

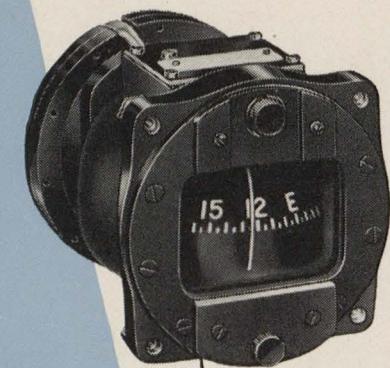


AIR FORCE

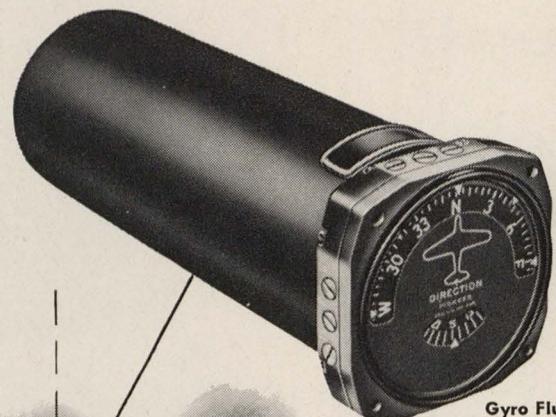
THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION, MARCH, 1949



Twelve Gs
With The Greatest of Ease
See Page 34



Stand-By
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Gyro Flux Gate*
Compass System



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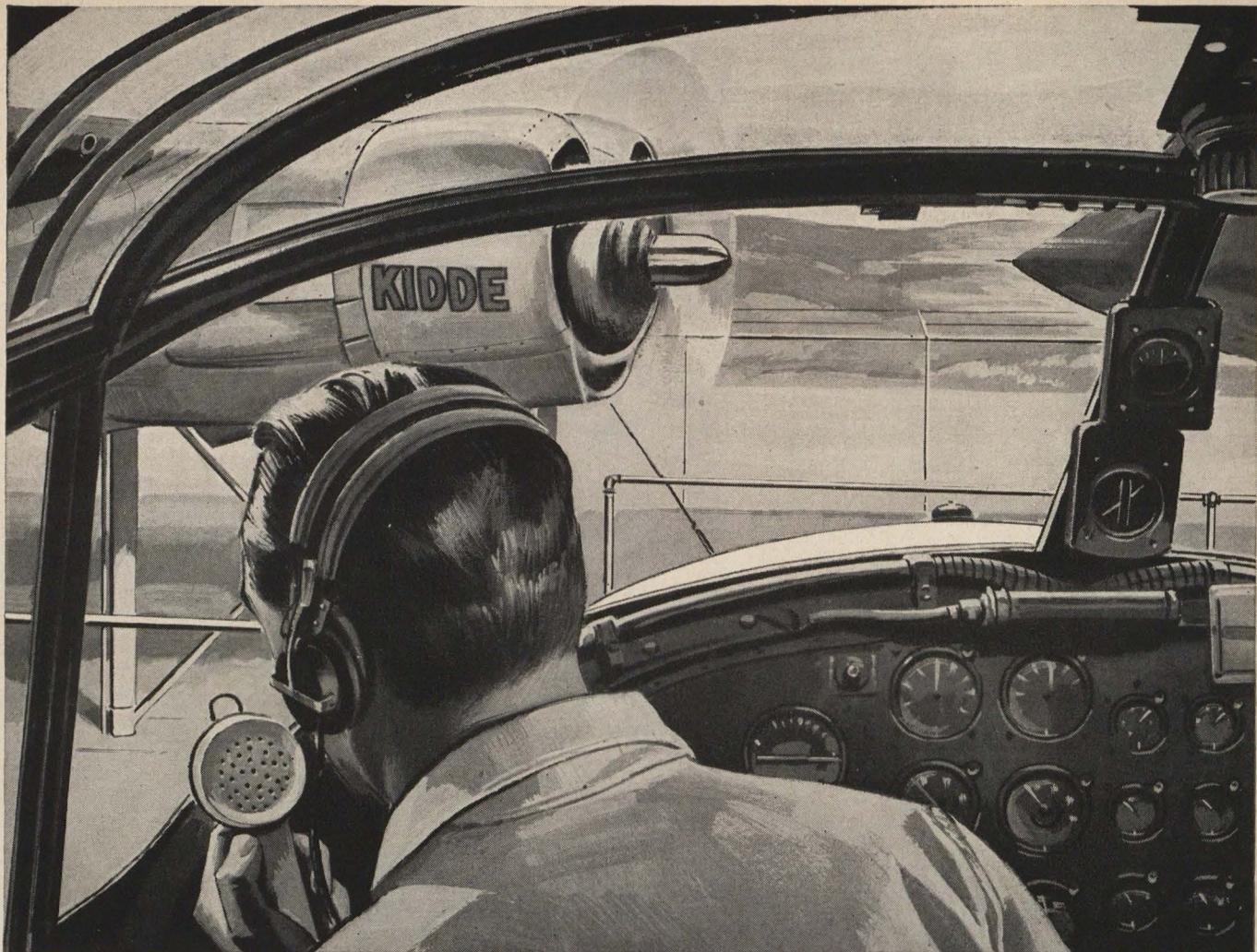
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EDITOR and PUBLISHING DIRECTOR, James H. Straubel

Managing Editor, Ned Root

Contributing Editor, Douglas J. Ingells

Pacific Correspondent, Charlotte Knight

Art Direction by William A. Dean

Assistant Editor, Helen Whyte

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SHOOTING

Man the Lifeboats

Not far from the news item on intercontinental bombing we spied an unobtrusive little report on the Navy League.

It told us of a \$500,000 fund created by the League to finance a special five-year publicity campaign, a program newsmen predicted would obviously concentrate on selling the Navy Air Force.

The Navy has worked long and hard in its attempt to justify a full-fledged strategic air force, and its propaganda theme consistently has been the so-called inability of land-based bombers to reach major Russian targets and return to bases in this country.

Now even the Navy knows the B-36 can do just that, and a lot more besides.

Not only does this leave the Navy far out on the propaganda limb, but it calls for new strategy, a stepped-up sales campaign, and big money.

So it's the Navy League to the rescue. Industrial backers of this already-rich "civilian arm" of the Navy have decided to pump a half million dollars into a propaganda program which we can expect will attempt to swing public and Congressional opinion away from the fact of land-based intercontinental bombing to the myth of strategic bombing from aircraft carriers, from the inevitable development of a single unified national air force to maintenance of the status quo and two duplicating air forces.

Forgotten Men

In appraising this type of propaganda, whether it is initiated by the Navy League or the Navy itself, we must remember that this is the "party line" of the high command, of the battleship-trained admirals. It does not necessarily represent the beliefs of the men who actually do the flying and fighting in the Navy Air Force.

Navy airmen are the forgotten men in this Battle of the Potomac. Thousands of these highly-skilled and battle-wise airmen, however proud of the service to which they belong, are fearful that their policy-making superiors, in their stubborn but futile fight, will let the true merits of Naval aviation go down with the ship.

These airmen within a Navy, aware that their full capabilities are not being utilized for airpower, and gagged by official decree, sit silently behind the scenes, experiencing the same frustrations once felt by an airman within an Army—an airman named Billy Mitchell.



THE BREEZE

Voice in the Wilderness

The statements above are those of a regular Navy officer named Commander Allen M. Shinn. They were written in mid-1947, at the time unification of the armed services was still being debated in Congress, and while he was in command of Carrier Air Groups, Fifth Naval District, Hampton Roads, Va.

These statements are contained in a 9000-word document by Commander Shinn titled "A Discussion of Some Important Factors Which Make an All-Inclusive United States Air Force a Necessity to National Defense." It was written in response to a bold and highly laudable general message from the Secretary of the Navy (then James V. Forrestal) dated June 21, 1947, which invited Navy personnel to "speak their minds" on the then pending Unification Act. Commander Shinn, seizing this opportunity to have the case of Navy airmen heard, forwarded his report through channels to the Secretary of the Navy and circulated mimeographed copies of the document to key members of Congress.

AIR FORCE published portions of this hushed-up document (May 1948) that dealt principally with the status of naval airmen. We now publish other portions that seem pertinent to current budgetary discussions. We do so in the earnest belief that Commander Shinn's views merit national attention. And we repeat our statement of last May that we have not communicated with Commander Shinn or with anyone who knows him; we again express the hope that his superiors will make no mistake about that.

Dollars and Cents

In his brilliant and forceful plea for a single air force "composed in proportionate proportion of Army, Navy, Marine and Coast Guard airmen," Commander Shinn presented this section on the economic aspects:

"Economy in overall military expenditures, especially in peacetime, can be achieved only if the United States military aeronautical effort is efficiently organized and administered.

"The universally acknowledged importance of airpower, together with the fact that airpower must be instantly ready to strike or defend, clearly indicates that airpower will absorb a very large part of the nation's peacetime military budget.

"Army ground forces cannot immediately go into action on a mass 'total-war' basis (unless your country *plans* aggression) any more than they did in

the last war. As the Air Age advances the same becomes more and more true of the surface Navy.

"But airpower must be kept instantly ready; the initial air actions in any future war may well be the actions which decide victory or defeat. If airpower be not instantly ready to defend and counter-attack, ground forces and surface seapower will probably never have the opportunity to get into action. If, on the other hand, airpower can successfully gain the upper hand at the outset, ample time will be afforded to develop such surface seapower and Army ground forces as the nation may require in order to achieve its desired objectives.

"If inter-service rivalry in the field of airpower be not eliminated there is very small chance of effecting substantial economies in peacetime military expenditures. It will serve the cause of economy very little, if at all, to eliminate duplication of effort and inter-service rivalry in all fields except the most important to the nation, not only in terms of national security but also in terms of peacetime cost.

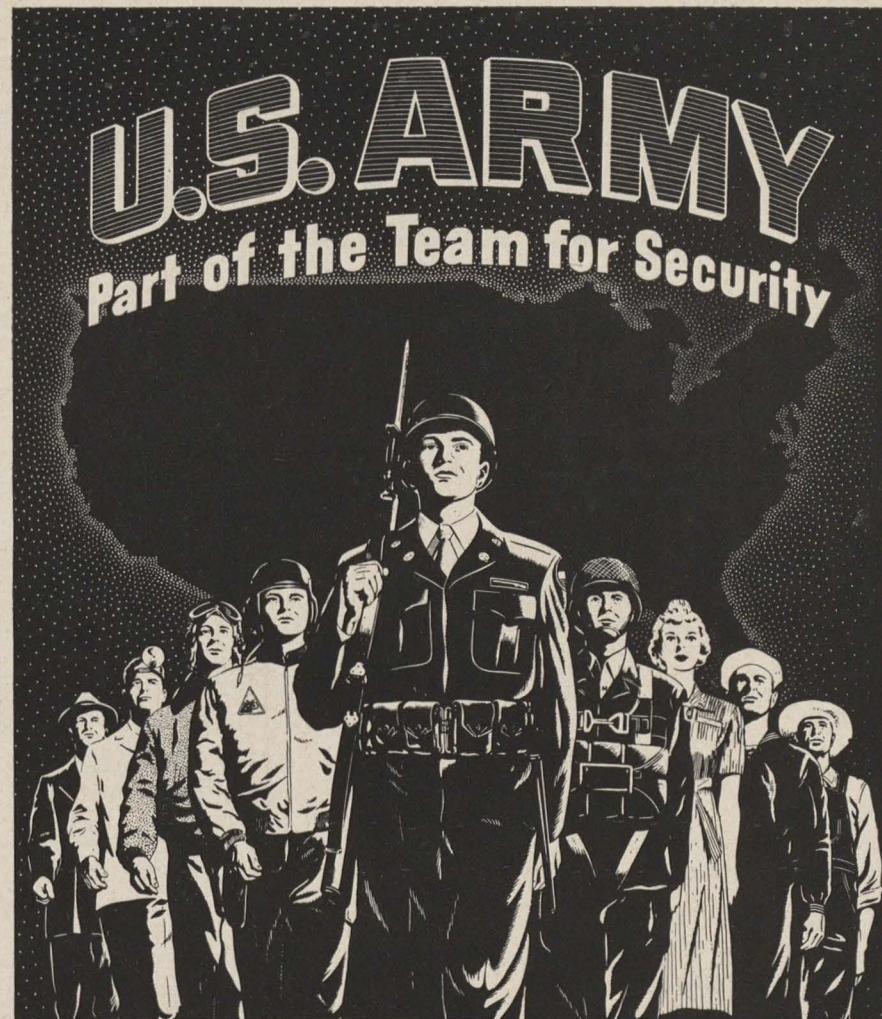
"The creation of a truly national, unified Air Force, composed at the outset of all phases of United States military aviation, in order to eliminate inter-departmental strife, rivalry and competition for aviation appropriations is the only possible course open to Congress which will lead to substantial economies in the field of military expenditures. Retention of airpower in two separate agencies, as provided for in the merger bill currently being considered in Congress, will prevent any substantial economy in overall military appropriations, no matter what other desirable ends it may achieve."

Points of View

Navy airmen, it must be remembered, approach the single air force question in their own way. Commander Shinn explained that substantial appropriations for naval aviation would be obtained "only by ever-increasing effort and against ever-increasing opposition." And he concluded that, lacking a single air force, "The end result will be a gradual but sure withering away of the naval aeronautical organization, probably before naval aviation has outlived its usefulness to the nation, with possibly dangerous decrease of national security." Thinking ahead a few more years, he added: "To leave the naval aeronautical organization under naval control is to perpetuate interservice rivalry, merely in order to maintain what will then be the status quo, even though in those future years the usefulness of naval aviation may largely have been outlived."

At the same time, Commander Shinn expressed his strong belief in "three broad divisions of military effort delineated by medium of movement—land, sea and air."

Thus it is that airmen, land- and sea-based, with different take-off points, arrive at the same objective: a single, unified, national air establishment. J.H.S.



There will be many parades this Army Day.

In them march the many professional Army men and women—the career soldiers and WAC's—who find richly rewarding lives serving the cause of Peace. The Air Force salutes them.

Along with the Airman,

the Sailor, the Scientist, the Citizen, they are part of our greatest team: our national Armed Forces.

A team with a tremendous task.

Working together, the members of this team will get the job done.

They will win the peace!

ARMY DAY

APRIL 6

AIR MAIL

Brick Bat Dept.

Gentlemen: After reading *Tech Talk* (February), it appears that there is still some confusion regarding knots (a measurement per speed) and knots per hour (a measurement of acceleration). It would appear that the article is concerned with speed, so knots should be used throughout. The new airspeed indicators are calibrated in knots and not KPH. Incidentally, to keep the record straight, the new instrument referred to in the same paragraph has a range of 50 to 650 knots, does not indicate mach number, but airspeed corresponding to preset mach number (from .6 to 1.0) at altitudes from 0 to 50,000 feet.

Richard Munnikhuyzen
Osborn, Ohio



Gentlemen: . . . It is a common error, particularly infuriating to navigators . . . The English statute mile of 5280 feet is a meaningless figure and should have been abandoned long ago. The nautical mile, on the other hand, is equal to a minute of latitude, or 1/21,600 of the earth's circumference. (For the moment we'll forget that the earth is an oblate spheroid, OK fellows?) Distances in nautical miles can be measured right off the latitude scale, and no special distance scale or plotting instrument is needed.

Alfred D. Berger
New York, N. Y.

Gentlemen: . . . Knots per hour is a unit of acceleration, not a unit of velocity.

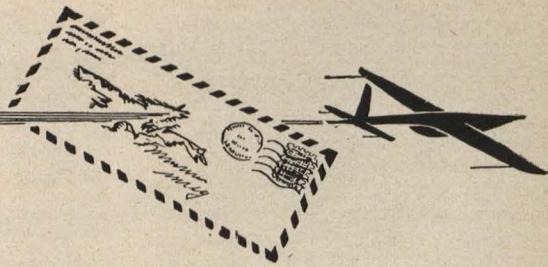
T/Sgt. F. R. Parr
Hamilton Fld., Calif.

Gentlemen: . . . You suggest that Air Force pilots brush up on new airspeed calculation in knots. Might suggest you brush up on Navy terminology.

T/5 L. S. Moore
Quitman, Ga.

Gentlemen: . . . Knots per hour becomes nautical miles per hour per hour—or in a few words—just so much gibberish. Let's have a bit of editing on such contributions.

John Edwards
Hackensack, N. J.



Gentlemen: . . . my navigation instructors at Mather Field used to dress us down good for using the term.

Capt. Ralph D. McKee
Stillwater, Okla.

Gentlemen: . . . Is your *Tech Talk* editor, Douglas J. Ingells ignorant or just careless?

F. B. Withington
So. Byfield, Mass.

Gentlemen: . . . A knot, to quote Mr. Webster fully, is a unit of speed, equivalent to one nautical mile or 6080.20 feet an hour.

Walter Epstein
New York, N. Y.

Gentlemen: . . . It is either nautical miles per hour or just knots; and so to you, knots.

Robert H. Doolan
Cincinnati, Ohio

Gentlemen: I was taught in Navigation School that there is no such thing as knots per hour.

Charles H. McKinney
Chattanooga, Tenn.

• Sorry. But that's what happens when you read proof at 60 knots per hour.
—ED.

Cold Reception

Gentlemen: Your article "Twelve Cold Little Indians" in the February issue was coldly received. The frigidity of this reception is due entirely to your complete failure to recognize the gallant efforts expended in both the Stewart River rescue of six men and the unfortunate failures of the numerous pickup attempts during the Greenland incident by the Alaskan Air Command's crack 10th Rescue Squadron. The regrettable failure of the 10th's C-54 glider rescue team during the Green-



land episode is no reflection on the creditable ability of this organization.

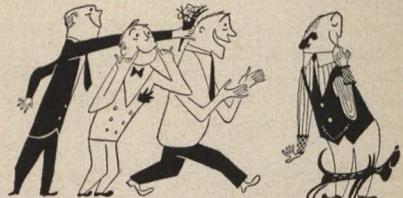
Joseph E. O'Bryan
Dayton, Ohio

• That's exactly what we thought we did. But we still think there is room for improvement in the technique of Arctic rescue.—ED.

Bouquet Dept.

Gentlemen: Enclosed please find my check to renew my membership in the Association and subscription to *AIR FORCE*. By way of enthusiastic and appreciative comment, the February issue is the best yet. It is organized and written for pleasant informative reading. I am proud to be a member of the Air Force Association.

Ted V. Grainge
Hyattsville, Md.



Gentlemen: I would like to congratulate Charlotte Knight for the article "Forgotten Joes" which appeared in the January issue of *AIR FORCE*. Having once served in the 13th AF in the Philippines after VJ-Day. I know that the conditions in which the GIs are living are very bad. Yes, it is hard to convince them that the US is behind the job they're doing.

Harry A. Stokes
Oquawka, Ill.

Gentlemen: I believe the magazine is a publication no airman should be without, and also believe in the Air Force Association and the fine things it has done in the past, and certainly will continue to do.

Tony J. Mauro
New Haven, Conn.

Gentlemen: I should like very much to renew my subscription to *AIR FORCE* magazine and membership in the Air Force Association, particularly inasmuch as I am sincerely interested in the part the Air Force must play in furnishing security for our future generations and the concepts which every American must strive to protect—American freedom and independence.

Arthur B. Jopson, Jr.
Roslyn, Pa.

Gentlemen: I am aware of the fact that we should all be up to date on air power. That is one reason for the renewal of my subscription. Another reason is that *AIR FORCE* magazine has all the latest and newest information concerning the types of airplanes which will be used in the future.

George Wobst
San Francisco, Calif.

These businesses reached new sales "highs"
...with company-owned Bonanzas



"We sell real estate all over Florida," says B. L. Mitchell of the Keyes Company, Miami. "We think using our 4-place Bonanza has added several million dollars to sales volume. Recently,

two prospects wanted to make a good property investment. We flew them in comfort 250 miles to inspect a desirable site, and they bought. No waste time for them—profit for us."



"I personally supervise scattered construction projects," says W. H. Koenig, Chicago general contractor, "and can't afford to wait on transportation schedules. With my Bonanza, my workday on projects several hundred miles distant is no longer than spent on local jobs. It's important to a family man to make it home for dinner, and now it's always possible."

Apply Bonanza Transportation to your business

Company ownership of this fast, quiet plane turns travel days into travel *hours*—time saved you can put to *profitable* use. Investigate! A note on your company letterhead will bring an informative 60-page brochure on "The Air Fleet of American Business." Write today to Beech Aircraft Corporation, Wichita, Kansas, U.S.A.

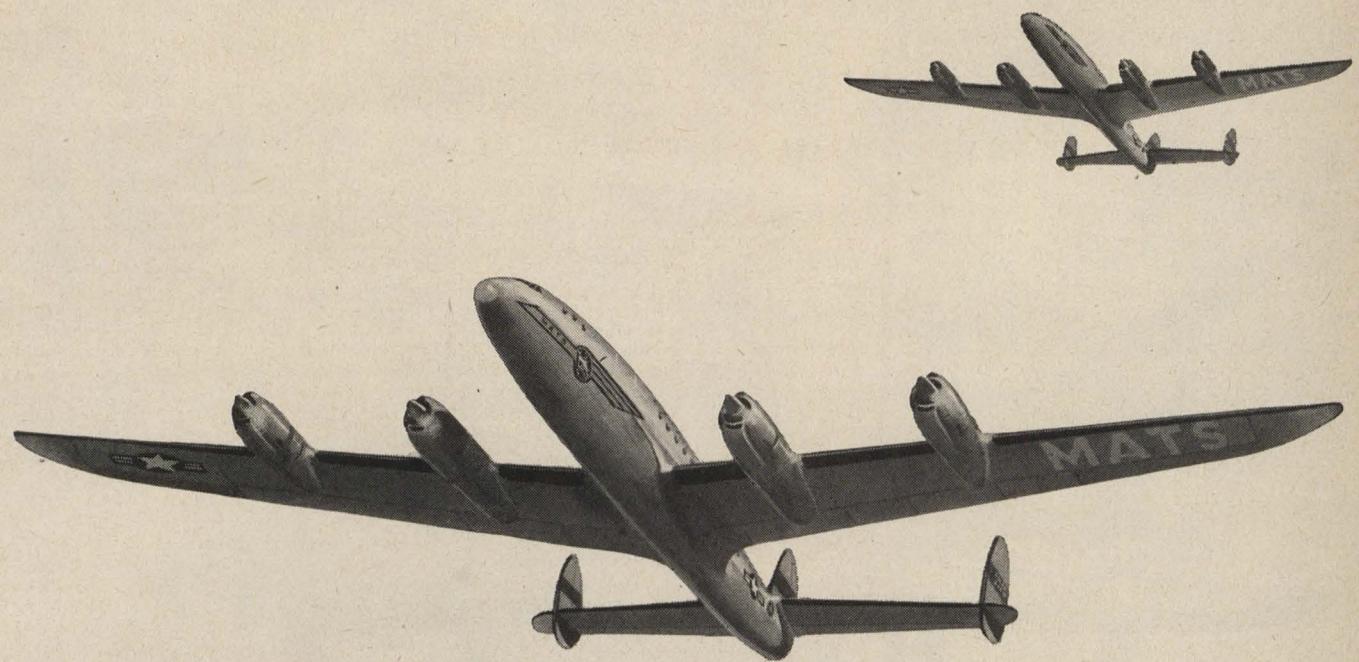


"Our Bonanza long ago paid for itself in executive time saved alone. Much additional business has been gained through a sales force that 'flies,'" says George Lee, president of Red Devil Tools, Irvington, N.J. We keep in *personal* touch with distant factories and markets, now that travel time is cut two-thirds—by Bonanza. Pennies-per-mile operating cost!"

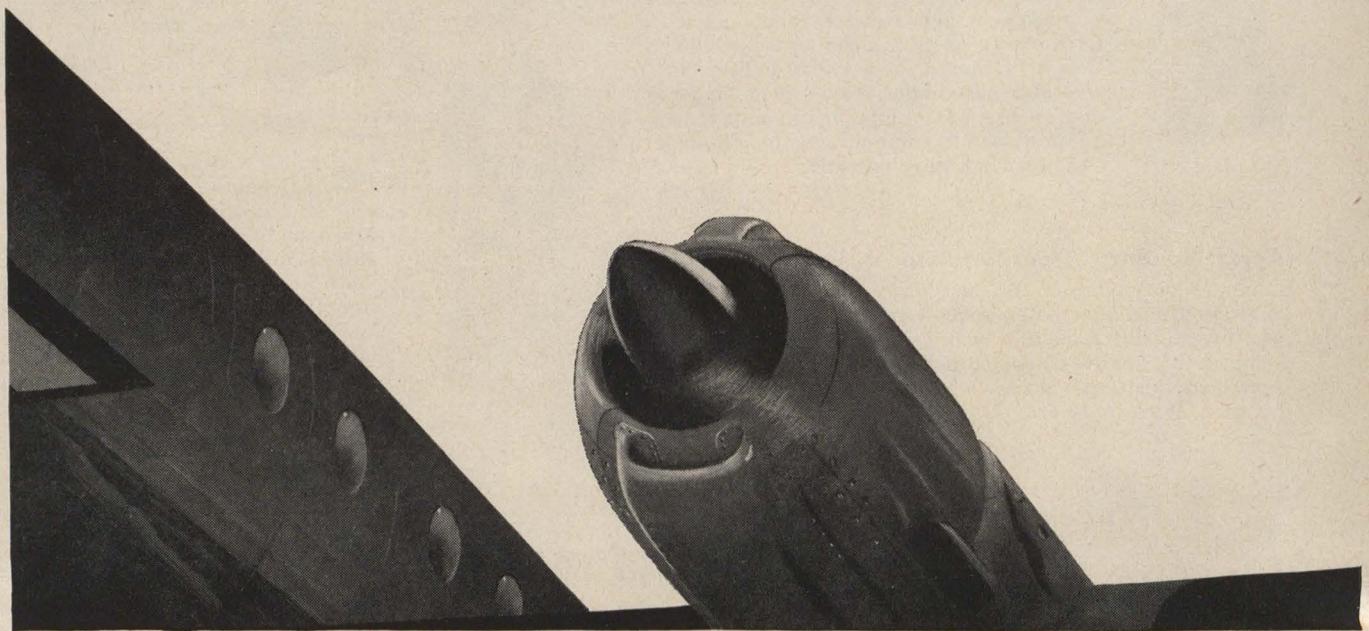
Top speed, 184 mph
 Cruising speed, 170 mph
 Range, 750 miles

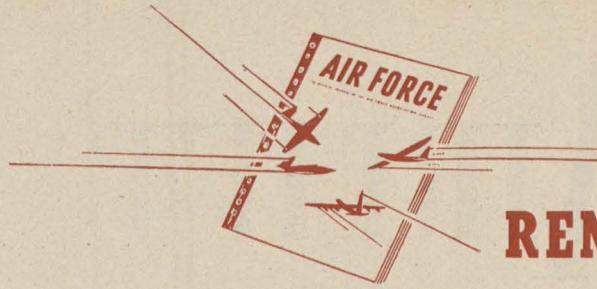
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BONANZA
 MODEL A35

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RENDEZVOUS

Where the Gang gets together

SWAP SHOP: May I make an appeal to your readers who may have back copies of AIR FORCE magazine? In return I can offer back numbers of *The Aeroplane*, *The Aeroplane Spotter*, and a few copies of *Flight*, three British aviation magazines. *H. B. Cottee, 43 Cliff Rd., Leigh-on-Sea, Essex, England.*

SPENCE FIELD STRAYS: Desire very much to contact some of my pals; any information regarding the following will be greatly appreciated: Lt. J. F. R. Scott, Jr., and his father Col. J. F. R. Scott; Lt. Miles P. Johnson, usually called "Snarky"; Lt. H. C. Ross; Lt. Henry D. Van Arsdell, a jug pilot from Pawnee, Okla., trained at Seymour-Johnson Field. *Roy Bruce Strayhorn, 2607 Rochelle St., Durham, N. C.*

WAC ROUND ROBIN: Desire to get in touch with former Wacs of Herington, Kan., who were stationed there in 1943-1945: Sgts. McCorkle, Davy, McMullen, Smith, Kellett, Anger, Cpl. Austin, our CO, Lt. Scallion, and all others of our squadron. Am interested in starting round-robin correspondence so that we may learn what has happened to each other since leaving the service. *Helene M. Clark, 375 Mix Ave., Columbus 4, Ohio.*

THE 8TH AT COGNAC: I am writing in hopes of obtaining some pictures which were taken of me and Maj. Gen. Anderson of the 8th Air Force at French field headquarters near Cognac, France, on or about April 18, 1945. They were taken by a 2nd lieutenant artillery observer and also by an AAF photographer. I had just returned from a jump behind enemy lines and would very much

like to have these pictures. *E. Paul Robbins, 101 School St., New Bedford, Mass.*

FRANCE OR GEORGIA: I am trying to locate Robert L. Pittard. We were stationed together in France with the 644th Bomb Sq., 410th Bomb Gp. (L). His home was in Atlanta, Ga., but he may have returned to France to go to school. *Robert A. Surratt, 1609 Dial Court, Springfield, Ill.*

LOOKING GOOD & CO.: Would like to hear from the old gang of the 409th Bomb Gp., returned to the States in June 1945 from France. Some of my buddies were "Looking Good" Kantor, Ralph Burge, Oklahoma Shuway, Harry Zeitlan, and Edward Schwartzreich. *Walter W. Restler, 2492 Devoe Terrace, Bronx 63, N. Y.*

NOT PROUD: Am anxious to contact any former members of the 28th Troop Carrier Sq. who were with the outfit while we were stationed in Bredilis or Naples. Would like very much to have any extra pictures or negatives of our squadron or group activity. Will answer all letters. *Mickey (Lover-Boy) McLean, 1709 South 3rd St., Abilene, Texas.*

DEPOT REPAIR: Need the names and addresses of all men who were at any time assigned to the 42nd Depot Repair Sq. in order to plan for a reunion. Any suggestions will be welcome. A roster of names and addresses will be furnished each man upon request when the list is completed. *Jack Dewey Helms, 600 No. West Ave., El Dorado, Ark.*

TOPO REUNION: Would like to contact as many of the boys as possible to

make arrangements for a reunion of members of the 942nd Engineer Aviation Topographical Battalion. *John J. McGee, Jr., 112 S. Highland Rd., Springfield, Del. County, Pa.*

CLAIM: I am seeking a Major Forman who was or still is attached to the Medical Corps. He was assigned to the AAF as chief psychiatrist at the Buckingham Army Air Base, Ft. Myers, Fla., in 1944. This is in reference to a claim. *Michael E. Walsh, 7 Parsonage St., Baldwin, L. I., N. Y.*

MIA: Can any of your readers give me information about my son, Sgt. Ronald J. Hankins, Hq. Co. 853rd Engineer Aviation Battalion. He was last reported on shipboard in the Mediterranean on November 27, 1943. *Mrs. Robbie Kiblinger, Ash Grove, Mo.*

RETURN ENGAGEMENT: Sometime ago I wrote to *Rendezvous* and asked the fellows if they had pictures of Capri and if so, to write me. The response was wonderful. Now again I am asking for pictures. If any one has air or ground pictures of the 449th at Grottaglie, Italy, I would like to have them, also 717th Sq. *Louis Wagman, 5131 No. 30th St., Omaha, Neb.*

OLDTIMER: Would appreciate information about ex-M/Sgt. Joseph Kranberg, an armament chief. I first knew him in Salt Lake City; later we were in the same outfit at Dyersburg, Tenn., the 346th Bomb Gp. (H). He served in the 11th AF, and I believe he lived somewhere around West Monroe, La. He may be retired now as he had about 27 years' service when I knew him. *Howard F. Sallade, 75 Pearl Ave., Oil City, Pa.*


This is the U.S. Air Force version of the famous Lockheed Constellation. Tried and proven in 4,000 million passenger miles on the world's commercial air routes, the swift Constellation has been made available to the Military Air Transport Service (MATS) for the more important flying tasks of the all-important science of logistics.

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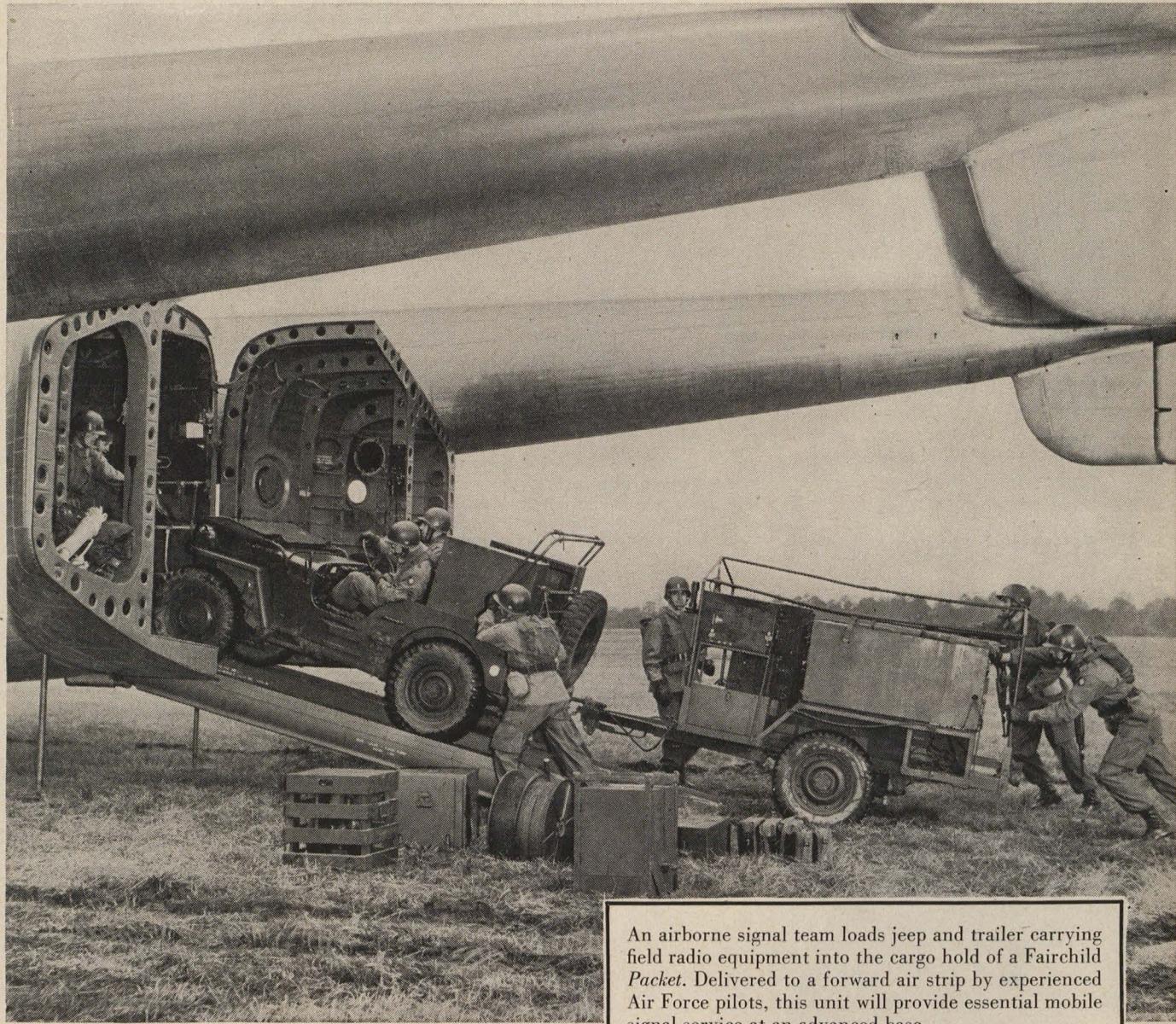


LOOKING FOR SOMEONE? ANY ANNOUNCEMENTS TO MAKE? WRITE
RENDEZVOUS AND RENDEZVOUS READERS WILL WRITE YOU.

AIRLIFT

National security depends largely upon the full use of air power in all its phases. One vital operation is airlift—dramatically pointed up by the air supply of Berlin and more recently by food-rescue missions in the snowbound areas of the West.

Fairchild has developed and produced cargo and troop transports designed for airlift. The C-119 *Packet*, soon to succeed the C-82 *Packet*, will further demonstrate the ability of the aircraft industry to meet the requirements of modern airlift tactics.



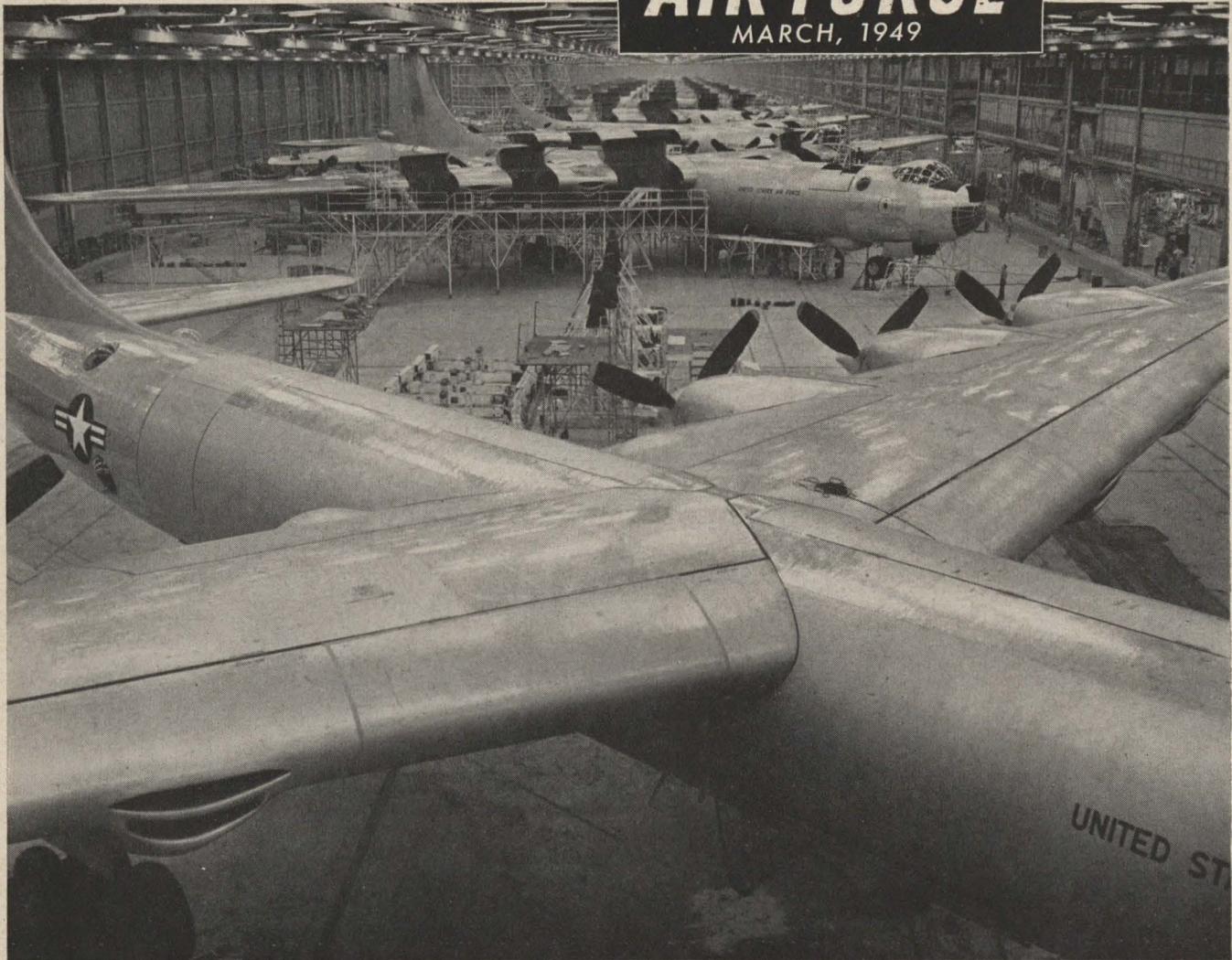
An airborne signal team loads jeep and trailer carrying field radio equipment into the cargo hold of a Fairchild *Packet*. Delivered to a forward air strip by experienced Air Force pilots, this unit will provide essential mobile signal service at an advanced base.

FAIRCHILD

Divisions: Fairchild Aircraft, Hagerstown, Md.

Fairchild Pilotless Plane, Farmingdale, N. Y. • Al-Fin, Farmingdale, N. Y. • Ranger Aircraft Engines, Farmingdale, N. Y. • Subsidiaries: Stratos Corporation, Farmingdale, N. Y. • Nepa, Oak Ridge, Tenn. • Fairchild Personal Planes, Strother Field, Kansas • Duramold Aircraft Corporation, New York 20, N. Y.

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



Twenty-two million dollars worth of US airpower works its way down the production line at Convair's Ft. Worth plant.

Exposing the Milk Wagon Myth

Never since strategic bombing was first conceived has one plane shouldered as much abuse as the mamouth B-36. How much of the criticism is really justified?

Last January, after the Presidential inauguration, one of the nation's largest newspapers had a story about the flight of Consolidated B-36s that flew up from Fort Worth to lead the aerial parade down Pennsylvania Avenue. Of the ten planes that took off, said the paper, five reached the Capitol. Fifty percent of the mission aborted before it reached the target.

Then last month, after the Congressional Air Show in Washington, there was another story—not quite so bad, but just about. Eighteen planes, said this account, took off from their base in Texas. Seventeen got to Washington OK, but three konked out on the way home.

In both instances the reports were inexcusable distortions of the truth. In the first case the facts were these. The 8th Air Force had been told to put not more than six planes over the inauguration ceremonies. As any good commander will do when he has more planes available than are called for in a given mission, General Roger C. Ramey, the 8th's boss, put a reserve in standby status—in this case, four ships, or ten in all. Six took to the air. One didn't make it because of minor difficulties.

In the other case, the facts were these. Eighteen planes *did* take off for the air show. On the way up one was struck by lightning and, although not seriously damaged, turned back for inspection—just to be safe. Of the three that “konked out” on the homeward leg, one set down at Perrin Field in Texas because the fuel gauges were acting up and the plane commander didn't want to continue without definite knowledge of his gas supply. Another landed at Wright-Patterson because of minor electrical trouble, and the third came in at Maxwell because it was getting low on oil. But here's the point. Had conditions warranted it—had it been a combat mission—not one of those planes would have had to leave formation. In peacetime you just don't risk two and a half million dollars worth of equipment when it isn't necessary.

But the fact that these stories were inaccurate is important only in that they serve to illustrate a point. And that is this: Never since 1937 when the Air Force got on its knees to Congress for a small B-17 appropriation; never since that incredulous day when a member of Congress introduced the 1938 Military Appropriation bill with the words (and this is from

MILK WAGON CONTINUED

the Congressional Record), "I am happy to say that we carry no money in this bill for anything bigger than two-engine planes"—never since then has one plane been the subject of so much skepticism, distrust and sharpshooting as the B-36.

There's hardly a vindictive that hasn't been employed against it. It's a lumbering cow, a sitting duck, a flying milk wagon. This, in addition to the fact that it just doesn't fly good. Air Secretary Symington has characterized the campaign as the finest "hatchet job" of his experience.

Of course the B-36 has certain advantages over the B-17 in its fight for a place in the nation's arsenal. To begin with, there is somewhat less skepticism about the value of strategic bombing itself than there was in 1937-38. Then, too, money for defense is a little freer now than it was then. Even so before the thing is over, the B-36 will probably be spared none of the abuse, scorn and ridicule that was once heaped upon the 17. How much of that criticism is really justified is the subject of this article.

Any discussion of the merits or demerits of the B-36 will eventually reduce itself to these two questions: First, are we fashioning our tactics to suit a plane? Have the generals become so enamored of a piece of flying equipment—its throaty roar and the 21,000 horses at their finger tips—that they have set about to sell it to themselves and the taxpayers by rationalization? In peacetime—in the absence of the laboratory of war to prove them wrong—such a thing *could* happen. We could go a long way down the wrong road only to find our mistake when our way was challenged. It happened in France.

Or, on the other hand, is the employment of a B-36, or a plane like it, simply the next logical step in the perfection of strategic tactics that were begun with the B-17?

After that debate is settled, the next question is easy. If the philosophy is right, how about the plane itself? Is it capable, or is it a lemon?

Unfortunately, these two basic questions cannot be discussed separately. They're all wound up together. It's a case wherein you can't discuss tactics and philosophy without getting into spark plugs and electrical systems. Let's begin at the beginning.

The B-36, you will remember, was first conceived by General Hap Arnold in 1941—actually eight months before Pearl Harbor. It was envisioned as a bomber that could carry the battle of democracy to Germany even though Atlantic supply lines were broken, and even though we were denied bases in England and Africa. It was admittedly an instrument to maintain the offense while the nation was engaged in a last ditch defense; in the event we were forced to fight from Omaha and Columbus.

Most happily, that emergency never arose. We accomplished the job with 17s, 24s and 29s—planes that were

either in production or at least considerably further along in design.

As soon as it became certain that the Nazis advance would be checked in Europe itself, the red "rush" tags were removed from the B-36 project. Actually it has been only about a year since the Air Force took delivery of its first production model 36.

It isn't altogether unfair to say that the Air Force itself accepted those first planes with something less than enthusiasm, if it wasn't outright indifference. Here was a plane that was designed before the A-bomb and before jets. In every respect except size it was "conventional," and here it was making its debut at the beginning of the most radical period in military history. How could a plane built for last ditch defense be modified to become a weapon of first line offense in the atomic age?

The answer lies in the tests that have been made during the past year. Tests that have dumbfounded all observers—skeptics and enthusiasts alike. Admittedly, at low altitudes the 36 is a number of the things its critics claim. It lumbers along through dense air at speeds that make it fair prey for a P-40. Jet fighters could do a maypole dance around its 163 foot fuselage.

But make no mistake. The B-36 will never operate over enemy territory at those altitudes. It wasn't designed that way. Take it on up—up to forty or forty-five thousand feet—where military operations have never before been carried on—and amazing things happen. The lumbering cow becomes a fleet-footed gazelle. It loses none of its sea-level power. It actually gains because at that altitude the air is so thin there is far less resistance to its bulk. Yet its immense wing area gives the 36 ample support.

On the other hand, take the case of its would-be interceptors. The thinness of the air robs them of anything to shove against. And their tiny wings are scant support in the rarefied atmosphere. While their fuel consumption is less at high altitudes, their performance is best at sea level. Remember that jets are not equipped with superchargers. The bombers are. Jets will stall out at high altitudes if they indulge in anything more strenuous than the most gentle of maneuvers. When both planes are nine miles up, a B-36 actually can turn inside our best jet fighter. These are not slide-rule speculations. They have been proved in real tests.

Consider this. Suppose an enemy jet fighter approaches a B-36 head-on at 45,000 feet. Suppose the B-36 is moving at a true air-speed of 400 mph and the jet at 600, making their rate of closure 1000 mph. At that speed the fighter pilot would have to start firing before his guns were actually in range of the 36 in order to have any chance at all of hitting his target. And what a chance. The 36 would actually be in the fighter's range less than one second. The bullets would be spaced 88 feet apart, making it impossible to put more than 2 shells into the fuselage even with the most "impossible" luck. If the fighter approach is on the beam, that is if the two planes move together at right

angles to each other, the fighter's chances are even less. For in this case, the bomber moves so fast that the fighter could not possibly position himself to make a successful deflection shot because at that altitude and at those speeds he has no way of judging his own position relative to that of the B-36. Fighter pilots of the last war might ask what about the old pursuit curve? What's the matter with attacking at right angles and then turning into the target? It just can't be done anymore. The jet just won't turn that sharply without going into a stall—at 45,000 feet. The only answer is in the unlikely development of a flexible gun turret for fighters, and when you start adding that kind of weight your fighter automatically becomes a bomber itself.

So the fighters only hope at all is in attacking from behind. And based on the performance of the best jet fighters the Air Force has today, here are the odds he has to face from the rear. If the bomber maintains straight and level flight—which isn't likely—the jet can only "close" on him at 80 miles an hour. In the last war the closure speed was 200 mph, and even that was so risky the enemy gave it up. Add to this the fact that the 36 fires explosive shells from a centrally controlled cluster of ten or a dozen 20 mm cannons in its tail and you begin to get an idea of how unprofitable an attack from that quarter could be. Remember, too, that the 36 is a retreating target while the fighter is an approaching target, that is the fighter is running into the shells while the bomber is running away from them. There's a big difference as any World War II veteran will tell you.

Let it be repeated. These are not idle calculations. They have been borne out repeatedly in actual tests. Not long ago a squadron of jets was sent up to intercept a B-36 approaching a base in Florida. They were "vectored" or guided to their target by radar to avoid the completely futile prospect of having to find it by the old fashioned method of simply looking. In spite of this, not a one of the fighters made contact. When they returned to base, the pilots—and they were among the best in the Air Force stable—had an assortment of excuses. Their planes hadn't been properly serviced, they stalled out, or any one of a half dozen other things. The point was, the "lumbering cow" continued on its way unmolested. In all the many tests to date there has never been an occasion when our best jet fighters were ever able to keep the B-36 from dropping its bombs on target.

All of which should take care of the sitting duck argument.

Now what about the business of adopting a defensive weapon to an offensive purpose. Must we really reconcile ourselves to waging the next war from within our own borders right from the beginning?

The answer is no. The 36 was designed to carry TNT. But it is now regarded by the US Air Force primarily as an atomic bomber. In the event of war, the question would arise as to where to stockpile our atomic bombs.



Biggest formation ever; 3,336,000 pounds of airframe, 252,000 horsepower roars by for Presidential review.

The decision might well be that such a precious weapon should not be removed from deep within our own heartland . . . that the risk of dispersing bombs to outposts and to aircraft carriers should not be taken at least until such time as the initiative is firmly within our own hands. If this decision were made, the B-36 would then be the *only* means of getting the bomb from its warehouse to its target without intermediary layovers. Such a procedure would have little or nothing to do with

the "normal" prosecution of the war from our outposts just as we have done in the past.

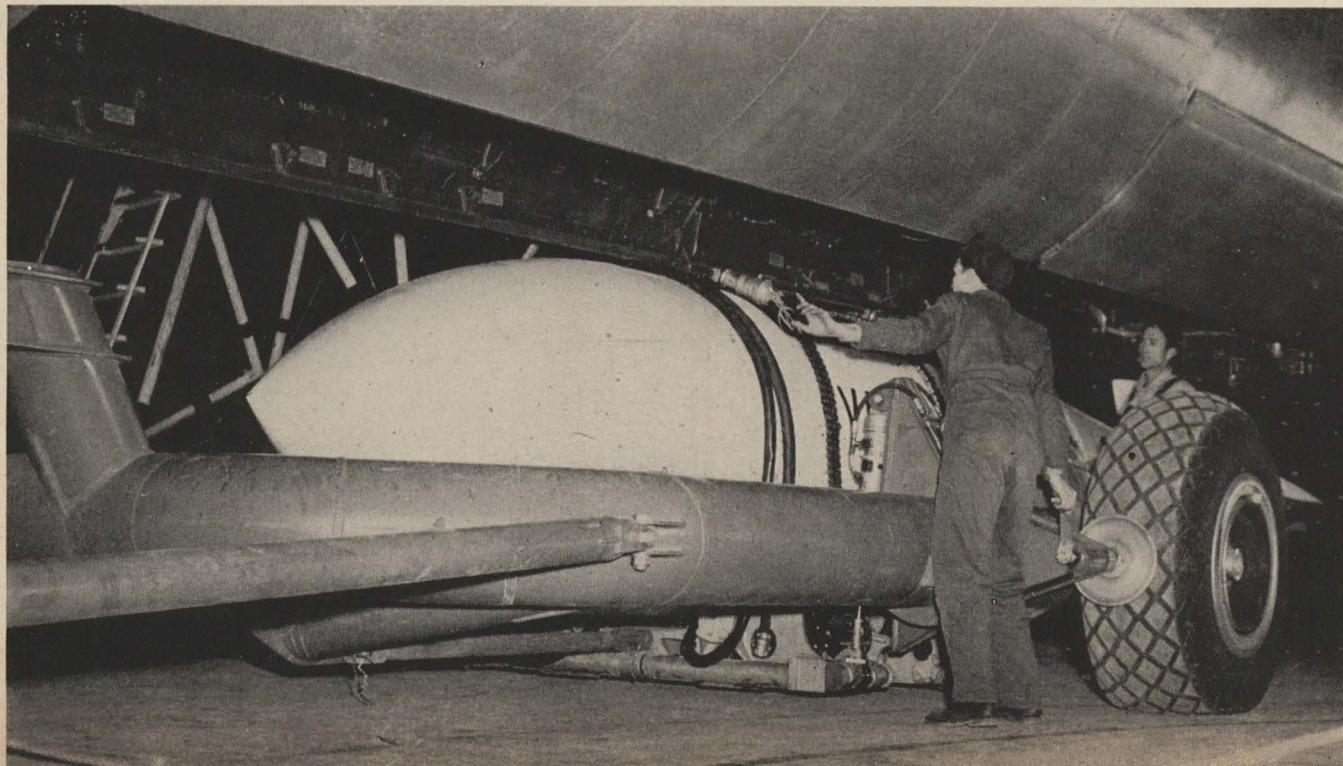
Perimeter bases would be just as important ever both from the standpoint of launching and intercepting aerial offensives. The A-bomb offensive from within our own borders would be an added punch.

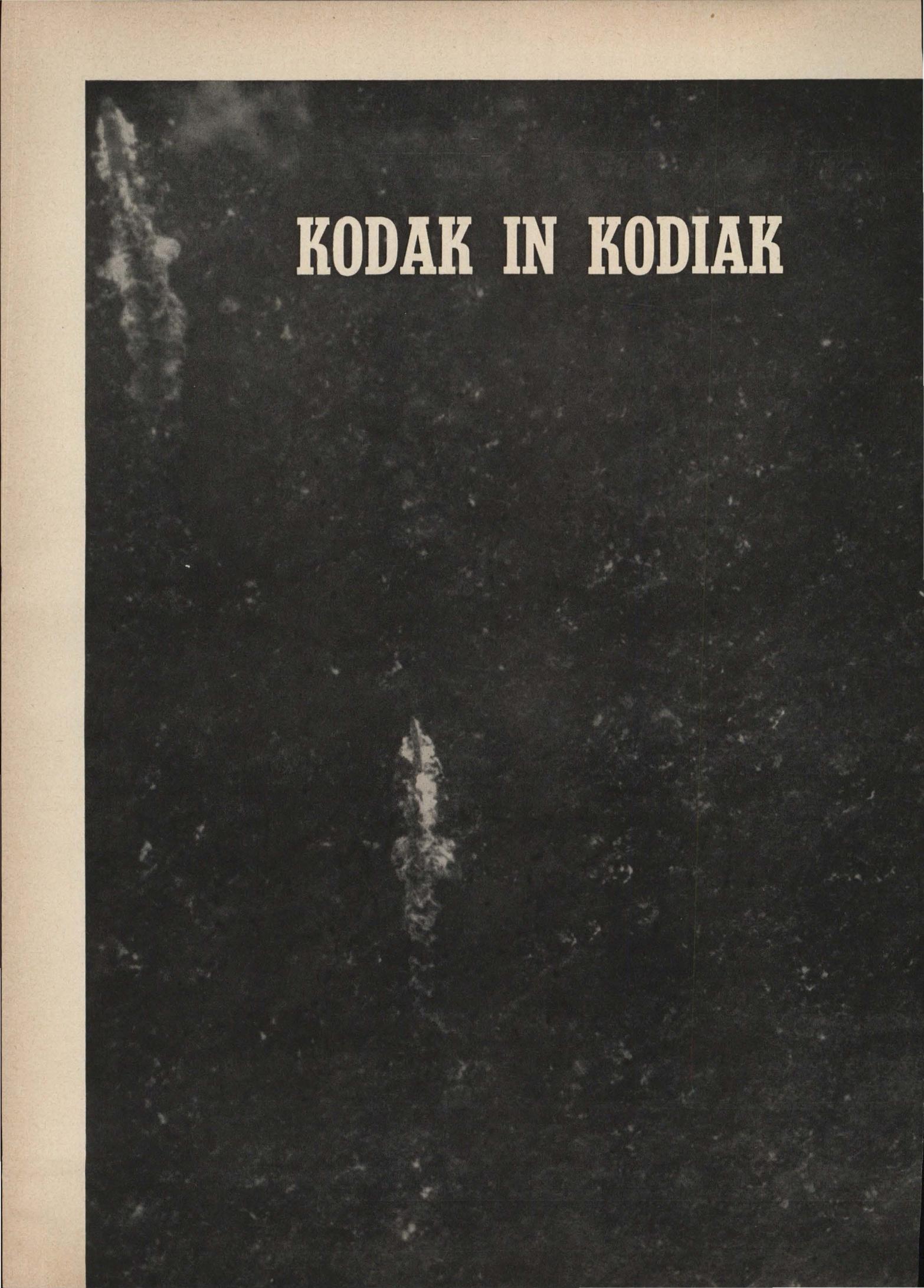
But suppose we *do* scatter the A-bombs. Suppose we are confident enough of success to stake them out around our enemy's perimeter. Wouldn't

a smaller, less expensive plane be able to do the job just as well? The Air Force says no. They had asked the same question. What they wanted, they told the designers, was a bomber built especially to carry the atomic bomb—but they wanted it to be able to do the same thing a B-36 can do. They got the design, but they had saved nothing. The plane that was drawn up for them was just as big and in fact it weighed a little more. Why? Simply because to

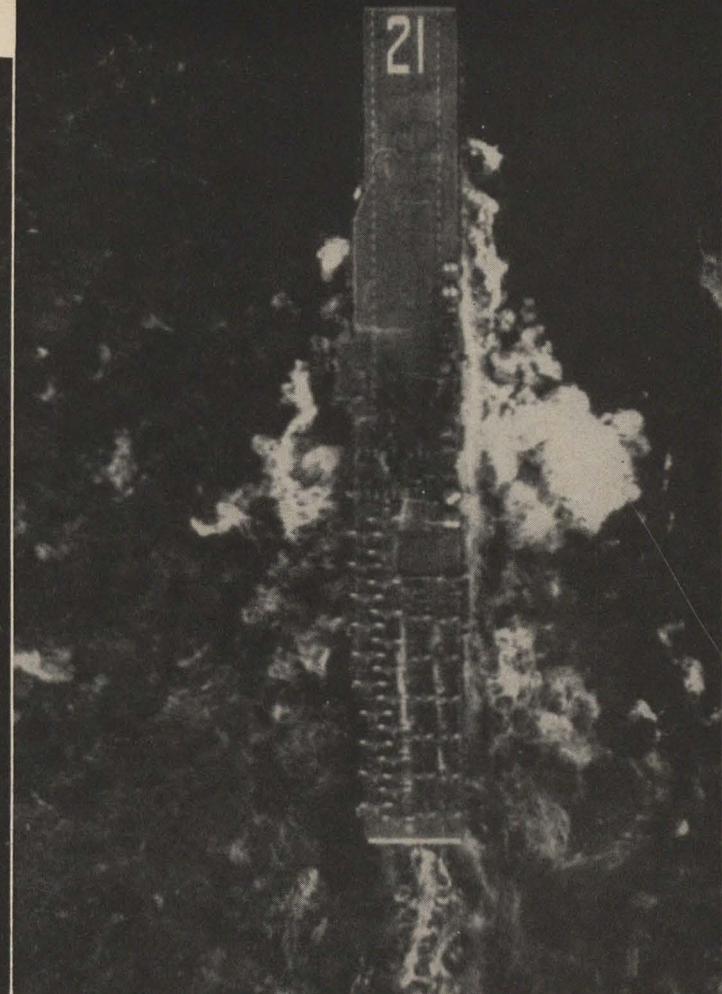
(Continued on page 47)

B-36 can carry to high altitude two 42,000-pound bombs like this one being loaded into one of giant's bomb bays.





KODAK IN KODIAK



*"I Don't Know How A B-29
Could Have Seen Us, Much
Less Knocked Us Out..."
Vice Admiral G. F. Bogan*

So spoke the admirals last month at the conclusion of the mock "Battle of Kodiak". According to them, their invasion force of nine ships had "captured" the island. Their fleet had been "untouched".

But the Air Force had a different story. The fleet, said the AF, had been intercepted by radar 250 miles southeast of Kodiak by B-29s. Twice the ships were "bombed" by instruments, and radar scope photos showed "extensive damage." Then on the third run the clouds broke unexpectedly and the boys were able to bomb visually. They claimed "severe damage" and offered pictures to prove it. The Navy found trouble refuting the evidence. There on a pitching sea (which would probably have prevented the take-off of carrier planes had there been a warning) was the plane-loaded "Boxer" (lower right and insert) an escort carrier (upper left) and two destroyers. In real war nobody would have cared much about the other ships, but the carrier—with perhaps an A-bomb or two in its hold—would have been a magnificent prize.



THE BEECH BONANZA

Brand new Philadelphia AFA Squadron gives brand new Beech Bonanza a thorough going over—finds much to praise, little to criticize

EDITOR'S NOTE: *This is another in the series of personal plane reviews conducted in cooperation with Test Teams from AFA squadrons. When a new plane comes along we select a squadron to test it. The squadron chooses a Test Team from qualified pilots, maintenance men and technicians in its ranks. We bring team and plane together at a convenient airport for test flights and inspections. Then we interrogate the team and compile the findings.*

The Test Team

The six-man team was organized by the Philadelphia Metropolitan Squadron of AFA. It consisted of the usual two pilots, two engineers and two general observers. Pilots: Henry F. Lunardi, Philadelphia, and Leonard Bray, Philadelphia; Engineers: C. Clarence Carn, Philadelphia, and Scribner Dailey, West Chester; Observers: Elizabeth W. Mackenzie, Philadelphia, and Nan F. Serpico, Philadelphia.

Pilot Lunardi is a former 15th Air Force B-24 pilot, a veteran of the actions over Ploesti, Munich, Brux, Vienna, and the other MAAF hot spots. He is now in the sales operations department of the Atlantic Refining Company, and maintains a first lieutenant's rating in the AFR.

Bray was a flying instructor for Training Command, having put in numberless hours in PTs, BTs, ATs, as well as C-46s and C-47s. He is currently a printer by profession although he maintains a commercial and instructor's ticket, as well as a radio operator's FCC card. He is also a Reserve pilot.

Of the engineers, Carn is a draftsman for Bethlehem Steel, who served as an Air Force photo lab technician during the war, while "Scrib" Dailey is an executive for the N. W. Ayer advertising agency, who flew B-17s over such targets as Marienburg, Berlin, Bremen, and the Bulge with the 8th Air Force. At odd times, Scrib was also wing and group operations officer. He holds the DFC with two clusters and the Air Medal with five, also two Presidential Citations. His wartime experiences include one bail-out and one crash landing.

For the first time since the AFA Acceptance Tests were instituted, both general observers were former AAF Wacs. Elizabeth Mackenzie was an Information and Education specialists, the NCO in charge of Convalescent Service for Southeast Training Command at Maxwell Field, Ala. She is now Assistant Secretary and Treasurer for the famed Newman Galleries. Nan Serpico was a special service corporal during the war. She is currently a secretary.

The test was conducted under the direction of Edgar S. Davis, Airport Manager of Wings Field in Ambler, Pa. During the war, Ed served as a B-24 pilot with the 464th Bomb Group, 15th Air Force, in Italy. He is an active Reservist, flying with the 464th Bomb Group in Reading, Pa.

The plane was provided by the Philadelphia Aviation Corp.

The Aircraft

The aircraft reviewed was the Beechcraft Bonanza, a four-place all-metal

low-wing monoplane, powered by a six-cylinder flat-opposed air-cooled Continental E-185-1 engine, rated at 165 hp at take-off. The Continental turns a Beech electrically controlled propeller.

The airframe is all metal, the usual bulkhead, stringer and skin structure, flush riveted throughout. Deep box sections run up between each window and on either side of the windshield providing turn-over security for all the cabin occupants.

Wings are all metal. Like the propeller, the flaps and the tricycle landing gear are electrically operated. The nose wheel on the 1949 model is steerable, with a release feature that disconnects when the landing gear is retracted. This unloads the nose wheel from the remainder of the control system when it is not in use.

One of the most characteristic features of the Bonanza is the V or butterfly tail, which reduces the usual three-element empennage to two units, thus minimizing weight, wetted area and juncture vortexes by a full third. It is as though the conventional rudder were split down the center and spread to an obtuse angle. While from within the cockpit the operation of the controls is conventional the plane's nose is raised and lowered by lifting and dropping both controls while rudder actions is accomplished by activating only one side of the control. Where simultaneous use of the elevators and rudder is required, differential action is made possible by means of a walking beam control circuit, not unlike that of the old fashioned steam ferry boat.

The Bonanza's interior was laid out



Scrib Dailey, left, veteran B-17 pilot, and Clarence Carn, another AF alumnus, check engine accessibility. On their score-card Bonanza rated high.



Ed Davis, airport manager of Wings Field, explains cockpit features to the team's two test pilots, Hank Lunardi and Leonard Bray, crouched on wing. Below, Jim Riddle, whose company made the plane available, points dipole antenna out to Nan Serpico and Bray. Inside, Lunardi checks cockpit comfort.

for maximum comfort with special stress laid on insulation from sound and vibration. There are seven layers of sound-deadening material between the outer skin of the fuselage and the interior upholstery. This insulation reduces the interior sound level at cruising speeds to about that of the ordinary automobile running at 50 or 55 mph. All seats are foam rubber, spring suspended.

The instrument panel is quite complete, a good navigational display, plus the usual engine instruments. The power group includes a tachometer plus a time recorder, manifold pressure gage, plus a cluster unit reading fuel pressure and quantity, oil temperature and pressure, ammeter and cylinder head temperature.

Full radio equipment is standard—transmitter and receiver for ranges, broadcast and marker beacon. The equipment includes an aural null loop with orientation dial on the instrument panel, and a dome-type speaker.

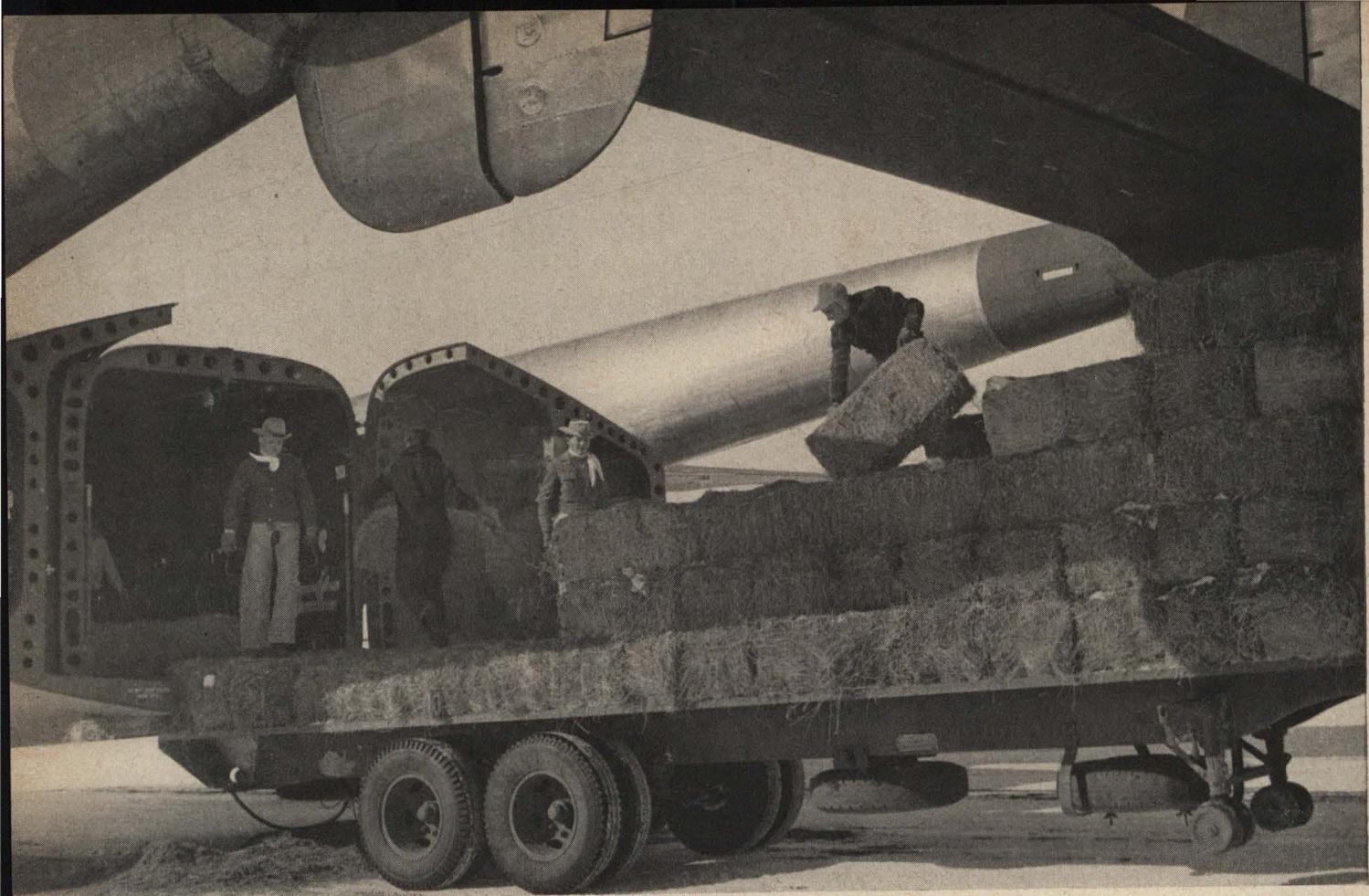
Other cabin features include ultra-violet-proof Lucite windshielding, adjustable sunshades for all seats, openable bad weather window next to the pilot, and controllable cabin ventilation, creep-proof throttles, etc.

The Bonanza has a span of 32 feet 10 inches, an overall length of 25 feet 2 inches, and stands 6 feet 6 $\frac{1}{2}$ inches high. It weighs 1580 pounds empty, carries 1070 pounds of useful load, of which 817 pounds are available for passengers and baggage. The baggage compartment has a capacity of 16.5 cubic feet. Standard fuel capacity is 39 pounds, divided into 2 tanks, located in the wings. However, if greater range is required another 20 gallon tank can be installed in the baggage compartment.

The aircraft was flown against the following claims of performance made by the Beech Aircraft Corporation: Maximum cruising speed (at 115 hp), 170

(Continued on page 48)





Men in levis and men in khaki join forces in Nevada to save the state's biggest industry. Above, a ten ton trailer backs up to discharge its cargo into a waiting Fairchild Boxcar. Below, a sergeant and a farmer wait for the "bombs away" signal from the pilot. So accurate was their bombing that on one occasion they neatly placed a load of hay smack in the middle of a corral full of cattle without injury to a single steer. One fence was broken but nobody squawked.



At 9:30 one Sunday morning last month, Col. Adriel Williams, Commanding Officer of the 62nd Troop Carrier Group at Tacoma, Wash., got a TWX from 4th Air Force Headquarters in California. In effect it said this: You are alerted to put men and equipment of the 62nd Troop Carrier on immediate standby status pending further emergency orders. Within an hour another TWX—the movement order—had arrived. Ninety-five minutes after the first alert, the first twin-engined Fairchild boxcar was on its way to Fallon, Nev., to assist in disbursing feed to cattle and sheep.

At Fallon that night Colonel Williams reduced the problem to its simplest denominator: How many tons of hay, he asked the assembled farmers, would be required to meet the emergency, and where should it be dropped. It was the same approach the Air Force had used in the war—how many tons of bombs would it take to eliminate the German oil industry, and against what factories should they be employed.

The farmers guessed it would take about 3000 tons of hay. The next morning, Monday, the first planes with bales of hay stacked at each paratrooper jump door took to the air from the icy runways. The crews had already worked out an unique “bombing” procedure. At the instant the pilot flew over the area where the feed was to be dropped (a farmer was taken along as navigator), he would flash the green jump light at the head of the cabin and the crews in back would push the feed overboard.

After the first day's operation the farmers and the Haylift pilots met in the lobby of the Ely Hotel (near Fallon) to select the next day's targets.

That was the beginning. Since then the first day's operation has been repeated every day without interruption—and, at this writing—without accident. How many head of cattle and sheep have been saved would be impossible to compute, but the figure is well into the thousands. In Nevada, livestock is the state's biggest business. More than one farmer has gratefully acceded that it has saved the industry. It has done more. It has provided an outstanding example of the integration of a military force to the needs of a civilian community in time of peace.



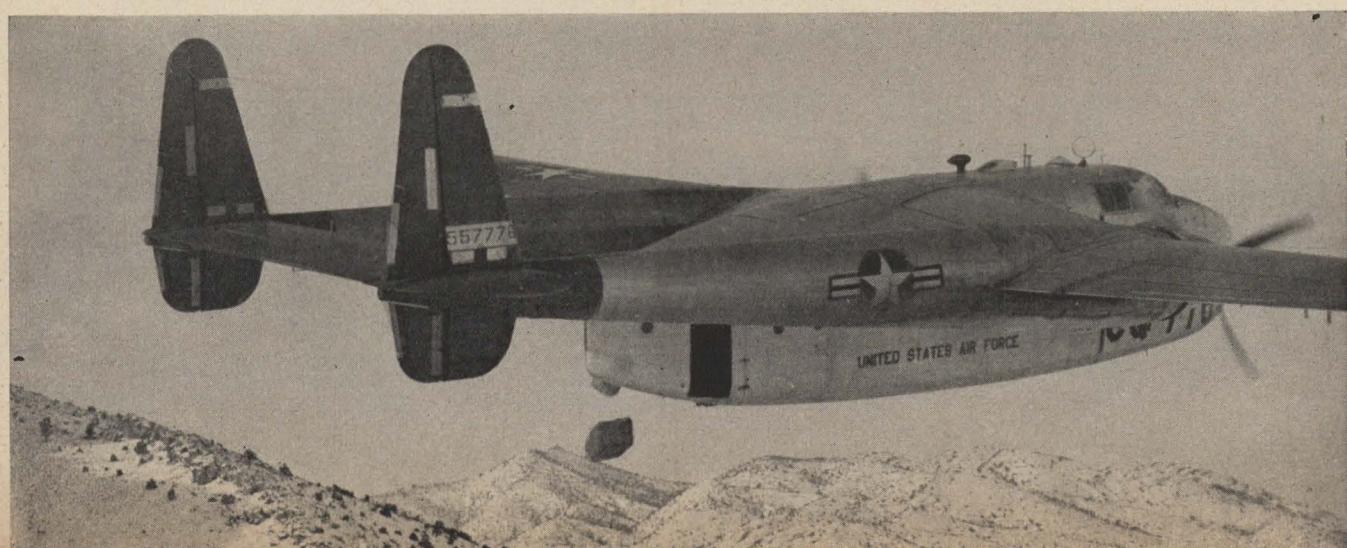
Daniel B. Clark, (second from left) Nevada rancher who helped direct the air-drop, goes over a map of the snowbound area with another rancher and Hayride pilots Lt. Col. Hadley Saehlenou and Lt. Richard Downs of Hamilton Field.



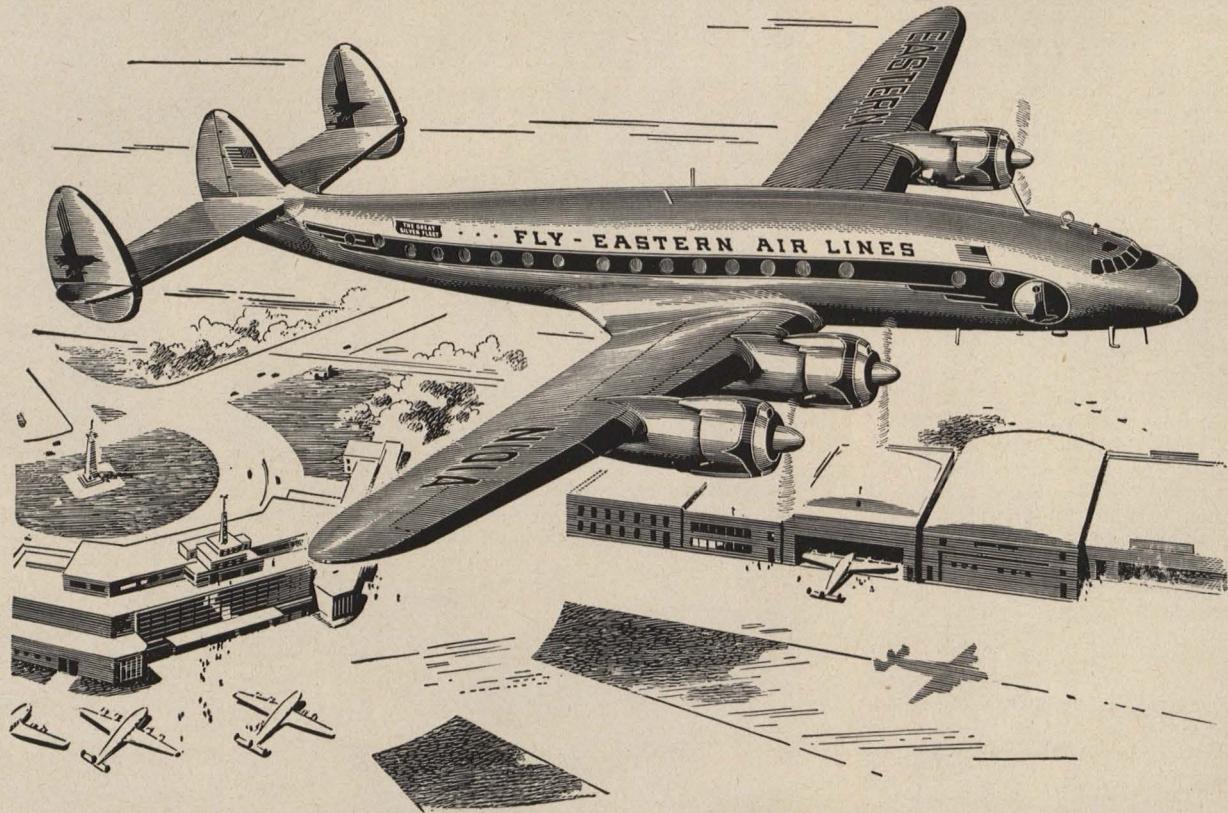
MANNA from HEAVEN

The phrase “Airpower is Peace Power” is no longer
just a slogan to the cattle farmers of Ely, Nevada

Without benefit of bombsight, a bale of hay makes its way toward a pin-point target in snow covered mountains below.



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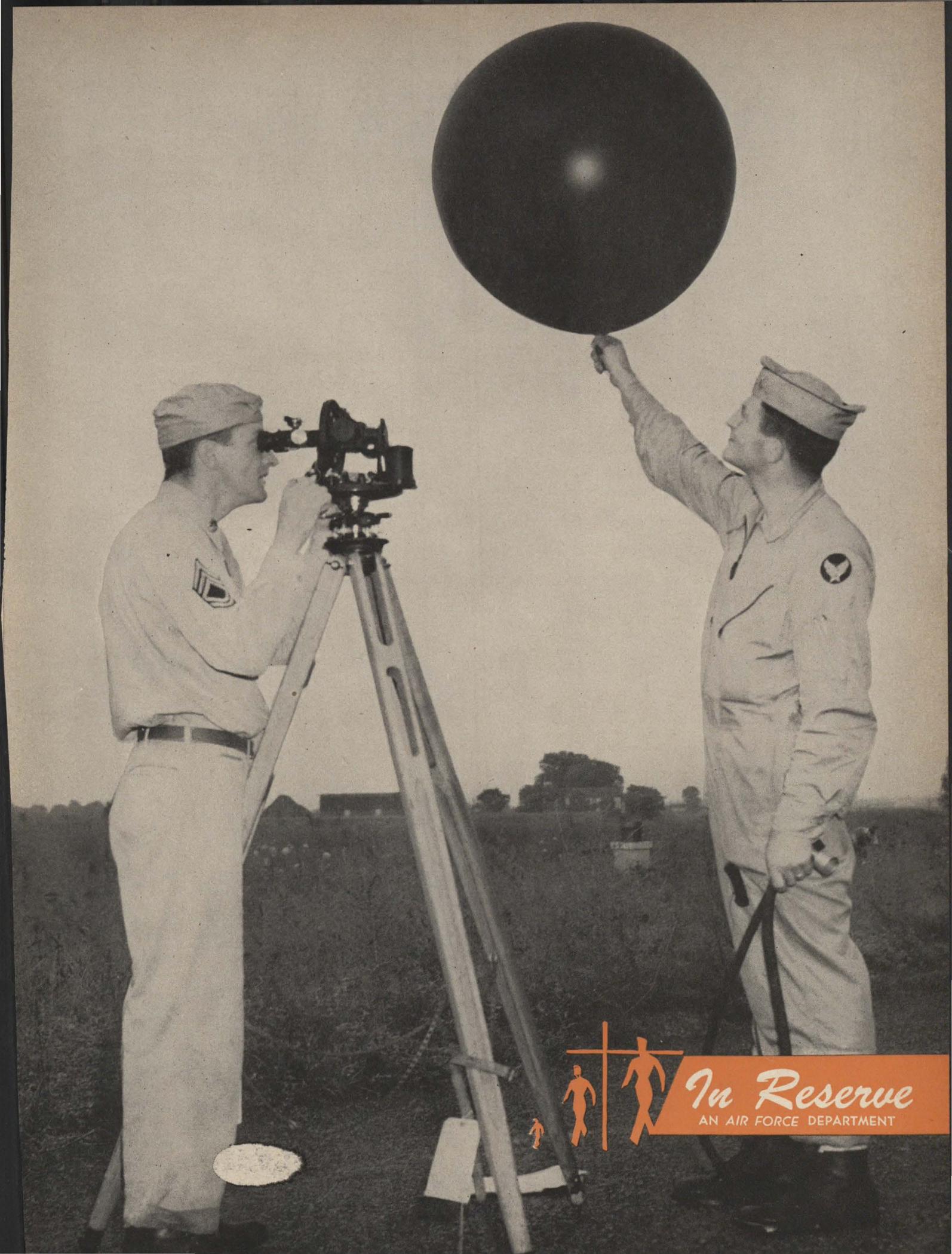
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In Reserve
AN AIR FORCE DEPARTMENT

IN RESERVE LETTERS

The SOP of AR and NG

Gentlemen: I fly between New York and Stockholm but maintain a New York address. Is it possible for me to apply for part time training to keep up my Reserve commission?

Carl S. Low
New York, N. Y.

• Extension courses can be applied for to maintain your proficiency and can be mailed to New York address, as they cannot be mailed outside the US except to Hawaii and Puerto Rico. Notify and register with the Military Attaché in Stockholm that you are receiving this material.

Gentlemen: I am a former Air Force member and did not join the Reserve when separated. I would like to know how I can go about it now.

Albert M. Bowdish
Guam

• Contact nearest Base unit to your US address and request the necessary papers for joining the Reserve. They will forward these to the military unit on Guam. They will have you complete the forms, an officer of that unit will issue the oath, and forward duplicates of your papers to the Air AGO and the numbered AF governing the Reserve training center which initiated your enlistment.

Gentlemen: I now have a 2nd lieutenant Reserve commission, and I would like to know if there is any way I can go through cadet training without resigning my commission.

B. L. Banford, Jr.
Cleveland, Ohio

• You may enroll in the Aviation Cadet program and maintain your commission. However, you will enter cadet training as an aviation cadet with cadet pay. Upon graduation, cadets receive 2nd lieutenant commissions in the Air Force, and previous time in that grade will be credited as accumulated time spent in grade.

Gentlemen: Is there any possibility of a college (aeronautical engineering) student obtaining a Reserve commission in the Air Force Reserve while still in college? After graduating?

Robert W. Henry
Auburn, Ala.

• Requirements for direct appointments in the USAFR for aeronautical engineers are covered in par 10, AFR 45-15. These requirements generally include a college degree plus one or two years practical experience in the field.



Dope on Reserve Retirement pay released by Air Force

It's been three years in coming, but at last the Air Force has issued a clarification of Reserve retirement pay qualifications. Clarification, that is, if you can class a four page AF Reg as such. Here are pertinent extracts therefrom:

Eligibility: The requirements for retirement with pay are that (a) the Reservist has attained 60 years of age; (b) the Reservist has completed a minimum of 20 years of satisfactory Federal service (not necessarily consecutive) in one or more of the Reserve components.

The last eight years of qualifying service must have been service as a member of a Reserve component, except that any member of a Reserve component of the Air Force of the US will be entitled to include service as a member of a Reserve component of the Army of the US performed on or prior to July 26, 1949.

A person who was a member of a Reserve component on or before August 15, 1945, must have performed active Federal service during one or more of the following periods: April 6, 1917, to November 11, 1918, and September 9, 1940, to December 31, 1946.

Prior to June 29, 1948, a year of satisfactory Federal service will be considered to be any 365 days, not necessarily consecutive, served (on active duty and/or) as a member of a Reserve component of the armed forces.

On and after June 29, 1948, a year of satisfactory Federal service will be any year in which a Reservist attains a minimum of 50 points. The number of points earned in a year will be computed as follows:

1. Fifteen points for being a member of the Organized or Volunteer Air Reserve, or Air National Guard.
2. One point for each authorized drill period or period of equivalent instruction. A minimum of two hours will constitute a drill period, and no more than one point will be credited in the same calendar day.
3. One point for each day of active duty.

4. One point for each rated three hours of work satisfactorily completed on Air Force Extension Courses as authorized by current Air Force directives.

5. An aggregate of 60 points maximum only will be credited for one year under (1), (2), and (4) above.

6. All earned points count in computing retired pay even though the number earned may be insufficient for the year to be a "year of satisfactory Federal service."

7. A "year," as specified in this paragraph, is defined as follows: (a) For personnel who on June 29, 1948, were members of a Reserve component of the armed forces, the "year" will be computed from June 29 of one year to June 28 of the next year, inclusive." (b) For persons who enter or re-enter the service after June 29, 1948, the "anniversary" will be the date of such entry or re-entry. Renewal of a com-

mission or re-enlistment will not constitute re-entry if such re-appointment or re-enlistment takes place without a break in service.

The minimum number of years of satisfactory service for retirement on attaining the age of 60 will be computed by adding the number of years specified above.

The number of points attained for service prior to June 29, 1948, will be computed by adding (a) The total number of days of active Federal duty (to include active duty for training). (b) The number of days spent as a member of a Reserve component *other than active duty*, divided by 365 and multiplied by 50.

The number of points attained for service on and after June 29, 1948, will be computed by adding all points earned by years, as described above.

Method of computing for retirement pay is as follows: The number of points obtained (above) will be added. The sum obtained will be divided by 360. The quotient thus obtained will be multiplied by a $\frac{1}{2}$ percent.

The percentage thus obtained will be multiplied by the annual base and longevity pay which the individual would receive if serving at the time granted such pay on active duty in the highest grade (temporary or permanent) satisfactorily held by him during his entire period of service. Annual rate for retirement will not exceed 75 percent of stated active duty pay.

NG has place for 700 pilots

The National Guard has announced that it has openings for approximately 700 additional pilots to fly observation and liaison planes assigned to Army units.

Former qualified Air Force, Navy and Marine pilots and ex-Army Ground Forces liaison pilots are invited to apply. Non-flyers meeting the necessary qualifications may be chosen for pilot training under the program.

Successful applicants will be commissioned in grades from first lieutenant to major, according to Table of Organization vacancies, and will be authorized a minimum of 100 hours' flying time a year in the new L-17s, the 4-seated Navions, and L-16s.

Former Air Force, Navy and Marine pilots may qualify as liaison pilots by appearing before State aeronautical rating boards.

Ex-Army Ground Forces liaison pilots may be commissioned in the Guard simply by having their rating re-validated through the Chief of the National Guard Bureau and by meeting the usual requirements for Federal recognition.

Non-flying applicants may qualify by taking an eight-month course which includes five and one half months at the US Air Force Liaison Pilot School, San Marcos, Texas, and thirteen weeks of operational training at the Artillery School, Fort Sill, Okla.

Those interested should apply to The Adjutant General of their state.

"NARROW MINDED . . ."



AIR FORCE ASSOCIATION

SQUADRON NUMBER 1

AKRON, OHIO

AKRON AIRPORT MUNICIPAL
PHONE STADIUM 1211

August 6, 1948.

Editor and Chief, Air Force Magazine,
185 Madison Avenue,
New York City,
New York.

SUBJECT: Air Force Reserve Officers who are serving as enlisted men in
the Regular Air Force.

Dear Sir:

Please focus your attention on the extreme discrimination and unfair betrayal that is recognizable in the treatment of the proficient pilots who, as an attraction to encourage them to re-enlist, were given a promise that they would be able to fly. United States Air Force letter # 35-39, dated 23 June 48 specifically prohibits participation in flying of Air Force Reserve Officers, serving as enlisted men. To train these pilots costs the tax payers over five hundred million dollars (\$ 500,000,000). The aviation "know-how" at these men's finger tips is incalculable.

Why pour this investment down the drain? Is it necessary?

Could this regulation be a result of continued narrow minded views towards the officer-enlisted man relationship?

An investigation is imperative.

KEEP 'EM FLYING NOW MORE THAN EVER BEFORE!

Sincerely,

James M. Elliott

James M. Elliott,
Commander,
Akron Squadron # 1,
Akron, Ohio.

Editor's Note: The number of letters we receive on matters pertaining to the Reserve forces continues to mount. Many of them are of concern only to the individual writer. Is he eligible for a Reserve commission? How about re-enlisting with a disability? Many of them, however, like the one reproduced here, are of broader interest. They are of vital concern to many people and, in a way, to the success of the Reserve program itself. This one happens to be a criticism. Others are more in the form of suggestions. They all are deserving of full investigation and report. In the past we have had no way of handling such letters in the magazine. Henceforth we will select one letter each month for a full report in this manner. If you want to speak your piece, here's the place.

The step to deny flying privileges to commissioned Reservists on active duty as enlisted men was taken, according to

the Air Force, only after the most careful and deliberate investigation. The final decision was made by General Vandenberg himself. The reasons were these: To begin with, the Air Force felt that Reserve planes should be made available first to Reservists who do not get any other type of training. That's part of the story. The more basic reason was that there were instances in numbers too large to be ignored wherein Reserve officers didn't know how to behave themselves as enlisted men. There was more than one case where a Reserve captain on duty as a staff sergeant would return to the field after hours and order the master sergeant for whom he worked during the day to make a plane available for him to use. There were other "after hours" abuses of the Reserve rank too. This, the Air Force decided, it could not tolerate. Hence the ban. As far as can be learned there is no move to reconsider the move.

Behind the Scenes

Every time a bulging C-54 sets down a nine-and-a-half ton load of flour or macaroni at Tempelhof on the Berlin Airlift, four Hamilton Standard propellers have just finished revolving a hundred thousand times each. In an average day's operation of the Airlift, that means more than half a billion propeller revolutions.

What's so exciting about that?

The exciting thing is that there's nothing exciting about it. What we mean is that the propellers don't break — they just keep rolling along. Yet according to all the laws of the Medes and the Persians, they *should* break — because of fatigue.

Fatigue, as you probably know, means progressive failure due to repeated stress. You may not know that fatigue is responsible for most of the fractures that occur when metal is stressed.

And in a propeller, loads are high, materials are light, and vibration is always present. So, every time a propeller turns over, vibration is insidiously and relentlessly jiggling away, trying to allow old man fatigue to cause a failure.

Why doesn't he succeed?

Because we have been just as relentlessly tracking him down in our laboratories. We've spied on him with microscopes and cameras, we've measured him by electricity, we've X-rayed him, we've studied his behavior under conditions of bitter cold and blazing heat.

Here in the Hamilton Standard laboratories, a staff of some 20 specialists has devoted all its time for many years to the study of fatigue and its related problems. In collaboration with designers, metallurgists, production experts and others they have found the answers to many of these problems. They have played an important part in reducing failures to the vanishing point.

Our continuing study of fatigue, of course, represents only one phase of the complex task of designing, developing and producing Hamilton Standard propellers. But already it has contributed heavily to the dependability of modern aircraft that makes possible such magnificent performances as the Berlin Airlift. And every day it is helping us to design safer, lighter, more efficient propellers to meet the requirements of the future.

at Hamilton Standard Propellers

IN TESTING A PROPELLER BLADE, HOW MANY VIBRATIONS A DAY ARE IMPOSED UPON IT?

- 100,000?
- 1,000,000?
- 10,000,000?



Because vibration is the major potential cause of blade failure, each new blade design is subjected to full-scale vibration testing. After being rigged with strain gauges to measure stresses at as many as 50 different places, the blade is connected to a vibration motor which literally shakes the daylights out of it — often at a rate as high as 10,000,000 vibrations every 24 hours. In a week, we can subject a blade to as many vibrations as might occur in months of normal airline service. This process continues until a fracture finally develops — sometimes after more than a billion vibrations. When we are finished, we have broken the test blade, but we have learned enough about its strength characteristics to make installations that will not break in actual service.

WHICH OF THESE THREE THINGS DO WE USE IN OUR FATIGUE TEST LABORATORY?

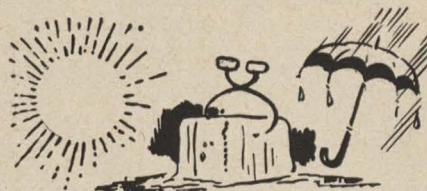
- Shotgun?
- Railroad Ballast?
- Sea Water?



Believe it or not, we use all three. A 12-gauge shotgun, loaded with special quartz pellets, is fired across a propeller blade to cut and scratch its surface. A chunk of railroad ballast, half as big as your fist, is banged against a blade to dent and bruise it. And, sea water is dripped on other vibrating samples to corrode them. From these and other studies we determine the amount of punishment that propeller blades can take from such things as sand, stones and salt spray in actual day-to-day service.

WHICH HAS THE MOST EFFECT UPON THE FATIGUE STRENGTH OF A PROPELLER?

- Heat?
- Cold?
- Moisture?



An interesting fact is that neither heat nor cold has much effect upon a propeller's resistance to fatigue, even though operating conditions may vary from 50° below zero Fahrenheit to 150° above. On the other hand, moisture — particularly the salt spray encountered by seaplanes and flying boats — can reduce the fatigue strength of a blade unless it is adequately protected against corrosion.

Heat, cold and moisture have to do only with the environment in which the propeller operates. But in addition to such factors, there are many others concerned with materials, design, fabrication and stressing. All of them must be taken into account in producing dependable propellers that will successfully resist fatigue failure.

HOW MANY RADIO STATIONS ARE THERE IN HARTFORD?

- Four?
- Five?
- Six?



According to the official records, there are five radio stations in Hartford. However there is, in effect, a sixth — located right here in our fatigue test laboratories. Although it has never broadcast a symphony, a campaign speech, or a weather report, it is fundamentally similar in design and construction to a standard 10,000 watt broadcasting station; and it is hooked up to something like the "loud speaker" in your home. The difference is that the electrical impulses from our broadcasting station, instead of being changed into audible sounds by this "loud speaker" are changed into vibrations and transmitted to the propeller on test. This combination is "on the air" 24 hours a day six days a week, broadcasting a wide variety of vibrations to help us lick old man fatigue.

HAMILTON STANDARD PROPELLERS

ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION
EAST HARTFORD, CONNECTICUT



DIVISION OF
UNITED AIRCRAFT
CORPORATION

'Don't Drop Your Guard'

From six of the '48 little air forces' come these replies
of Air Guard leaders on federalization and merger

Lt. Col. Joe Foss, who commands the 175th Fighter Squadron of South Dakota's Air National Guard, angrily replied, "I object to the article," and branded it "a broad denunciation of a thriving organization." On the other hand, Capt. Barry Goldwater of Arizona's 197th Fighter Squadron thought "The article is going to stir up a lot of good valuable comment." In introducing his rebuttal Lt. Col. Charles H. Dubois, commander of Missouri's 181st Fighter Group, complained "Many Air National Guardsmen have felt the sting of unjust criticism and fallacious arguments during the present Air Reserve-Air National Guard battle." And Col. Laidler B. Mackall, commander of the 113th Fighter Group in Washington, D. C., charged "Lanphier should get his facts straight." But Lt. Col. James E. Kidd, commander of Ohio's 166th Fighter Squadron, said "Echoes of the debate have rebounded in Ohio, have stimulated keen interest and greater self expression," and added, "Opinions of this type lead to a healthier organization and an impetus to do a better job." And Brig. Gen. John E. Walsh, the Adjutant General of Idaho, advanced the belief that "From such debates as these come the things that make us strong as a nation."

However they felt about it, Air National Guard leaders from throughout the country responded eagerly to Tom Lanphier's article on "48 Air Forces Too Many" in the January issue of AIR FORCE. Their responses alone, if published in full, would fill this entire issue of the magazine. In addition, many Air Reservists seized the opportunity to express their views. And from Germany an Air Force sergeant named John A. Casey took time off from his regular job of flying the Berlin airlift to write, "Tom Lanphier is sticking his neck out but he is putting it across and we hope it does some good in the program of federalizing the Air Guard."

In breaking ranks with his unprecedented article, Tom Lanphier also broke through the Brass Curtain that has long made National Guard policy the exclusive province of a small group of old line ground generals in the National Guard Bureau and its civilian auxiliary, the National Guard Association. Lanphier, the Senior Air Officer of the Guard in Idaho, was the first Air National Guard leader to support federalization of the Air Guard. General Walsh, whose article appeared in the February AIF FORCE, while disagreeing with Lanphier's views on federalization, was the first state Adjutant General to support a merger of Guard

and Reserve. AIR FORCE was proud to give expression to these views.

At this moment the controversy over the USAF's reserve components is being aired in hot behind-the-scenes discussions on Capitol Hill and in the Pentagon, and the National Guard Association is placing its powerful lobby behind the effort to maintain the status quo. But with all this Washington maneuvering the hundreds of thousands of men who make up the Air Guard and Air Reserve have been kept on the sidelines in this controversy over federalization and merger. In the last analysis high level politicking may well be the deciding factor in decisions now pending on the civilian air components, but these men who actually make up the reserve forces, and who will be directly affected by the decisions, will continue to be heard through AIR FORCE, just as long as they want to sound off.

This issue is devoted to Air National Guard leaders who have replied to the Lanphier article. We disagree strongly with many of them but nevertheless we believe they deserve to be heard. We only wish we could publish their statements in full. Lack of space makes that impossible, so we re-state some of Lanphier's major arguments and present these replies.

Lanphier: What logical argument can the governor of Georgia, or of Oregon, or of Idaho possibly offer for needing a fighter squadron or a bomber group?

Few Air Guard commanders attempt to defend the system on the "states rights" issue, long the Maginot Line of the National Guard Association. Only Colonel Foss of South Dakota, among the commanders replying, came to its defense. He said: "A common fallacy being exploited by advocates of federalization, obviously swayed by the Gray Board statements, is that no logical argument exists for a State's governor's use of an Air National Guard unit in time of a local emergency. It is odd indeed that the Commanding Officer of the Idaho Fighter Squadron strung along with this warped version. His squadron has done an outstanding job in performing such missions during the past two years. I personally know that on at least two separate occasions the Governor of his state has issued public commendations of this unit for its relief work in flying sick and injured in time of emergency. The Idaho chapter of the American Red Cross has offered similar praise. Probably every Air Guard outfit in the country has been called upon at one time or another to engage in some type of aerial relief work."



Colonel Dubois of Missouri asked that we revise our thinking on the state-federal relationship. He comments "To state that the mission of the Air Guard is not in accord with the mission of the State Militia is to restate the obvious. Justification of the situation lies merely in readjusting the outmoded view of the relation of the State Militia to the Federal Forces and of the State Government to the National Government. Such an adjusted viewpoint considers that every citizen, every agency, every city, every state, is potentially a force for national defense. Defense is not the sole problem or responsibility of the Federal Government but the responsibility of each state of the Union."

Lanphier: The situation . . . doesn't make for trained-to-the-minute combat pilots who can shoot, bomb and fly in any kind of weather. . . .

Replied Colonel Foss: "I am firmly convinced that our flying proficiency has increased because of this (team) type training. I go about it in exactly the same manner that I trained squadrons for combat during the war." Said Colonel Dubois: "After two and a half years of struggle, tactical squadrons, particularly, have attained a high level of proficiency which critics of the Air Guard persist in passing over lightly. But the fact is that 75 percent of the 84 activated squadrons are at or very near full strength and the level of training is such that these squadrons can put three flights, at least 12 aircraft, into the air, loaded and ready for actual combat within 4 to 6 hours. What is more important, full scale operations can be sustained for an indefinite period of time depending primarily on the adequacy of the flow of supplies." Said Lt. Col. William N. Hensley, commander of Texas' 182nd Fighter Squadron: "Fighter squadrons of the Air National Guard are furnished with an operating type aircraft and a majority of Air National Guard units which have been inspected by Federal inspection teams have been rated at least fifty percent ready for combat. I feel that in the event of an emergency it would not be too long before the Air National Guard

squadrons would be in first class fighting trim." Added Captain Goldwater of Arizona: "Our pilots get their required instrument and night time, or they are dropped from the roster. Gunnery and dive bombing have been carried on for nearly a year and results compare favorably with regular Air Force units."

Lanphier: *(The situation) affords a luxurious flying club for the limited number of pilots fortunate enough to get into an Air National Guard outfit . . . we cannot see any sense in having 35 aircraft for only 27 pilots to fly; particularly when, within 20 miles of our air base, there are some 150 Air Reserve pilots eager to fly but unable to do so.*

Said Colonel Hensley: "The conclusion that the Air National Guard is a luxurious flying club could have been leveled against every unit of squadron level or above in the wartime air forces which had the esprit de corps and the TO's under which the Air National Guard now operates." Said Colonel Foss: "My squadron is no 'luxurious flying club'. My men are serious about their obligations." Said Colonel Mackall: "A proposal to authorize a 50 percent overage in pilots has been approved by the National Guard Bureau but is being held up by the Air Force . . . Lanphier's outfit is authorized 34 pilots, not 27, and he now has 26 aircraft. (Latest report: Idaho's 190th Fighter Squadron has 22 aircraft and is authorized 33 pilot positions—Ed.) He should know that unexpended money is lost at the end of a fiscal year, unless the money has been spent to put in commission an overage of aircraft which were sent temporarily to activated units like his own for later distribution to new units as needed, the money would have been lost." Said Captain Goldwater: "It is possible for a reserve officer to be assigned to a Guard unit for flying duty only. But even with this knowledge we have had only six in our history of two years request such an assignment from their Reserve unit commander." Said Colonel Dubois: "Nothing is more discouraging to Air Guard commanders than the interminable wail of some Air Reserve proponents about utilization of Air National Guard aircraft. Certain Reserve officers have pointed out that National Guard aircraft fly only ten or twelve hours a month, on the average, although actually utilization of aircraft varies from unit to unit depending on many factors. At some National Guard bases fighter aircraft are flown for as much as 18 to 22 hours per month per aircraft. The rate is even higher for non-tactical aircraft. But the important fact is that utilization is proportional to maintenance and availability of parts, and pilots, regardless of the kind of utilizing organization. It should be remembered that most reserve component pilots must do their flying over the week end. Consequently, there is a very definite limit to the number of pilots that can be accommodated: an F-51 or B-26 can only be expected to fly five or six hours during a single day.

On special missions such as gunnery or dive bombing, the time flown will be even less. It would be extremely difficult to train double strength squadrons on the normal complement of aircraft. If the Air Force should try, it will discover that maintenance will increase three-fold for each pilot assigned per aircraft. What is more important, the degree of training per pilot would be one-fifth or one-sixth the training of a National Guard pilot. We would have thousands of half-trained, semi-proficient pilots. It is true that the valuable experience of the innumerable reserve pilots should not be discarded. But it is economically impossible, in peacetime, to train every reserve pilot to combat proficiency; it is also physically impossible because the majority of reserve pilots do not have the time to spare nor the willingness to accomplish the grueling Air National Guard training program. A

not the Air National Guard." Said Colonel Dubois: "The Air Force, not the Air National Guard, has failed to provide adequate training supervision . . . Commanders seek every opportunity to request advice and help from the Air Force. But again and again commanders have been given polite rebuffs upon request for advice or information." Colonel Mackall replied: "Doesn't Lanphier know that each and every one of the Air National Guard training programs must be submitted to a numbered Air Force for approval before being used? Doesn't he know that if his unit doesn't follow the approved program, it is the duty of the Air Force instructor assigned to his unit to report this fact to the Air Force? Doesn't he know that his unit's Federal recognition, i.e., right to receive Federal pay, can be cut off by the Air Force *instanter*, with no right of appeal? Doesn't he know that the Air Force has the same power over him and each individual officer and man in his unit? . . . Doesn't Lanphier know that regulations require the Air Force to inspect each unit twice a year—at summer camp and at the annual Federal inspection? If the inspection system is not 'vigorous' look to the Air Force which planned and executed it . . . I say that in view of the above powers if any Air National Guard unit doesn't have a uniform, up-to-date training program, vigorously carried out, it is the fault of the Air Force which approved the program and of the Air Force instructor who failed to see that an adequate program was drawn up and followed."

Lanphier: *By law the training of Air National Guard units is a mission and responsibility of the US Air Force. But in actual practice it does not and never will work out that way. The services ingrained fear of asserting itself too positively in National Guard affairs, lest it stir up political resentment in the form of a cramped Air Force budget sometime later, results in an unfortunate hands-off policy toward Air Guard training and leaves every state on its own.*

Few of these Air Guard commanders indicated that they understood the full import of that statement, or realized the heavy political club which the National Guard Bureau, principally through the lobbying activity of the National Guard Association, holds over the head of the military services. Lanphier explained he did not think the Air Force had "made the best of the situation as it now is," and explained that "the USAF's fear of political resentment on the part of the states against too much intrusion in the Air Guard program absolutely accounts for much of the timidity with which the Air Force has controlled the Air Guard program to date."

Colonel Mackall, who did not indicate that he recognized these political considerations, commented: "Lanphier fails to mention that his state, along with all other states and the District of Columbia, Hawaii and Puerto Rico, have voluntarily turned over to the Air Force full control of command channels necessary to carry out any training program the Air Force wishes to institute."

WHO'S WHO

Col. Laidler B. Mackall, CO, 113th Fighter Group, Washington, D. C., former bomber pilot in ETO, now attorney.

Lt. Col. Charles H. Dubois, CO, 131st Fighter Group, St. Louis, Mo., former CBI fighter pilot, now Base Detachment Commander, Missouri Air Guard.

Lt. Col. Joe Foss, CO, 175th Fighter Squadron, Sioux Falls, S. D., former Marine fighter pilot, now head of aircraft sales company and Representative in state legislature.

Lt. Col. William N. Hensley, CO, 182nd Fighter Squadron, San Antonio, Tex., former B-29 pilot, now district attorney.

Lt. Col. James E. Kidd, CO, 166th Fighter Squadron, Columbus, Ohio, former VHB pilot now personnel director.

Capt. Barry Goldwater, 197th Fighter Squadron, Phoenix, Ariz., former ATC pilot, now merchant.

pilot who flies only five or six hours a month in an F-51 or B-26 can be considered dangerous in those aircraft."

Lanphier: *The US Air Force, under which we would fly in the event we were called to action, actually exercises no more than advisory control over our training program.*

All of the Air Guard commanders who handled this one seemed to agree with Colonel Mackall that "Lanphier's criticisms of the Air National Guard really amount to criticism of the Air Force." Colonel Foss commented: "The responsibility for a training program is in the hands of the USAF, and the lack of a modernized training program is a direct indictment against that arm,



Air Guard armament crew loads an F-51



Next to eating (below) any good GI likes best to take it easy (above).



DON'T DROP GUARD (Continued)

Colonel Dubois seemed extremely conscious of the political power of the Guard. He commented: "Is the Air Force, at this critical time in its development, being wise in alienating from itself the powerful political assistance which the National Guard can give it? Would the Air Force not be doing itself a favor by taking the logical action of sitting down with responsible Air National Guard commanders and officials in order to work out a basis of operation which would be entirely acceptable to the Air Force and the Guard, and which would at the same time give to the Air Force the tremendous assistance which the Guard is capable of providing?"

Lanphier: *The certainty of a tight defense budget is more than likely to prove the dominant factor in forcing a merger of the Air National Guard and the Air Force Reserve. For what objections there are to the merger grow weak in the face of the irrefutable fact that our national economy can stand no wasted expenditures on even a single component.*

In general, the Air Guard commanders showed relatively little interest in the overall defense budget. Colonel Foss, commenting that the states had provided "millions of dollars worth of state-owned property for the housing of Air Guard units at little or no cost to the Federal government," charged that "these figures are not presented by the proponents of federalization in their attempt to color facts." He added: "This is no waste of the nation's funds. On the contrary, it is the most economically sound way in which to have a defensive aerial force throughout the 48 states working to maintain a high operational level that could be blended into a unified air force in the event of attack." Said Colonel DuBois: "The basic argument of proponents of federalization is that the Federal government is supplying 95 percent of the cost of the Air National Guard program. This may be true; but by merely changing the name of the Air Guard through federalization, the government would be paying 100 percent of the support of the Guard units without adding a single fighter squadron to the national defense program . . . The Air National Guard is the most economical air defense the American people can invest in. As trained, mobilization day forces, proficient enough to stand by the regular units in any emergency, Air Guard squadrons can be supported at one-seventh the cost of an equivalent regular Air Force unit."

Lanphier: *In the interest of the national security, the Air National Guard and the Air Force Reserve should be merged.*

The answers to this one represented a solid-front attack on the Air Reserve program and the conclusion that since the Air Force had bungled that program there was no guarantee it would not bungle a program for a single federalized air component. Only one of the commanders was actually from Missouri, but almost all "had to be shown."

This was the sole point of Colonel Hensley's reply. He seemed to sum up the general attitude in his statement: "The postwar Air National Guard program has worked, while that of the Air Reserve has not. Moreover, it is not necessary to prove that the Air National Guard has made mistakes, but in order to change the status of the Air National Guard it is necessary to prove that the substitute proposed will be an improvement, and judging by the past performance of the Air Reserve such proof is altogether lacking." Colonel Foss said flatly, "I am against federalization . . . I sincerely hope that the proposed unification of the Air Guard and the Air Reserve never materializes." Colonel DuBois answered, "There has been much talk of federalization, but very little talk about how it is to be accomplished. When a concrete plan based on the real and the practical is put forth, Guardsmen will lend a more friendly ear." Colonel Mackall was of a different mind. "If I had as weak a case as the one for federalization of the Air National Guard," he said, "I would not dare to bring it into court but would settle out of court—and I have a strong hunch that that is just what the Air Force will do." Captain Goldwater had still a different view: "I hold with Lanphier's basic argument that we should have one reserve component, but until the Air Force presents a workable, sound program that is better than the National Guard is supplying them with, the Guard wins my vote. Let's have one unit of reserve. Certainly it is more economical and certainly it is more sensible, but let's not wake up some bright morning with directives on our Guard and Reserve unit desks stating that the two are now combined and then come to the realization that in all this Air Force, which depends in wartime so heavily on the Reserve, there has not been given adequate or intelligent thought to the complete reserve program."

Of all the Air Guard leaders replying to the Lanphier article only Lt. Col. James E. Kidd, commander of Ohio's 166th Fighter Squadron, presented a program of constructive suggestions for improving the present Air Guard. Only Colonel Kidd seemed to feel the organizational setup was of secondary importance. As he put it, "Whether it is under state or federal control makes little difference. The Air Reserve flies with the Air Guard or vice versa. So What!" The Colonel welcomed the debate between Lanphier and Walsh, but he was convinced that they had "slighted one of the most important problems of the Air National Guard." Colonel Kidd's statement follows:

"They have forgotten about the G.I., the guy in the Air Force that keeps the planes in the air. He faithfully attends drill assemblies to learn and to develop his potentialities. He gives valuable time from his civilian life, and cares little whether the State or Federal government controls his outfit and less whether he is in the Air National Guard or Air Reserve. He enlisted because of his interest in aviation. All he wants is the satisfaction of being in a 'helluva good

outfit'. His thoughts are primarily, 'Am I getting something out of it? Is it a waste of time? Will the time and effort I put into the Guard and the training I receive help me to better myself?'

"I cite the actual case of Private Sunshine of the 166th Fighter Squadron. He is a farm boy living 38 miles from Lockbourne Army Air Base, location of the 166th Fighter Squadron. He leaves his home to attend drill assembly at least three hours before roll call. He has no means of transportation but the kid is always present for drill. He is loyal and conscientious and makes an honest effort to learn his job. If there is an airplane loaded with freight, he is the first to volunteer to unload it. He trudges into Operations, stands roll call at 1930, reports to Engineering for a two hour training period eager to learn about aviation, his greatest interest. Still enthusiastic and smiling, he listens to a lecture on some phase of hydraulics or carburetion for perhaps an hour. Then he grabs a wrench and works on an engine as an "on-the-job trainee", supervised by an experienced air technician. He gets all greasy, dirty and sweaty. Before he even becomes adjusted to the job the First Sergeant blows the whistle. Roll call again and the two hour drill assembly is over. Private Sunshine has learned very little due to insufficient time. It is now 2130 and very dark and he has a long trek home with little possibility of hitting the sack before midnight. Finally he returns after eight hours away from home. Lying in bed, he wonders, 'Was it worth it?' He has the vision of a gleaming colored poster and remembers looking at it before he enlisted. 'A full day's pay for a two hour training period', he says to himself as he slumbers off to sleep, 'Whata shaft.'

"Not all of the 285 men in my outfit undergo these hardships to attend drill assemblies. Some take a street car and ride halfway across Columbus to the bus terminal. They wait for perhaps 45 minutes to an hour and if lucky enough to make connections for the Lockbourne bus, ride for at least another hour to get to their destination. A few of the more fortunate ones have automobiles.

"Pilots in my Squadron must meet AAF regulation 60-2 to maintain flying proficiency. It requires 100 hours of flying time yearly. In addition, each pilot attends 48 two-hour drill assemblies a year, and spends two weeks in summer camp. It is almost impossible to accomplish any flying within a two-hour scheduled drill period. Thus a pilot puts in 100 additional hours yearly plus the time required for transportation to and from the Air Base. Add to this the time he prepares for his mission by getting proper briefing, weather analysis, pre-fighting and checking his airplane, filing flight plans and getting into various and sundry flying gear. Combined with additional duties necessary for the proper functioning of an air arm it all adds up to one hell of a shuffle."

I command all of the men engaged in the present Air National Guard for their keen interest in aviation, and their desire to serve their country.

However, this does not solve the prob-

lem. It's high time the desk drivers got out of their swivel chairs and stepped down to Squadron level to find a solution to the existing confusion.

Let's do something about it. Here is the plan I am wholeheartedly in favor of and sincerely believe is the solution for the well being, morale and organizational stability of the Air Guard.

► Establish a streamlined and simple chain of command with the striking force centered around the Squadron.

► Standardize a Squadron training program for all units.

► Originate training directives from either the National Guard Bureau or the Air Force.

► Set up training schedules on a yearly basis and make them flexible so that a civilian with a full time job can fit into the picture.

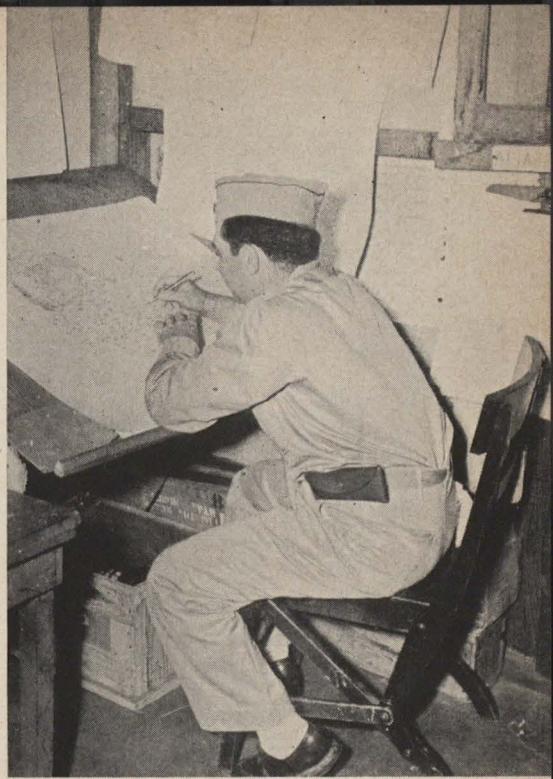
► Throw out of the window National Guard Regulation No. 45 Sec. 2, Par. 12. ("Credit for more than one assembly, or two hours appropriate duty, during a single day will not be allowed except by special authority of the Secretary of War.") It was written for the Ground components of the National Guard and dates back before Kittyhawk.

► Eliminate the worthless two hour weekly drill assembly and substitute in its place one concentrated drill assembly each month. Start the new assembly period on a Saturday and close it the following afternoon. The concentrated assembly covers a 24 hour period and each participant would be credited with four training assembly periods.

► Schedule the Air Guard one week-end each month and the Air Reserve on another week-end. During the interim let the pilots fly from both units at their own discretion but under supervision. This will lead to maximum use and efficiency of all aircraft assigned. Training of enlisted men and pilots would be more thorough and complete with a concentrated drill assembly. A training schedule of three four-hour periods is suggested: Saturday afternoon, Saturday evening and Sunday morning. Immediately after muster early Saturday afternoon the enlisted men would be broken up into sections for specialized training according to their assigned MOS. Training classes and on-the-job work for the G.I. would progress uninterrupted for at least four hours. Pilots would have sufficient time to prepare for and execute a mission.

Old line Guard Officers sharpen your pencils and compare the existing type of assembly with the suggested one. Weigh all the factors peculiar to an Air Arm: distance of Air Bases from the cities, transportation problems, time required to get up and tear down, "on-the-job training" of such duration as to accomplish an objective, preparation and execution of a flying mission, and efficient use of aircraft. Many more factors could easily be added to the few listed here.

What we need is more action. Time is valuable. The pilots in the 166th Fighter Squadron are eager to fly. They love flying. As the backbone of the national defense, let's not waste their time.



Air Guard weather officer plots map.



Above, Ohio guard shows off formation skill. Below, a typical tower scene.





Guerrilla Lightning

This is how a 13th Air Force support party smuggled to Cebu in 1945 worked with guerrillas in coordinated air-ground attacks on the Japs

By Cpl. Harry A. Center

March, 1945. This was the month Finland declared war on Germany, or so the papers said. But the American foot soldiers who had reached the Rhine at a railway bridge north of Duisburg didn't notice. Neither did the Air Force bombers which plastered Tokyo, Kanto Nogoya and Shizuoka all the same day. And neither did a 13th AF Support Party that was smuggled into Cebu . . .

From the air, Cebu held no inviting charms for the 11-man air-support party circling Tuburan strip.

To begin with, the rugged airstrip, two-thirds of the way up the west coast of the polliwog-shaped island, had been hastily readied by the guerrillas. It looked like something out of "Terry and the Pirates."

The inland area of this island in the Philippines was dominated by ridges rising to 3500 feet. A main road girdled the lowlands along the shore with occasional dead-end tributaries to the foothills. Nearly all the towns were along the main road, but most of them were full of Japs.

When the support party of the 13th Air Force was safely pancaked on the strip in two C-47s loads, guerrillas hurried to unload the equipment. It wasn't much—a jeep-mounted radio-control system and a trailer of supplies.

The C-47s took off again, and the party was on its own, the first new American faces to be seen on Cebu in three years. It was February 15, 1945.

"We shall never forget that welcome," recalls Capt. Edward M. Thompson, the detachment leader. "People cheered us all along our route. When the jeep stopped they offered us their food—eggs, chickens, bananas, pork, tuba—and, with tears of joy in their eyes, crowded around to touch us."

The ground situation, as explained by Col. James M. Cushing, American head of Cebu Area Command of guerrillas, was ripe for action.

A strong force of Japanese was in the area north of an east-west road slicing the neck of the island. Other forces held the east coast, with their main body in Cebu City.

Colonel Cushing had a tattered but well-trained guerrilla army, its equipment limited to small arms. In earlier days they had made shotguns with pipe barrels—used almost anything that could be fired as ammunition. Later they added rifles supplied by the 8th Army and 4000 pieces captured from the Japs. There were a few .50-calibers with homemade mounts.

Hundreds of guerrillas formed the Volunteer Guard service group. They hauled supplies to the front with a few prewar trucks fueled with Japanese gas or alcohol distilled from tuba, the juice of the palm tree.

In every town, women's groups fostered by Mrs. Cushing functioned as volunteer auxiliaries. They fed the army, sewed their ragged uniforms, nursed the injured. Food and quarters

were obtained in house-to-house fashion. Nothing was denied the soldiers.

Colonel Cushing's ground strategy was to let the Nips take any specific objective they wanted, then heckle them by hemming them in, picking off expeditions, and cutting communications.

With the arrival of the air-support party, the concentration of Nip troops in the north was given first priority.

"You're going close to the Jap lines," Colonel Cushing told the team. "But don't worry. Major Hale's MP battalion is assigned to you for security, and every man will fight to the last ditch to protect you and your equipment."

The first night, 300 Volunteer Guards built a road and hauled the jeep and trailer up the hills to a summit overlooking the Tabuelan-Lugo Road. On the morning of February 16 radio contact with Leyte headquarters of the 13th Air Force was accomplished.

Home and workshop for the control team was a grass shack topping a hill overlooking the target area. Gathered around a bamboo table were the controller, guerrilla intelligence and operation officers, and skilled technicians. Equipment, besides the radio jeep, consisted of an LS-3 speaker, grid maps from headquarters intelligence, penciled maps drawn by residents of the target area, photo-reconnaissance pictures, and a pair of 7-by-50 field glasses.

Four F4U Corsairs of Marine Group 12 came over the first day, and their flight leader called in to the station.



ty. He sent back a runner with the report that the town approaches were dotted with fresh graves, blood, and a pile of burning bodies.

North Cebu was under control.

Cebu City was next on Colonel Cushing's list. When guerrilla forces formed their pressure block against the city from the west, the fighter-control team and its equipment has to be moved 50 mountainous miles north of the capital city. Almost like magic, 1000 Volunteer Guards materialized, and the trek was started. Most of the way there had been no road, but the guards had built one. In some places there was too much mountain. The guards harnessed jeep and trailer with ropes, bodily hoisted them up the side of cliffs and lowered them down mud-slithering walls.

They made the trip in the almost incredible time of 30 hours. Behind was a barbed-wire telephone line of 35 miles.

Aerial pummeling of Cebu installations began at once. Indicating a healthy respect for American bombing, the Japs disposed troops around unlikely targets, like Guadalupe church. Their stores were in tunnels and caves. The controller called for 1000-pound GP and jellied fire bombs.

Installations were burned and mauled, then the target shifted to dispositions facing guerrilla lines.

For the safety of the guerrillas, ground markers came into play. Panel sheets were laid out to designate both friendly positions and the Nips. When the Nips imitated the panels to confuse the pilots, the guerrillas outfoxed them with a variety of symbols.

As an added precaution to assure precision bombing, the controller often had pilots drop one test bomb. With any corrections necessary, the next run delivered the works.

At times, close work in strafing was controlled by a guerrilla observer in a P-61 Black Widow. It worked well. The Lightnings or Corsairs would tack on behind the Black Widow and lead on the target.

By March 12 the Japanese command had apparently decided something must be done about the accuracy of the fighter bombers. One way was to choke off Tuburan strip—both a supply funnel and emergency landing field—and maybe corral the support team in the hills. The move to Tuburan would also relieve pressure on Cebu City.

A message reached the air-support team from Colonel Cushing:

"Proceed at once to Tuburan strip; 1500 Japs with 500 reserves are attacking."

When the team arrived, the Japs were four miles away and the field was socked in. Leyte had planes, but it, too, was weathered in. On the field were two F4Us which had flown dusk patrol the night before and set down at Tuburan on bad weather reports from Leyte. The pilots' decision to stay over was influenced somewhat by the prospect of guerrilla-cooked chicken.

With a ceiling under 1000 feet, and their airplanes rearmed with ammu-

tion from crash-landed planes, they made one pass on the Jap lines. That was that—the planes had no more starting cartridges to get up again.

The Nips had been scattered, but they were re-forming for another assault. Even the guerrilla regimental commander—outnumbered and outgunned—was ready to admit the strip was doomed.

Suddenly two lone P-38s of the Jungle Air Force Ringmaster Group winged over, heading home after a cover mission.

Hopefully, the controller contacted them.

"Have you gas and ammunition enough to handle an emergency mission for us?"

"Roger!"

Orbiting the battle line, the pilots were briefed on the most difficult target there is—a zigzag line—something like this:

"See that bridge and tall tree beside it?"

"Bridge—tall tree—Roger."

"From there to the schoolhouse. See?"

"Schoolhouse. Roger."

"Then to where the third creek empties into the river."

"Roger."

"Now back to a point crossing the road at the bridge by the crossroads."

Finally the jigsaw was traced. The steeplechase was on. On the second pass, a pilot's jubilant voice came in.

"Hey! There's a whole mob of guys running down the road headed north."

The controller: "It can only be Japs—go get 'em!"

The pilot, a moment later: "Whoopie! Lookit 'em go."

When the pilots came back, one called, "I'm on my return run and they're still lying all over the road."

Those two pilots saved the strip. What was left of 2000 Japs was scattered so badly the guerrillas took a two-day rest.

On March 21, Guerrilla Team No. 1 received its final communication from headquarters:

"Have your team at Tuburan 0830, 23 March, to be lifted up this headquarters."

There was no doubt of the mission's success, despite being one of the first of its kind, in the face of adverse weather and terrain and against a better-armed, numerically stronger ground force.

Reasons boiled down to radio equipment which was operational the entire 37 days, guerrilla liaison which was fast and accurate on vital targets, and pilot savvy.



After the flight was authenticated, the controller flipped one earphone for the guerrilla liaison to hear and clarified the target for the pilots. Checking back, the flight leader described the target as he saw it—and estimated 500 Japs in Lugo, Liki, and surrounding palm groves. Guerrilla liaison satisfied, the flight was sent to bomb and strafe.

The next day four flights of four planes each peppered concentrations in Lugo, Liki, and Sogod.

On February 19 an operator standing by on the telephone systems rigged of barbed wire received a message:

"The advance guard of a Jap column will be at the Carmen-Sogod Bridge at 1420."

The operations officer glanced at his watch. It was 1400. He handed the message to the controller. Three flights were expected that day; only two had appeared. A long-shot, blind message went out over VHF.

"Hello, controller. Hello, controller, needed at once. Report to controller. Report to controller. Over."

An answering voice came from the third scheduled flight—from over the Camotes.

"Hello, controller. Hello, controller, will be with you in 15 minutes. Over."

At 1420 on the button, the four Corsairs bombed and strafed Carmen-Sogod Bridge and the land around it.

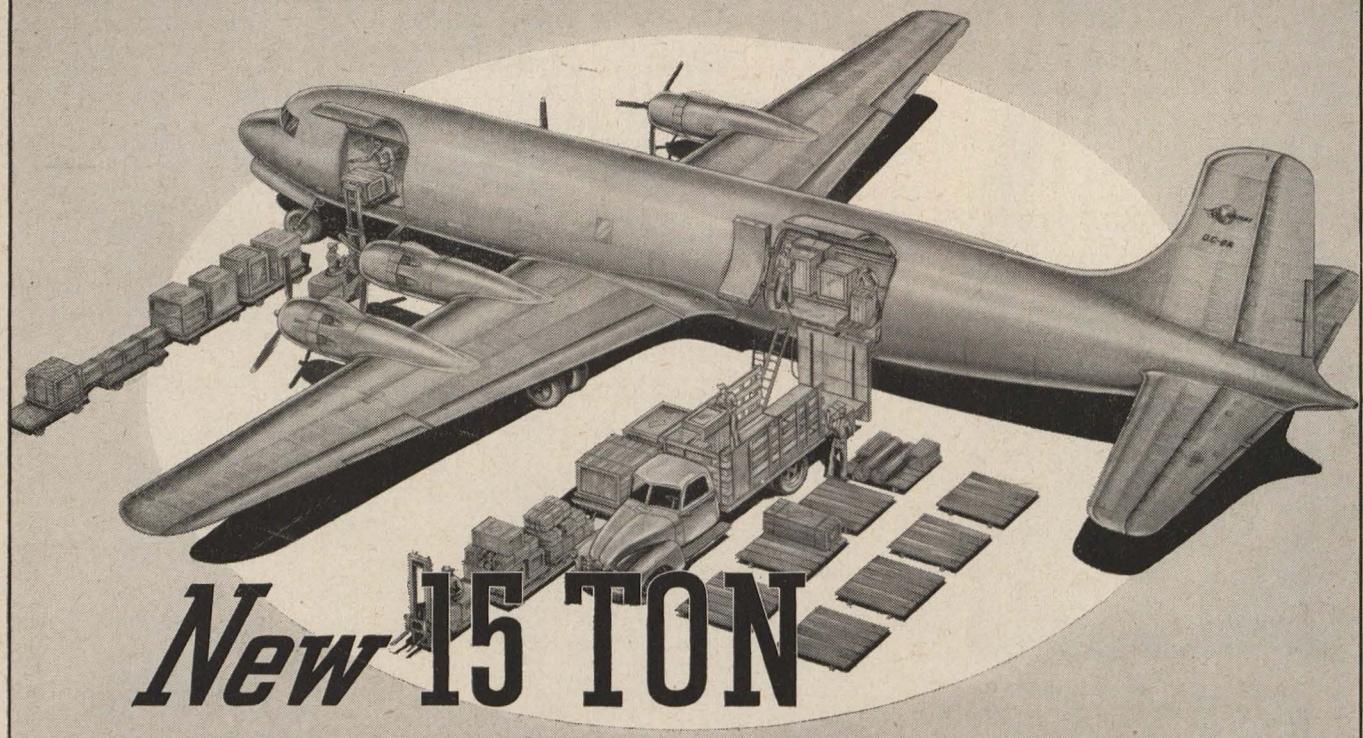
Twenty minutes later, the telephone monitor handed another message to the operations officer:

"Jap advance guard wiped out by planes at bridge. Main body turned back into Rough Riders' ambush. Thank you."

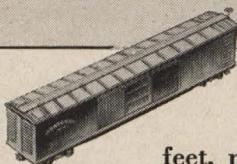
Timing had been perfect, the Jap attempt to reinforce Lugo prevented.

Four days later, the guerrilla 88th Regiment under Col. Alejandro Almendras took Lugo with but one casual-

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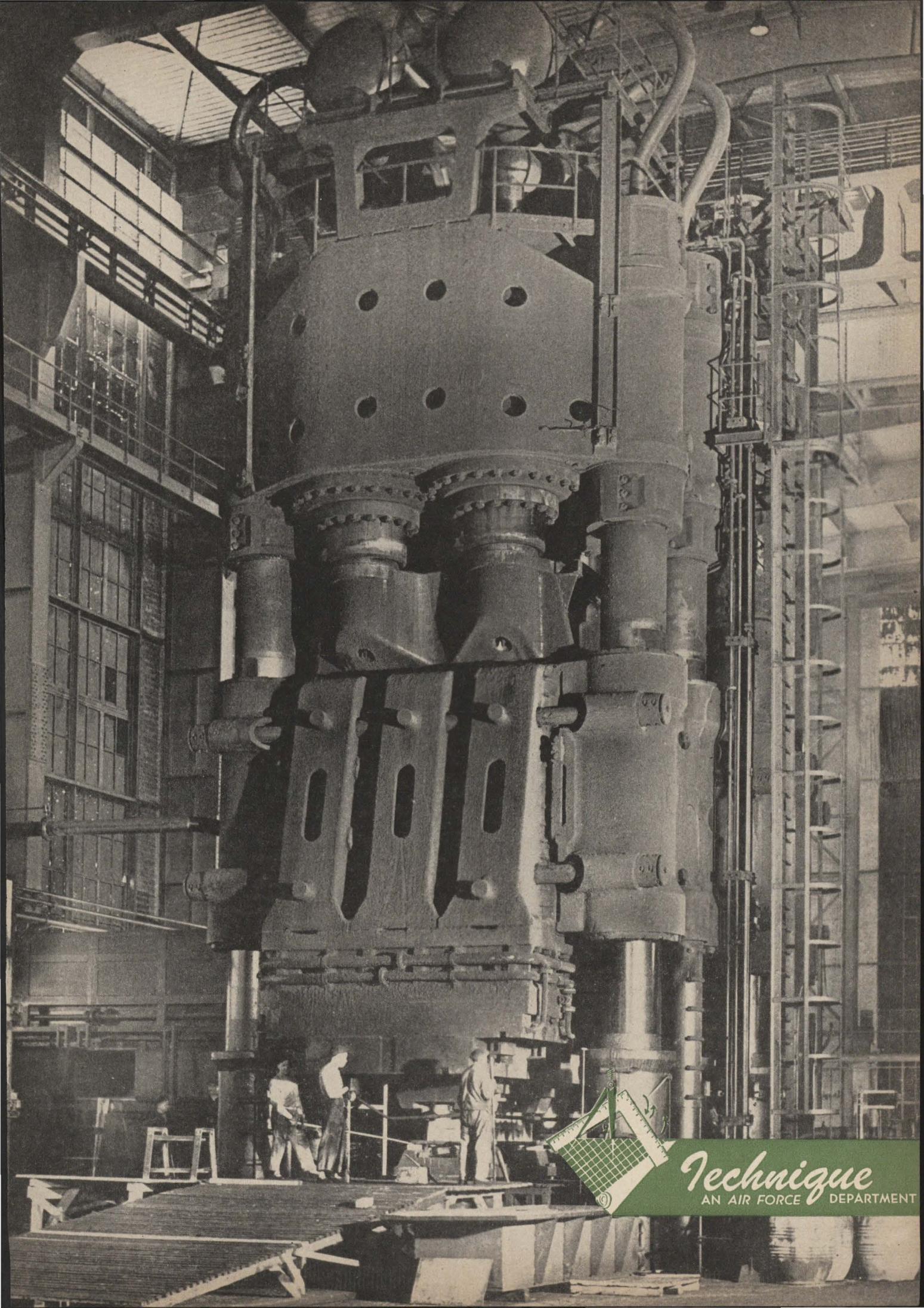
Thus the outstanding performance of this new air freighter will make available to the military services a cargo transport capable of supplying world-wide bases and military operations of unprecedented scope.

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DOUGLAS AIRCRAFT COMPANY, INC.,

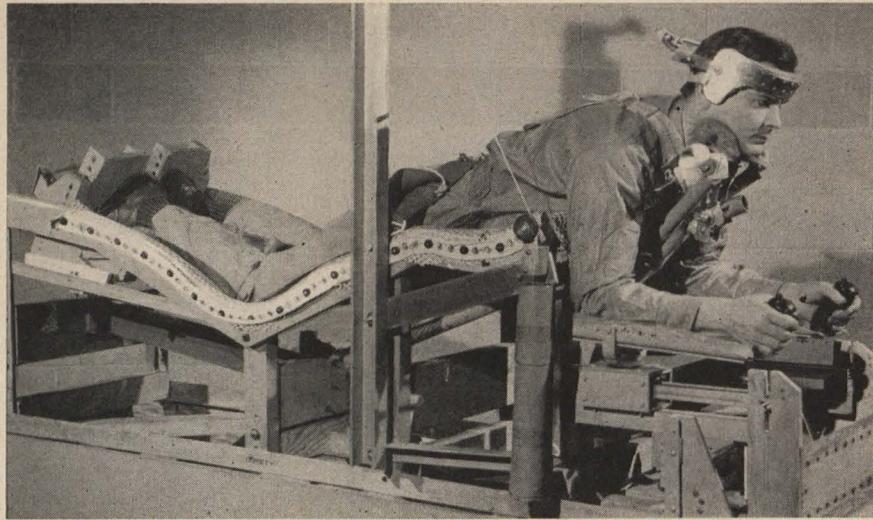
MORE FREIGHT FLIES MORE PLACES BY DOUGLAS





Technique

AN AIR FORCE DEPARTMENT



Greater streamlining and more comfort is purpose of the USAF's new pilot bed.

Pilots at Aero-Med Learn To Take It—Lying Down

Air Materiel Command develops prone position cockpit that enables airmen to withstand forces up to 12 G's with comfort

Flying fatigue and gravitational pull are dangerous business for a pilot and the US Air Force aims to eliminate these dangers so far as possible. Latest development for easing the strain of "just sitting" and reducing the possibilities of "blackout" is a prone position pilot bed designed by the Aero-Medical Laboratory of Air Materiel Command.

Pilots who took part in recent tests experienced no discomfort from lying on the bed for as long as eight hours continuously, and noted no unpleasant after-effects. Their reports indicated that in all cases they experienced less fatigue than from sitting in the normal flying position in a conventional airplane.

During tests pilots in the prone position withstood up to 12 g's for a given time without blackout, while the conventionally seated pilot can tolerate only about 4.5 or 5 g's. This change in position provides an added life-saving factor and eliminates much of the accident possibility caused by blackouts.

The prone position also required less space for the cockpit and so permits the development of aircraft with slimmer silhouettes, thus permitting higher speeds by reducing drags. To date the prone position bed has not been made a standard part of any plane but has been installed in the nose of a B-17 for test purposes and, it is hoped, will soon be tested in the forward part of an F-80 jet airplane. Both planes permit the use of conventionally seated pilots who can take over the controls in the



unlikely event something went wrong.

In general the bed consists of a length of nylon netting supported over specially curved sides so as to conform as closely as possible to the body contours of an average Air Force pilot when supported upon it. The mesh has extremely high strength characteristics and will support approximately 3400 pounds per square foot. In actual tests the bed has withstood a static load of 16g assuming the weight of the pilot as 200 pounds, and dynamic centrifuge tests up to 20 g with a dummy.

Special airplane controls have been designed for the prone position.

Two movable pans with adjustable handgrips act as the levers for steering the airplane. The pans are padded with foam rubber to provide restful comfort for the arms during flight, and they are arranged mechanically so that control movements are not affected by high g's.

The pilot's head is supported by an adjustable padded jaw rest designed to provide support approximately under the center of gravity of the head—below the ear at the rear angle of the jaw. Strain on the neck is relieved further by means of a counter-weighted head support which permits the pilot to move his head even at high g.

To avoid the tendency of the inner surfaces of the legs to sweat, and to prevent pressure on the inside of the knees, the bed is equipped with a leg separator board which gives each lower leg its own support.

Swivel Probe replaces Survey Rake as a thrust measure

Wright Field engineers of the Air Materiel Command's Flight Test Division, Instrumentation and Flight Research Section are experimenting with a new measuring instrument for determining a jet engine's thrust forces. The method, which uses an instrument they call the Swivel Probe looks like a generated weather vane and works on a similar principle. It may replace the commonly used "Survey Rakes" which require numerous auxiliary recorders to get accurate measurements.

Powered by a 28-volt synchronous constant-speed motor, the Probe swings in an arc from one side of the jet's tail pipe to the other through the center. Good average pressures and temperatures can be obtained by stopping the probe at a number of points along its swinging arc. Simple arithmetic after that can compute thrust forces for flight test purposes.

It takes a little preparatory work, however, before they can hook up the compact instrument. For instance, they have to calibrate the engine before the probe is tested, thus determining thrust and flow coefficients. Then they calibrate the jet engine's tail pipe and the swinging "vane" together in a sealed test chamber.

An autosyn indicator measures the position of the Probe at any instant it is stopped. A simple control knob can stop the swinging Probe or release it to provide time factors.

The old Survey Rake system required 15 stages to obtain total pressure, static pressure and total temperature. The Swivel Probe cuts the operation down to four. It uses the autosyn indicator, a total pressure gauge and a static pressure meter, and a total pressure indicator. In addition, a moving picture camera constantly photographs these instruments to obtain recorded readings while the Probe is in motion.

Air Force shows new hat

Time was—about 40 years ago—when the only reason for wearing a hat in an airplane was to keep the hair out of your eyes. Orville and Wilbur Wright used to solve the problem simply by reversing their caps a la the 1920 movie directors. Today, though, with high speeds buffeting a guy around like a popcorn kernel, the requirements of a chapeau are more complex.

The men who are charged with pilot safety and comfort—Aero-Medical experts at Wright Field, however, have a pretty good interim solution—the P-1 helmet, a tough light-weight shell that looks like a football player's headgear.

They didn't arrive at this design over night. Something like 32 different types of protective headgear were studied and tested by the AMC Aero-Medical



New Air Force chapeau can withstand 64 pound sledge hammer blow without rupture, has saved lives in crashes.

Laboratory. Then, they took the best features of each and combined them to get the P-1. It weighs only 2 pounds but you can hit it a 64-pound blow with a sledge hammer without so much as putting a dent in it.

Originally designed for use in high-speed aircraft like the X-1 or other supersonic research airplanes, it is now virtually standard equipment for pilots flying any kind of jet propelled aircraft.

You can't just walk in and order it by size. It doesn't work that way. All helmets are the same size, but they are fitted to different head shapes by means of an adjustable sling suspension of cotton webbing.

Although US Air Force technicians consider the P-1 protective helmet the best on the market today, they are still searching for a headgear that will meet the specialized requirements of present day high-speed flight. What they are striving for is a tougher helmet that can take any blow and make it feel like a light tap, be sound-proof to cut down on disturbing noises and vibrations, provide ample ventilations, wear with the comfort of a pair of ear muffs and look like a new spring fedora. Got any ideas?

TECHNIQUE COVER

During war this huge hydraulic forging press (33,000 tons) was used by Nazis to stamp out weapons of war to be used against the Allies. It is now being dismantled. Smaller German presses are being sent to US for joint use by Air Force and industry.

TECH TALK

By Douglas J. Ingells

The magic of electronics may provide a new type of flying called "FLYBAR" which translated means "fly by ear." The idea is that by sound signals alone a pilot can recover from a spin, make a landing. Started a long time ago by the now forgotten NDRC, the program is getting a new attention from the Bell Telephone Laboratories which is developing a lightweight automatic annunciator which will actually announce instrument readings in easily understood words.

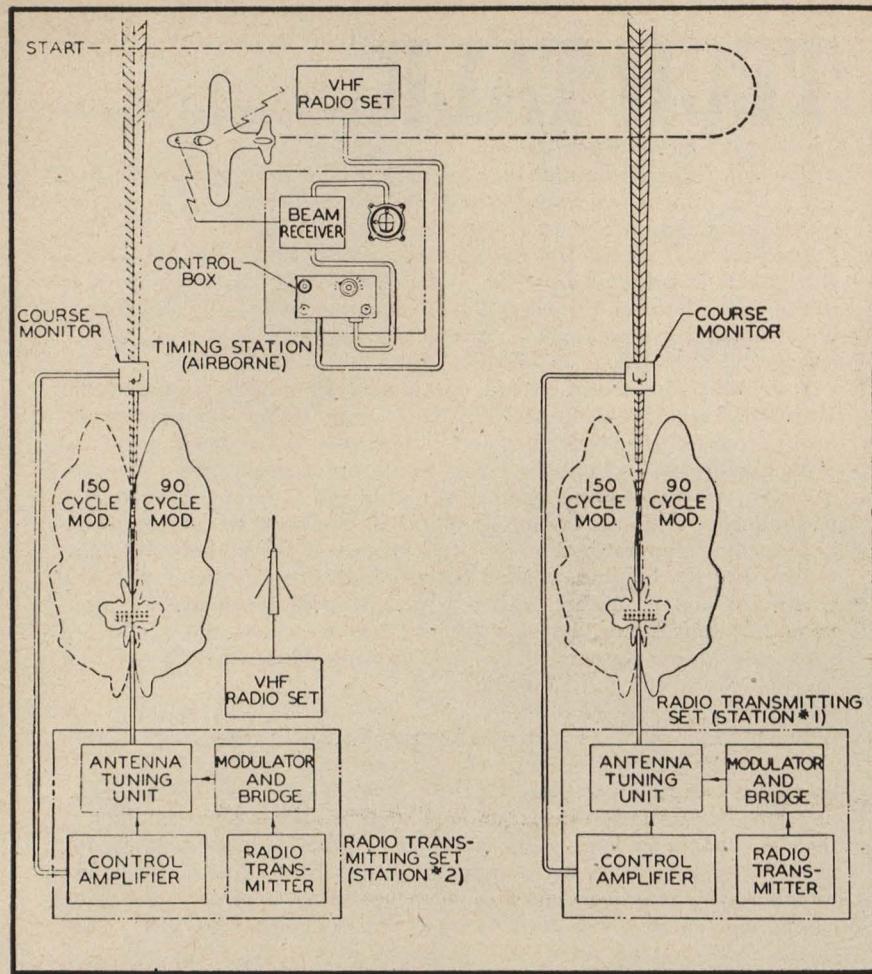
Ever since the secret leaked out almost 18 months ago that the USAF had a parasite fighter (the XF-85) for its big super-superfortresses, the B-36, even the experts themselves have been anxiously eying the day when the little escort would prove itself. The other day, according to the project's engineers, one of the experimental parasites was launched from the bomb bay of a B-29 equipped with experimental launching apparatus, flew on its own power for a short duration, returned to the bomber, hooked on, was hauled up inside. Test No. 1 was acclaimed a success, although it left room for many improvements. It took place, incidentally, in the skies over the great and sprawling Muroc Research Base, in California. Since, there have been four more take offs and landings.

Precipitation static, radio interference set up by the accumulation of electrical charge on an aircraft flying through snow, has long been a bugaboo. Now comes the AN/ASA-3 flexible dry wick discharger, developed as an aid in overcoming this interference. The flexibility of the dry wick overcomes many of the mechanical disadvantages of the previous type which used a rigid aluminum tube. Use of the wicks together with improved antenna wire and fittings permits quiet radio communication in a very large percentage of conditions which would produce interference on untreated aircraft.

A series of tests, run for more than a year by the Fuels Branch of Wright Field's gigantic Power Plant Laboratory, shows some interesting results relative to jet engine fuels. That, for instance, Army-Navy-Fuel Specification Number AN-F-48 which includes 100/130 performance number high octane gasoline used in reciprocating aircraft engines, works quite satisfactorily for jet engines . . . Tried out in F-80s and F-84s, it was found that the standard gasoline is a good substitute for standard JP-1 fuel (kerosene), although it is far more expensive, cuts into range figures of the jets. BUT, and this is important, engineers believe the substitute can be made and that the whole idea may pay off if jets ever have to be used in forward combat areas where regulation (and cheaper) jet fuel is difficult to obtain . . . In the future the 100/130 fuel is to be tried in bigger jet types like the B-47 and others to come . . . An interesting sidelight concerns use of the regulation gasoline for starting jet engines in the Arctic areas. It has been found highly effective to obtain quick starting. The jets operating in the Far North, however, still burn kerosene.

Special Delivery! A new system of parachuting supplies out of the large C-97 cargo aircraft has been developed by the Boeing Company. It facilitates faster loading and unloading procedures and increased safety precautions for crew members who "kick out" the packages. In one recent test, a big C-97 flying at 1500 feet above the ground at an estimated speed of 150 miles per hour, dropped 25,500 pounds of supplies, packaged in bundles in less than 12 seconds.

Best crack of the year! The report that the Russians have a Yak fighter, allegedly powered with a British jet engine, which is the fastest in the world got neither "yes" nor "no" from engineers when I asked them about it. One did say, however, "Well, if it's true, then all we have to do is lend them a pilot to fly the thing, and the cold war is over."



Diagrammatic sketch at left shows how new high speed timing system works. Three localizer stations, counting the mid-course station, send up vertical measuring contact beams. Break in beams sets timing devices to working.

opposite side the timers shut off. By calculating the time it takes to go from one side to the other the experts can determine precision speed measurements.

Actual ground equipment consists of two modified AN/CRN-10 runway localizers which transmit the beams that are used as end markers.

The beams extend forward in vertical planes from the antenna with the bottom edge of the beam pattern rising off the ground as influenced by the curvature of the earth—a fine point that heretofore was not taken into consideration in measuring accurate speeds. They slant upward from the transmitter at a 30 degree angle forming a sort of hypotenuse to the wall of the rectangle and permitting measurement at varying altitudes. Constant beam position is assured by a monitor station near each transmitter. There is also voice communication provided between ground stations and the plane to permit coordination in test runs.

It takes special equipment in the plane, too. This includes a standard RC-103 localizer receiver and antenna and a normal ARC/3 transceiver. A signal comes from the ground station, hits the aircraft receiver, is retransmitted to a receiver on the ground which activates a chronograph, recording impulses on a paper tape. These impulses—graduated in time—indicate the minutes or seconds it takes an airplane to traverse the distance between the two beams or sides of the rectangle. To double check the time a stop watch or photorecorder may also be used; but radio impulses on the tape, working like a teletype machine, have proved most accurate and also provide an indisputable record. Since the exact distance between the beams is known, it is simple to turn the time into mph.

Simplified operation for the test pilot is also a virtue of the new course. All he has to do is to set his channel selector on the control box to correspond with the frequency of the first radio beam. This, after he has reached a desired altitude which he communicates to men at the ground stations. By voice he says he's ready to start his run. After that he flips a toggle switch on the control box and the gadgets on the ground do the rest. All he has to worry about is "pouring on the power" to make his run the fastest possible, if that's what he's out for. When his plane interrupts the first beam it sets the chronograph into operation automatically. The pilot then clicks the switch and uses a channel selector to "intercourse" with the second beam frequency. When he passes through it (second beam), the chronograph is triggered again. He makes two passes for each test, one in each direction to compensate for wind velocity.

New Clocking System Built For Sonic Aircraft

Vertical radio beams spaced 10 miles apart are basis of system which has proved accurate down to half of one percent

The search to find more accurate methods of clocking high-speed aircraft over fixed courses is continuing unabated. Many devices have been tried. Latest and so far one of the most successful has been developed by the USAF's Test Methods Branch at Wright Field. This one works by radio waves and beams and can tell down to one-half of one percent the speed of our fastest aircraft.

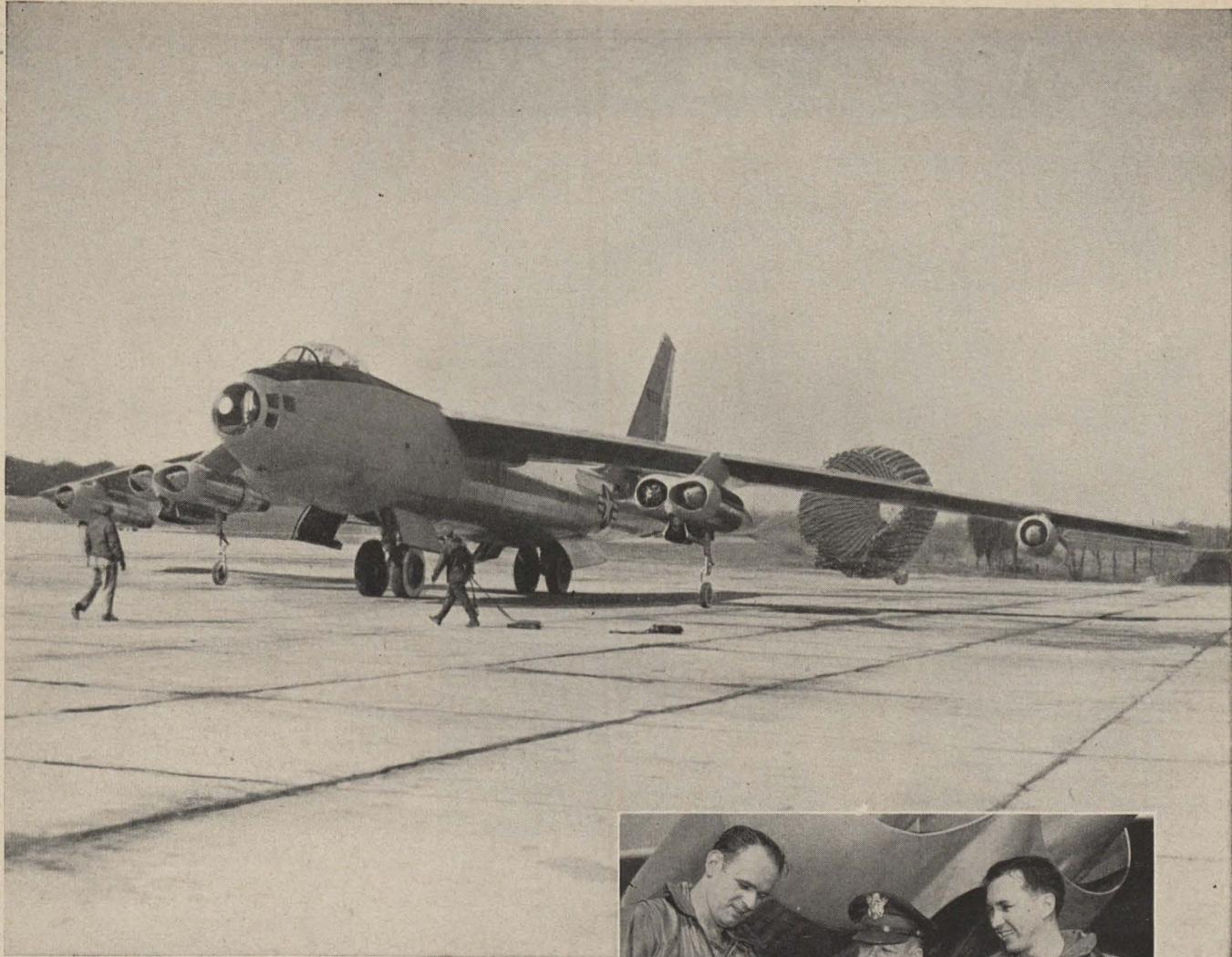
Using VHF radio transmitters, similar to those used in the Instrument Landing System, the USAF has established what they call the "All-Altitude Speed Course and Alignment Technique." Basically it consists of two parallel radio beams at fixed distances apart. You might call them a starter flag and a finish flag. What goes on in between, however, is the secret.

This is not an ordinary speed course. To begin with, it is probably—outside of the course set up at Muroc Test Base in the California desert—the largest of its kind anywhere. In area it covers almost 300 square miles. But it actually operates over a 10 mile strip. It is a

rectangular course 15 miles wide and 20 miles long extending cubically up to the sky's limit although accurate measurements to date send the beams with accuracy of timing up to altitudes of only 30,000 feet. But they're going higher! Laid out in the rectangle which encompasses flat land with few hills or obstacles, the course itself was surveyed by the US Coast and Geodetic Survey and was determined to an accuracy of 1/1,000,000th. Which means it is pretty close to perfect.

There are actually three localizer stations which send up "measuring contact beams." One is located at Vandalia near the airport. Another is located at Patterson Field Air Base about 10 miles eastward, and a third is about halfway in between. The purpose of the third localizer is for testing slower aircraft and it also provides an additional check point for the planes using the entire course.

You get an idea of how it works when you consider that the sides of the rectangle it automatically sets timers to work. When it "crashes" through the



"It Was Routine"

Time-shattering flight summed up by
pilots with AF's most time-worn phrase

The first transcontinental air speed record was established in 1922 by a lieutenant named Jimmy Doolittle. His time: 21 hours, 18 minutes. His comment: "It was routine."

Last month two Air Force majors, Russell Schleeh and Joseph Howell, clipped 18 hours and 32 minutes off the first record in a Boeing Stratojet. Their elapsed time: 3 hours, 46 minutes. Their comment: "It was routine."

Obviously neither flight was routine. Both were milestones in aviation's progress. Excluding the sound-breaking dash of Capt. Charles Yeager in the X-1, the Stratojet flight was certainly one of the most spectacular air feats since the advent of jet propulsion.

The B-47 weighs nearly three times as much as the last war's workhorse B-17. It will carry over twice the bomb load. Yet on a normal mission into Germany the B-17 was lucky to average 165 mph, while the average speed of the B-47 on its TC dash was nearly 608 mph.

After the flight, pilots Schleeh and Howell reported no unanticipated flight phenomena. Although it might have been expected, there was no friction heat. Nor were any particularly low temperatures within the cabin experienced. Middleweight

flying suits were worn and the pilots were quite comfortable according to their own reports.

They had one problem, however. Radio ranges which they followed across the country were spaced at hundred mile intervals. At the speed they flew, it was just about a one-man job to keep the radio tuned in. "As soon as we had one station well adjusted," Pilot Schleeh reported, "it was time to tune in another one. We were cranking that thing like a coffee grinder all the way across."

The flight provided plenty of material for armchair statisticians. For example, at the altitudes at which Schleeh and Howell flew, "30,000 feet and above," the speed of sound is around 660 mph. To average 608 they undoubtedly pushed 660 somewhere along the line. But since they had favorable tail winds which upped the point of compressibility they cannot accurately be said to have approached the sonic barrier in true air speed. Even so, the statisticians can now speculate with credible basis on the possibility of a trans-sonic atomic bomber. For Major Schleeh stated after landing that had he known before he took off what he learned in flight, he could probably have cut another full hour off the already unbelievable record.



AFA's President, C. R. Smith, presents the citation the Association awarded Metro-Goldwyn-Mayer Studio for producing "Command Decision" to Eric Johnston, President of the Motion Picture Association, during the Washington premiere.

REPORT from the BOARD

AFA's national Board of Directors met in New York City on January 22 and approved a new AFA constitution and a new type membership, appointed a new Executive Director, and formulated operational policies of the Association for the current year. Sixteen Board members were present during the day long session, which was presided over by President C. R. Smith.

After considerable discussion of the present status of US airpower and its relation to national defense, the Board placed the Association on record in support of the currently recommended defense budget ceiling, but urged that the amount allocated the services should be re-distributed to better conform to modern defense responsibilities, with a greater proportion going to the Air Force.

James H. Straubel, Editor and Publishing Director of AIR FORCE, was named Executive Director of AFA, succeeding Willis S. Fitch, who resigned early last year. Straubel has been serving as Acting Executive Director since last July 1. In addition to his new duties, Straubel will retain supervision of the publishing of AIR FORCE.

George C. Van Nostrand of Washington, D. C., was re-elected Assistant

Treasurer of the Association, and was designated Assistant to the President. Van Nostrand has long been an ardent worker for AFA, and was awarded the Association's airpower plaque for outstanding services to the organization.

President Smith informed the meeting that negotiations with the Air Reserve Association, relative to the two organizations merging, had ceased. However, he expressed the belief that it was advantageous for all such groups to unite in their support of adequate airpower. The Board went on record as favoring all constructive steps to unite air-minded organizations and increase the total contribution to American airpower.

An important item on the Board meeting agenda was the approval of changes in AFA's constitution for redesignating the types of AFA memberships and the qualifications. The Board incorporated changes in the present constitution based on action approved by delegates at the AFA convention in New York City last September while considering merger with the Air Reserve Association. Four classifications of AFA membership are now authorized.

► ACTIVE membership is exclusively

reserved for persons honorably discharged from military service, who were assigned or attached to the US Air Force, or its predecessor services; or to a unit assigned or attached thereto; or who are presently enrolled in the Air Force Reserve or Air National Guard, regardless of prior military service. Only this type of member will be permitted to vote and hold office. Annual dues: \$4.

► SERVICE membership, formerly known as "associate", pertains to those persons on active duty with the US Air Force, or units assigned or attached thereto, regardless of the date of entry into such service. This type member is not permitted to vote or hold office. Annual dues: \$4.

► ASSOCIATE membership embraces a new type classification. Any person who has demonstrated his interest in furthering the aims and purposes of the Association, and the proper development and maintenance of United States air power, may be selected as an Associate member of the Association by the Executive Council of the Squadron in the area in which he resides, provided such membership is approved by the Membership Committee of the Association, by the Executive Committee of the Wing, or may be selected directly by the Membership Committee of the Association. Annual dues: \$5, \$10, or \$25, at the discretion of the applicant. This type member will not be entitled to vote or hold office, and will not be authorized to wear the official AFA membership pin.

Smith informed the Board that he had received the resignation of C. V. Whitney from the Board of Directors of the Association, effective November 8, 1948. The Board mutually agreed to withhold the appointment of a successor to Whitney until its next meeting.

A unanimous vote was made to prepare and present an appropriate citation to Metro-Goldwyn-Mayer Studios for producing the motion picture "Command Decision". The citation pays tribute to M-G-M for contributing to a better understanding of the US Air Force, and its role in national security.

Air Action in Hawaii

No sooner had members of the Hawaii Wing of the Air Force Association learned that the Department of the Air Force had authorized the establishment of an Air ROTC unit at the University of Hawaii than a memo was prepared and sent to all AFA Squadrons in the Islands requesting each Squadron to take the necessary action to authorize the Wing to represent the Squadrons in requesting the University to establish Air ROTC training. Not wanting to waste a single moment in making this request, one line of the memo that went out on December 2 read, "We need advice from you within the next 24 hours, if possible, to the effect that your Squadron has gone on record to support the

installation of an Air ROTC unit at the University of Hawaii."

Still remembering an air incident that happened in the Islands one December morning some seven years ago, these former members of the Air Force, seeing an opportunity to train the youth of Hawaii in airpower, organized their campaign well. Four islands make up the Territory. The Squadron on each of these islands was informed that each island had one or more members on the Board of Regents of the University. They were to contact their respective regent member and gain his support for the air unit. A statement was to be given each local newspaper saying that the Squadron had taken action in support of the installation of the air unit at the University.

Each Squadron immediately responded to the Wing's request, and on January 4, the Wing made a radio broadcast to all the islands stating that the Hawaii Wing of the Air Force Association was sponsoring the establishment of an Air ROTC unit at the University. The broadcast further stated that the four AFA Squadrons had launched an all-out program to develop this new source of officer material for the Air Force Reserve and the Air National Guard; that unified action had been taken in cooperation with the Pacific Air Command, resulting in favorable consideration of the Air ROTC project; and that the University students were polled, and high interest was found throughout the school. The radio message stressed that this was the first attempt to bring air training to the school, and since the University is the major center of higher education for the entire Pacific area, it is vitally necessary that air training be made available.

On January 11, a long news article appeared in a leading Honolulu newspaper, stating that the AFA Wing was strongly urging an Air ROTC unit at the University, and that a suitable plan had been worked out for presentation to the University officials for action.

A few days later another article appeared in the local newspapers, stating that the University had considered the proposed plan, that it was acceptable, and if suitable arrangements could be worked out to provide the necessary space and equipment for training the participants, the unit would be installed. Gregg M. Sinclair, President of the University, appealed to the Governor of the Territory for assistance and obtained authorization to use certain accrued funds to move and remodel several former Army buildings to house the new Air ROTC unit.

The last memo to the Squadrons read, "Congratulations on a job well done. Every Squadron of the Wing responded fully, and actively supported this issue to a successful conclusion."

Roy J. Leffingwell of the Hawaiian Sugar Planters' Association is commander of the Wing, and recently was presented an award for his contribution to the AFA program. Eligible AFA members in the Territory of Hawaii are urged to get in touch with Leffingwell at P. O. Box 2450, Honolulu.

State Roundup



FLORIDA

Tampa: Jerome Waterman of Tampa, one of AFA's national directors, is sponsoring the formation of a new Squadron at nearby St. Petersburg, and is planning joint meetings with other AFA Squadrons throughout the state.

At a recent meeting of the Tampa Squadron, held at nearby MacDill Air Force Base, the following new officers were elected to head the Squadron for the coming year: Bill Abbott, a Tampa newspaperman and former PIO officer of the 9th Air Force in Europe, commander; Mallary Shirah, vice commander; Mrs. Frances Causey, treasurer; Mrs. Hortense K. Wells, secretary; and Jerome Waterman, Hugh Culbreath, Loper B. Lowry, Porter Stiles, Mrs. Mary Ten Eyck, Mrs. Lodema Carabo, Mrs. Kay Eblen, Marvin Essrig, Hugh A. Tate, Ralph A. Harrison, Rosco G. Conklin, Don Underberg and Frank V. Peretti as members of the council.

The Tampa AFA outfit's sponsorship of the past Air Force Day celebration at MacDill Air Force Base gained the Squadron the distinction of attracting the largest crowd in the Base's history.

All eligible AFA members in the Tampa area are urged to contact Mrs. Wells at P. O. Box 1792 in Tampa.

MASSACHUSETTS

Arlington: AFA headquarters extends its congratulations to the Arlington Squadron for undertaking one of the greatest projects any community organization could participate in. Several months

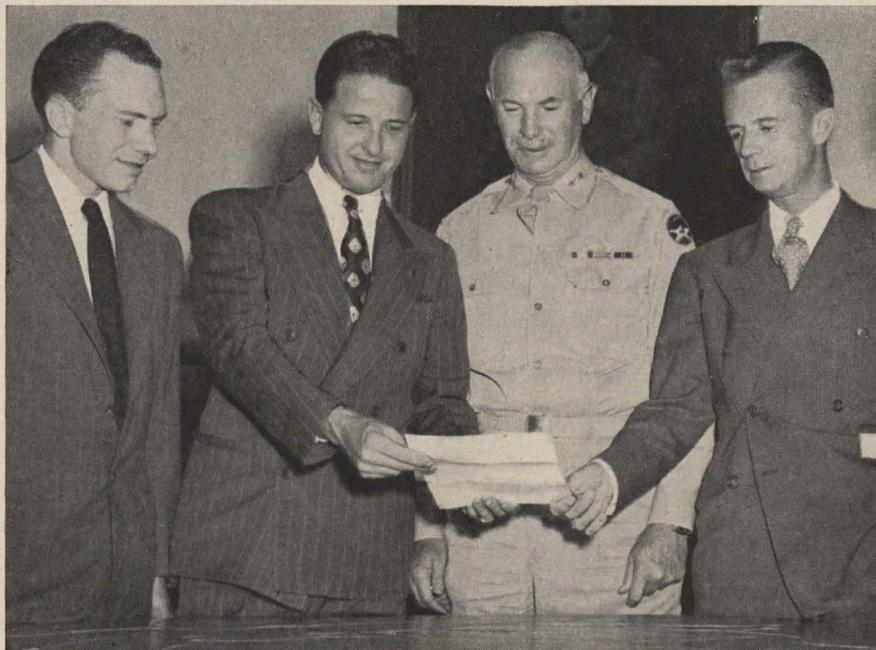
ago the Squadron members began a blood donor campaign. On two different occasions members of the Squadron have gone down to the community blood bank *en masse* and contributed ample amounts of blood. Headquarters does not know of any other AFA squadron which is engaged in a more unselfish project than this group.

The Squadron has also made a request to national headquarters for assistance in obtaining and erecting grave markers for the Air Force members buried in the Arlington area. Squadron officers state that Arlington residents are proud of their deceased loved ones' service in the Air Force, and would like to have them identified as having served with that branch of the service.

Though the Squadron is not one of the largest in the Association, this does not reflect on the unit's activity. It is presently sponsoring an Air Scout Squadron and a high school model plane club. The membership committee has been given the job of almost doubling the Squadron's present membership during the coming year. Plans for participation in an active athletic program are under way.

Robert Hauser of 10 Cleveland Street, Arlington is the new commander of the Squadron, and assures national headquarters that the outfit will surpass its previous records during the coming year. All eligible AFA members in the Arlington area are urged to get in touch with Hauser.

Salem: At the annual election of officers
(Continued on page 40)



Hawaii Wing officers discussing air power activities with Maj. Gen. Ralph H. Wooten, former CG of the 7th Air Force. Left to right: Secretary Ross Haynes, Commander Roy Leffingwell, General Wooten, Vice Commander W. Dillingham.

Attention

KENTUCKY AFA'ers

The first state-wide rally of all AFA members in Kentucky is all set for March 26 and 27. The big affair is to be held at the Norman Barnes Post No. 70 of the American Legion, 115 East Fourth Street in Covington.

Registration will begin at 12 noon on Saturday and the last session is scheduled to end noon Sunday—a small registration fee of \$1.50 per member will be charged to cover the big buffet dinner on Saturday night and the refreshments and entertainment following. Wives are welcome, and \$1.00 will cover their registration.

Leading aviation personalities will be on hand to discuss Kentucky's role in today's air power.

Hotel facilities have been arranged for at the Hotel Gibson in Cincinnati, Ohio. Those planning to attend the Kentucky AFA Convention, who desire hotel accommodations, are urged to fill in the coupon below and mail it immediately.

RATES

Single Rooms for One \$4.00 to \$8
Double Rooms.....\$6.50 to \$12
Twin Bed Rooms.....\$7.50 to \$12

Mail the following to:

HARRY J. JOHNSON, JR.

Kentucky Wing Commander, AFA
29 Sunnymede Drive,
So. Ft. Mitchell, Ky.

... YES, I plan to attend the Kentucky AFA Statewide Convention in Covington on March 26 and 27.

There will be persons in my party.

RESERVE	CHECK HERE	RATE \$
Single Room (One Person)		
Double Bed (Two Persons)		
Twin Beds		

NAME	
STREET	
CITY	STATE
TIME AND DATE OF ARRIVAL	
NAME OF CONVENTION OR GROUP	

AFA ROUNDUP (Continued)

of the Salem Squadron held recently at the Hotel Hawthorne, Edward R. Tufts, former combat intelligence officer for the 12th Air Force in Italy, was elected commander.

MINNESOTA

Minneapolis: At a meeting of the Minneapolis Squadron, held in the Mayor's Reception Room of the City Hall on January 26, Hale Cavanagh of 2319 Aldrich Avenue South, was elected commander for the coming year. Other officers elected were: Benjamin B. Belfer, vice commander; Robert Carlson, secretary; Berda K. Wedseth, treasurer; and John McIlvaine, Wayne Boline, and Ralph Anderson as Councilmen.

All eligible AFA members in the Minneapolis area are urged to contact Secretary Carlson at 2522 Garfield Avenue South.

NEW JERSEY

Newark: The state-wide AFA rally staged by the New Jersey Wing officers at the Downtown Club in Newark on January 29 boosted the AFA activity throughout the state. Nearly 100 AFA leaders packed the banquet room to hear C. R. Smith, President of the Association, make one of his best "off-the-record" airpower talks. Smith chose a familiar subject in AFA circles, "a single Air Force for the US."

The banquet, given in honor of the third anniversary of the Air Force Association, brought together many of the New Jersey AFA leaders for the first time. Irving B. Zeichnor, newly elected commander of the Wing, served as toastmaster of the event. Bernard Lowy, past commander of the Wing, headed the committee in charge of the arrangements. Other AFA guests present were Gill Robb Wilson, aviation columnist of the New York *Herald Tribune* and chairman of the 1948 AFA national convention; Rex Smith, vice president of American Airlines in charge of public relations; and Ralph Whitener, organizational director from national headquarters. Zeichnor read letters from several New Jersey Congressmen and Senators, expressing their regret at not being able to be present, and stating their interest in the Air Force Association.

PENNSYLVANIA

Oil City: Plans are well under way for the formation of an AFA Squadron in Oil City, according to Joe Whittaker, AFA Wing Commander for the state. A large group of former members of the Air Force recently met and elected temporary officers to lead the outfit until it is officially chartered and the election of permanent officers takes place.

Howard F. Sallade was chosen to temporarily head the unit. The other temporary officers are: George Carpenter, vice commander; Robert Rugh, sec-

CLASSIFIED

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

Senior engineering draftsman, 44 years old. Five years in drafting room and three years in shop. Some experience in aviation machine shop practice. Civil service rating. Prefer position in South. Write Box E-F-1, AIR FORCE.

Wanted—By disabled, honorably discharged veteran—work as gatekeeper or usher in theatre, 7 years experience; or work in packing department in store or factory. Will accept employment anywhere. Write Box E-L-1, AIR FORCE.

Air Force veteran, 25, with 20 months experience as airplane and engine mechanic, desires position with a future. High school graduate, one year of business school. Photostat assistant 9 months. Write Box E-M-1, AIR FORCE.

Air Force veteran desires electrical position. Airplane and engine mechanic 3 years—aerial engineer 4 months—electricians helper 2½ years. Graduate of two Air Force schools. Accept employment anywhere. Write Box E-M-2, AIR FORCE.

Former Air Force supply technician wants job as storekeeper for parts and accessories manufacturer or wholesale dealer. Understands supply and warehouse techniques; 18 years experience. Work anywhere. Write Box E-M-3, AIR FORCE.

Export manager assistant, familiar all phases of export business, several years experience. Independent Spanish correspondent. Good foreign connections for drugs, medicines, hospital equipment. Desire position with manufacturer only. Write Box E-S-1, AIR FORCE.

retary; and C. W. Neely, treasurer. Charles A. Morrison was appointed chairman of the program committee; Jack Lange chairman of membership and publicity and Al Reed head of meeting committee.

(Continued on page 46)



Get on the Flight Line In the **NEW** Air National Guard

The backbone of the Nation's Air Defense, the fighter planes of the Air National Guard stand ready on the flight line for any emergency.

Whatever your interest or past experience, you can find your place in this well-balanced outfit that is organized in every

state, the District of Columbia, Hawaii and Puerto Rico.

Pilot or mechanic, weatherman or radar technician, there's a T/O vacancy awaiting you in the **NEW** Air National Guard.

See the Air National Guard Commander at the Air Base in your community or write the Adjutant General at the capital of your State.





Phil Cochran, famed *Flip Corkin* character of *Terry and the Pirates*, making one of his many radio broadcasts for AFA during California Wing "Operation Membership." Appearing on the program with Cochran is June Lockhart, attractive Hollywood actress, recently named "Miss Air Force Association of 1949."



Representing ATC on a radio broadcast during "Reunion Night" in Los Angeles are: C. R. Smith, AFA's President; Arthur Kelly, 2nd Vice President of AFA; Harold L. George, wartime head of ATC; and Bert Lynn, Secretary of the Wing.

OPERATION MEMBERSHIP

**California goes all-out in
drive for new AFA members**

The California Wing is engaged in a state-wide roundup of new members for AFA under a program that may well serve as a pattern for membership drives throughout the country.

Paced by a full-fledged promotion campaign, the program embraces direct contact solicitation for new members, squadron followup for renewals, squadron formation, community relations, and an extensive membership contest.

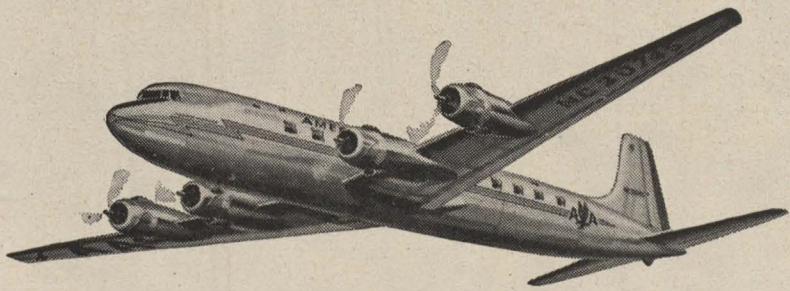
One unique angle to the program is the organization of AFA squadrons by wartime units. This activity, to date concentrated in the Los Angeles area, was initiated the night of January 6 with 10 simultaneous reunions of Air Force veterans grouped by wartime air forces or equivalent commands.

Well-known Air Force leaders were on hand to greet those attending, including Lt. Gen. Harold L. George, wartime head of ATC; Maj. Gen. Ralph P. Cousins, wartime head of Western Flying Training Command; Col. Randolph Lovelace, wartime chief of the Aero Medical Laboratory. The screen stars participating in the reunions included June Lockhart, Jeffrey Lynn, Jane Wyman, Alan Hale and Edmond O'Brien. Phil Cochran of "Flip Corkin" fame appeared on radio programs to drum up interest in the reunions and spoke at several of the meetings. AFA President C. R. Smith attended four of the reunions.

The evening was climaxed by a joint meeting of the groups in the Los Angeles Times Auditorium. More than 600 Air Force veterans attended.

When the evening of reunions ended, plans had been made for the formation of AFA Squadrons representing: Air Transport Command, 5th-7th-13th Air Forces, 8th Air Force, 12th Air Force, 15th Air Force, and Training Command.

Meanwhile, the Wing has organized a state-wide membership contest, scheduled to end April 30. Any California member is eligible to participate. Five prizes are to be awarded to the winners. First prize will be an all-expenses round-trip to AFA's 1949 national convention; second prize, a life membership in the Association; third prize, a round-trip airlines ticket from either Los Angeles or San Francisco to Las Vegas, Nevada; fourth prize, a case of champagne; and fifth prize, a silver Ronson table-model cigarette lighter. To compete for these prizes, each person signing up a new AFA member in California must forward names and addresses, with dues attached, to Bert D. Lynn, Wing Secretary, 1452 North Seward Street, Los Angeles 28, California.



It is still Dawn in Aviation's Day!

*...From the inspiration of its miraculous growth comes our faith
in the bright future of America's air transportation...*

It has been little over 45 years since that day at Kitty Hawk when an American boy named Wright flew 120 feet at the rate of 30 miles an hour.

Since then many famous names—Rickenbacker, Lindbergh, Wiley Post, "Hap" Arnold, "Tooey" Spaatz, Hoyt Vandenberg and scores of others—have written glorious exploits in aviation's logbook.

The Berlin Airlift today proves in peace what the India-China "Hump" proved in war—that air transportation's *utility* is matched only by its *flexibility*.

We of American Airlines have backed our faith in aviation's future with more than words. Within the past three years we have spent \$75,000,000 for a completely new postwar Flagship Fleet.

Early 1949 will see the retirement of all DC-3 and DC-4 aircraft on American's routes. These airplanes, in peace and in war, made possible many of transportation's greatest achievements. For years their sturdiness and reliability set new standards in aviation. However, newer and faster planes of even greater dependability have made these earlier types yesterday's airplanes—by the demanding standards of 1949.

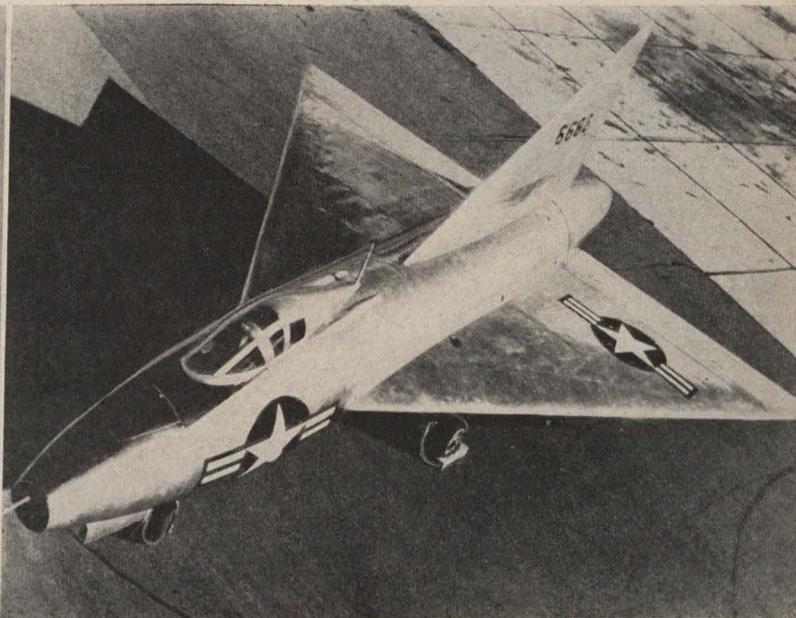
American Airlines will enter 1949 with a completely new fleet of Douglas DC-6 and Consolidated Convair Flagships, each a leader in its field. This 300-mile-an-hour Flagship Fleet is ready to serve you with comfort, speed, reliability and safety. This is ample evidence of our faith in the future of air transportation—indeed in the future of America itself.



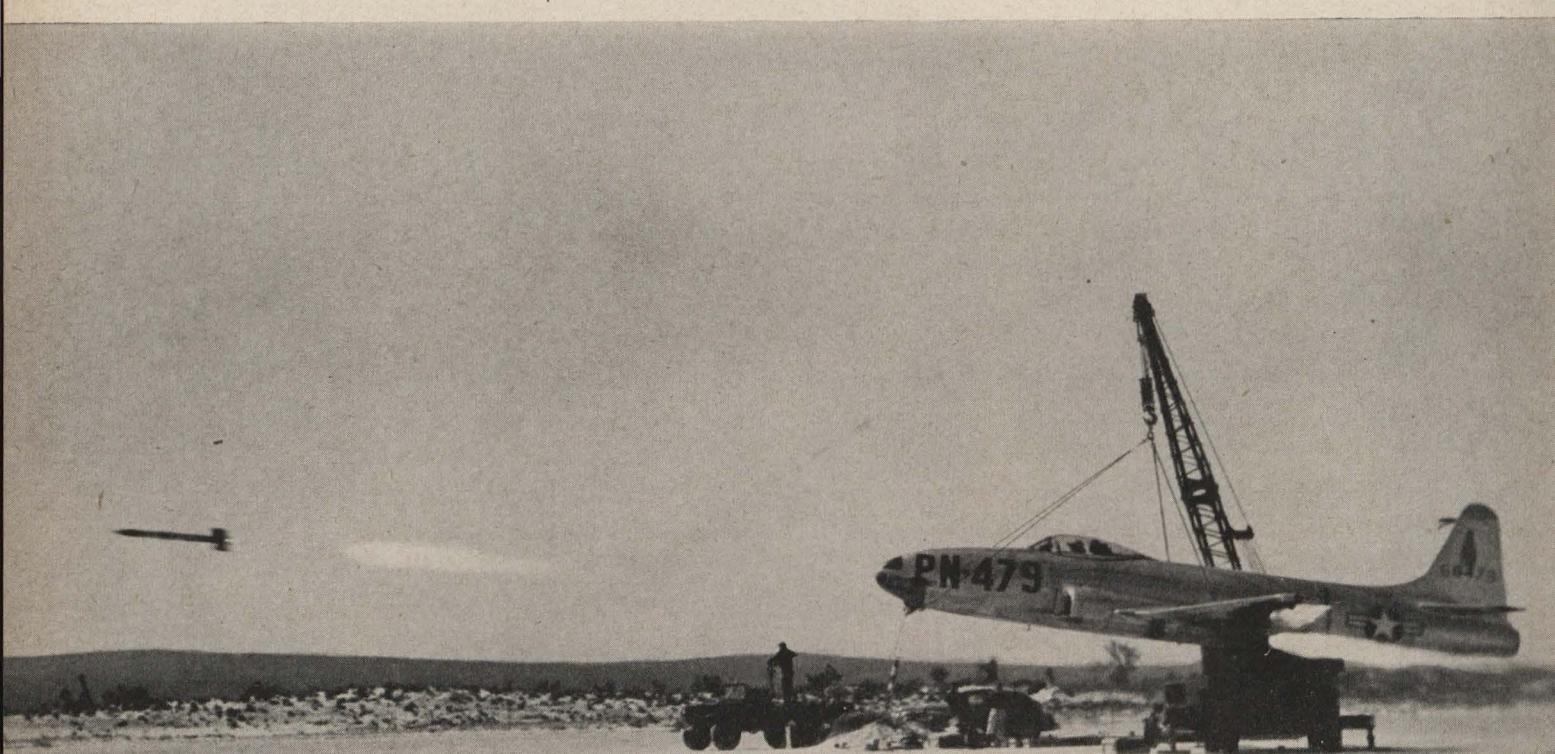
AMERICAN AIRLINES



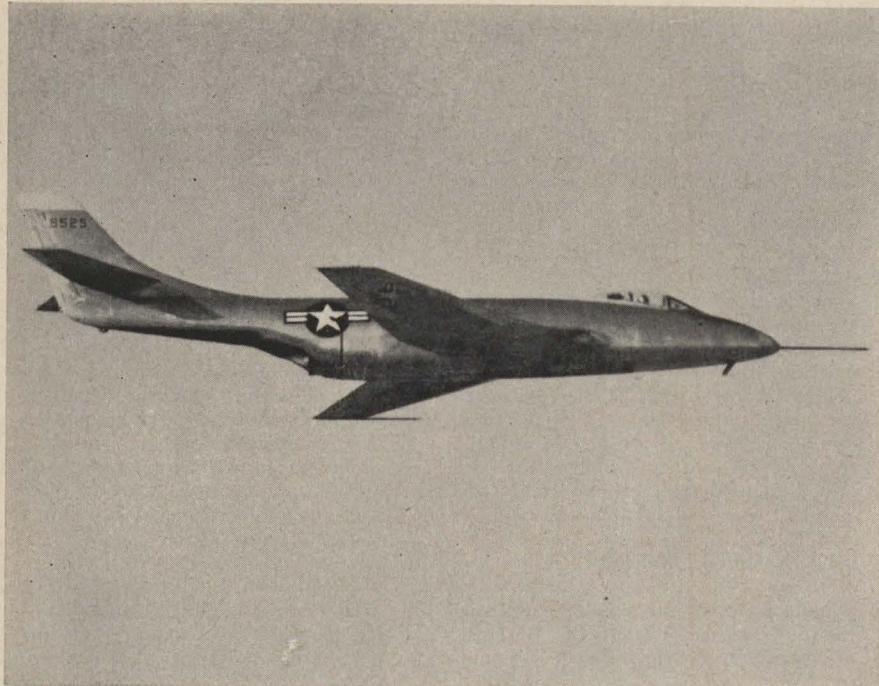
Man behind glasses is Harry S. Truman. Man with two rather unnecessary identification tags is Gen. Ike. Occasion was recent presidential air show in capital.



Newest Air Force research plane is Convair's Delta Wing model 7002. The plane's wing has a 60 degree sweepback, compared to 35 degrees which is maximum now used on standard aircraft.



Lockheed F-80 Shooting Star is caught during testing of retracting rocket mounts at Muroc, Calif. Mounts holding rockets under the wing of aircraft retract into wing when last rocket is fired, eliminating speed-cutting obstructions.



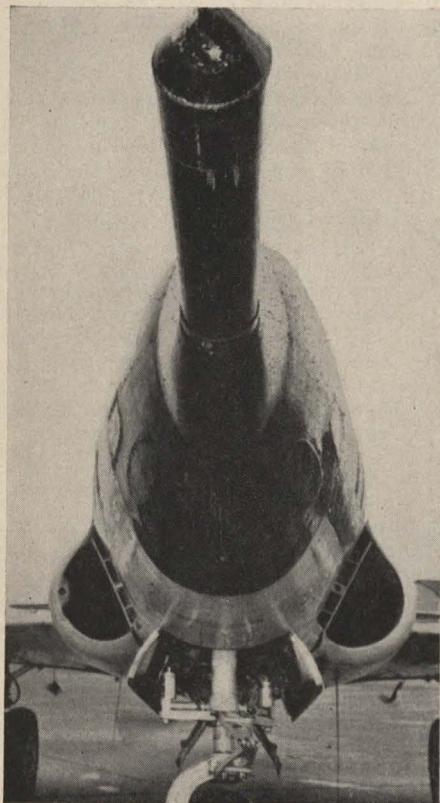
Another new jet fighter was introduced last month by the Air Force. This one, the XF-88, was built by McDonnell and is now undergoing tests at Muroc, Calif.

RECON SHOTS

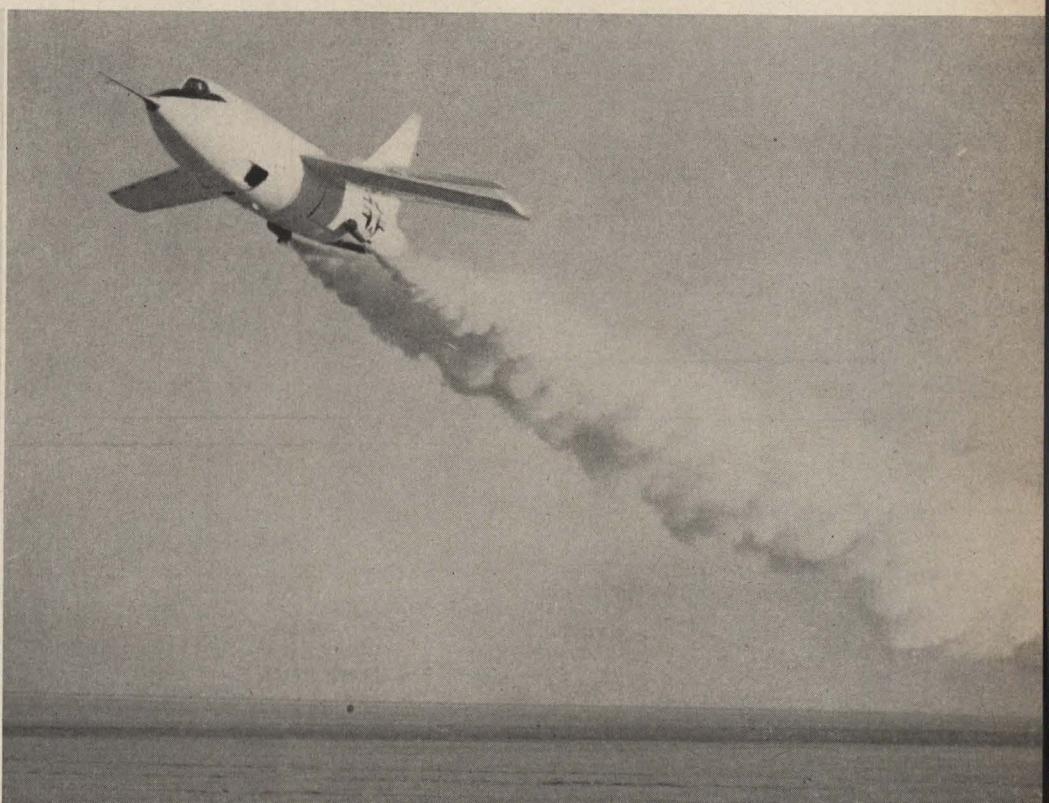
Random camera records of the events of the month in the air from the four corners of the globe



Whether the news was slow reaching them or not, two Japs—former Navy machine gunners—have just given in to AF men on Iwo Jima. Since end of war they have lived in caves by day and foraged for food during night.



A rocket that juts forward from nose of F-80 has been under study by USAF. Pilot is protected by fire wall.

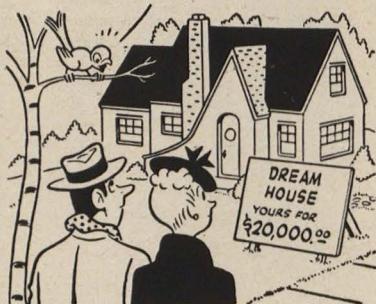


Not to be outdone by the Air Force, the Navy has just released pictures of its own research craft—the Douglas Skyrocket, shown here taking off with jet assist from Muroc Air Base. The Skyrocket uses both jet and rocket power.

AFA ROUNDUP (Continued)

NEW YORK

WANT TO EARN \$9000 A YEAR?



Then here's your chance to enter a business offering an opportunity for unlimited earnings . . . plus the satisfaction of rendering a worthwhile community service. Many of our representatives earn \$4,000 to \$9,000 a year, and more!

To find out more about the opportunities offered to you in a life insurance selling career, send for our free booklet. If you appear to have the qualifications for success, our manager in or near your community will explain our excellent on-the-job training course and the famous Mutual Lifetime Compensation Plan, which provides liberal commissions, service fees and a substantial retirement income at 65.

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FIRST IN AMERICA

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NAME _____ AGE _____
ADDRESS _____
CITY _____

Albany: C. Dudley Leavy of 279 Delaware Avenue is now commander of the Albany Squadron, according to a recent notice from Earle Ribero, commander of the New York Wing of the Air Force Association. The Squadron has been holding its monthly meetings in the New Scotland Avenue Armory the 2nd Wednesdays at 8 p.m. Plans are being considered for holding the summer meetings in the Civil Air Patrol Building at the Albany Airport. Other officers of the Squadron are: Harold Rosenstrauch, vice commander; Frank Murdaugh, treasurer; Kathrine Abbott, secretary; and Earle Ribero, Edward Healy and Thomas Dudo as councilmen.

Brooklyn: Joseph Hallek, corresponding secretary of the Brooklyn Squadron, has announced plans for a buffet supper at the Bay Bridge Hofbrau on March 1, at which time the newly elected Squadron officers are to be officially installed. Hallek also announced that John Favorita of 430 Sterling Place, Brooklyn, had been elected to head the Squadron for the coming year. Other officers elected were: Erwin L. Kranz, vice commander; Beatrice Tarnhoff, recording secretary; Milton Weintraub, the new corresponding secretary; and J. C. Haffey, Sidney M. Gordon and Herbert Heimberg as councilmen. Hallek was elected treasurer for the new year.

Queens: The Queens AFA Squadron, headed by David Levison of 216 Forbell Street, Brooklyn, was recently honored by being selected as guest of the nationwide radio broadcast "Skyway To The Stars." Stars of the CBS show included Tex McCrary, Ezra Stone and Kay Armen. The invitation was extended to the Queens outfit by the Columbia Broadcasting Company.

The Squadron is presently engaged in a fund raising campaign which involves giving away over \$700 worth of prizes. Over 3000 eligibility tickets were donated to patients at nearby Halloran Hospital. Plans call for all profits derived through this program to be set aside in a special fund for

assisting Squadron members and their families in time of need.

Manhattan: The Manhattan Squadron has announced that all AFA members in the New York City area, regardless of whether they are members of the Squadron, are cordially invited to attend their regular monthly meetings, held the first Thursday at the Wings Club in the Biltmore Hotel at 7:30 p.m.

White Plains: The Westchester Squadron, one of the AFA's best known outfits for some time, has organized an aviation speakers bureau, which will be available for various meetings throughout the community. One of the most well-known members of the bureau is Carl Norcross of the *March of Time*, who edited the Finletter Report for publication in Air Force Magazine last March. All civic organizations in Westchester County who are interested in having an aviation speaker for a future meeting are invited to request a member of the Squadron's speaker bureau.

Robert Kelly, now heading the AFA Squadron, urges all eligible members in the Westchester area to contact him at 157 Bedford Road, Pleasantville.

La Guardia Field: A new AFA Squadron is being formed at La Guardia Field under the supervision of Casey Jones, past commander of the New York Wing and head of the Academy of Aeronautics at La Guardia. Most of the members of this new Squadron will be La Guardia Fielders, but all Queens and Nassau veterans are invited to attend and join.

The old Academy of Aeronautics Squadron has been dissolved in favor of the new outfit so as to increase the prospective membership. The new unit will in no way conflict with the Queens Squadron which meets regularly at the Hillcrest Golf Club in Jamaica.

James Reinke of 19-70 79th Street, Jackson Heights, is heading the group of temporary officers. Others elected to assist Reinke are: Edward Tobin, vice commander; H. M. Barnes, treasurer; and Walter Hartung, secretary. This new Squadron will be made up primarily of airline personnel, but any eligible member is invited to join.

VIRGINIA

Martinsville: At the regular January meeting of the Patrick Henry Squadron in Martinsville Edwin C. Haynes of 24 South Bridge Street was elected commander for the current year. Other officers elected to assist Haynes were: J. B. Frith, vice commander; Oliver W. Poindexter, treasurer; R. A. Henderson, Jr., secretary; and Robert Bondurant, Arthur Richardson and C. O. Remsen as councilmen.

The Patrick Henry Squadron is launching an extensive membership drive and eligible AFA members residing in the Martinsville area are urged to get in touch with Haynes.

FLIGHT KAP

Famous South Pacific Cap designed and patented by 20th A.F. veteran.

- ★ 5-inch square visors.
- ★ Zelan treated, water repellent poplin.
- ★ Winter model has fleece lining and warm ear flaps.
- ★ Cannot blow off. Attractive, durable and comfortable.
- ★ Your satisfaction guaranteed unconditionally.

ORDER BY MAIL: Send check, money order, cash; hat size, color choice to . . .

GUN CLUB SPORTSWEAR
Box 477, Dept. AF, Des Moines, Iowa

Summer model has real leather sweatband.

\$1.50
Postpaid
Red, Tan

Send for free catalog

\$1.75
Postpaid
Red, Tan

MILK WAGON CONTINUED

get B-36 performance it took a wing just as efficient and engines just as powerful.

And here's a point that may be a little aside but nonetheless interesting. Suppose we assign some of our A-bombs to a force such as Task Force 58. There may be 100 or 150 warships in such a group, but to the enemy only the ships that carry the A-bomb—only the 15 or 20 carriers—are worth attacking, and there they will be all singled out by their flush decks and their huge dimensions. On the other hand, suppose a group of 40 B-36s approaches an enemy target. Three of them may carry an A-bomb, but how will the enemy know which three? All 40 planes become targets of the utmost importance. All 40 must be destroyed to remove the threat.

No, the "Ya-but-do-we-need-a-thing-that-big" boys have just not acquainted themselves with the facts. The decision to add it to our Air Force string was not made because a group of 36s makes a pretty cover for a parade. It was made, among other things, for the reasons cited above, and if you can argue them down logically you'll get nothing but a friendly ear at the Pentagon.

That leaves only the question of the mechanical perfection of the plane. Some of the notes above should answer most of the skeptics, but in case they don't, these should: The Air Force states categorically that there is no "problem" as far as the six huge Pratt & Whitney R4360 engines are concerned. Sure, there are bugs. But to try to escape them is like trying to raise a young boy without getting the measles. The thing that is giving some trouble is the electrical system. For the first time an AC electrical system is used in the B-36 instead of the conventional DC system. Because this is something of an innovation, it has presented new problems. But nothing the Air Force isn't confident will be resolved with a little time. In answer to snipers, the Air Force states that the engines actually run cool instead of hot.

What of the future? Remember the B-29 with which we closed the war was an immensely better plane than the first one off the production line. The same could easily be true of the B-36. If sources outside the Air Force can be accredited, auxiliary jet engines for added take-off power and for additional speed in the event of an emergency are already in the offing. Additional altitude can also be expected if the normal rule holds true. Range over and above the 10,000 mile figure—perhaps up to 14,000 miles—may likewise be forthcoming, although there seems little likelihood that such mileage will ever be needed.

No, it would seem that the sharpshooters are sniping at the wrong target. They're in thin air headed for a stall. You can put your money on it. The B-36 will weather the storm of disbelievers as well as the Flying Fortress.

AVITRUC

Key to fast economical air freight

Outstanding AVITRUC features:

- ★ EXCELLENT SHORT FIELD TAKEOFF AND LANDING CHARACTERISTICS.
- ★ LARGE PAYLOAD—SOURCE TO DESTINATION OPERATION.

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

STROUKOFF AVITRUC

FRONTIER JODPHURS

MADE FAMOUS BY U.S.A.F. MEMBERS



Sportsmen, Outdoorsmen, Flyers want the comfort, fine appearance of these soft Bench-made jodhpurs fashioned by skilled craftsmen south of the border. Fine calf upper leather. Full leather lining. All leather soles and heels.

Brown
Cordovan
Calf

\$18

Specify street-shoe size. Prepaid when money with order. Otherwise \$1.00 with order. Balance COD. Money back guarantee. Overseas orders cash only.

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CREDITS

COVER—USAF; Pages 11, 12—Consolidated; Page 13—Consolidated, Wide World; Pages 14, 15—Ladd Field; Pages 16, 17—Beech Aircraft, AFA; Page 18—Acme, USAF; Page 19—Acme, USAF; Page 21—Air National Guard; Pages 26 thru 29—Air National Guard; Page 33—USAF; Page 34—USAF; Page 47—Wide World, Acme; Page 42—AFA, Frank Brown; Pages 44, 45—Acme, Wide World, Lockheed, USAF, Douglas.

MOVING?

This may be the super-sonic age, but so far no one has found a way to apply jet propulsion to the job of changing addresses on magazine lists. It still takes time—about six weeks in fact. So if you're moving let us know in advance.

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ACCEPTANCE TEST (Continued)

mph; landing speed (with flaps), 56 mph; stalling speed (without flaps), 66 mph; take-off run with 10° flap in a 10 mph wind, 665 feet; landing run, full flaps, in 10 mph wind, 235 feet.

The Findings

The team flew the test in two separate airplanes. During the circuit inspection which preceded the flights, several features were pointed out that made maintenance easier. For instance, the automobile-type engine cowls make the power section accessible for routine engine maintenance. The electric motors that power the propeller, flaps and the landing gear are identical. In landing, the main wheel-well doors close when the gear is down, a feature that keeps mud and dirt from being thrown up while the plane is running on ground. The nose wheel is equipped with a mud scraper to keep the mud off the bottom of the fuselage.

Both of the test team engineers rated the plane highly on such features as accessibility of inspection and adjustment points, general ruggedness and simplicity of operation. For instance, the battery which is placed in a panel "glove compartment" for easy access by both mechanics and pilots drew favorable comment.

The pilots, Lunardi and Bray, found the seats comfortable and the vision first rate, particularly good while taxiing. Pilots used to flying military aircraft down the runway found the five-directional vision of the Bonanza a pleasant change. Lunardi thought that adjustable seats might have been some improvement although the two-position control column served about the same purpose. The steerable nose which is new in the 1949 model appeared to add much to the aircraft's first rate ground-handling characteristics.

The take-off proved effortless, the rate-of-climb was tried at 750 feet per minute for the first 3000 feet. The climb was made much below maximum climb effort, indicating that the 890-foot minimum claim for the first minute was accurate. This test, like the other time phases of the trial, was checked against a specially timed Kelbert chronograph.

Steep and shell turns were good. As for hands-off characteristics, Lunardi reported that the ship appeared to fly better by itself than when it was flown manually.

In the approach to stall, adequate aerodynamic warning was reported. The Bonanza is equipped with a turbulometer-type stall-warning indicator, a device which was rather new to military trained pilots. General stability was checked on all three axes, control response was found to be quick and crisp.

Both pilots reported feeling at ease in the machine. The only change suggested was for brake controls on both sides for check-out and instructional use.

The Bonanza flown by the group

headed by Henry Lunardi was equipped with the new Narco VHF Omni range radio equipment. This equipment may be tuned to any channel on the CAA's omni directional VHF from 108 to 122 cm, including localizers, range signals, omni-directional ranges and communications, as well as approach control and tower channels. By the use of the new V-type dipole antenna and omni-range converter, the equipment can be used to fly the omni-ranges.

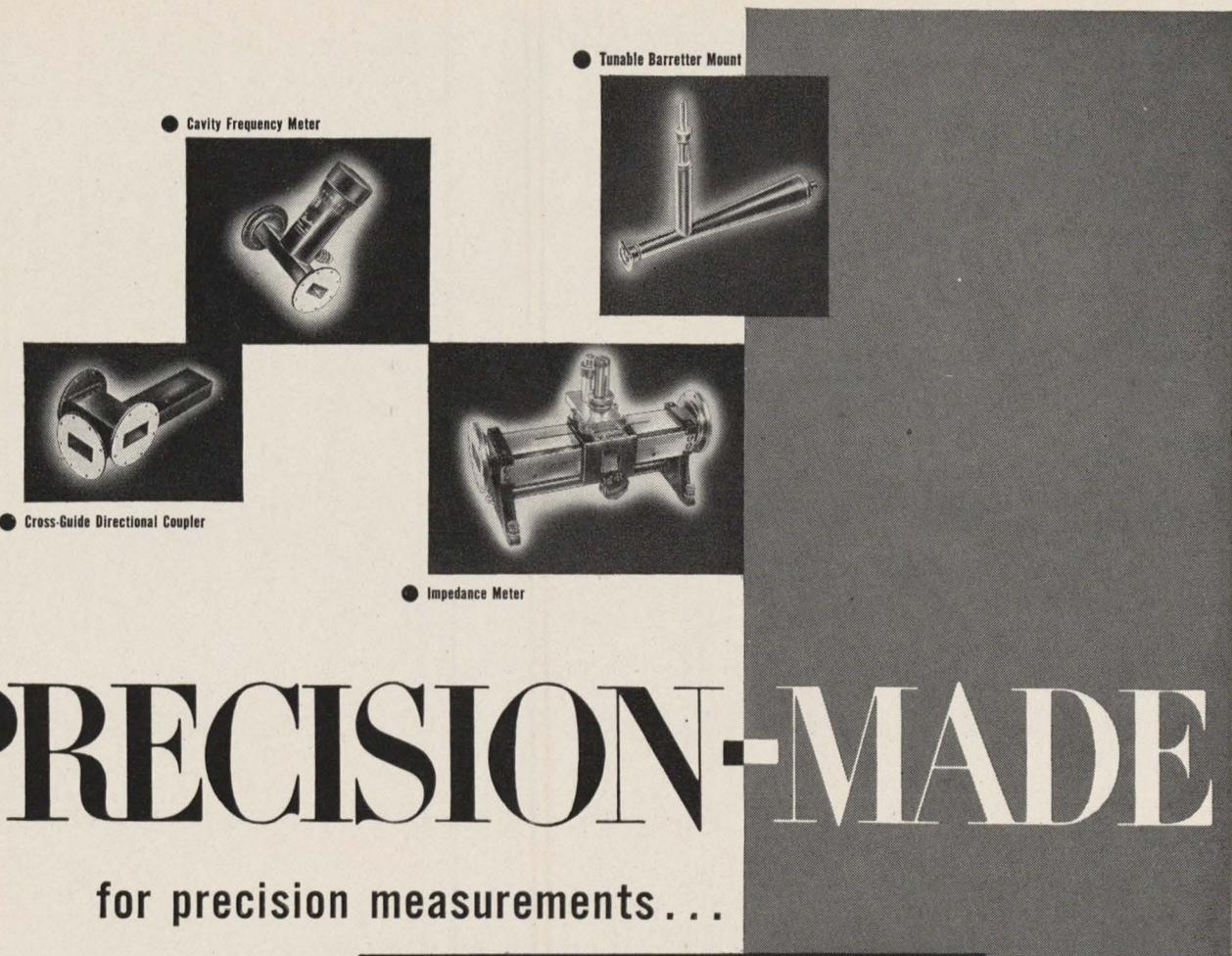
In actual operation, the pilot tunes the proper station, sets a magnetic course and then flies it by means of a left-right needle, which shows the direction he must fly to correct. It is also possible for the pilot to get phase comparison localizer indications from an Instrument Landing System, which will enable a pilot to determine any variation within a few degrees of either side of an approach of an ILS equipped runway.

Lunardi made the following comments on the Narco equipment: "It's far superior to beam flying, as we had it in service, since it leaves the mind free to concentrate on the approach problem. One can watch the indicator instead of listening to—. In an approach over wings field, the plane broke 'in the clear' on the edge of the field at 700 feet as anticipated. For navigation, it cut down greatly the effort required on the part of a solo-flying pilot."

Both the ladies who acted as general observers remarked at the ease with which they were able to enter the plane. The retractable step located a short distance aft of the trailing edge, plus the wide door, allowed the ladies to preserve their dignity on entering and leaving without resorting either to slacks or a screen. Headroom and legroom in the rear seat, as well as passenger vision were considered satisfactory. At cruising speeds the interior sound level was checked as comfortable for conversation at normal speech levels. No unpleasant vibration was reported. The interior appointments were passed as unexpectedly good. Miss Mackenzie particularly liked the feature of being able to load the baggage from the outside and still have it accessible in flight. Individual ash trays and sunshades were also found to be pleasant.

Conclusions

General performance:	Superior
Pilot vision:	Excellent
Passenger comfort:	Excellent
Interior quiet:	Superior
Operational qualities:	Superior
Maintenance characteristics:	Superior
Stall characteristics:	Excellent
Stability and flight characteristics:	Excellent
Ground handling characteristics:	Superior
Speed:	Superior
Range:	Superior
Fidelity to performance claims (within test range):	Complete



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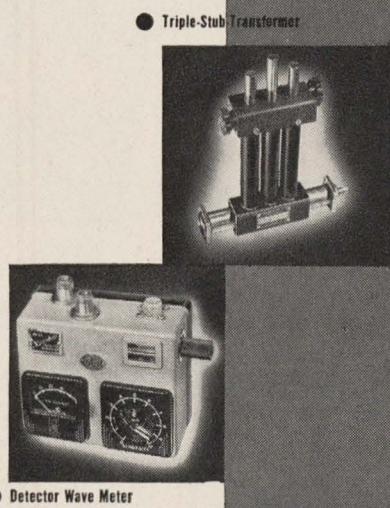
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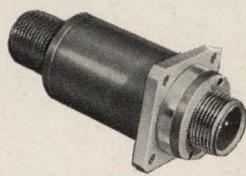
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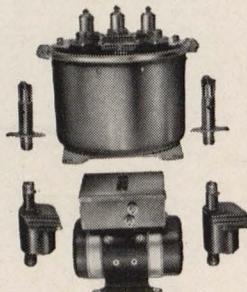
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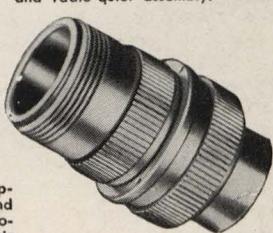
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