the overcast. I never did figure out how the trick was done, but it apparently is a common procedure for over-water flights these days.

At Brussels we landed in a driving rain. Were met at the plane by a bus, as we had been in London, in which we were driven to the terminal. The bus served the double purpose of keeping us out of the rain and away from revolving propellers.

From Brussels to Damascus we flew

over an overcast, during most of which flight I slept. Woke up in time to watch the pilot, Guy McCafferty, work his way through a storm and into Damascus, which was contact, without benefit of radio aid. The range at Damascus is empowered by the same plant that affords the city its lights. Hence, at night, when the lights are on, the range signal is weak. And no amount of entreaty has yet persuaded the Syrian government to do anything to improve the situation.

In Syria I ran into the first picture-taking ban. Specifically the prohibition was against photographing anyone in native costume. In Karachi, pictures around the airport were verboten. In New Delhi, ditto. Also in Basra, and in Okinawa. But only in Basra was I unsuccessful in finding someone in authority who was willing, for one reason or another, to make an exception to the no-picture law. There the rule stuck.

From Damascus on, impressions began to run together more as the hours ground by.

At Basra, Iraq, the railroad center at the junction of the Tigris and Euphrates rivers it was dark and raining when we landed. Pilot Merton Harnden, who had taken over from McCafferty at Damascus, was somewhat miffed at the contradictory CAVU weather prediction he had been given, for Basra. He learned, upon inquiry, that Basra weather analysis is made from a point some 40 miles up the river and accepted practice is to give weather at that point as the Basra condition.

The flight from Basra to Karachi was made through the morning of the 4th of December. The impression that remains of that leg of the journey is one of hour upon hour of sun-baked, red-dusted land just as desolate as the endless sea bordering it to the south.

Then Karachi itself, as ever, dry and oven-hot; the sky above it dotted with buzzards so numerous they are a hazard to aerial traffic. Row on row of surplus trucks lined up alongside abandoned airstrips. The giant dirigible hangar to the south, a vestige of the one-time German dream of girdling the earth by zeppelin. And the air terminal, where you can get everything from a cold beer to a hot bath.

Next, New Delhi, where you land at dusk for one of the four day-time ar-

(Continued on page 20)

14. HONOLULU, T. H.

AFA's Ed Johnson welcomes Tom to Honolulu with the perennial Hawaiian lei. Also on hand were AFAers Roy Leffingwell and Glenn Trombley.

15. NEW YORK, N. Y.

Welcoming Tom back to New York are AFAers Bob Johnson, C. R. Smith and John Most.



AIRPOWER BEGINS ON MAIN STREET CONTINUED

rivals on the entire route (the others being at Brussels, Karachi and Hong Kong). Arriving at the same time were a dozen C-47s loaded with Pakistan troops, who lined up at attention while 21 guns fired a salute to the sultan of Muscat, enplaning in his personal C-47 for his realm over the Himalayas to the north.

The next leg was a long flight to Bangkok, in Thailand. The crew that takes over at Delhi had worked its way out from San Francisco some two weeks before, laying over at Hawaii, Tokyo and Hong Kong.

The stop at Bangkok was made in the balmy, early morning. The airport there, though the terminal is not quite completed, is second only to Brussels in modernity and facilities.

More tail winds pushed us into Hong Kong early, with Pilot Glenn Gibbs easing off on his settings the last hour or so in order not to arrive more than ten minutes early; the custom officials taking a dim view of unusually premature arrivals. The field at Hong Kong is a small, two-runway affair, so confined by hills and mountains that only daylight landings and take-offs are permitted commercial aircraft.

With the Chinese Communists just 13 miles over the hills to the north and east, and with Chiang and most of his cohorts withdrawn to the island of For-

mosa, the atmosphere in Hong Kong is understandably tense.

Typical of the situation in the port city is the cramped scene at the airport, where scores of Nationalist transport planes are jammed together, each with the Nationalist flag painted out in favor of a great red rectangle. This red patch, the local cynics say, has been painted there by opportunists who, if things go Communist in Hong Kong, will paint five white stars on the red background; or if things revert with certainty to the National cause, will serve equally well as a background for the repainting of the blue field and the 11-pointed white sun of the Nationalist standard.

We landed at Okinawa at night, in the midst of a howling wind. Saw little other than the Air Force jets lining the runway there; though I do recall it was the one place outside the Middle East I had to get special permission to take a picture.

Arrived at Tokyo just before dawn. Was hospitably treated to a ham and eggs breakfast and a ride around the city by Pan-Am's Bill Ortwin. Stopped by Doolittle field, which is a tremendous park and baseball stadium in the heart of the city. Found Tokyo the busiest city since New York. Other than occasional, unlit open spaces, I noticed few signs of the war. Was told

the Japanese have rebuilt block after block of the buildings burned by the B-29s. Saw thousands of fat and laughing youngsters on the way to school, saw nary a skinny or scowling one. And nowhere, in several hours of driving about Tokyo, did I see a single dog.

took off for Midway aboard Pan-American's Boeing Stratocruiser—unquestionably the last word in luxurious air travel. Slept half the way in a berth; spent the rest of the eight-hour flight downstairs in the bar. Asked the steward if drunks ever bothered him there; he said what heavy drinkers he had had to date had been quiet enough; his only trouble was keeping people circulating in and out of the bar when the plane was fully loaded.

At Midway the gooney-birds had just returned to the island after their annual three-month jaunt to wherever they go every fall. No one at Midway knows where those three months are spent, except that they are certainly spent on the water, since, for days after they return, the gooneys have trouble remembering to lower their feet when they land. I saw only one gooney ground-loop, and no nose-overs the night I was there; and the only take-off I witnessed was a short one of not more than a 30-foot run into the wind. The Gilbertese natives still sing the same matchless, spontaneous choruses or whatever those melodies are they throw idly off as they sit around in the shadows and watch the passengers go hurrying through their little island.

On the Stratocruiser again to Honolulu for an early morning arrival and a half hour of mild formalities going through the American customs, Hawaii being the air port of entry to the United States as far as west coast customs are concerned. Was met by Roy Leffingwell, Ed Johnson, Glenn Trombley and other AFAers.

Headed for San Francisco on a United DC-6, preferring the looks of the weather in Northern California to the prediction for the Los Angeles area into which I was originally scheduled.

Arrived at San Francisco on schedule, where I found California Wing commander Tom Stack; saw Ray Ireland and Jay Schact at Chicago, where United handed me over to American Airlines a few minutes ahead of schedule.

Flew into New York on an American Airline DC-6, arriving at 11:57, three minutes ahead of the actual schedule for the round the world flight. Was met by AFA's former president and current chairman of the board, C. R. Smith, and by AFA President Bob Johnson, who ultimately presented the round-the-world letter from President Truman to the Kill Devil Hills Association at the December 17 ceremonies at the Wright brothers memorial.

The airlines' perfect completion of the flight in record time bore out the faith the Air Force Association has consistently voiced in the continuing progress and efficiency of commercial aviation. The subsequent publicity and interest the flight aroused in the Kitty Hawk anniversary satisfied the individuals who underwrote the cost of the flight, that their money had been well spent.

CITY	ARRIVED (E.S.T.)	DEPARTED (E.S.T.)	SCHEDULE RELATION
New York City		12:08 PM Dec. 2	*B 8 minutes
Gander, Newfoundland	3:58 PM Dec. 2	5:00 PM Dec. 2	*A 22 "
London, England	1:10 AM Dec. 3	5:15 AM Dec. 3	A 40 "
Brussels, Belgium	6:44 AM Dec. 3	7:45 AM Dec. 3	B 4 "
Damascus, Syria	4:55 PM Dec. 3	5:45 PM Dec. 3	B 10 "
Basra, Iraq	8:52 PM Dec. 3	10:10 PM Dec. 3	B 3 "
Karachi, India	3:21 AM Dec. 4	4:41 AM Dec. 4	B 6 "
Delhi, India	7:24 AM Dec. 4	8:40 AM Dec. 4	A 16 "
Bangkok, Thailand	3:40 PM Dec. 4	5:00 PM Dec. 4	A 30 "
Hong Kong, China	9:20 PM Dec. 4	3:48 AM Dec. 5	A 10 "
Okinawa	8:48 AM Dec. 5	9:46 AM Dec. 5	B 3 "
Tokyo, Japan	2:42 PM Dec. 5	7:11 PM Dec. 5	A 18 "
Midway Island	3:01 AM Dec. 6	4:58 AM Dec. 6	A 29 "
Honolulu	10:55 AM Dec. 6	2:30 PM Dec. 6	A 20 "
San Francisco, Calif.	10:43 PM Dec. 6	12:42 AM Dec. 7	A 2 "
Chicago, Illinois	7:08 AM Dec. 7	9:00 AM Dec. 7	A 22 "
New York City	11:55 AM Dec. 7		B 5 "

*NOTE: "A" Signifies ahead of schedule per leg
"B" Signifies behind schedule per leg

ACTUAL TOTAL ELAPSED TIME OF ENTIRE FLIGHT: 4 Days 23 Hours 47 Minutes
SCHEDULED TOTAL ELAPSED TIME OF ENTIRE FLIGHT 4 Days 23 Hours 50 Minutes
AIR MILES FLOWN DURING ENTIRE FLIGHT: 22,180 MILES. AIR TIME: 83 hrs. 43 mins.
NOTE: This flight cut 27 hours 28 minutes off previous record for round the world flight by scheduled airlines.

From the President:-

Our Airability Program

THE Air Force Association has just sent a representative 22,000 miles around the globe in less than five days to demonstrate the ability of the airplane to bring the people of the world closer together. This demonstration was all the more conclusive by virtue of the fact that the flight was accomplished on schedule by regularly scheduled airlines—showing that our commercial air carriers in routine performance now encircle the earth with a fast and dependable network of communications in the age of the intercontinental bomber and the atomic bomb. It is important to remember that the airplane is essentially an instrument of transportation and communications—an instrument of good will. This global good will flight sponsored by the Air Force Association should help drive that message home. To the air carriers who made it possible—Pan American, United and American, our heartiest congratulations. This was a demonstration of airpower in the broadest sense of the term—of airpower as it is conceived and supported by the Air Force Association. It was a demonstration of this nation's growing ability to meet the requirements of the Air Age—of our national "Airability"—not alone as a measure of national strength but, more important, as a measure of international leadership.

And yet, this flight was the outgrowth of countless puddle-jumping hops from community to community. Of relentlessly pushing airlines routes from continent to continent. It serves to emphasize once again that aviation progress stems from public acceptance of the air instrument at the community level. Future progress, in whatever form it may come, will be essentially local in character. "Airpower" as is expressed elsewhere in this issue truly "begins on main street." Our national Airability is, in the last analysis, the sum total of our community Airability. In recognition of this fact, and with the realization that ours is a grass roots organization, the Air Force Association now inaugu-

rates a coordinated program to survey, analyze, evaluate and develop community Airability, or community airpower. In all humility, members of the Air Force Association are uniquely qualified for the job. We know as few people know what aviation can do—for our localities, for the nation, and for the world. We were introduced to the air age in war, and it was a powerful introduction. It gave us the motivating interest to apply our experience in time of peace. Through the Air Force Association we are organized to translate our interest into action. In truth, we have been concerned with air age community relations since our inception. Our local squadrons have independently fostered dozens of projects which coincide with the work called for in this new airability program. Now we will combine such projects along with others in each community, and coordinate the whole as a national effort. Thus, while our program is based on the practical experience of the last four years, for the first time we have a theme; we have standards upon which to judge progress or lack of it at the community level. The program will give us joint targets to shoot at. Eventually the term "Airability" will take on definite meaning in the neighborhood, will express the sum of local aviation development in relation to such developments in comparable areas elsewhere in the U. S. Eventually our efforts should result in a higher Airability index locally and nationally.

The first step, and one which may take the greater part of the year, is to survey the status of aviation in our communities. This calls for widespread committee work on the part of our squadrons and for cooperative endeavor with many civic and private groups. Our national headquarters will help guide squadron efforts, but as usual, success will be measured primarily in terms of individual initiative.

I encourage each AFA member and each AFA squadron to take an immediate interest in our Airability okay program.

Robert S. Johnson

PRESIDENT



AIR RESCUE in Jungle Country

A Flight Surgeon Gets a Look at the Rough Side of Dutch Guiana

And Helps Bring a Bomber Crew Back Alive After a Crash Landing

By **Captain Oscar Schneller** SENIOR FLIGHT SURGEON

December, 1942: The United States wound up its first year of war. It was chiefly a year of preparation, but on scattered fronts the Allied air machine began to roll. From North African bases American bombers dropped their first load of bombs on Italy in a raid on Naples' harbor. On the other side of the world, the slow, island-hopping advance was already underway through the jungles of the South Pacific where even the flight surgeons had to hack their way . . .

To the flight surgeon at an outlying Air Forces base, the phrase "plane missing" is an ominous challenge. It is like hearing "wanted in emergency" over a hospital loudspeaker.

Now a patrol bomber was down—somewhere in the Dutch Guiana jungles. The plane, with eight officers and men, had taken off at midnight from its base in Guiana, on a secret patrol mission along the coast. Nearly two hours had passed. No word had come in. Trouble was certain.

Fears for the crew of the bomber were confirmed when the plane which should have been relieved of patrol duty returned to the base. No relief had appeared, no message had been received. Through the night, our field made ready for a search.

At dawn several search ships took off from the base. Less than an hour later, the missing plane was sighted about twenty-eight miles to the east, apparently badly cracked up. We did not know whether anyone survived the accident.

Captain Ernest Ljunggren, operations officer, and I left immediately in a C-61 to survey more closely the scene of the crash and to determine, if possible, the best way of getting help through to the crew members, should they be alive. Meanwhile, Captain Richard Gunckle, commanding officer, had organized a rescue squad which was sent out on foot with native guides.

Flying at treetop level, we soon located the patrol plane. It had cut a jagged gash in the jungle and bits of wreckage were scattered all about. Two

of the crew were alive, at least—for we could see them sitting on what was left of the tail.

We cruised low over the surrounding country. The nearest clearing of any size was six miles away. But this was too small.

Finally, about ten miles from the crashed plane, we came upon a savanna that was spacious enough to offer some hope. By a prearranged signal, Captain Ljunggren notified the other planes that we were going to attempt a landing.

Then gently and skillfully, Captain Ljunggren set the plane down into the clearing and brought it to a stop after a short, hard-bumping run. We rolled our ship to the edge of the savanna and prepared to enter the jungle, following a compass reading we had taken in the plane indicating the direction of the crash from the savanna.

Captain Ljunggren took with him a .45-caliber pistol, fifty rounds of ammunition, a compass, a head net, and two cans of rations. I carried fifty rounds of ammunition, two tins of rations, and a first-aid kit. We both had machetes, and ration cans to be used for water.

Starting into the jungle at 7:30 in the morning, we encountered heavy going. The trees and undergrowth were almost impenetrable; much of the ground underfoot was swampy; here and there were little streams we had to ford. Most of the streams were infested with alligators and man-eating fish. It was ticklish business.

Literally hacking our way along, we kept going, slowly, mile after mile, until dark. We then made a bed of palm fronds and slept, alternating two-hour watches.

At dawn we started off again and began firing shots at intervals. Around nine o'clock we heard answering shots from a machine gun and, cutting in toward the sound, discovered we had nearly passed the scene of the crash while a few hundred yards away.

Frankly, we did not expect to find many of the crew alive. But we were due for a surprise.

Captain Charles H. Ross, pilot, and Lieutenant Roy A. Webb, copilot, were the only members of the crew able to walk, and all the others were lying by the side of fuselage in a tiny clearing, several of them badly hurt. But all, fortunately, were alive. The group included Lieutenant Charles L. Jones, observer; Technical Sergeant Louis Castro, bombardier; Sergeant Gerald Forman, crew chief; Sergeant Herman Goldstein, radio operator; and Privates Albert K. Will and Andrew W. Budinsky, gunners.

Examination of the injured men disclosed several serious fractures of jaws and ribs, brain concussions, lacerations, contusions, and bruises. I gave the whole crew first aid and treatment for shock, then chlorinated some water from a near-by stream so our supply would be ample.

Captain Ross told us what had happened. The plane, apparently in good shape, had taken off on a direct course to the point of patrol and risen to 1500 feet. About fifteen minutes later both motors had failed without warning.

After trying vainly to discover the trouble, Captain Ross told the crew to prepare for a crash landing and maneuvered his plane into a shallow glide, giving Sergeant Castro a chance to get out of the nose.

Suddenly, the big plane knifed into the jungle with a terrific impact. All the men were knocked out. That they were not all killed outright was due only to the skill of Captain Ross in bringing the plane through that welter of trees, vines, and underbrush.

Lieutenant Webb was the first to recover consciousness. Sergeant Castro's feet were in his face. They both had been thrown clear of the ship, into the jungle, a short distance from the fuselage.

Inspection of the plane revealed complete wreckage. The entire nose had been ripped away, both wings had been shorn off, and the two motors had been hurled into the undergrowth. Part of the fuselage was intact, although badly bent at the tail. Gasoline drenched the ground. The plane had been carrying a sizable load of bombs, but none had exploded.

Captain Ross recovered consciousness a few minutes after Lieutenant Webb. Although injured themselves, they carried the other men to a place that had been cleared away by the crashing bomber, where Captain Ross gave them what first-aid treatment he could with the plane's kit. Some of the crew were only semiconscious when Captain Ljunggren and I reached the scene, a day and a half later.

Clearly, there was no time to be lost in evacuating these men. Captain Ljunggren said he thought he could take off from the savanna in which he had landed the C-61 and would take along Lieutenant Webb, who was in the best condition of the injured crew. I gave them a list of the medical supplies and the food and litters I would need.

Even though the trail had been cut through, it took Captain Ljunggren and Lieutenant Webb several hours to retrace the ten miles to the plane. But, just before dark, we heard the drone of motors and saw them circling overhead, the signal that all was well and they were en route to the base.

Meanwhile, I was busy doing what I could for the men. I gave them stimulants from a special kit and stopped the severe bleeding from which many suffered, cleansed and bandaged the deeper wounds, avoiding suturing as much as possible because of septic conditions.

Despite this treatment, however, it was clear that our plight was serious. All the men were suffering badly from shock. Quick hospitalization was imperative.

At dawn the following day another plane flew over, signaling that it would drop supplies. Soon a huge bundle of litters, blankets, food, and the like floated down to us by parachute, making a perfect bull's-eye through the hole in the trees.

Not long after, the rescue party from the base arrived. There were twenty infantrymen under Lieutenants Arthur, Lemon, and Calhoun and fifteen native

guides. It had taken them two days to cut their way through twenty-eight miles of dense jungle, and they had been able to do it only because planes had flown over them from time to time, indicating the direction to follow. So heavy was the foliage that they had been unable to see the planes much of the time but took bearings from the sound of the motors.

Evacuation by foot through the jungle would be too arduous and take too much time. Our best bet was evacuation by air from the savanna in which Captain Ljunggren and I had landed.

After the rescue group had rested, we bundled the injured men onto litters and began our trek, with some of the infantrymen and guides leading the way, cutting the trail wider for passage of the main party.

It was late afternoon when we reached the clearing. I set up a first-aid station and made the men comfortable. More planes appeared to drop food to us. We spent a miserable night, for the place was infested with sand flies, against which even head nets were no protection. Nobody slept.

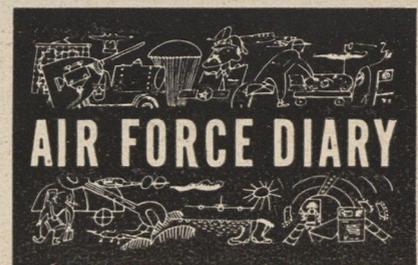
Next morning Captain Ljunggren flew over in a medium bomber and dropped a note requesting that the clearing be surveyed to determine if he could land. Captain Ross examined and measured the ground. He decided that, with some more clearance work, the plane could safely come in.

This job of slashing down underbrush and vines and laying out and marking a runway with stakes took about three hours.

Then, as Captain Ljunggren flew over once more, the men waved a signal that the field was ready. The plane swept low toward the clearing but couldn't make it. Captain Ljunggren circled, tried again. But again he changed his mind and pulled up. At last, on the third try, he brought the ship in for a perfect landing and came to a stop just short of the danger area.

The bomber would hold three men at a time in addition to Captain Ljunggren, Lieutenant Wilhite, and Technical Sergeant Holmes. So a fast ferry service was begun, with the plane taking off and landing in an incredibly small place each trip. After the injured men had been transported, the infantrymen and I returned in the same manner. The native guides came back over the jungle trail.

At the field hospital the men's wounds were dressed and sterilized, and shock treatment was administered. The patients rested for twenty-four hours and were transferred by plane to the Trinidad Base Hospital.



The end is only the

As these words are written, the twin-jet Cutlass, Vought fighter airplane, is nearing the end of a long hard trail of research, design, development and test.

For 32 years Vought has built conventional airplanes of proved design for the U. S. Navy. The Cutlass, however, was completely new — a radical departure from Vought's time-tested fighter aircraft. It has no tail and it does have swept-back wings, two logical developments which posed problems Vought engineers never before had faced.

The Cutlass is Vought's first twin-engine jet fighter. To save weight, the engineers incorporated more magnesium in its airframe than in any previous Vought design, and made extensive use of Vought's lightweight "sandwich" materials. To overcome the forces of high speed flight, they provided hydraulic-boosted ailevators (combining elevator and aileron functions) and incorporated artificial "feel" to simulate the control forces the pilot would encounter in conventional aircraft. And, finally, they created an airplane that would have



The Vought F7U-1 Cutlass twin-jet fighter, latest and fastest in a long line of Vought airplanes that have played well their part in maintaining American air supremacy.

CHANCE

MY THREE YEARS IN MOSCOW

By Lieut. Gen. Walter Bedell Smith

Eisenhower's brilliant Chief of Staff went to Russia after the war as U. S. Ambassador. In a book jam-packed with little-known material—including a remarkable interview with Stalin—Bedell Smith reveals to the public what happened during his mission there. Our envoy has many pungent and candid things to say—his book says them.

J. B. Lippincott Co.

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MY THREE
YEARS IN
MOSCOW

Walter Bedell
Smith

BY LOUIS A. SIGAUD



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AIR POWER and UNIFICATION

By Louis A. Sigaud

This is a timely and thought-provoking publication which re-examines the views of the noted Italian airpower exponent, General Giulio Douhet, and applies them to the problem of strengthening and unifying our armed forces for maximum combat effectiveness. This is an objective study of defense problems relative to true unification.

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U. S. CAMERA ANNUAL 1950

Edited by T. J. Maloney

The 15th Edition of the world's most beautiful photographic volume is just off the press featuring over 200 pages of fine pictures and over 200 historic news photos. Here are the best pictures of the year gathered from all over the world: Lovely nudes, breath-taking pictorials, portraits and still lifes, photos for all.

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ANNUAL 1950

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THE AIRCRAFT YEAR BOOK FOR 1949

The Official Annual of the Aircraft Industries Association

America's standard aviation reference book—a liberally illustrated full report on aviation activities during 1949—detailed data and specifications, with three-view drawings of all military and civilian planes now in production—more than 100 pages of statistics, charts and data—complete chronology of the year's aviation events.

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The
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BERLIN COMMAND

By Brig. Gen. Frank Howley

The fantastic story of Howley's battle of wits with the Russians during his four years in Berlin. The inside story of the blockade and the airlift. Howley shoots with both barrels in this revealing book.

G. P. Putnam's Sons

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c/o Air Force Magazine
369 Lexington Ave., New York 17, N. Y.

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My Three Years in Moscow Air Power and Unification

U. S. Camera Annual Aircraft Yearbook Berlin Command

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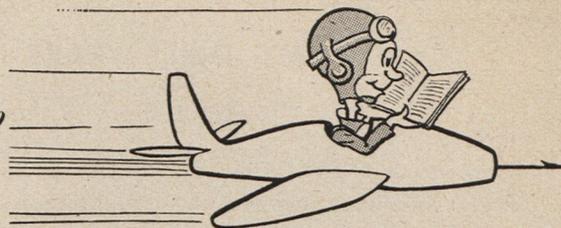
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The Airman's Bookshelf



My Three Years in Moscow

by Lt. Gen. Walter Bedell Smith
Lippincott. 346 pp. \$3.75

Berlin Command

by Brig. Gen. Frank Howley
G. P. Putnam's Sons \$3.50

The problem of "getting along with the Russians" has probably never been more acute than it is today. The years since VE-Day have been long and difficult, full of near catastrophes, disappointments, major and minor crises, irritations and misunderstandings that have brought the cold war out of the deep freeze into a slow defrost. It is our tremendous and increasingly difficult task to keep it away from war's front burner.

If there is a formula for getting along with the Russians, no one has stumbled upon it: indeed there is some doubt that one exists.

American diplomats on all levels of activity have been forced to subject themselves to the frustrating "bang-your-head-against-the-wall" technique of trying to effect a meeting of the minds with their Russian counterparts. Perhaps none has really succeeded, but under present day tensions, the degree of success or the manner of failure may be the deciding factor in keeping the cold war cold.

Generals Walter Bedell Smith and Frank Howley have both written of their postwar experiences in dealing with Russian officials. Smith, as our ambassador to the Russian Capital is the author of "My Three Years in Moscow," and Howley, former U. S. Military Commandant in Berlin has written "Berlin Command." These books, published as they are at approximately the same time, present two perfect examples of different ways of not getting along with the Russians. Smith is cool, realistic, thoughtful, carefully analytical—that rare, successful combination of soldier and diplomat. He has obviously read a great deal of background material to prepare himself for his tremendous job and probably knows as well as any man why the Russians act as they do. Howley, on the other hand, is irascible, vitriolic, fed-up-and-disgusted, rather dogmatic, given to unrestrained name-calling and patently unsuited in temperament and training for his assignment.

"We went to Berlin," says General Howley, "thinking only of the Russians as big, jolly, balalaika-playing fellows, who drank prodigious quantities of vodka and liked to wrestle in the drawing room." It is no wonder that Howley soon became a bitterly disillusioned man.

Actually, there is grave doubt whether the Kommandatura could have func-

tioned efficiently under the best of circumstances. As Howley said, it was like trying to run an infantry division with four generals of equal rank having to agree on every minor decision.

In any event, we are in no position to evaluate the job that Howley did. That his patience was tried to the utmost, we do not doubt. But the bare fact is that one gets tired of page after page of invective and diatribe which contribute little to our knowledge or understanding of the great single problem of the day. One is left with nothing at the end but the general's opinion that we must withdraw diplomatic recognition from Russia and institute an effective economic blockade.

There is certainly no reason to believe that the Russians in Moscow were any less difficult to get along with than the Russians in Berlin but General Smith, in his report to the American people, has contributed a book which is of value and importance to every thinking American. He has tied in the events of 1946-49 with important background material on the Soviet Union, an uncluttered statement of what we may expect.

General Smith points out that one of Lenin's basic beliefs was that communism and capitalism cannot co-exist for any length of time in the same world—that sooner or later one or the other must go down, and that before that end supervenes, the most frightful collisions will occur between the two systems.

But this by no means implies that General Smith believes that war is inevitable. On the contrary, he feels we have strength to meet the challenge.

He calls upon us to face the fact that "we are engaged in a contest of indefinite duration; that we must decide our course and stick to it. If we stick to it calmly, determinedly and courageously, we can go forward, step by step, to the peace and security which we and all the free world so ardently desire. The stakes are too high, and the alternatives are too terrible, to permit even a suspicion of irresolution."

The Red Army Today

by Col. Louis B. Ely
Military Service Pub. Co.
256 pp. Illus. \$3.50

It is difficult to gather factual, unbiased and reliable material on any subject having to do with Soviet military matters, but it can be done. If the finished report is lacking in details, or is not as complete as it might be, it nevertheless serves as a valuable addition to our meager knowledge.

Colonel Ely has done a remarkably thorough job on the Red Army. He has gathered his material from several

sources: some from former members of the German army who fought against the Russians; a small amount from official Soviet military publications and a surprising amount from western officers who had first hand wartime contacts with the Russian war machine. The bulk of the information, however came from thousands of former members of the Red Army who have left the Soviet Union to take up life in the west.

The book covers all phases of the Soviet military machine with particular emphasis on the infantry and artillery, the backbone of the Russian army. There is a chapter on air support, but matters concerning the postwar Soviet Air Force are among the most closely guarded secrets of the Soviet regime. We do know, however, that Stalin has been concentrating on fighter planes for infantry support. So strongly has this been established as official policy that members of the Red Air Force who pleaded the cause of strategic bombing too much, were suspected by MVD.

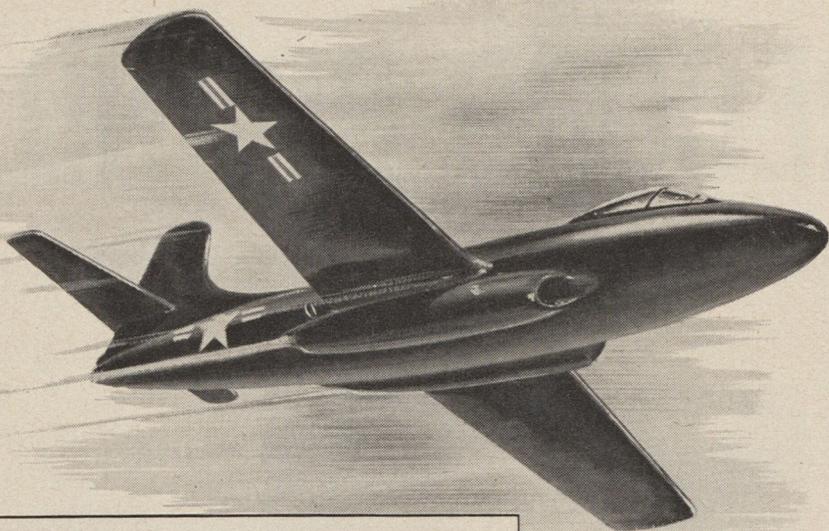
Actually, the Russians really do not understand strategic bombing. They have bombers and will build more, but they cling to the traditional belief that wars are won on the ground.

Aircraft Year Book. Edited by Fred Hamlin

Official Annual of the Aircraft Industries Association
illustrated \$6.00

The Aircraft Industries Association performs a most useful service with its annual publication of the Aircraft Yearbook. It doesn't seem possible that anyone really interested in the American aviation scene can do without this compact and complete volume. The latest edition, scheduled for publication on January 15, 1950, is no exception. The yearbook has pertinent things to say on all phases of aviation, military as well as civil.

Edited by Fred Hamlin, formerly eastern correspondent for Flying Magazine and Director of Information at the Civil Aeronautics Administration; William G. Key, formerly with Aircraft Industries Association and city editor of the Atlantic Constitution; Arthur Clements, former Air Force officer; and Eleanor Thayer, formerly on the staff of Today's Woman, the book contains detailed descriptions of more than 300 American planes, a complete review of developments in the Armed Services, the aircraft industries and the airlines. There are also thumbnail biographies of 1,000 present day aviation personalities, a complete current bibliography of aviation books and a preview of tomorrow in the air.



F-3D SKYKNIGHT

*guardian of the
stratosphere*

This new Douglas-built Navy fighter is the first all-jet airplane designed specifically for stratosphere performance. It has the speed, range and altitude required for upper-altitude fighting or long-range patrol and reconnaissance. The F-3D has been thoroughly tested and is now in production for the Navy at Douglas El Segundo, birthplace of the famous AD series and other dependable military aircraft for 17 years.

EL SEGUNDO PLANT OF



SHERMAN NYLON SHIRT ON RECORD ROUND-THE-



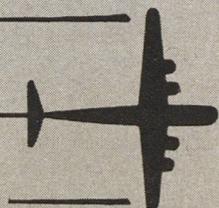
Taking off on Dec. 2 from La Guardia—the well-groomed business man wearing a Sherman Porous Nylon Shirt.



At Midway Island, the coat is off, but the Sherman Porous Nylon Shirt is fresh and clean.



Back in New York, His Sherman Porous Nylon Shirt (which he washed in the plane after leaving Chicago) is fresh and new.



Sherman
Originators of the Nylon Shirt

FLIES WITH TOM LANPHIER JR. WORLD AIRLINE HOP!!!

Lanphier Sets In Round-World

Thomas Lanphier Jr., World War II air ace, established round-the-world regularly planes to LaGuardia Lanphier

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Thomas G. Lanphier Jr. is shooting down Japanese commanders yesterday and speed record world over. His trip short

Tom Lanphier Jr. on his arrival holds an oversized envelope he visited on his global flight

Sets Globe-girdling Flight

Here After Circling Schedule

THOMAS G. LANPHIER JR.

December 9, 1949

Mr. Sol Sherman
Sherman Shirt Creations Inc.
1200 Broadway
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Dear Mr. Sherman:

Nobody read about it in the news accounts of the event, but one of the unsung marvels of my 'round the world flight on commercial airlines was the performance of my Sherman Nylon Shirt. Frankly, I was just a little wilted after nearly five days and over 22,000 miles in the air. But not my Sherman! It got back to New York as good as the day we left. All it asked was a little soap and water along the way and a few minutes to dry on a coat hanger in the plane. Nothing more. And because it is a porous shirt, it was completely comfortable in all the climates I passed through. As the Air Force Association says, the Air Age is here. And so is the Age of Nylon Shirts.

Very truly yours,

Thomas G. Lanphier Jr.
Thomas G. Lanphier Jr.

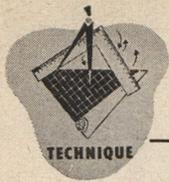
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Lanphier plans stops in

Thomas G. Lanphier Jr., left, being greeted at La Guardia Field by F...
New York State Athletic Commission, whose record Mr. Lanphier br...
planes. He holds an envelope bearing stamp...
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SHIRT CREATIONS INC.

1200 BROADWAY, NEW YORK 1, N. Y.



TECHNIQUE

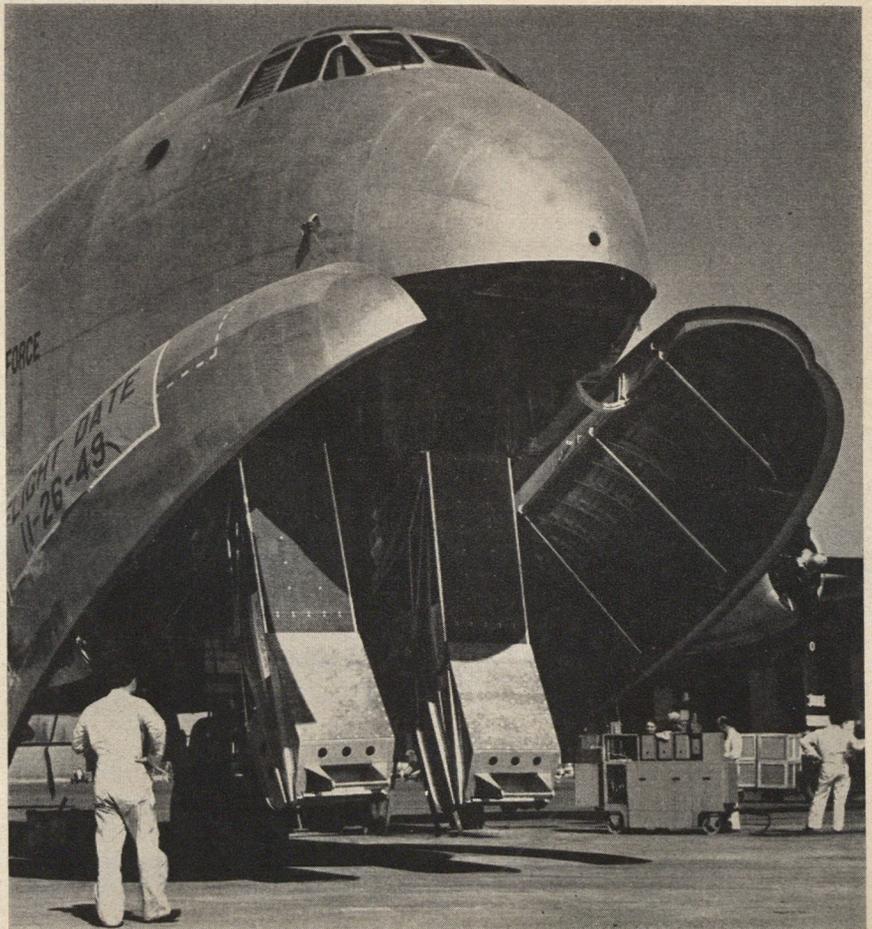


Jimmy Mattern Cited by Air Force

Last month in California, Jimmy Mattern, sometime holder of 15 air records, was given the AF's Scroll of Appreciation for wartime work. For those who had lost track of one of the last decade's most colorful air personalities, the scroll brought them at least up to the end of the war: "By his confidence and enthusiasm (in demonstrating the capabilities of the P-38 to doubting pilots) he instilled an eagerness and respect for the plane. The plane's success was due in large part to Mr. Mattern's demonstrations, his courage, initiative and high sense of responsibility." The picture above: Robert Gross, Lockheed President, Mattern, Gen. J. E. Upston, Maj. Jerome Trilao, Upston's aide.

First C-124 Out

First of the giant C-124 Globemaster I transports was rolled from the Douglas plant in Long Beach Nov. 11. The new heavy-duty plane will carry up to 50,000 pounds of payload. Its gross weight is nearly 2½ times that of the C-54. Feature of the plane is the huge clamshell door in the nose which provides an opening nearly 12 feet square. As a personnel carrier, the plane can carry 200 troops and field equipment. Its span is 173' 3", length, 127' 2", height, 48' 3". It is powered by four Pratt & Whitney R-4360-20W engines rated at 3,500 takeoff hp. The Air Force has ordered 29 planes from 1949-50.



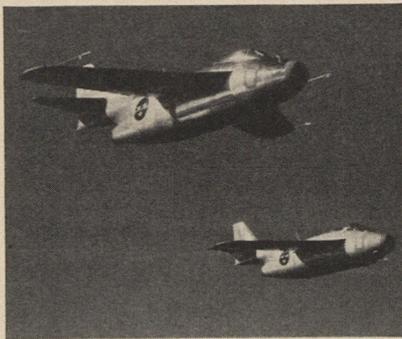
XHJD-1 For AF?

Searching for an improved plane for air rescue work, the USAF cast a furtive eye last month at the Navy's XHJD-1 "Whirlaway" helicopter. For four days, Materiel and Alaskan Air Command representatives put the new McDonnell craft (above) through its paces. But as yet no contract has been announced. Plane has a crew of two, carries eight passengers. Weight: 5 tons. Cruising speed: 100 mph.



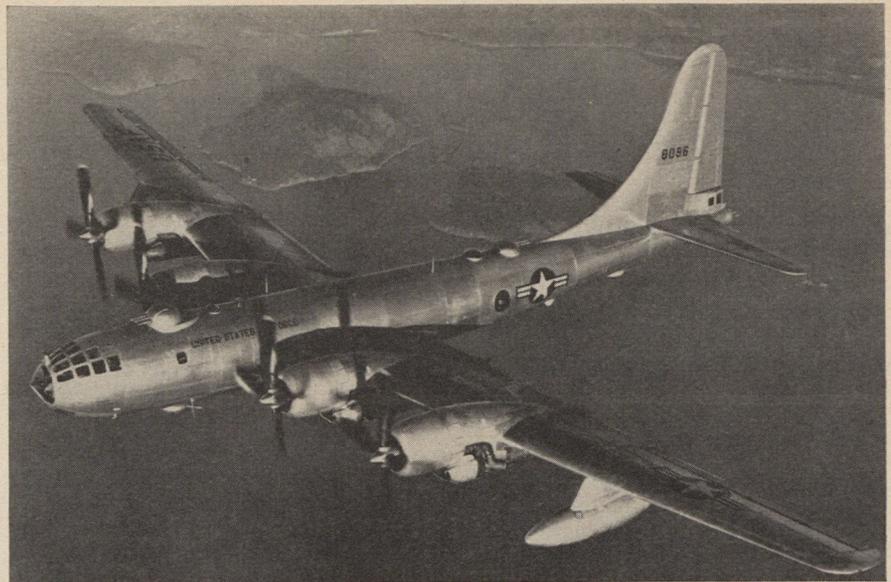
All-Purpose Mast

Northrop Aircraft has begun tests of a new weapon (above) for hunting down elusive flight data at speeds near the velocity of sound. Into this slender, nose-attached "spear", the G. M. Giannini Company, California specialists in flight test instruments for supersonic aircraft, has crowded instruments to give instant telemetered readings of air speed, yaw, angle of attack and temperature. An altitude indicator can also be installed if desired. It is the first all-electric instrument mast to be designed for high-speed research planes. Inspecting the gadget above is a Northrop test pilot with helmet and oxygen mask ready for flight, and an instrument engineer of the Giannini Company.



New Swedish Jet

Sweden has invaded the transonic jet-fighter field with the Saab-29, above. After 12 months of "accelerated" flight tests the Swedish Air Force announces that the plane has reached the Mach number intended. Above are two of the three prototype ships.



New Superfort Has 6000 Mile Range

New, longer range Boeing B-50 Superforts are being delivered now to the Air Force according to Boeing announcement. The B-50D, above, has gross weight of 164,500 pounds. Top speed is over 400 miles an hour. Range is more than 6,000 miles with load. Normal range of the new plane has been increased by installation of

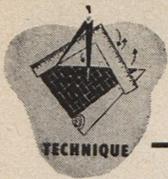
700-gallon external fuel tanks. The tank fittings, when not needed for extra range, can be used to carry a 4,000 pound bomb, bringing total bomb capacity to 28,000 pounds. Other changes include new radar equipment, a new Plexiglas nose section, a modified four-gun top forward turret, and a single point ground refueling system.



B-51 Gets Chute for Quicker Stops

Lacking reversible props, the AF's new Martin B-51 has been equipped with a special parachute, shown above, for more rapid deceleration after landing. Built specifically for ground support operations, the chute is most handy in landing in small, forward combat airfields. To assist in getting off those fields, the B-51 is equipped with JATO. Radical in design, with sharply swept-

back wings and horizontal stabilizer mounted "T" style atop the vertical stabilizer, the B-51 is flown by a crew of two in a pressurized, air conditioned cockpit with ejection seats. Speed is reported only as "high", with no indication of ultimate top. First flight of the 51 was made in October, 1949. So far the Air Force has not announced the awarding of a production contract.



TECHNIQUE

Rocket Ship to Cross Country in Less Than Hour

Fifty ton "projectile" will fly at altitudes up to 27 miles, and will reach speeds up to 9140 mph, Cal Tech professor predicts

Requirements for a transcontinental rocket-liner capable of crossing the United States in less than one hour are within the grasp of present day technology, the American Rocket Society was told at its recent convention in New York.

The rocket liner was described by Dr. Hsue-Shen Tsien, Goddard professor at the Guggenheim Jet Propulsion Center at the California Institute of Technology, who said that such an instrument would look like a fat, sharp pointed pencil 80 feet long with a maximum diameter of nine feet and a pair of small wings set midway along the fuselage. It would weigh 50 tons at launching of which 37 tons would be fuel load.

In a 3,000 mile flight, Dr. Tsien stated that the liner would follow an initial elliptical path for 1,200 miles and then glide for 1,800 miles. Altitude at the beginning of the glide would be 27 miles; maximum velocity would be 9,140 miles per hour and landing speed only 150 MPH.

The scientist told the group that the best take-off would be vertically upward and suggested that a ram-jet engine might best be used for the early part of this rise. Once the ship is above the earth's atmosphere, he predicted that the fuel used would be a combination of liquid hydrogen and either liquid oxygen or liquid fluorine.

"One need not have any misgivings about high energy fuels and propellants for cooling difficulties," he stated. "Such strange combinations as liquid hydrogen and liquid fluorine, and diborane and liquid oxygen are to be considered.

"With either film cooling or sweat cooling, there is no limit to the temperature of the combustion gas that can be effectively handled." Dr. Tsien explained that film cooling is achieved by establishing a thin liquid film in contact with the hot gas over the surface to be cooled. Sweat cooling, where the coolant is forced through a porous wall and injection and evaporation occur at the same time, is not limited to the liquid coolant. The coolant may be gaseous.

Dr. Tsien paid tribute to the late Dr. Robert H. Goddard, American rocket pioneer, after whom the principal post in each of the Guggenheim Jet Propulsion Centers is named.

"Research done by Dr. Goddard opened up the entirely new field of rocket engineering and heralded the dawn of the second epoch of aeronau-

tics. This is the epoch of hyperaviation, of flight with tremendous speeds at extremely high altitude."

Considered one of the most brilliant scientists in the field of jet propulsion engineering, Dr. Tsien entered California Institute of Technology as a graduate student of aeronautics in 1936. In June, 1939, he was awarded the degree of Doctor of Philosophy in Aeronautics, *magna cum laude*. He remained at Caltech as a research fellow and was appointed assistant professor in 1943.

Firestone Has Rubber That Will Bounce at 75 Below

Scientists at the Firestone Tire and Rubber Company recently won a battle in the never ending war between men, machines and climate with the development of a synthetic rubber polymer which will bounce and stretch instead of shattering at 75 degrees below zero.

Air Force units operating in arctic locales discovered that frigid temperatures did funny things to rubber equipment. Tires, hose, gaskets and belting made of conventional rubber, freeze as hard as a rock when the mercury dips

below minus 60. Aircraft and vehicles are immobilized after an unusually cold night because the flattened part of the tire on the ground takes on a permanent set.

The new arctic polymer remains resilient enough for all-purpose serviceability at any temperature likely to be encountered in frigid zones. It will not chip or become brittle.

Another New Fire Suit Shown

A fire fighting crash suit designed to keep firemen at a cool 130 degrees while working in gasoline and oil fires that get as hot as 2,000 degrees has recently been put through a series of successful tests by Wright Field Air Force technicians.

The suit, which is the only one of its kind so far developed, is constructed of 18 layers of glass fiber, glass fiber batt, glass fiber net, neoprene coated glass fiber, honeycombed cotton cloth, silver foil, aluminum foil, and nylon arranged so as to provide the best possible protection against both the conductive and radiative type of heat found in aircraft crash fires.

The suit is only about half an inch thick and consists of a one piece cover-all, a hood, mitten-type gauntlets and asbestos-soled boots. Overall weight is less than 30 pounds.

During the recent tests, volunteer firemen remained in a wall of flames at 2,400 degrees for one minute, 32 seconds without experiencing any bodily discomfort.

NEW T-29 WILL TRAIN 14 NAVIGATORS AT ONCE



First flight picture of the Air Force's new T-29 navigational trainer, built by Consolidated Vultee is shown here. The high-speed ship, which resembles the airline's Convair Liner, is the first plane designed especially to train navigators in groups. Four astrodomes on top of the fuselage are provided for 14 students and instructors. Some of planes' 18 antennas are visible here.

Airpower in the News CONTINUED

At Kadena AFB, Okinawa, 425 family units will be built at total cost of \$8,833,075, and \$7,439,190 will be spent for construction of BOQs and airmen barracks. . . 592 additional housing units, which with 408 now under construction will comprise nation's largest military housing project, have been allocated to builders of Billy Mitchell Village near San Antonio. Additional units were authorized under provisions of Wherry Housing act.

JOINT INSPECTORS GENERAL INVESTIGATION OF NATIONAL GUARD BUREAU has been ordered by Secys. Symington and Gray in effort to determine facts surrounding various unresolved problems in operation of Guard such as "status of Chief of National Guard Bureau with respect to Secy. of AF and Chief of Staff of AF," and "status of Chief of National Guard Bureau with respect to AF functions of the Guard." . . . Air National Guard now totals 43,778, of which 6,856 are officers and 36,922 are airmen.

ARMED FORCES HAD COMBINED NUMERICAL STRENGTH OF 1,583,900 on October 31. AF strength totaled 418,000; Army, 658,400; Navy, 424,000; and Marine Corps, 82,700.

MAJ. GEN. MALCOLM C. GROW, SURGEON GENERAL OF USAF, RETIRED RECENTLY after more than 31 years of U. S. military medical service. He was replaced by Maj. Gen. Harry G. Armstrong, Dep. Surgeon General. . . Brackley Shaw has resigned as General Counsel of Dept. of AF.

STANDARDIZED POLICY GOVERNING PARTICIPATION OF MILITARY AIRCRAFT IN PUBLIC AIR DEMONSTRATIONS was announced by Secy. Johnson recently. Air participation and public demonstrations of aircraft are limited to patriotic national holidays and events of national importance.

GRANT ADVERTISING, INC., OF CHICAGO, HAS BEEN SELECTED AS AGENCY TO PROVIDE ADVERTISING SERVICES FOR ARMY AND AF RECRUITING PROGRAM, effective January 1, 1950. Contract will be for period of 18 months. . . Adjustments, which will result in reduction in authorized strength of approximately 30 per cent, are now in process within Army, Naval and Air attache systems in foreign countries, Dept. of Defense has announced. . . Units of AF took part in dedication ceremonies of Bicentennial Exposition at Port au Prince, Haiti, on December 8. Nine AF B-29s stationed at MacDill AF Base flew over the grounds.

SCHEDULED AIRLINES OF U. S. TODAY ARE ON A SOUND AND PROFITABLE BASIS AND A BRIGHT FUTURE IS ASSURED -- based on their regularity of service, dependability and safety, plus the greatest mass service in aviation history to be offered to traveling public. Participation in this service is not yet practical for jet transports, present high-speed pressurized equipment being the finest available for passengers and shippers. This outlook was subscribed to by eleven presidents of scheduled airlines when they gathered at special "Airlines' Day" luncheon in Chicago on November 30. Speakers at the luncheon included C. R. Smith, President of American Airlines and former AFA President; W. A. Patterson, United; Ralph S. Damon, Trans-World; Capt. Eddie Rickenbacker, Eastern; and C. E. Woolman, Delta.

U. S. IS AT LEAST TWO YEARS BEHIND GREAT BRITAIN AND CANADA IN DEVELOPMENT OF JET AIRLINERS, General Doolittle told the Trans-World Airlines management club at Kansas City, Mo., recently. . . America will never start a war but it must build long range bombers and atomic bombs as best means of preserving peace and keeping her people free, Dr. Hugh L. Dryden, director of National Advisory Committee for Aeronautics, declared recently at 70th annual meeting of American Society of Mechanical Engineers in New York's Hotel Statler.

BARGAINS IN BOOKS

1. THE OFFICIAL PICTORIAL HISTORY OF THE AAF. By the Historical Office of the AAF. The most complete survey of the brilliant and colorful history of the Army Air Force. Nearly 1500 photographs including those of famous air engagements of the second World War. You can't afford to pass this one up.
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2. THE FALL OF MUSSOLINI. II Duce's own story of the last days of Fascism in Italy. A remarkable story of a man's disintegration.
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3. AVIATION RADIO. By Henry W. Roberts. Complete, authoritative and heavily illustrated, this book covers the entire field.
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4. AMERICAN GUERRILLA IN THE PHILIPPINES. By Ira Wolfert. The amazing story of an American Officer's exploits behind the Jap lines.
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5. HAPPY LANDINGS. An anthology of flying. The best passages from the best literature of the air.
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6. THEY TAMED THE SKY. By Douglas J. Ingels. The unforgettable story of pilots, mechanics and dreamers who made the advances of modern aviation possible.
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7. BLAZE OF NOON. By Ernest K. Gann. An absorbing novel about four young pilots who barnstormed the country in the early '20s.
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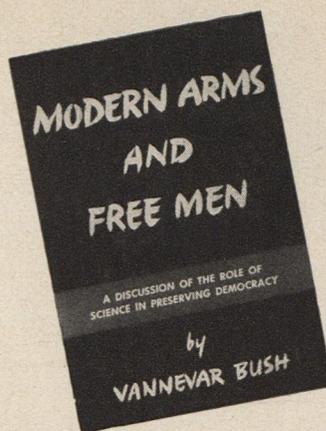
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BOOKS

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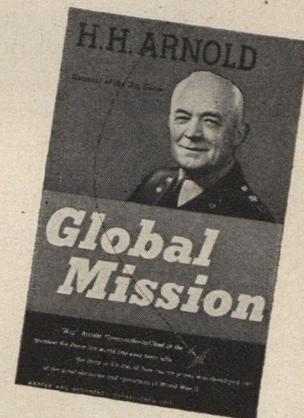
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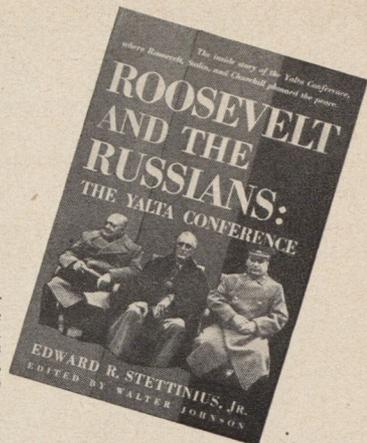
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HOW SLOW OUR JETS

could be saved if we started from a military model such as the Boeing B-47. We are now at least two years behind the British in jet transport development, and getting a day further behind every day.

The reason for our lack of development in the jet transport field is largely one of money. The design, construction, and testing of any new plane is a risky and expensive undertaking—and it is doubly so in the case of a radically new type of plane like the jet transport. The cost of this work has been variously estimated at between twenty and forty million dollars. Our aircraft manufacturers cannot take a gamble of this magnitude, and neither can our airlines individually or collectively finance such an undertaking in their present fiscal condition.

The military, the governmental aviation agencies, the aircraft manufacturers, and the airlines should get together

CONTINUED

now—not tomorrow or next year—and work out a feasible plan whereby the construction of commercial jet prototypes may be started at the earliest possible date.

Failure to do this will, in my opinion, seriously *weaken our aircraft industry through deterioration of its position in world aviation markets, cause our airlines to be dependent on other countries for their planes, and most important of all, it will be detrimental to our national defense.*

I have a deep interest in anything that effects our aviation industry, but I have a much deeper feeling—in this period of international uncertainty—for anything that materially effects our defense establishment. Should war come again, there will be a very great need for modern, fast and reliable transports. Reliability generally comes from long usage. In the last war, the most widely used air transport was one that had been flown for years by our airlines. Almost all of our wartime air cargo tonnage was carried by planes originally conceived as civil transports.

If it develops at the proposed meeting of the military, governmental air agencies, and the aircraft manufacturers and operators, that governmental assistance is necessary—as I think it will be—for the design and construction of prototype jet air transports, then a unified plan should be established at that time for the obtaining and administration of the required finances in order that this important work can go forward immediately with a minimum of confusion and delay.

There exists considerable misunderstanding in the general public mind concerning the soundness of transportation subsidies and the invaluable contributions to our social and economic growth and to our defense which have resulted from the more rapid development of transportation through subsidy. It is fair to say, I believe, that all forms of transportation have benefited, and are still benefiting, either directly or indirectly, from subsidies.

Certainly we would not now have the world's finest domestic and international airlines had it not been for the aid and encouragement they have received in the form of direct and indirect subsidies.

It is variously estimated that the railroads have received subsidies amounting up to a billion dollars or more in the form of land grants and other benefits.

Two and a half billion dollars have been spent by the government in the development and operation of our inland waterways, and our Merchant Marine has, since its inception, sometimes directly, and always through the provision of lighthouses and other aids to marine navigation, received governmental aid.

Public roads on which to run constitute an indirect subsidy to the bus lines.

In none of these cases, in the past or present, has the principle of subsidies been bad. On the contrary, it has been good.

Air transport of passengers, mail, express, and freight has become almost indispensable to our commerce and industry.

The railroads opened up the West and were instrumental in our rise to the position of the strongest and richest nation in the world.

The nation as a whole reaps valuable and substantial benefits from the inland waterways, and the maintenance of an adequate Merchant Marine is essential to our commercial life and to the national defense.

During World War II, we paid a colossal price for our failure to spend enough money to properly maintain our Merchant Marine during the pre-war years. We should learn from that sad lesson and always keep an adequate Merchant Marine in being. And likewise, it is entirely possible that we may some day have to pay a greater, and even more tragic, price if we do not maintain a modern air transport system.

There are many facets to be considered in connection with jet air transportation and I want to review briefly those discussed tonight.

Speed is aviation's greatest contribution to the art of transportation. However, safety, reliability, economy, passenger convenience, and passenger comfort must be given due consideration.

There are many problems to be solved before ultra high-speed transports are put into regular commercial service. Some of these problems are difficult, but they are not insurmountable, and I am confident that sooner or later they will be solved.

Jet propelled aircraft will probably be flying on foreign airlines by 1953, but it seems unlikely that they will be in very wide usage before 1955. Turbo-prop aircraft may be employed to effect the transition from conventional reciprocating engine powered transports to the pure jet airliners.

America leads the world in military jet aircraft. However, we are definitely behind our friends across the water and our Canadian neighbors in the construction of jet air transports. But we are not so far behind even in this phase of jet aircraft that we cannot catch up in a reasonably short time if we start immediately. However, we cannot delay. Time is working against us.

All agencies interested in aviation, governmental and civil, should get together now to properly evaluate America's present position and to plot our proper course of action in connection with the development and construction of jet air transports in this country.

The principle of subsidies to transportation has proven throughout our history to be in the public interest and for the good of our nation as a whole. If it is determined that governmental assistance is necessary to start work now on the construction of jet air transports in this country, that help should be provided.

The continued augmentation and improvement of our air transport system—national and international—is essential to the maintenance of our national economy and our national security.

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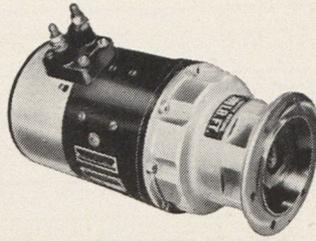
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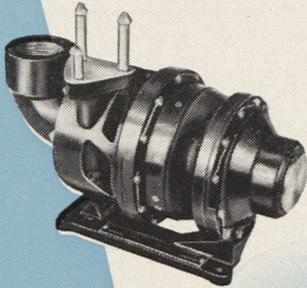
Percent Electric Tachometers



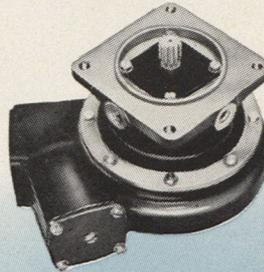
Starters



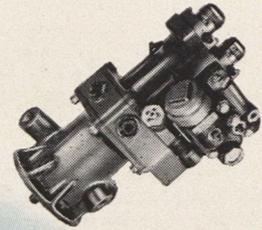
Gravimetric Fuel Flow Totalizing Systems



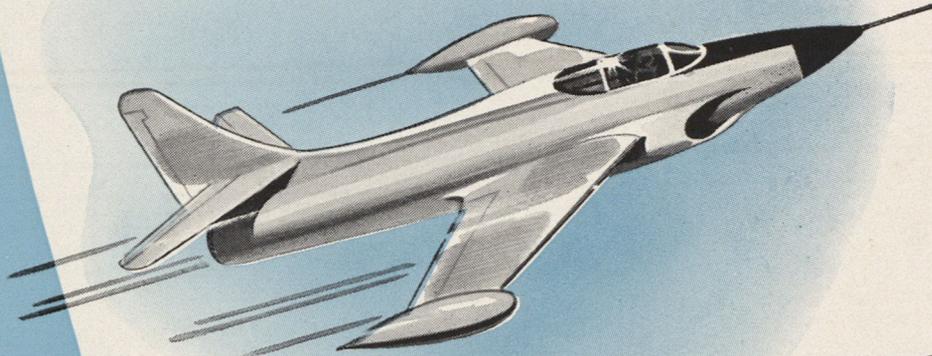
Air Turbine Driven After-burner Fuel Pumps



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