

AIR FORCE

THE OFFICIAL SERVICE JOURNAL

OF THE U. S. ARMY AIR FORCES



OCTOBER 1943

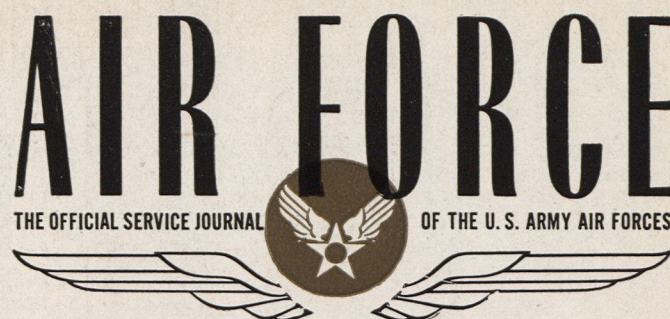
OCTOBER 1943

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October Brief

ALLIED OCCUPATION of Kiska Island on August 15 marked the fall of the last Jap foothold on American soil and set the stage for future aerial operations against the heart of the Japanese empire. The steady pounding of Jap-held bases by bombers and fighter-bombers of the 11th Air Force was one of the decisive factors in eliminating enemy forces in the Aleutians. A nine-page "On To Tokyo" section in this issue describes the highly efficient work of the 11th Air Force, the natural obstacles confronting its personnel and some sidelights on life in the Aleutians. The material in this section, which begins on Page 13, was written or compiled by Maj. Jo H. Chamberlin, Headquarters, Army Air Forces, who recently returned from the Aleutian theatre.

WHEN A NAGA headhunter in northern Burma speaks of a "double airplane which drops half — BOOM," he is referring to the P-40s of the 10th Air Force which pack 1,000-pound bombs in order to do a cleaner job on railroad bridges and similar targets in Jap-occupied Burma. The work of these "B"-40s is described on Page 5 in an article by Capt. Luther Davis of the 10th Air Force.

COL. FRED M. DEAN, former CO of a Spitfire group which took a prominent part in the Sicilian campaign, states that the Axis air opposition to our invasion forces in Sicily was nothing short of "feeble and futile." Colonel Dean, 26-year-old member of the West Point Class of '38, writes of the decline of the Luftwaffe in an article on Page 6. His group saw the caliber of German air power tail off, from its peak days over western France, in Tunisia, Pantelleria and, finally, Sicily.

TWENTY-FIVE combat missions in three theatres, bombing raids on land targets and

submarines and scraps with enemy fighters without a crew member being scratched or an enemy bullet once piercing the skin of their bomber—that is the combat record of the "Dream Crew" described on Page 8. Moreover, the B-24 of the story had the fewest turn backs for mechanical reasons of any ship in her group. The account of this remarkable plane and crew was written by Capt. Arthur Gordon of the 8th Air Force.

EARLY THIS SUMMER, William Howard Stovall, Jr., was accepted for pilot training.

The Front Cover

This month's cover photo shows a sky full of vapor-trailing B-17s approximately 25,000 feet over occupied France, en-route to bomb Nantes. The picture was snapped with an inexpensive box camera (No. 620 film) by Staff Sgt. Douglas C. Glover from the radio operator's gun position in one of the bombers on the mission. The object in the foreground is the top of an ammunition can. Staff Sgt. Ray W. Armstrong, ball turret gunner, brought the picture along when he returned home recently to have a try at pilot training.

belief that the contents make worthwhile reading for all AAF personnel, AIR FORCE has received permission to publish the letter and the enclosures. They appear on Page 10.

TEACHING aircraft recognition to ground observers in the Aircraft Warning Service is resulting in a fifty percent decrease in calls to over-taxed filter centers. How the ground observers are "taking to" their recognition training is described in the article on Page 37.

How is your AIR FORCE Quiz score? Are the questions too tough? Too easy? Do you have any questions you would like to see included? Try a hand at this month's quiz on Page 39 and let us know what you think of it.

AIR FORCE is primarily a medium for the exchange of ideas and information among Army Air Forces personnel. Opinions expressed by individual contributors do not necessarily express the official attitude of the Army Air Forces or the War Department.

AIR FORCE (formerly the Air Forces News Letter) is printed monthly by authority of Army Air Forces Regulation No. 5-6, Sept. 6, 1942, and with the approval of the Bureau of the Budget, Executive Office of the President. AIR FORCE is published by the U. S. Army Air Forces at the AIR FORCE Editorial Office, 101 Park Avenue, New York 17, N. Y., U.S.A., for use of personnel of the Army Air Forces and allied activities, and is not to be republished in whole or in part without express permission. Direct communication with this office has been authorized on matters of editorial content, circulation and distribution. Tel., MURRAY Hill 5-1951; Teletype No. NY 1-2530; Director, Lieut. Col. James H. Straubel, A.C.

CROSS COUNTRY

The growing use of Automatic Flight Control Equipment, and other developments within the Army Air Forces.

THE growing use of Automatic Flight Control Equipment, through which the bombardier actually operates the plane on the bombing run, is helping to make our precision bombing more precise.

The equipment itself is far from new, but early in the war modifications of our bombardment aircraft were occurring rapidly, and operational difficulties with AFCE were apparent. Experimentation continued in this field and gradually, through the cooperation of experienced bombardment officers and manufacturing specialists, the major difficulties were overcome.

Finally, seven teams of pilots and bombardiers were sent by Headquarters to the various fronts — England, Africa, India, China and the Pacific — to acquaint bomber crews with the improved equipment and test it under battle conditions.

The results of these tests have come in; AFCE has proved itself. On many fronts every bomber formation going over a target is being flown by AFCE.

Along with this development have come new methods of computing drift, dropping angle and length of run, plus new methods of using the computer to obtain figures quickly for any given heading.

One outcome of this combined refinement of our bombardment technique has cut down the vulnerability of our planes to enemy anti-aircraft fire. The effectiveness of such fire is directly related to the time consumed in the bombing run. The time now needed for a run is so brief that it would have been unbelievable a year ago. Single aircraft have made approaches with runs of only eight seconds. Formations take longer, of course, but their elapsed time also has been drastically cut.

But the greatest contribution of the AFCE principle is improved accuracy. It has been found that application of the

principle reduces the mean error, even of experts, by fifty percent. To illustrate: if the mean error is cut from 1,000 to 500 feet, the result is to *quadruple* the effect of the bombing.

It means that nine planes can do the work of thirty-six; return trips over the target are cut to a minimum; fewer lives are risked; less effort is expended; less equipment is needed to accomplish a mission.

REPRINTS OF THE BACK COVER

Shortly before this issue of *AIR FORCE* went to press, an officer of one of the AAF commands was visiting the office when he noticed a proof of the back cover, which depicts the "Salute Proudly" theme. He immediately requested a number of reprints for posting throughout his organization.

As a result, a limited quantity of back cover reprints have been made available for general distribution upon request to the Service Division, *AIR FORCE* Editorial Office, 101 Park Avenue, New York 17, N. Y. Requests will be filled on a first-come-first-served basis, so respond early if you're interested.

PERSONNEL REDISTRIBUTION CENTER

Officer and enlisted personnel returning to the States, except those returned for hospitalization or specific assignment, will be reassigned through the Personnel Redistribution Center established several weeks ago. Those discharged for

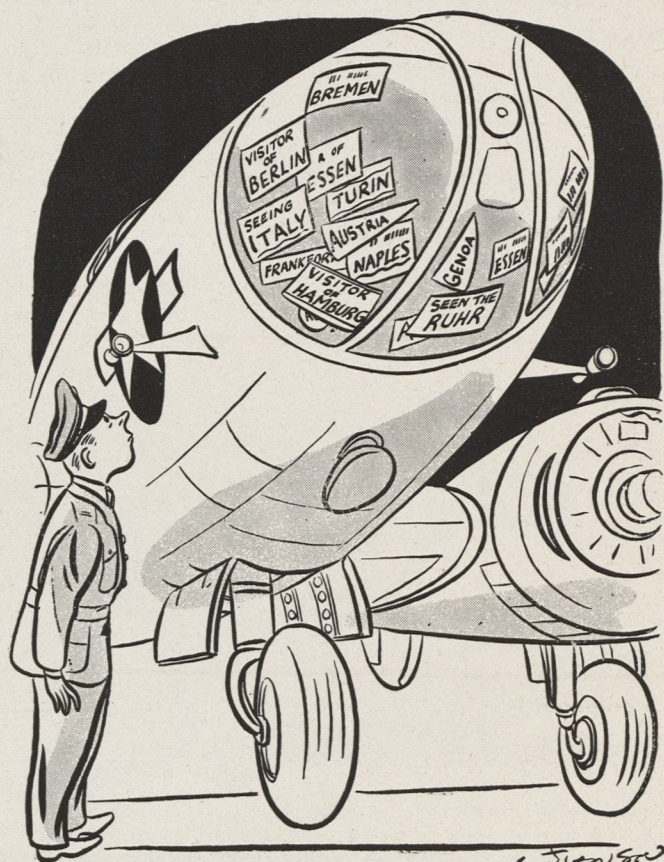
medical reasons will be assisted in their return to civil life through various government agencies.

Redistribution stations have been set up at Atlantic City, N. J., and Miami Beach, Fla. A third station will be established later. Rest camps for AAF personnel will be operated at Lake Lure, N. C., Camp Mystic, Tex., and Castle Hot Springs, Ariz.

The Personnel Redistribution Center is under the direct supervision of the Assistant Chief of Air Staff, Personnel, at Headquarters, Army Air Forces.

GENERAL STRATEMEYER'S NEW POST

Maj. Gen. George E. Stratemeyer has been named commanding general of the Army Air Forces in India and Burma and advisor to the commanding general of



U. S. Army Forces in the India-Burma-China theatre. General Stratemeyer's present duty followed service as Chief of the Air Staff at Headquarters. The new commanding general of the 10th Air Force is Brig. Gen. Howard C. Davidson, succeeding Maj. Gen. Clayton L. Bissell, whose new assignment had not been announced at press time.

NEW CHIEF OF THE AIR STAFF

The new Chief of the Air Staff is Maj. Gen. Barney M. Giles, who was Assistant Chief of Air Staff, Operations, Commitments and Requirements, prior to this assignment.

General Giles, who rose from the grade of private, served with the 168th Observation Squadron in World War I, and was one of our first four-engine pilots. He is a former commanding general of the 4th Air Service Command, 4th Bomber Command and 4th Air Force.

Serving under General Giles as a new Deputy Chief of the Air Staff is Brig. Gen. Edwin S. Perrin, who succeeds Maj. Gen. Thomas J. Hanley. General Perrin has served as military air observer in the Middle East, and prior to his new assignment was commanding general of McClellan Field. General Hanley is now the commanding general of the Southeast Air Force Training Center.

Succeeding General Giles as Assistant Chief of Air Staff, Operations, Commitments and Requirements, is Brig. Gen. Howard A. Craig, who prior to his assignment served as Chief of Staff for the Mediterranean Air Command.

BLIND FIRING

Extract from a combat report:

"Saw JU-88 above cloud. I dived and closed to about 1,000 feet, fired from line astern as it entered cloud. Fired five-second burst into cloud at point aircraft last seen. An aircraft was seen to crash near this position at approximately the same time.

"Comment—Very interesting. Reminds us of the story of a fighter pilot in a dog-

fight who lost his opponent and in desperation fired a long burst into the sun and the ME-109 fell out in flames."

PIF SIMPLIFIED

You wouldn't know the Pilots' Information File these days. The File has been condensed into a single 240-page book containing all the essential information you used to have to hunt for in the old maze of tiny print. More than that, it's now in large clear type with photographs, colored illustrations and cartoons on every page.

And instead of the old system of indexes and cross-indexes, it has an ordinary table of contents which tells you where to find what.

The new PIF will not teach you how to fly and will not serve as a substitute for the Transition Flying Index which still includes the handbooks and technical orders relating to specific equipment, but it is made up of all the general information required by pilots flying any equipment.

The Flight Control Command produced the original book and has the job of seeing that it is kept up-to-date, so the pages are loose-leaf and the index is worked out to permit day-to-day revisions and additions.

Any suggestions of new material for the book should be sent to the Flight Control Command, marked for the attention of Chief, Pilots' Information File Section, Headquarters Region No. 10, Building 145, Patterson Field, Ohio.

JUST BEING NEIGHBORLY

Kelley is as Irish as his name. He's a private first class in the Army and his particular assignment is driving a truck on a 120-mile round trip each day up and down the side of a Central American mountain, carrying passengers and supplies from a Coastal port up to the Army airport, from which bombers go daily to patrol the Pacific and guard the approaches to the Panama Canal.

Under ordinary circumstances you might never have heard of Kelley. But the route of his truck takes him twice daily through

a native town, and somewhere in the past—Kelley won't say just when—he was attracted by the charms of the local belle who ran a soft drink stand alongside the village market. Kelley speaks no Spanish and the girl no English, and their courting has been mainly a battle of eyes. But it has developed and grown in spite of these linguistic barriers.

As regular as a clock, each morning just as dawn is breaking through the mountain passes, Kelley will bring his 2½-ton truck to a halt before the door of the refreshment stand and out he will pop for a fifteen-minute break. Out will come his passengers from the rear, several on each trip, and coffee is the order of the day.

On the afternoon run, back up the mountain, the stop is made again. This time it is "cokes" for refreshment. His girl is always there, neat and pretty and glowing under Kelley's glances.

Day in and day out, this routine is never varied and the legend of "Kelley and his girl" has spread to every AAF base in the Caribbean. Many are the tales told of her beauty and charm, and the way she can be seen leaning out the window of her stand, watching, waiting for the first sight of the khaki colored truck and Kelley as they approach.

But more important still is the attitude of the townspeople, who looked at first with disfavor upon these loud and boastful "Americans."

Long since now have they taken the story of "Kelley and his girl" to their Latin hearts, and it is not uncommon for a small crowd to gather at the windows or stand shyly in the doorway while Kelley and his friends have their coffee or their cokes.

And they always have a smile and a nod of greeting for the departing "Americans"—thanks to Kelley and his own private "good neighbor policy."

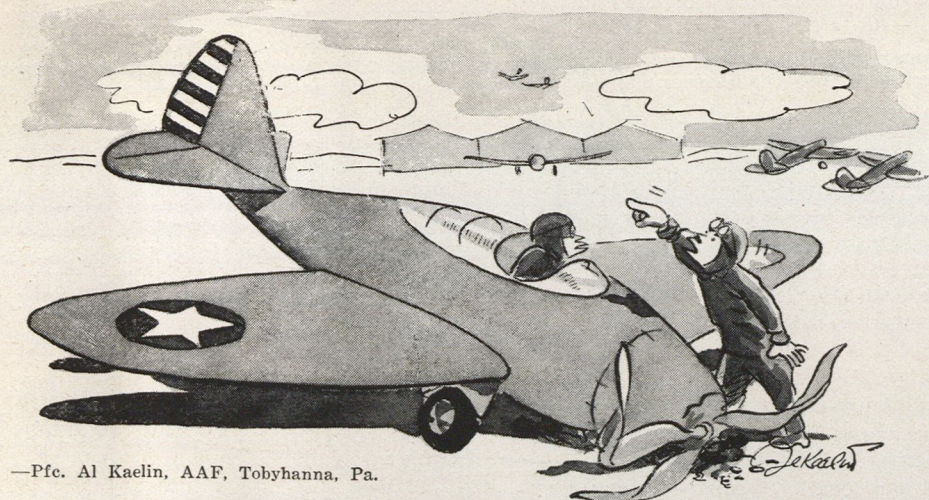
SETTING THE STAGE

What is the Air Corps? That was the question Playwright Moss Hart had to answer when he eagerly accepted General Arnold's request to do a show about the Army Air Forces.

The answer had to be boiled down to fit a stage, had to be portrayed by a relative handful of men, had to present the emotions and realities of every man in the Air Forces, whether he was sweating out a ship in a fox hole or sweating out enemy tactics 15,000 feet upstairs.

Irving Berlin found the answer to such a question when it was asked of the Army. He went to live at Camp Upton, N. Y., where he had been an EM in the last war. He emerged with the smash hit, "This Is the Army."

But Moss Hart couldn't find any one installation, or even a few installations that reflected the complexities of the Air Forces. So he traveled around for 15,000



—Pfc. Al Kaelin, AAF, Tobyhanna, Pa.

"No, No, Myers!! A three-point landing should include the tail!"

miles or so in a bomber. He lived and flew with men working in every type of job in every type of installation in the Air Forces.

When he finally sat down to write two months later, Hart had gathered so much material he was almost at a loss to know where to begin. Then the next problem presented itself. How was he going to do the show? Irving Berlin had used songs and sketches. Noel Coward had utilized all the tricks of the motion picture to tell a story of the British navy, "In Which We Serve."

The competitive angle didn't bother Hart. He was concerned chiefly with squeezing all the material into three hours on the stage. The result is a dramatic play, with music, in 21 scenes. The music is an integral part of the show, much as it was in Hart's most recent hit, "Lady In the Dark."

The actors, the orchestra and all backstage personnel were to be recruited from AAF ranks. During the past month and more, extensive tryouts have been held at Air Forces posts to select men who could qualify and who could be released from their present assignment for temporary duty with the show.

Selected personnel were ordered to New York City for final auditions beginning September 15. Rehearsals were scheduled to start October 4. The show opens November 1 in Boston for two weeks, then goes to Washington for a week of final polishing. Broadway will see it the last week in November.

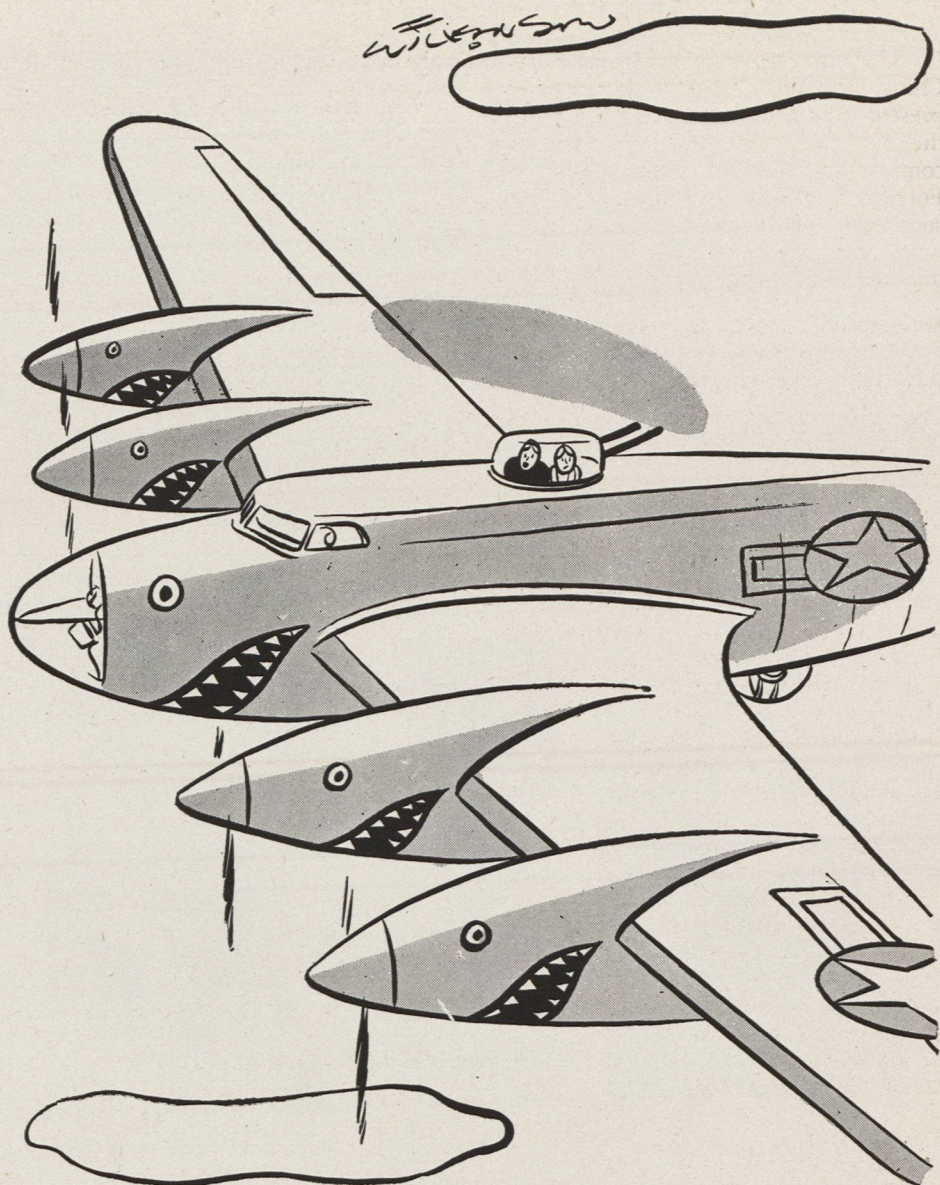
Is the show good? You'll probably get a chance to judge for yourself, since it is almost certain to wind up as a movie. Moss Hart won't commit himself about it. He says he only hopes it begins to be as good as the men of the Air Forces. But his closest friends, who have read all his other shows before production, say this is Moss Hart's "best."

WING AND A PRAYER

Two of her engines were knocked out in a raid on Schweinfurt, Germany. For 500 miles "Battlin' Bobbie" hedge-hopped over trees, rooftops and enemy pillboxes, spraying everything in sight with .50-caliber bullets, except when she passed over a prison camp at fifty feet and the captured men rushed into the yard to cheer and wave her on. And while the plane limped along, her crew was praying that the two smoking engines wouldn't blow up. "We made a chapel out of that airplane today," said Tech. Sgt. John Thomas after they finally reached home.

THE AIR AGE

After three airmen of the 60th Troop Carrier Squadron bailed out of a glider recently over one of our southern states, they landed without incident and were soon walking down a winding, dusty mountain road. Around one of the turns



"Don't you think we're overdoing it?"

—FRITZ WILKINSON

they came upon a group of the natives, shoeless and wearing tattered hats, sprawled by the side of the road eating watermelon.

"You them fellers that just come down?" drawled an old man in the group.

After he was answered in the affirmative, the old timer bit off another chunk of watermelon and continued, "Ma said she seen some white things in the air. Ma never seen a parachute afore, but she figgered that's what they was."

The old man pointed out the way to town and went back to his watermelon. The boys hiked off down the road. The others on the roadside didn't even bother to look up.

PARACHUTES: LOST AND FOUND

Our parachute "business" is picking up. Seven stations report missing parachutes and another two unclaimed chutes in its possession. A little checkup has revealed that these announcements in AIR FORCE result in a number of lost parachutes being returned to their proper stations. We invite all units to utilize this

medium for locating missing or lost parachutes. Here is the latest list:

Lost:

Numbers 36-2020, 36-2035, 37-251 and 36-2061 (all Type S-1); return to Post Operations Officer, AAF Technical School, Chanute Field, Ill.

Numbers 42-411448 and 42-387531; return to Operations Officer, Headquarters and Headquarters Squadron, Flight Control Command, Smith Reynolds Airport, Winston-Salem, N. C.

Number 42-63119 (Type S-1); return to Base Operations, AAF Proving Ground Command, Eglin Field, Fla.

Numbers 42-187970, 42-2176, 42-2163, 41-19774, 41,7924, 41-19790, 41-7939, 41-7944, 41-11211, 41-19765 and 41-19788; return to Parachute Officer, Luke Field, Ariz.

Numbers 41-29333 and 41-29335 (lost at Middletown, Pa., on or about April 17, 1943); return to Headquarters, 127th Liaison Squadron, William Northern Army Air Field, Tullahoma, Tenn.

Number 41-27706; return to Base Operations Officer, AAF Basic-Advanced

Flying School, U. S. Military Academy, Stewart Field, West Point, N. Y.

Number 42-92222 (detachable type); return to Operations Office, Headquarters, Midwestern Procurement District, Municipal Airport, Wichita, Kansas.

Found:

Numbers 42-9992 and 42-544842; now held by the Parachute Section, Luke Field, Ariz. They may be obtained by contacting the parachute officer at Luke. The chute Number 42-544842 was found in an airplane crash and is beyond repair.

LOGISTICAL STUDY

The war offers no greater single challenge than the movement of men and materiel to the right places at the right

times. We speak of this as the Battle of Supply; logistics is the formal name.

Well underway in the AAF is the first overall study of the entire supply problem as it pertains to air operations. It is being conducted by the Air Service Command and the AAF School of Applied Tactics, working closely with Headquarters.

The results of the study will be used as a basis for future supply operations. The project involves many important factors. Safety measures to eliminate improper loading have been carefully weighed. Suggested improvements in the movement of heavy items are being given every consideration to prevent costly shifting while in transit. Standardization of packing and crating is being effected. Practice in load-

ing and unloading aircraft engines under varying weather conditions is being recommended for personnel engaged in this work. Specific studies include the movement of an AAF Group under simulated combat conditions to determine major problems and iron out the rough spots right down to the last detail.

The first comprehensive results of the studies were to be made known in the form of a manual, scheduled for distribution by mid-September to squadron levels.

LAPEL BUTTONS

Officers and enlisted men honorably discharged from the Army during the present war will be awarded lapel buttons to signify their service to the nation.

The button is made of plastic material with gold plating, eliminating the use of critical materials. Its design is simple, a dexter eagle within a circle with the wings extending beyond the circle's edges.

Not yet available for distribution, the buttons are in the process of manufacture under the direction of the Quartermaster Corps. Full particulars will be publicized when a sufficient number have been manufactured so that eligible persons will know how to obtain them.

WASP FOR WAFS

By the time some of you read our story on the WAFS in the last issue, you probably were aware that the title of that organization of women pilots of the Army Air Forces had changed. Announcement of the change came after press time.

The official name of the women's pilot organization is now the WASP, short for Women's Air Force Service Pilots. The WASP will include the WAFS plus all other women pilots likely to be engaged in flying jobs other than ferrying.

The age limit for entrance into the WASP has been changed from 21 through 34 to 18½ through 34. Thirty-five hours of flying time is still required for entrance. Applications are taken by the Director of Women Pilots, Headquarters, Army Air Forces, Washington, D. C.

TABLE MANEUVERS

You who have had overseas experience know how strange the commonplace things of other countries can be. So do some of our Allies. Take corn (of the on-the-cob variety), for instance.

During a tour of this country, members of the British First Composite Anti-Aircraft Battery were frankly puzzled as to methods of attacking this article while messed at a base. After a few futile stabs, one of the visitors asked the correct procedure for eating corn.

"Just hold it in both hands," advised a sergeant. "You eat it like you're playing a harmonica."

"Thank you very much, sir," said the polite Britisher. "By the way, what is a harmonica?"—THE EDITOR. ☆

☆ MEDAL of HONOR ☆



SGT. MAYNARD H. SMITH



FIRST LIEUT. JACK W. MATHIS

"For conspicuous gallantry and intrepidity in action above and beyond the call of duty. The aircraft of which Sergeant Smith was a gunner was subjected to intense enemy anti-aircraft fire and determined fighter airplane attacks while returning from a mission over enemy occupied continental Europe on 1 May 1943. The airplane was hit several times by anti-aircraft fire and cannon shells of the fighter airplanes, two of the crew were seriously wounded, the aircraft's oxygen shot out, and several vital control cables severed when intense fires were ignited simultaneously in the radio compartment and waist sections. The situation became so acute that three of the crew bailed out into the comparative safety of the sea. Sergeant Smith, then on his first combat mission, elected to fight the fire by himself; administered first-aid to the wounded tail gunner, manned the waist guns, and fought the intense flames alternately. The escaping oxygen fanned the fire to such intense heat that the ammunition in the radio compartment began to explode, the radio, gun mount, and camera were melted, and the compartment completely gutted. Sergeant Smith threw the exploding ammunition overboard, fought the fire until all the fire fighting aids were exhausted, manned the workable guns until the enemy fighters were driven away, further administered first-aid to his wounded comrade, and then by wrapping himself in protecting cloth, completely extinguished

"For conspicuous gallantry and intrepidity above and beyond the call of duty in action with the enemy over Vegesack, Germany on 18 March 1943. Lieutenant Mathis, as leading bombardier of his squadron, flying through intense and accurate anti-aircraft fire, was just starting his bomb run, upon which the entire squadron depended for accurate bombing, when he was hit by the enemy anti-aircraft fire. His right arm was shattered above the elbow, a large wound was torn in his side and abdomen, and he was knocked from his bomb sight to the rear of the bombardier's compartment. Realizing that the success of the mission depended upon him, Lieutenant Mathis, by sheer determination and will power, though mortally wounded, dragged himself back to his sights, released his bombs, then died at his post of duty. As the result of this action the airplanes of the ——— Bombardment Squadron placed their bombs directly upon the assigned target for a perfect attack against the enemy. Lieutenant Mathis' undaunted bravery has been a great inspiration to the officers and men of his unit."

the fire by hand. This soldier's gallantry in action, undaunted bravery, and loyalty to his aircraft and fellow crew members, without regard for his own personal safety, is an inspiration to the armed forces of the United States."

(From General Orders No. 38, War Department)



A P-40—'B'-40 to this squadron in India—picks a 1,000-pound bomb.

THE 'B'-40 OVER BURMA

By Capt. Luther Davis

10TH AIR FORCE

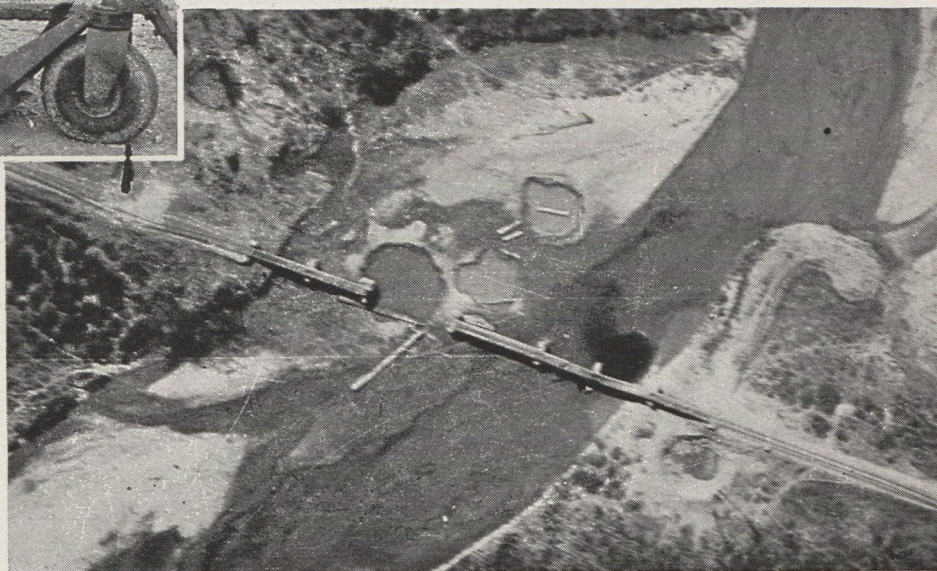
IN India, where the rainbow and the supply line both come to rather disappointing ends, we've had to do a lot of improvising. Airplane landing-light bulbs serve in movie projectors, salvaged gaskets are items of barter with local tribesmen who use them as anklets—and the P-40, standard American fighter plane in this theatre, has been converted to the "B"-40.

The news is not that peashooters carry bombs—all over the world they do that—but that single-engined fighters have been operated successfully for more than four months as medium bombers specializing in 1,100-pound pay loads in addition to the weight of normal fighter armament. It's not an occasional fair-weather enterprise but part of the established operational routine of the 10th Air Force—and a development that has worried the Japs considerably.

When the first "B"-40 raids occurred, the enemy radio at Rangoon broadcast that we had "a new type of dive bomber," but when the Japs lost ten Zeros in aerial combat with the "bombers" the whole subject was promptly dropped.

Reason for this general disregard of almost all tech orders was the fact that the Japs were supplying forward activities in northern Burma over a single-track railway and a narrow road, both well-sprinkled with bridges. The P-40s, using 300- and 500-pound bombs, blasted away at the targets throughout last February but the Japs were ready with repair gangs and extra rails. Within 48 hours an officially "destroyed" bridge was usually bearing the weight of India-bound Japs, and the bombing had to be done all over again.

In March the enemy was still advancing and it looked as if we would have to



The remains of a railroad bridge at Namkwin in northern Burma after a visit by 'B'-40s.

divert B-25s from more important tasks farther afield to do the job originally assigned to fighters. Thousand-pound demolition bombs were delivered to the fighter bases and plans made to send some bombardment squadrons there.

But Col. John E. Barr, executive officer of a P-40 group, took a good look at those 1,000-pounders and then spent an afternoon under his P-40 with his eye on the rivets and his conscience with his God. Next day a short and sober report came into 10th Air Force Headquarters: One P-40 with another P-40 upstairs as top-cover had knocked out the bridge south of Mogaung. "Ordnance expended: 1,000-pound bomb."

PHOTOGRAPHS showed that the trestle hadn't been knocked down or askew; it had simply ceased to exist. On it enemy repair crews spent a great deal more than 48 hours and by the time they had the span "in" again, Colonel Barr had drilled five other pilots in the technique of the 1,000-pounder, and the bridge was thoroughly atomized once more. The answer to our problem has been found in the in-

creased concussion of the heavier weight of explosive. Those B-25s never had to be diverted.

The performance of the "B"-40 is astonishingly close to that of the P-40 with standard armament but no bomb. To reach the Nips these 10th Air Force pilots have to climb over 8,000-foot mountains in a short time. Where such an initial climb is not necessary, the "B"-40 might well become the "A"-40 and operate as a low-level attack aircraft.

The policy of the 10th Air Force is always to give these fighter-bombers plenty of top cover—a luxury, incidentally, which our B-25s and B-24s have yet to enjoy. As a result, it can be reported that four months of operation—just under 100 sorties—have been completed without the loss of a single "B"-40 for any reason. This record has been accomplished despite every conceivable kind of ground fire from small-arms to Bofors—and an occasional rock thrown high.

Someday the people who have nothing to do after a war but figure out what really happened umpty-umph months ago will give thought

(Continued on Page 55)



THE LUFTWAFFE AT BAY

By Col. Fred M. Dean

**FORMER CO OF A SPITFIRE GROUP,
NORTHWEST AFRICAN TACTICAL AIR FORCE**

THE German airman on the losing side of the fence is a despondent, almost panic-stricken fighter in contrast to the Nazi flyer who has things his own way.

Our Spitfire group—one of the two Army Air Forces groups flying British fighter planes—had the opportunity to view him on both sides of the fence. We met him over France last fall. We fought him in his prime over Dieppe. We cracked him when the tables had begun to turn in Tunisia. Then over Pantelleria. Then Sicily.

There was scarcely any contest in the sky over Sicily. The few fighters we met seemed more interested in turning tail and evading combat than in attempting to press interference with our invasion operations. The transports and bombers we encountered likewise were easy pickings.

Not that the turn of events in the Mediterranean and the feeble, futile efforts of the Axis air arm in that theatre should be construed as an indication that the Luftwaffe is all washed up. On the contrary, we have every reason to believe that the enemy has plenty of fight left up his sleeve—plenty of good pilots and plenty of good planes.

The fact that they were not present in force over Sicily can be attributed to three major factors: (1) the apparent

withdrawal of large numbers of aircraft to other fronts, (2) our efficient bombardment of enemy airdromes and supply centers both on the island and on the Italian mainland during the "softening up process" which preceded the invasion, and (3) the swift advance of our ground forces on Sicilian airfields once the invasion was underway.

OUR job with the invasion forces began the day before the initial landings, which took place on July 10. We had been based on Malta for about two weeks and during that period we had flown cover for bombardment aircraft on missions directed against targets on Sicily. When the assault convoys began moving on the island we formed a part of the protective air cover.

None of us shall ever forget the sight of those ships—all sizes ranging from landing craft to the escorting battlewagons. It was by far the largest concentration of surface vessels ever gathered together, and to us flying overhead they appeared as a swarm of water creatures moving against an island that could not possibly be successfully defended.

Enemy air activity was relatively negligible, and in a way we were surprised with the lack of opposition. In anticipa-

tion of the heaviest possible resistance from the air, our group had been augmented to a point where we were considerably over-strength. But despite the fact that our casualties were only a fraction of what we had been prepared for, the extra pilots proved to be greatly needed. They enabled us to rotate our flying personnel at a time when we were running far more missions than we ever had before, even those flown on the Dieppe raid.

During those first four days of the Sicilian invasion, our planes were in the air continuously from long before daylight until after dark. All told, we flew more than 400 sorties during that period, with the new men taking their regular turns in the air to provide much-needed relief for group personnel regularly assigned. Our bag for the four days included four bomb-carrying FW-190s, three DO-217s and one JU-88, without any losses on our part.

Seven of the eight planes were destroyed on the second day of the invasion when the enemy threw up the bulk of his air opposition against the assault forces. After this attempt, enemy air activity dwindled perceptibly.

Our ground crewmen, who on the first day or two had awaited our return

There was scarcely any contest in the sky over Sicily for this AAF Spitfire group.

from missions with even more anxiety than usual, soon began to show obvious disappointment when more and more of our Spits returned with the white patches still over their guns. That meant to the men on the ground that our guns had not been fired. When Spitfires are conditioned for a mission white patches are placed over the holes of the recessed machine guns in the wings, and a plastic cover over the cannon. These patches are not removed prior to take-off, so it is easy enough to tell whether any action has taken place when the planes return from a mission by the condition of the white covers. Frequently on clear days, ground crews can determine quite accurately which ships have found good hunting—and which haven't—before their wheels ever touch the runway.

A portion of our ground echelon had moved onto Sicily with the first wave of assault troops, and on the third day of the invasion we were able to fly our group into an airdrome just north of Gela, about ten miles in from the beach.

Except for a few bomb craters left by our bombardment aircraft on raids before the invasion, the field was in excellent condition. It wouldn't have been, however, had the retreating enemy forces succeeded in setting off approximately seventy-five 500-pound bombs they had left around the perimeter and under the runway. These bombs were wired together to be set off simultaneously but our ground men cut the connections and succeeded in removing the bombs before any damage was done. Supplies for the airbase also were sent along with the assault convoy, so when we moved our fighters into the field everything was in complete readiness to begin operations.

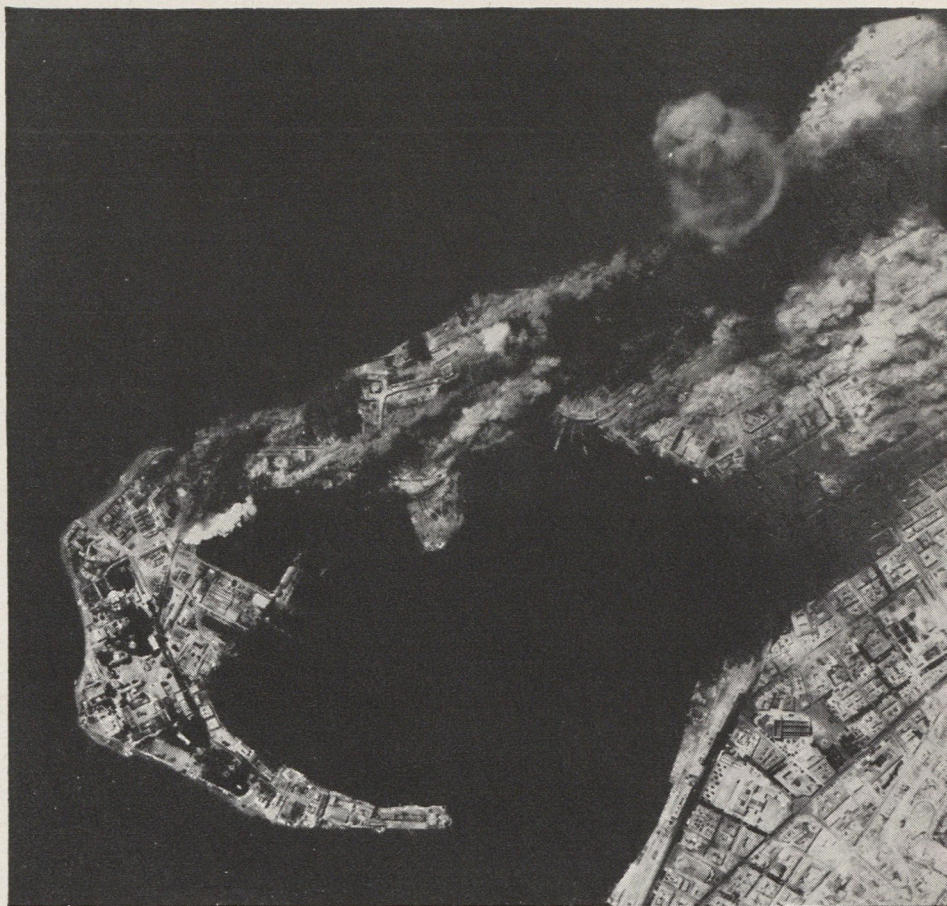
Ours was the first group to operate from a captured Sicilian base. All facilities at the field had been left intact by the enemy. The airdrome had one of the most complete night lighting systems I have ever seen—better than at many of our airfields in the States. Concrete revetments were scattered about the edges of the base. The few German aircraft left on the field were gassed up and ready to fly.

At an airfield nearby, more than 100 FW-190s and ME-109s were abandoned in operating condition, loaded with gasoline. We made use of the additional fuel but only after it had been thoroughly tested.

On our first night at the new base, enemy artillery shelled us intermittently but no casualties and little damage resulted. A flight of JU-88s raided us on the second night but our operations were not seriously affected.

(Continued on Page 56)

AIR FORCE, OCTOBER, 1943



The "softening up process" preparatory to the invasion of Sicily, included the steady, relentless bombardment of key Axis shipping centers and airdromes on both the island and the Italian mainland. In the four weeks ending July 26, AAF planes flew 12,583 sorties and dropped 12,460 tons of bombs on these targets. In the photo above, smoke rises from fires and explosions in Messina's shipping areas. A flight of B-26s (below) passes over Rome on the way to bomb Campino airdrome. Smoke is rising in the upper right corner from the Lorenzo marshalling yards after a B-17 attack.



DREAM CREW

By Capt. Arthur Gordon

8TH AIR FORCE

CAPT. DARRELL L. SIMS and his crew are grounded now. They have flown 25 combat missions in three different theatres of operations under all conditions, bombed their targets, sank subs and shot down enemy planes. Yet, not a single crew member has ever been scratched and not one enemy machine gun bullet or cannon shell has even pierced the metal hide of their B-24. So, of course, nobody has bothered to write a story about them.

But this is the kind of bomber crew AAF generals dream about—the kind that makes Goering tear his hair. A crew that goes out and bombs and comes back—intact.

The trail of this crew leads literally from the halls of Montezuma to the shores of Tripoli with the famous B-24 group, The Traveling Circus. They met their first Germans in June, 1942, in the Gulf of Mexico when they sighted a sub and neatly bracketed same with a pair of depth charges. Four months later they shot down their first enemy fighter high over the locomotive factories at Lille, springing from a base "somewhere in England." In three more months they were in Tunisia, digging dust out of their ears and nostrils, laying 1,000-pound eggs on Rommel's rear guard and dodging flak over Naples. Even today, back in England, the crew's new shoes still crunch Egyptian sand on the floor of the sturdy old B-24.

When their medals finally catch up with them, the crew will muster nine Air Medals with three oak leaf clusters apiece, and nine Distinguished Flying Crosses. But no Purple Hearts.

IF you ask the boys to account for their phenomenal safety record, they grin and refer you to the last three digits of the serial number of their plane: 711. A rather lucky number. A number, incidentally, which explains the otherwise inexplicable name they gave their ship: "Jerk's Natural." The "jerk" in question was the original pilot, Lieut. (now Maj.) John L. Jerstad of Racine, Wis., who at present is a combat wing operations officer. He skipped Jerk's Natural through the first five missions.

Except for Major Jerstad, the tunnel gunner (who was grounded for medical

reasons in Africa) and Co-Pilot Robert H. Hudspeth, of Verdi, Nev., missing from a raid in another plane, the original crew has been taken off combat status intact. At the moment all of them are engaged in training new crews. As for going back to operational flying, most of them expect it sooner or later but none is in any particular hurry. After all, they'd been flying and fighting steadily for ten months, ever since that June evening over the Gulf of Mexico when they were on their way back to Fort Myers from a cross-country to Chicago and looked down to see the slim outline of a sub.

"WE had two depth charges that we'd wheedled out of the boys at Barksdale, La.," recalls Captain Sims, a Jonesboro (Ill.) red-head. "We made our run out of the sun, but they must have spotted us because by the time we dropped the ash-cans she was almost submerged. However, our enlisted bombardier, Staff Sgt. Edward W. Eichmann of Milwaukee, did a sweet job—put 'em right alongside. They must have knocked the sub down, because nothing came up but a lot of big bubbles. Next day we heard the Navy went out and found an oil slick covering acres. Never did hear whether we were officially credited with that baby."

The group finally left Fort Myers, officially credited with one sub definitely destroyed and two probables. In England Jerk's Natural flew in most of the early raids on targets in occupied France. Once or twice she was scratched or dented by flak fragments, but tight formation flying and good shooting kept enemy fighters from putting a single slug into her. Where other B-24s limped home on three engines or fired rockets to warn the waiting ambulance that wounded were aboard, Jerk's Natural went out and bombed and came back and that was that. Her record of the fewest number of turn backs for mechanical reasons of any plane in the group was attributed to the untiring work of her crew chief, Master Sgt. S. M. Benson of Darien, Conn.

Over those concrete sub shelters Capt. Maurice Elstun, bombardier, of Ross, Ohio, began to make himself a reputation. It takes a lot of guts, in case you

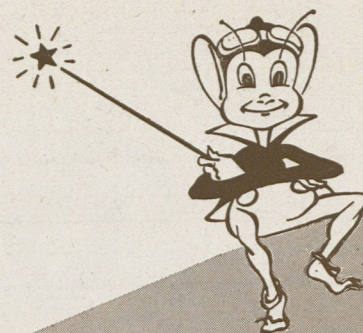
don't know it, to keep your plane boring into a solid wall of flak, especially after some of the others have tripped their bomb switches and peeled off. Captain Elstun, then a lieutenant, wouldn't release his bombs until he was convinced that he was on the target. And although his deliberate methods gave the rest of the crew a fine case of jitters at first, they eventually came to respect him for it.

Life was rugged enough in England. Once they spent most of the night loading their own bombs and finished just in time for briefing and the take-off. But Africa was tougher still. Dust and sand and a pint of water a day. Cold nights and hot days and long flying distances. That was the toughest part—the distances that had to be flown after combat. It wasn't like England, where you do your fighting and duck for a home base that isn't so far away. The long post-combat grind was hard on men and on engines, but they kept going.

THE first trip over Naples was a breeze, but the second was as rough as anything over the Brest peninsula. The jerrys had moved in after the first raid, and the jerrys are good. The plane next to Jerk's Natural was shot to ribbons. Looking out of his side window, Waist Gunner Samuel J. Delcambre, a swarthy Cajun from New Iberia, La., could see the crew of the stricken ship collapsing over their guns as the B-24 plunged downward. But still luck—or more probably a happy combination of luck and skill—seemed to be riding with Sims' crew.

Coming back from one raid on Italy they picked up an agitated news broadcast in Italian, and one of the boys knew enough of the lingo to realize that they were listening to a description of their own raid. On another occasion, over Palermo, things were so quiet that they didn't bother to switch off the Jack Benny program to which they were listening, but unloaded their bombs to the unusual accompaniment of Rochester's hoarse chuckle. In two missions, pinch-hitting for the absent tunnel gunner, Intelligence Officer Howard Larry Dickson of Dayton, Ohio, is alleged to have read all of

The story of a B-24 and a crew that flew 25 combat missions in three theatres without a scratch.



Shakespeare's *As You Like It*. Between the acts, he got in plenty of shooting, and although he doesn't claim any fighters as destroyed, he does say he put considerable lead into some of them. Officially, Jerk's Natural was credited with two enemy fighters shot down in Africa.

The radio operator, long tall Tech. Sgt. Robert H. Harms of Alton, Ill. was responsible for saving several lives when a B-24 was shot down five minutes after unloading its bombs over Sousse. He saw six men bail out and float down into the Mediterranean. Instantly he called Malta. Malta was unable to send help, but it did the next best thing. On the International Distress Frequency it called the Germans and told them of the air-men's plight. The Germans obligingly went out and picked up at least two of the survivors.

FLYING over the desert, Jerk's Natural had its only really close call. One of the waist gunners, pouring a stream of lead at an enemy fighter, swung his .50 caliber too far and shot off one of the Liberator's trim tabs. As a result, Sims couldn't hold the ship in formation. She dropped back, along with another crippled B-24. It was just by chance that the fighters chose the other cripple as their victim. They ganged up on it and shot it down while Sims' ship staggered in safely.

The only time the crew ever bothered to put on parachutes was on one occasion when the weather was so bad that the navigator, First Lieut. Rollin C. Reineck of Van Nuys, Calif., had trouble finding his home base. So did all the other planes in the group. In the group commander's plane, preparing for a crash landing, the crew threw everything movable overboard, including a case of practically priceless eggs. (This was a mistake, calling for elaborate apologies and explanations later!) But the Jerk's luck held. At the last minute, almost out of gas, Sims set her down safely.

They all worked hard in the desert under difficult conditions. Tech. Sgt. Phaon T. Wenrich of Pine Grove, Pa., flight engineer and top turret gunner, kept the Liberator's big radial engines turning through 400 hours of grueling

flying—200 of them on actual combat missions. For several months, in fact, Jerk's Natural did not see the inside of a hangar—a tribute to the skill of the men who built her.

MORE than once Col. Ted Timberlake took over the plane and crew, "ranking" the pilot out of his seat. This was not hard to do, inasmuch as for 23 missions all four officers remained second lieutenants. To commemorate this melancholy fact Elstun wrote a poem, called "The Gold Bar Boys," which they used to recite sadly to one another over the interphone. Fortunately, the situation has been remedied somewhat since the return to England.

Actually, as is the case in most bombers, rank meant nothing in the air. Staff Sgt. J. R. (Peewee) Lawrence of Colwin, Pa., crouched in his tail gun position, was just as important as the pilot or bombardier. If Waist Gunner Howard G. Crissman of Butler, Pa., failed to keep

his gun clean, the result might be disaster for them all. They all knew it and acted accordingly.

When the boys left the States in their nice new B-24 they decided, in a spasm of neatness, to keep it clean and ship-shape. To achieve this praiseworthy end, they installed two gallon tin cans, half filled with earth, as receptacles for cigarette butts and other trash. Every time they landed on the northern route to Britain, they emptied the trash and added a little soil to keep the cans half full. They kept doing this in Libya and Egypt, with the result that those cans are now filled with the earth of three continents. Today they are enshrined on a closet shelf somewhere in Britain, waiting for the last lap—the trip back home—whenever the happy day comes.

So that's the story of a bomber crew that never did anything except the job it was supposed to do. No heroics. No superlatives. Just a job. With two tin cans of sand to remember it by. ☆

Capt. Darrell L. Sims, red-haired pilot from Jonesboro, Ill., led the crew of "Jerk's Natural" to a perfect record.



Early this summer, William Howard Stovall, Jr., of Stovall, Miss., was accepted for pilot training in the Army Air Forces. His father, Col. William H. Stovall of the 8th Fighter Command, who was credited with destroying eight German planes in the first World War, wrote young Stovall the following letter from England:

Dear Bud-

8 June 1943

DEAR Bud,

I can't tell you how thrilled I was to get the cablegram from your Mother saying that you had been chosen a pilot. Naturally I hope that you will become a fighter pilot. Of course I know that it depends upon the need of the service at the time whether you are sent to fighters or light or heavy bombers. I know you will do a good job at either.

But if you should happen to become a fighter pilot, it would not hurt for you to begin to train yourself for the job now. I am going to be presumptuous enough to give you some advice drawn from my experience in the last war, from my observations in this one, and from numerous talks and conferences which I have had with the leading fighter pilots of the RAF and of the American Air Forces operating in this theatre.

There are four very definite things that the successful fighter pilot needs which I will set down here in order of their importance:

1. Air alertness.

2. Expertness in gunnery.
3. Efficiency in flying.
4. An aggressive spirit.

I will attempt to explain to you what I mean by the above and also to advise you what you can do in addition to the splendid training that you will be given to develop yourself as master of these arts.

AIR alertness is the ability to see and to know what is going on around you. It is the ability to pick up distant specks on the horizon and identify them as aircraft, either friendly or enemy. The pilot who is able to see his enemy before his enemy sees him gains a tremendous advantage. He is able to begin immediately to employ cloud cover and the sun so that the enemy can be ambushed, and to gain altitude or position of advantage for attack. The battle will be half won if this is attained.

You can train your eyesight to accomplish air alertness. As you sit on the flying line, continually scan the sky. Play games with your associates as to who can see an incoming plane first. It is a matter of eye training, pure and simple. You have shot ducks with me enough to know the importance of eye training. The principle of air alertness really does go into the duck blind.

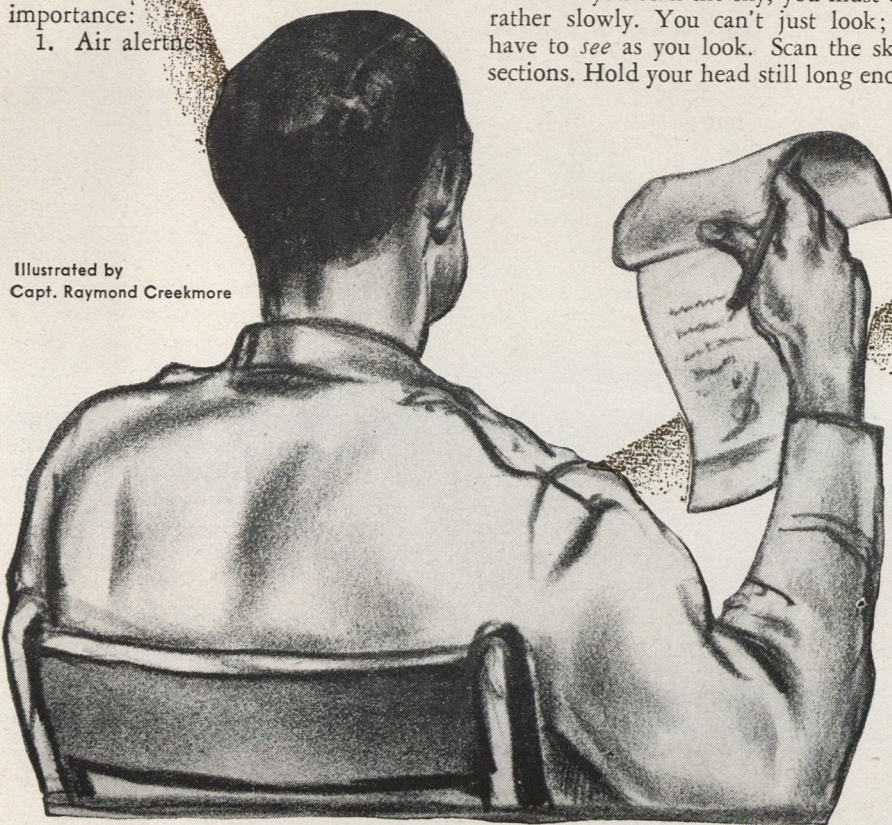
When you scan the sky, you must do it rather slowly. You can't just look; you have to *see* as you look. Scan the sky in sections. Hold your head still long enough

to cover thoroughly that part of the sky within the arc of your vision. When that part of the sky is thoroughly scanned and nothing is found in it, move to another arc and scan it just as closely.

Sometimes air alertness comes too late to our fighter pilots on actual combat operations. Through nervousness they scan the sky too quickly and therefore overlook aircraft that are easily within their line of vision. When you are flying, be continually on the watch for other aircraft in the air. If you have a buddy on the field, let him count the number of aircraft in the air from the ground while you attempt to count them from the air. Do the same for him when he goes up. Through your long period of training, continuous practice like this will help you pick out aircraft instinctively by the time you are ready for operational missions. This training will help you remarkably whether you be bomber or fighter pilot.

YOU may think it strange that I place more importance upon the mastery of your gunnery than upon the mastery of your aircraft but I do so advisedly. Modern fighter planes are so fast that only those pilots who are thoroughly masters of the theory and art of deflection shooting and are thorough masters of the sight are successful. The only excuse for a fighter plane at all is the fact that it is a platform for machine guns to be borne aloft. Therefore, the man who learns to fly an airplane beautifully without knowing how to employ the guns that it carries is more or less like a ground machine gunner who knows how to drive the truck that pulls the gun but does not know how to shoot the gun that the truck pulls.

To aim your machine guns you naturally must aim your plane. Therefore, in your solo flying continually practice aiming your plane at various objects both in the air and on the ground. There must be something along the cowl that you can use as a sight. Learn to fly with the sole purpose of being able to handle a plane to bring it into proper aim. If they have synthetic training devices which teach the theory of deflection shooting, never miss an opportunity to practice on them. I know that the actual gunnery and air-to-ground firing and air-to-air firing that you get will be limited in your training course to a specific number of rounds. However, this does not keep you from doing "dry" shooting as I have suggested. You know yourself, when I first taught you to shoot a shot-gun, that the first thing I did was to teach you how to stand and how to bring the gun naturally up to



Illustrated by
Capt. Raymond Creekmore

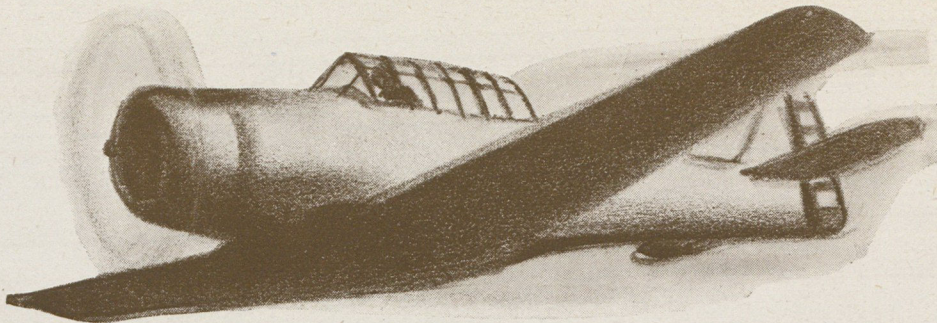
your shoulder. After you had mastered this dry shooting you began really to hit.

All of the great pilots of the last war—and of this—spent hours fooling with their guns and spent hours on the subject of deflection shooting, range estimation, and the like. You can teach yourself range estimation in the ordinary course of your flying training. So many of our pilots make the mistake of beginning to shoot too quickly and finishing their bursts when they should be beginning them. This is because they have not taught themselves to judge distance and range. If I remember correctly, the last time I took you and Oscar duck shooting you raised hell with me because I told you to get up and you missed and alibied that the ducks were out of range—although I killed two after you had finished shooting! Get your range estimation down to a science. You can do it.

It goes without saying that the better your pilotage the better advantage you can maintain in aerial combat and the more confidence you will have in yourself and your aircraft. If you are able to handle it instinctively, you will be able to concentrate upon your shooting and your deflections. However, the evasive actions taken and the handling of the aircraft in combat are not always altogether in accord with the smooth rhythmic flying that they teach you in acrobatics in flying school. However, it is necessary for you to be proficient in smooth acrobatics in order that you may instinctively recognize and handle your aircraft and understand thoroughly its every reaction to the controls. The purpose of smooth acrobatic flying is to be able to bring you into shooting position. Smooth acrobatics are not good for evasive action. This can be taught later, so do not try it during training unless under specific instructions. I don't know of anything that I can tell you to do over and above what your instructors might tell you to become proficient in flying. The pilots that we are receiving are beautifully trained. Listen and learn is my best advice.

ALMOST any American boy who is angry enough at the disruption of our happy and peaceful life and who wants to maintain the freedom of the individual for which our grandfathers and great-grandfathers fought will have an aggressive spirit when it comes to fighting the Hun. However, that aggressive spirit can really be capitalized on and made effective by a thorough mastery of the first three categories of the qualifications of a successful fighter pilot: confidence in your air alertness, confidence in your ability to shoot and hit when you shoot, confidence in your flying.

You have always been a good student; you have always done your level best to be proficient in whatever you undertook,



and I might add that by and large you have been tremendously successful and a son to make any parent proud. This is a tough game that you are in. It is a game in which you play for keeps. It is, I hope, the toughest that you will ever have to be put up against. I wish I could see you and talk to you. The chances of my getting back before you finish your training are slim. I can only hope that maybe the god of good fortune will send you this way—not that it is easy here because it is not, but because I would so much like to be in a position to advise you and help you with whatever knowledge I may have.

I trust you are not worried about the slight impediment to your eyesight. I doubt very much if the doctors would have passed you if your eyesight had not been perfectly OK. Just forget about it and go ahead and train yourself to the best of your ability as I have outlined above. Don't forget that I, who possibly know you best, never have and never will doubt your courage, your perseverance, your determination and the high quality of service which I know you are willing and capable of rendering to your country in this time of need. Devotedly,

Dad.

Dear Howard,

I am almost as delighted as your old man at your getting in the Air Force. I feel confident that as a chip off the old block you will do well and make us all proud of you. Your Pa's advice in the above letter is of the best, and I can offer no better.

The best of luck to you and hoping I have you in my command some day.

Frank O'D. Hunter
Brig. Gen., U.S.A.

Dear Bud,

I call you that because your father and I are good friends from the last mix-up, and together in this one, and I've heard so much about you from him that I really feel I'm well acquainted with you.

We were all pleased to hear you are going into the Air Corps, and all want to wish you the best of success. Naturally, we feel this is the one branch of the service to be in, and we also hope you choose the fighter side of the Air Corps, although our Bomber Command is doing great things. I have had the pleasure of making two trips with them into Germany and

France, and they are really pouring it on the Hun both in the air and in their bombing. I want to indorse everything your father has said because he has given you the real dope. Speeds are greater and firepower much greater in modern planes, but fundamental principles remain the same. Learn how to shoot upside down and every other way with targets at every angle, and develop your air alertness and you will beat even your father's wonderful record.

We hope to see you over here one of these days before long, regardless of where you go. Carry on with your Dad's spirit, and we will continue to hear great things from you.

All best wishes,
Jack Seerley

Dear Bud,

Listen to all these old men talk! Now here's the "pukka gen" from a newcomer. I've trained and fought over here since the Battle of Britain and if I'd have had advice like this while training I'd probably be a hell of a lot better combat pilot and wouldn't have made as many mistakes. Just lucky the mistakes haven't been too bad so far. Look, boy, you've got a pretty wise dad, but I just want to add that everything, I repeat, everything, he has said if studied and used will be of incalculable value when you meet the enemy. Everything he says in those four paragraphs is what the "aces" have been doing over here since the start. I'm sure you'll profit by what he's said. I hope to meet you soon and have the pleasure of flying with you.

Lots of luck,
Pete

Dear Howard,

I can't possibly be more in agreement with what your father says. As a matter of fact am sending a copy to Elliott Springs' son who is also a cadet now. I have one thing to add and that is I believe you will automatically find yourself doing things that are not in the book. Don't spend too much time in conventional flying unless it is one of the requirements. In this case, of course, you will have to do as directed. Also you should not do it until you are a reasonable master of smooth flying. Best luck,

Larry Callahan

(Continued on next Page)

Dear Bud,

I asked the General to write you a note and comment on my advice. He showed the letter to the others. Who are they? General Hunter—"Monk," as you know him, in his day was a great fighter pilot. Now commands the 8th Fighter Command very ably. Was credited with nine Boche in the last war. Won the DSC with four Oak Leaf Clusters and the Croix de Guerre and Palm.

Callahan (Lieut. Col. Lawrence K. Callahan)—If you have ever read "War Birds" you will know him. If you haven't—read it! He was Billy Bishop's wing man in the last war and helped Bishop



run up his score of 76 Boche. Callahan has the British DFC and our Silver Star and two Oak Leaf Clusters.

Seerley (Major)—An old-timer from the 13th Pursuit Squadron. My wing man until he got a flight of his own. Was credited with five Boche.

Pete (Lieut. Col. Chesley G. Peterson)—Is the leading ace of the Eagle Squadrons. Transferred to the U. S. Army Air Forces. He has eight destroyed Boche, five probables and seven damaged. Has been awarded the British DSO, DFC and recommended for our DSC.

Comment from these men is worth a lot. Take it to heart and pass it to your friends if you think worthwhile.

Dad ☆



A B-17 flies about ten miles to the left of a thunderhead formation (cumulonimbus capillatus) over the Northern Solomons in the Southwest Pacific. Clouds like those in the foreground (altocumulus castellatus) mature into thunderheads in about two hours.

BEWARE THE PACIFIC THUNDERHEAD

By LT. COL. JAMES CONNALLY

WHEN you take off for the Pacific or Southwest Pacific, leave behind all your previous ideas about penetrating weather fronts.

All existing plans and procedures are based on the maintenance of a definite course, altitude, speed, and so forth. This, I know from experience, cannot be done in the Pacific thunderstorm areas. For storms in the vicinity of the equator are generally far more violent than those found in the United States. If you attempt to hold a definite course and altitude and fly headlong into some of those severe thunderheads, you will be inviting suicide. On the other hand, a slight deviation may allow you to avoid a thunderhead completely.

The thing always to remember in the Pacific is that no set plan can be established for taking a formation through a front dominated by thunderstorms.

This does not mean you can't get through. Frequently, thunderstorm areas can be penetrated by placing the formation in a column of elements and having an experienced leader pick his way around and between thunderheads. He will select "light" spots in the clouds and occasionally fly on instruments for a minute or two with his wing men in close.

Succeeding elements may lose the lead element for short intervals but you can usually pick it up again when emerging from areas of poor visibility.

This method may be used very effectively at times over water by flying 100 to 200 feet or less above the surface. While areas of heavy rain may be encountered, thunderstorms are generally less violent at this altitude.

Another technique in flying at a 100-foot altitude over water is to employ a shallow echelon (well forward), with

Tropical storm areas can be penetrated—but you had better know how before trying it.

about a two-mile interval between planes. In rain areas individual planes will temporarily lose sight of other planes but can hold their course and possibly remain "contact" by looking out of the side window (on B-17s). Or they may have to pull up to 300 to 500 feet and fly entirely on instruments for short periods.

While the successful penetration of a front dominated by thunderstorms usually will depend more on the leader "picking holes" than upon anything else, sometimes this will be impossible. Then, planes may be able to make it through the front individually and rendezvous at a predetermined point on the other side of the front. In many cases, the formation may have to abandon the flight and return to base.

Above all, never get the idea that any airplane now built can go over the top of all thunderstorms. In some tropical areas, a storm having a top of only 25,000 feet is hardly considered a thunderstorm.

An individual plane can often penetrate these fronts in a similar manner—by flying low over the water and "picking holes." In rain squalls you can usually stay "contact" by looking out the side window. Where visibility gets too bad and you must go on instruments, go up to about 500 feet until you break out.

Of course, the only time a single airplane should be required to fly through such a front is in case of ordinary travel, or when returning from a mission, or when on reconnaissance patrol. En route to a target the formation should be together for mutual protection. It would be unwise to send planes through a thunderhead individually, even though it could be done, unless the target justifies such tactics. ☆

ON TO

TOKYO

TOKYO

JAPAN

KURILE ISLANDS

PARAMUSHIRU

ATTU

KISKA

ADAK

AMCHITKA

ALEUTIAN ISLANDS

DUTCH HARBOR

KODIAK

BERING STRAIT

ALASKA

P.R.

Any map shows that one of the shortest roads to Tokyo runs from Alaska down the Aleutian island chain. It's a short road indeed, but every step has been taken despite obstacles that would baffle less resourceful or determined men. There have always been two enemies to fight—the Japs and the weather.

Weather in the Aleutians means fog. Fog that hides airfields, and volcanoes rising from the sea. It also means cross winds and cold rain. Rain that one mechanic said, "Starts to fall in Siberia but lands on us."

But despite all obstacles, American air, ground and naval forces have driven the Japs out of their Attu and Kiska strongholds.

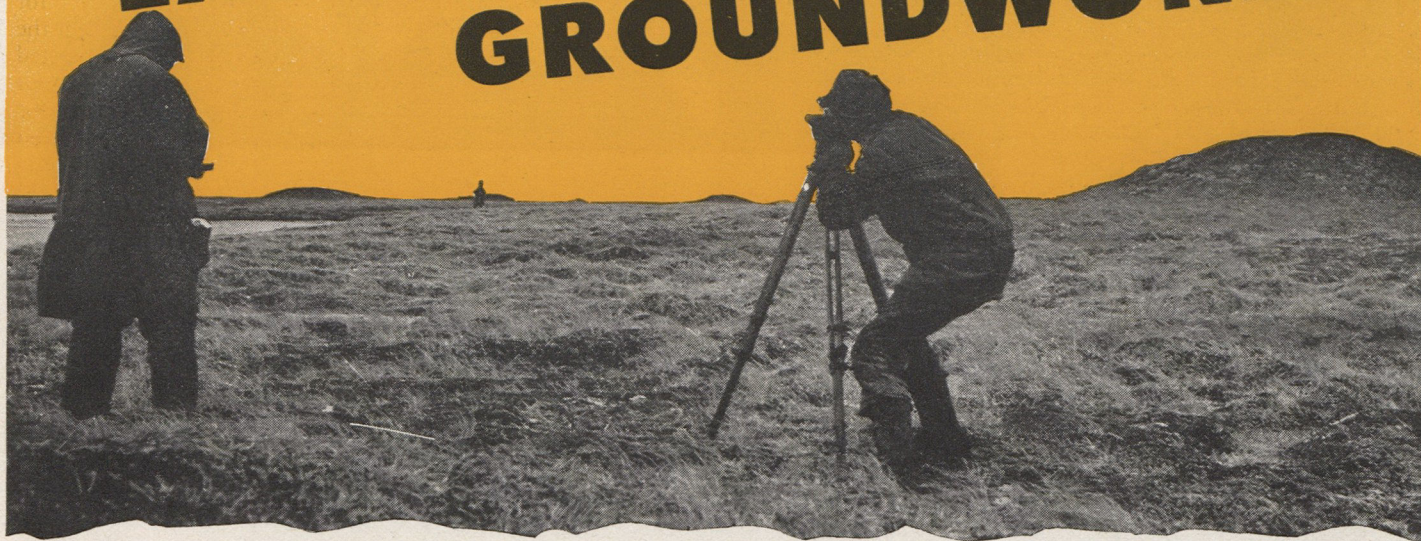
As our Commander in Chief said in his broadcast July 28: "In the Pacific we are pushing the Japs around from the Aleutians to New Guinea. There, too, we have taken the initiative, and we are not going to let go of it. . . . We are pushing forward to occupation of positions which in time will enable us to attack the Japanese islands themselves from the north, from the south, from the east and from the west."

From its Aleutian bases, the 11th Air Force has bombed Paramushiru in the Jap Kurile islands. Far south of Paramushiru lies Tokyo and the vulnerable heartland of Japan. That is our bombers' final objective—the end of the Aleutian road.

☆ ☆ ☆

All material in this special section was written or compiled by Maj. Jo Hubbard Chamberlin, Headquarters, Army Air Forces, who has just returned from the Aleutian theatre.

LAYING THE GROUNDWORK



ONE by one, American airbases have been built in the Aleutians despite enormous problems of terrain, weather and supply. These bases have stopped Jap aggression in this area, and they now provide means for our offensive operations.

Nine months ago, Amchitka was a desolate island. Today it is a well-protected, well-equipped airbase, just 85 miles from Kiska and some 750 miles from the northernmost Kurile Islands—the nearest Jap territory. It is one of many stepping stones to Nippon. The difficulties our men overcame to build it are typical of all Aleutian operations. Our troops landed there in a storm on January 13, 1943. Two more storms occurred during the month. Only a reconnaissance party had preceded them to the island. This party had made a quick survey, for time was vital. The Japs had looked the island over, too, preparatory to moving in.

Among the first ashore were aviation engineers, under Col. L. H. Foote. They helped build roads and a dock as well as runways. Col. F. S. Blinn was resident engineer. Col. John Sullivan came later with another battalion of engineers and the combined units started work at once.

Snow fell. The muck was up to your shoetops. Tents were erected and loose boards put down for floors. Candles furnished light. Coal for tent stoves had to be packed by the men on their backs.

All equipment had to be unloaded from ships into barges and the barges unloaded on the beach at high tide. Getting heavy trucks, caterpillar tractors, trailers, scrapers and other machinery ashore through the surf was a real problem. Roads were built over tundra and muck. Land was drained. All roads must have a high crown so that the heavy Aleutian rains drain off. A hard surface of sand, crushed

Our rapid airbase construction has been a major factor in our Aleutian offensive.

rock or both must be provided to stand heavy traffic.

A frozen lake was located where the fighter strip was to be. The lake was drained but instead of a firm sandy bottom there was silty muck. By exploration a sand deposit was located and the sand dug out, hauled and dumped into the lake bed. To make the runway firmer, it was raised two feet above the original estimate. As much sand was hauled to furnish hardstandings for dispersal areas as was used on the runway.

A mess truck made the rounds of workers in the field with hot food and

drink. To keep the trucks and other earth-working machinery rolling, mechanics put "duck boards" down in the mud and lay on their backs to make repairs. The Japs attacked Amchitka and several lives were lost in bombing raids.

Nevertheless, the field was ready, *on schedule*.

DESPITE weeks of gruelling labor, the engineers stayed up all night to cheer the first fighter planes in, on February 16.

Two days later, the Japs sent two float Zeros over from Kiska on reconnaissance. American fighters, waiting high in the sky, shot them both down. The engineers' labor had paid quick dividends.

Meanwhile, work had been proceeding on a bomber runway. At the earliest possible date, the heavy bombers wanted to blast the Japs on Kiska from this base less than 100 miles from the enemy-held island. So 24 hours a day the work went on, with the big machines carrying sand from the pits to the runway site. It, too, had lakes to be filled in.

Other preparations had to be made before planes could fly. The ground echelon of a heavy bomber outfit came to Amchitka on April 20. Its job was to erect tents, construct a mess hall, establish communications and get gasoline, oil and bombs ready for use. The men wore high boots. The airbase commander, Col. A. E. Hebert, was among those who went up in muck to his hips. Most of the difficulties were due to the tundra—a soft spongy layer of earth and moss, from three to twelve feet in thickness, which soaks up water in summer, often freezes solid in winter and is very unstable.

A young second lieutenant, Virgil Watson, of Cincinnati, Ohio, found himself responsible for this particular work al-

MOSQUITOS ALASKAN STYLE

The flight characteristics of Alaskan mosquitos have been greatly exaggerated. It is not true that they peel off, dive on you and flip your dog tags over to ascertain your blood type before striking. There has been only one proved instance of this. They are not as large as vultures. They are only as big as an Arkansas hen—very small but very tough. The Department of Agriculture crossbred the Alaskan mosquito with a small-bone turkey, to reduce their belligerence and provide an edible fowl, but the mosquito strain was dominant and the experiment was abandoned.

It does no good to use screens on barracks because one small, wiry mosquito is pushed through the mesh by the bunch, and then he pulls the others through. It is not true that anti-aircraft outfits fresh from the States have opened fire on them, thinking they were Zeros. Their tail assemblage is entirely different.

though he was a communications officer. He was 25 years old and had been in the Army just six months. Handling engineering matters later on was Lieut. Jerome C. Goodman. Lieutenant Watson brought twelve men to begin the job. His first task was to prepare tents and living quarters for sixty additional men who were on the way in a ship with 600 tons of supplies. Later thirty more men arrived, so the radio officer found himself a construction boss with 100 men.

A road leading to the bomber strip went but a short distance uphill. From then on men had to transport their supplies over tundra, bogs, lakes and muck. As the caterpillar tractors available were being used on the runway in the daytime, the ground echelon had to borrow them for use at night to haul their supplies from the beach to the area that had been set aside for the bomber command.

The going was so rough that a caterpillar tractor was used to pull a trailer, which also had caterpillar treads. This team was followed by another tractor

which would pull them out when stuck. Sometimes all three vehicles would get stuck—even though a soldier plodded ahead of them to pick out the best way. So Lieutenant Watson had some sledges made which didn't bog down in muck when the cats did.

Rain fell. The men were soaked. An Army physician said that he treated enough first aid cases among the 100 men for a whole regiment—bruises, cuts and pulled tendons from slogging through

mud. Weights up to 2,000 pounds were carried on the shoulders of as many men as were able to get round the box and lift it.

In a brief ten days the ground echelon had scraped out locations for tents for officers and men, going down through the tundra to hard rock. The men erected mess halls and pyramid tents and built tables to eat on. They put up quarters for officers and men, drew coal, lugged it on their backs and had it all ready for use. They hauled bombs, gasoline and oil where they would be available for an immediate combat mission. The air and ground crews, had only to move in and go to work.

And here's the payoff:

On May 3 the B-24s came to Amchitka at 1000 o'clock. Crew members put their baggage down on the hardstandings near the runway and ate a hot meal that was ready for them. Their planes were serviced and they took off on a successful bombing mission against the Japs *the same afternoon.* ☆

The pay-off: The first fighter plane lands on the runway at Amchitka. Next day, two surprised Japs were shot down.

ON TO TOKYO

'Enough to Make a Demon Cry'

In the Aleutians, American forces built many airbases while the Japs struggled to build two—one on Kiska and one on Attu. On Attu the Japs had been trying to complete a fighter strip for four months. Eight days after American troops had landed, we had a fighter strip in operation.

The Japs not only lacked American engineering experience and skill, but our fighters and bombers subjected the Japs and their machinery to continual strafing and bombing. That such attacks were successful is evidenced by notations in the diaries of dead Japs on Attu:

"When one looks at a place that was bombed, it looks as if it had been turned inside out."

"Because the enemy planes come each day, the soldiers are tired out and have no energy."

"These strafing attacks by American fighter planes are enough to make a demon cry."

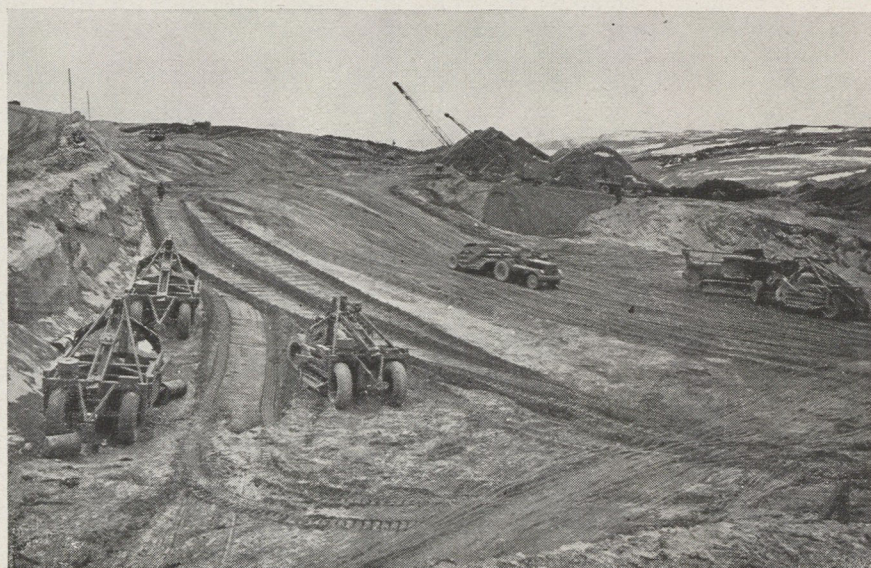
A runway crosses a large creek. The heavy rains on Amchitka require large-capacity drainage facilities.



Below is shown just one section of the huge sand pits which were dug to get sand for fighter and bomber strips.



Sand is hauled by truck from big pits to build foundations for the runways and dispersal areas.



HOLD YOUR HATS

A B-25 mission runs into some close calls in blowing up a Jap fuel dump on Kiska

THIS medium bombardment mission was planned by the men who took part in it on March 30, 1943. While the pilots had been flying in the Aleutians for some time, most of the co-pilots and bombardiers were on their first mission. They were due for some surprises.

Six B-25s hoped to catch Kiska unawares. The planes skirted sixty miles to the west of the island and then came in, facing a mountain. They split up in three elements of two planes each.

"A" element flew to the left of the 1,300-foot mountain. Elements "B" and "C" flew to the right of it. "C" flew up a ravine.

"A" element consisted of planes piloted by Lieut. William B. Jackson of Carbon, Texas, and Lieut. William E. Geyser of Anchorage, Alaska. They attacked a radio station and fighter strip. "B" element, headed by Lieut. George A. Barber of Lubbock, Texas, and Lieut. William Candy of Braintree, Mass., attacked the main camp. "C" element's planes were piloted by Lieut. Ray Stoltzmann of Marshfield, Wis., and Lieut. Everett Henricksen of Chicago.

STOLTZMANN has been in the Army eight years, rising from an enlisted infantryman to flying officer. He is quiet-spoken, with courage to spare. Henricksen is light-haired and stocky. He used to fly as a hobby before joining the Army. He was an accountant for a real estate firm.

Stoltzmann was leading "C" element and right behind him was Henricksen's plane. They roared up the ravine to the right of the mountain and dove down the other side of the "saddle," as the central, narrow part of Kiska is called. The Japs were firing their anti-aircraft and machine guns. Stoltzmann dropped his bombs, which had delayed fuzes, but unfortunately the bombs went off instantaneously. They blew up a Jap oil storage installation—but they also gave Henricksen, 300 feet behind Stoltzmann, the benefit of their full blast.

A bomb fragment smashed the glass in front of Henricksen and cut his arm. His B-25's wing was blown out of line, and riddled with holes, but he skillfully kept the plane under control. At the time of the blast, Henricksen's bomb bay had been open and the bombardier had been about to release his bombs. The blast jammed them. One 500-pounder was caught vertically, making it impossible to

close the bomb bay doors and placing the crew in a potential position of being blown to bits should the bomb be struck a sharp blow.

LIEUT. ARTHUR HORN, the bombardier, squirmed down into the bomb bay, after slipping off his parachute due to the narrow space. He first removed the fuze. There is no catwalk in the B-25; he had to hang on with his fingers and wrestle with the bomb for fifteen minutes before he could get it free. Then down it fell. He then worked two 300-pound bombs back on their racks and climbed back to safety.

Five of the six planes met at the rendezvous, and four of them were damaged. Geyser in the sixth plane was having *his* troubles. His controls for throttle, propeller pitch and mix had been shot away. But the engine, in such a situation, assumes a fast cruising speed. So Geyser flew his B-25 back to base, and although he could not get his damaged wheels down, he made a successful belly landing.

From information gained later, we learned that the Japs lost a great amount of oil on this raid, so the troubles endured were more than worthwhile. The War Department thought so, too, and awarded DFCs and Air Medals. ☆

KISKA MISSION

By Capt. James C. Beardsley, Navigator

We headed westward with a cargo of death

We flew far West on the wind's wet breath.

A thousand miles of engine roar

Ere, shadowlike, we saw the shore—

A baseboard to a wall of mist.

The flash of cannon was our welcoming sign;

The sound of their shells, and the bullets' whine;

Presenting a glimpse of man-made hell,

Of death amid the battle yell—

A holocaust of fire and flames.

Our vengeful fingers stoked smoking guns.

Down dropped our bombs in whistling tons,

Missiles of death, of fire and hate,

Destruction most articulate.

We burned and maimed and slew.

Up into a cloud we climbed for cover.

Our bomb-load gone, we must get another.

Already, while we plan tomorrow's raid,

The isles behind us fade

To turgid mist and sea-stained stone.

IN Alaska you can stand in the mud, have dust blow in your eyes, be within six feet of a snowbank and yet perspire like the devil. There's no land like it on the globe.

SPORTSMAN'S HEAVEN. The military garrisons in the interior of Alaska are isolated, and manufacture their own entertainment. They enjoy hunting and fishing. One airbase I visited served up barbecued bear meat. It was delicious. Another outfit caught 600 pounds of trout in one afternoon. Fish bite in Alaskan streams as they never do at home, and the woods are full of game.

At another airbase, pilots fresh from the States are often told by the control tower that they will have to circle around for ten minutes before landing to allow time for a soldier to hop in a jeep and shoo bears off the runways.

MAIL. Men in the Aleutians receive strange gifts through the mail. As any soldier knows, spam or luncheon meat appears on mess tables with disturbing frequency, and yet one officer received a can of it from his wife—as a birthday gift. Another man got a can of tuna fish, also on the menu far too frequently. A tough crew chief received, for no ascertainable reason, an application blank to join the WACS.

One day an intelligence officer, Capt. Phil Orcutt, was sitting in his quonset hut, going through his mail, while outside the rain fell and the wind blew. He opened a form letter from a well-known national magazine, which began as follows: "As this letter reaches you, you are, no doubt, sitting on the porch of your summer cottage, or perhaps you are seated on the deck of your yacht, thinking about the fine job our boys are doing overseas. . . ."

TALE. There are no cows in most parts of Alaska. A woman was going to have a baby, so a cow was actually flown in by transport plane. Unfortunately the cow went dry. So a friend hundreds of miles away flew up a bull to mend matters. Meantime, however, the cow had been flown south with the same objective in mind. So, there they were, 1,000 miles apart, and that's where they stayed.

COOPERATION. One does not have to be in the Aleutians long to see that Army and Navy cooperation is of a high degree. To mention a few examples:

1. Both services exchange motion picture films.

2. Navy ships stores and Army Post Exchanges sell to all service men.

3. On many missions both Army and Navy planes participate. The Navy sends out a PBY rescue plane which has saved many AAF lives.

4. Navy PBYs patrol the ocean and re-

port results of AAF attacks, mainly on Jap shipping.

5. The exchange of intelligence and other vital information.

6. Some items of Navy clothing that are especially good for this theatre are purchased by Army men, and vice versa.

7. Active social relationships are maintained between Army and Navy personnel. Motion pictures, candy, tobacco and poker are enjoyed equally by both branches. At last report, the Army was ahead in poker winnings—but by the scantiest of margins.

HOW TO SLEEP. Men sleep on the cowl of a jeep, on the seat of a bulldozer, leaning against a tree, or lying on the ground, but in a transport plane it's tough. I noticed that one old hand opened up the lid of a tool chest and slept soundly on the hardware stowed in it, with his feet dangling over the end.

Transport planes have side seats consisting of a series of aluminum pans, designed to hold the seat cushions of chutes. Sleeping on these seats is like sleeping in seven buckets, but it can be done. The best plan is to lie on the floor with a flight bag for a pillow. It sleeps fine if you are tired enough.

THERE'S NO LAND LIKE IT

RUGGED LIFE. It is difficult to realize, viewing some of the Aleutian bases today, that they were built and used in earlier months, under the most rigorous of conditions. Men lived in tents with no floors. There were no lights and C-rations were used for months. At one island base the coal was limited to five pounds per man until a shortage was made up. The men just crawled into their sleeping bags after work in order to keep warm.

HORRORS OF WAR. Getting on our plane at an airbase near the Arctic circle was a sun-tanned young civilian, dressed in cotton slacks, cotton shirt, light polo coat and low tan shoes. He had been grounded at this chilly base for a week. A resident of Arizona, he had been ordered to report for civilian war work in Alaska immediately, so he had come ahead—without the opportunity of drawing arctic clothes. He hoped, he said shiveringly, to draw woolens soon.

MAN'S LAND. A USO show came to town with some girls in it. One of the

pilots, a Lieutenant Mullins, knew one of the girls and, through this contact, invited them over to the hut after the show. The boys cleaned the hut up for the first time in months; they were shaved and slicked up—only to have the girls telephone at the last minute and say the General had asked them over so they couldn't come.

Lieutenant Mullins later had two dates with his friend in the show, to the envy of the other pilots. The Flight Surgeon moaned, "Twenty-thousand men on this island and she asks for Mullins." However, Mullins let the FS eat supper with them—and then shooed him away.

When this particular outfit first came into the area, the men brought in crates of fresh eggs, hams and fruit. One chap who brought in two bottles of Coca Cola sold one for \$30 and was about to sell the other one, when he decided that if it was worth that much, he would drink it himself—and did. It isn't that scarce now, but it's still not common.

CONTEST. I played center field in a softball game. Our team lost, 32 to 4. It took me a little while to get used to the Aleutian style of play. Nobody except myself paid any attention to the rain, to the 30-mile-an-hour breeze which blew fly balls in two directions, or to the Simmons-soft tundra which gave the ball a terrific bounce. Till I got the hang of it, I almost went crazy—and so did the team.

PLUMBING. In one quonset hut, the boys had fixed up a drum of cold water on a platform, which fed into a tank on the stove, thence to a sink, and from there out a drain—all made from hydraulic lines out of junked airplanes.

WILD BLUE YONDER. I have had some strange experiences but I never expected to buzz moose in a nine-man glider. We took off, towed by a C-47 at 160 mph, and went hedge-hopping across the tundra and flats, just clearing the tree tops. We skimmed the hills and swooped down into the valleys, looking for moose. We spotted a herd of deer. Then, not far from the foot of a glacier, we saw a moose splashing out of the water, frightened by the plane. We had to turn around in a high, narrow valley near the Manataska, and for a moment I thought we would have to release our glider and land in the timber. However, the pilot sweated out the sharp 180-degree turn, and we headed back to the field.

SQUIB. There are no trees in the far Aleutians. Not long ago there was a story in American newspapers that the pilots at Umnak had flown in a single tree, planted it and labeled it "Umnak National Forest." The news item neglected to mention *why* the tree had been flown in—for the exclusive use of a flyer's pet dog.



Precision bombing pays dividends in the Aleutians. The Japs built huge revetments, but it was no use. Photo above shows a submarine base on Kiska harbor that AAF bombs have blown apart. One damaged midget sub is still on the ways. The wavy black lines along the beach are trenches.

☆ ☆ ☆

At left, a bombardier drops his eggs just where he wants them—on docks and float Zeros. All Zeros were later destroyed.

☆ ☆ ☆

At right, an oblique view of Kiska harbor on an unusually clear day. Salmon lagoon is in the central foreground. Heavily defended North Head lies between Salmon lagoon and Kiska harbor. Jap fighter strip is beyond the lagoon. Two beached ships that AAF planes have destroyed can be seen; more lie beneath the waves.



It was pitch black, as I felt my way around the tent in search of my pants. I was eager to get outside to see how the weather was going to be. We had landed at Adak just a few hours before, and now we were making our first raid. Outside, I gazed at the sky and no stars were to be seen. The wind was cold. A faint light showed that there were clouds hanging in the harbor. Was this good or bad? I couldn't decide for sleep was still full in my eyes. I would rather have Japs shoot at us than to climb through an overcast with forty other planes.

After bolting a few flapjacks, we hurried to the plane and awaited take-off orders. At 0700 our engines were running and by 0800 we were all in the air, starting for Kiska. There were P-39s on our port side and P-38s on our starboard, with B-24s in between.

The ceiling was 1,000 feet with occasional skud down to the water. This we skirted to keep the peashooters in contact with us.

As we rounded Segula Island we stayed low to the water. Col. W. O. Eareckson with his two wingmen were in front. Major Watt and his flight were slightly higher and to the left. Major Watson was higher and to the right, followed by Captain Smith and his flight, which was low and behind Major Watt. About fifteen miles out the signal came for more power, and each of us jumped as if he had been shot. The pursuits dropped their belly tanks and surged forward just above the water. About four miles from the target we were flying with our throttles nearly wide open.

Softening up for capture means many a heavy bomber pounding such as this.

We were about four miles from Kiska's North Head when I saw firing off that point. There were two large guns and they were following us up nicely. One shell hit directly below our ship, throwing a huge geyser of water that nearly touched our belly. The burst destroyed two of our radio antennae. Little Kiska opened up but I couldn't see what fire-power was there since we passed to the right of the Head. The leading P-39 dived on one large gun emplacement, silencing it with a single burst.

Our top gun turret opened up with a terrific noise. It seemed to me as though it was firing right between the pilot's

seat and my own. The cross fire from Little Kiska, North Head, and South Head seemed impenetrable, and ships anchored in the harbor were throwing a large amount of fire.

Just before we reached the Head, a Jap machine gun sprayed the water in front of us. Lieutenant Lockhart opened up with his front side gun, and the firing quit before we came to it. Lieutenant Lockhart was not sure that he hit the emplacement but was sure that he had scattered the personnel.

COLONEL EARECKSON was a hundred yards ahead of us as we came into the mouth of the harbor. Because of the angle of our approach, we had to make a dangerously steep formation turn close to the north cliff to stay on the right side of the harbor and hit our objective. The bay is small and by the time we had rolled out of our turn, we were almost to the camp area—our target.

The large transport in the middle of the bay was my greatest worry, since we flew directly over it. On the bow there was a large gun, with several machine guns on the decks. Every one of our gunners who could see the ship strafed it from one end to the other. Our port side gunner gave it a burst, and the tail-gunner said he raked it from stem to stern twice and almost blew the bridge apart with a long burst.

At this point the fire from the right side of the harbor seemed to diminish. I think we were so low that it was hard for the Japs to bring their guns to bear on us. We received a hit in the starboard

The Japs' Best Friend

In the Aleutians, the weather has been the enemy's strongest ally. Fog which lasts for days made it impossible for us to gain the cumulative results of day-after-day bombing, and it permitted the Japs to rebuild.

On Kiska the enemy constructed huge earth revetments around each building and installation, so that bombs had to be dropped with pin-point accuracy, despite heavy anti-aircraft fire and poor visibility.

But month in and month out, whenever planes could fly, our men took off in fighters and bombers to attack the enemy. This narrative by Captain Waddlington describes a typical heavy bomber mission of the kind that struck the Japs down . . . and out.

SURPRISE RAID ON KISKA

By CAPT. IRVING L. WADDLINGTON



wing, next to the number four engine, that entered from the top. Either we received this while in our steep turn or from somewhere along the top of North Head. We also received hits from below, behind and to the left. One went through the glass door, barely missing the side gunner, and another penetrated the right rudder.

A float Zero took off the water on the course we were making. He pulled up immediately in the most "straight-up" climb that I have ever seen. Two or three top gun turrets turned on him; then two P-38s blew him apart.

The camp area was directly ahead of us. The tents were very close to one another, in line with buildings in the rear and about 200 yards from the beach. A small dock and several shacks were located on the beach. Bombardier Lamberth's first bomb hit next to the dock, going through a row boat that was tied to it, and the rest of his bombs were evenly distributed over the area.

Our engineer Technical Sergeant Sahroian was operating the bomb bay doors, so he had a bird's-eye view. One demolition bomb hit and took a whole row of tents with it as it bounced along the hard earth. An incendiary struck a building that resembled a mess hall and immediately covered the roof with fire.

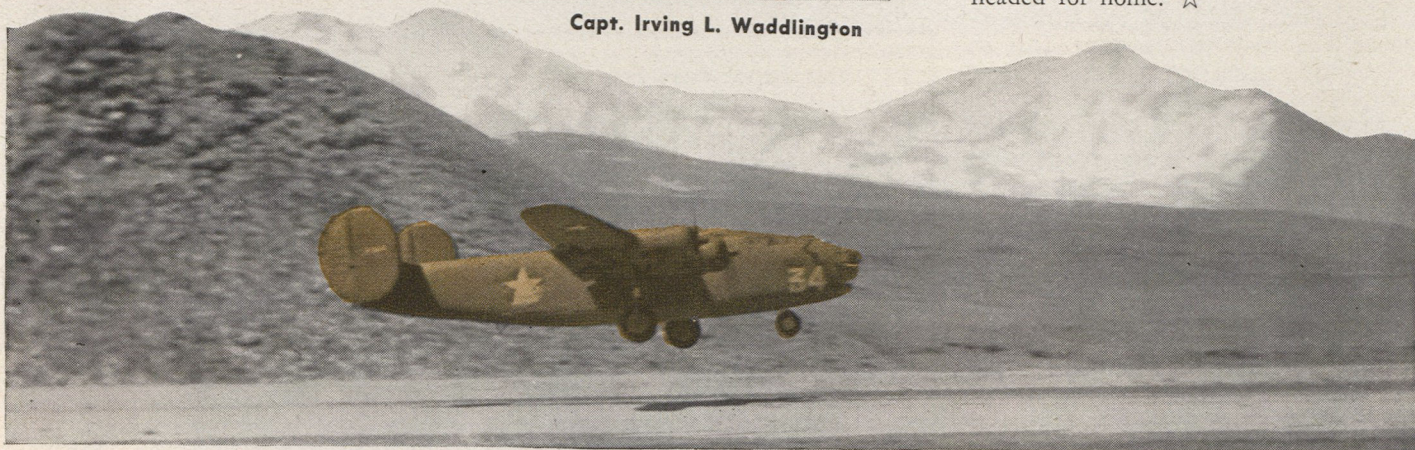
We climbed gradually up the slight rise ahead of us so we could cut through a small valley and out the other side. As we climbed we must have been the only bomber in sight of the south side for Jap tracers were following us. We saw machine gun emplacements on our left. We could see men scurrying up zig-zig paths to the guns as we neared them but they fell flat when they saw us heading toward them.



Capt. Irving L. Waddington

There were several P-38s circling over the water as we came out the other side of Kiska Island. After we had turned right and started around the north tip of the island, anti-aircraft guns opened up so we veered to the left and out of range. They, however, were shooting at the P-38s, not us. We then saw a B-17 picking up our fighter planes and we circled, waiting for the rest of our flight to rendezvous. One of our gunners saw two of our pursuits on the tail of a Zero collide and fall into the water.

I checked our crew to see if each man was all right and to determine the extent of our damage. We checked in by radio with our flight and they all answered. Large columns of smoke were rising from the harbor as we turned our backs and headed for home. ☆



A B-24 takes off to bomb the Japs.

Not only have the American soldiers been affected by life in the Aleutians, but life in the Aleutians has been greatly affected by American soldiers. Take, for instance, the raven of the western Aleutians, *kiwi arcturus*. These islands have been his habitat for centuries. Larger than the ravens commonly seen in the United States, he is a rugged bird, hardened to life on the chill, tree-less slopes, and accustomed by hard experience to scratching out a living. A few ice worms and glacier snakes—when he can get them—constitute his diet. He is, understandably enough, not of a happy-go-lucky temperament but he is alert, imitative and quick to make up in intelligence what he lacks in charm.

But since the Americans have come to the Aleutians, there has been a complete breakdown in the raven's life cycle.

First indication of this came in the fall of 1942 when a fighter pilot observed a string of ravens flying alongside his ship, and they were doing, whenever he did, slow rolls and snap rolls. The ravens were awkward at first, but soon they were executing these maneuvers with such precision and fluidity that the pilot decided he'd show these birds something. He turned the show into a rat-race, hedge-hopping and buzzing the field, but to the

MAN AGAINST NATURE

pilot's chagrin, the ravens not only could do the job better, but one raven flew alongside carrying a small piece of a sergeant's ear that he had nipped out while this GI had been standing agape on the field watching the show. The disgusted pilot gave up and landed his ship.

To his amazement, all ravens followed him in, peeling off and setting themselves down like hot pilots, without even bothering to let down their flaps, and stalked off to their own "line" along a lagoon. An intelligence officer, who happened to be hidden while fishing behind a sandbank, was able to verify the recent report that these ravens were now talking among themselves with a Texas drawl. They had been jamming the radios of a Texas bombing outfit, which had reported in to the base four weeks before, and picked up the lingo.

An anti-aircraft gunner recently pleaded in vain for permission to put a burst or two in a particular flight of the birds.

He pointed to a triple, twelve-bird formation, winging steadily along in best B-24 style on a course of 270 degrees true, "The othuhs is tryin' to be fightuh

pilots, but them so-and-sos ovah theah, ha' been bombin' us all mornin'."

The effect of military tactics on the ravens is not as great as the adverse effect on raven home life. Whereas they used to forage for their own food, they now hover lazily over the cook houses, waiting for a KP to come out with a load of slop, and then they follow him to the garbage burial hole.

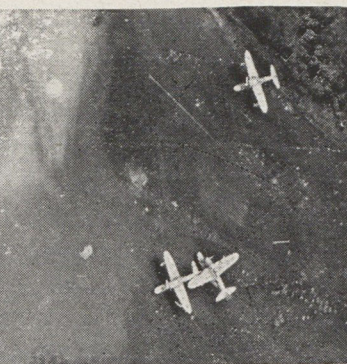
Older parent ravens are unable to persuade their young ones that someday the Americans will be gone, this picnic will be over, and they will have forgotten how to earn a living on these chill shores. But the young ravens dismiss such talk as old fogeyism. Too lazy and fat to fly, with full stomachs they now *walk* behind the KPs to the garbage dumps and search for fermented foods and fruit juices hoping to get drunk. One Saturday night the heart of every man in camp was touched at the sight of one old father raven, out looking for his wife and sons who were "on the town." He found them deep in their cups and had to take them home and put them to bed—dead drunk.

"It sho' does come hahd," he said to himself, and then cursed softly, realizing that he too was speaking Texan and not the pure Aleut his raven ancestors had used since the last ice age. ☆

THE FIGHTERS POUR IT ON



Before: An American patrol plane spots float Zeros on the beach at Attu, tossed about by a storm.



After: American fighter planes strafe the Zeros, destroy every one.

"ENEMY planes flew over today. Their object was to play havoc with our strong reconnaissance and with our spirits."

"Most fighter planes executed dive-bombing with lightly loaded bombs, and we had comparatively great losses."

"At first the enemy used time fuzes which exploded in three minutes, but later the enemy used fuzes which exploded one to two hours after dropping. They gave us spiritual fear and labor delays."

"Twenty casualties occurred this week among the —AA Battery as a result of strafing fighters. The appearance of being shot by machine guns repeatedly, by seven or eight planes, is very mortifying; we just grit our teeth because we cannot do anything about it."

Thus have the Japs themselves recorded the effectiveness of American fighter operations in the Aleutians, and both airmen and ground crews share the credit.

Our fighters have protected our bombers in their attacks on Kiska and Attu, and proved the value of combined operations. They have shot Zeros out of the sky. They have flown reconnaissance and patrol. They have strafed and dropped bombs themselves. When our bombers were roaring over Kiska, our fighter planes preceded the B-25s and B-24s, machine-gunning anti-aircraft installations and helping thereby to save lives by diminishing AA fire. Kiska had seventeen separate gun batteries. Without the fighters to precede them, many bombers would doubtless have been lost.

Our fast P-38s have been especially successful in such operations. In the early days of the Aleutian campaign, our bombers had to fly long distances to attack the Japs—beyond fighter range. But as

soon as we had bases in the Andreanofs, less than 100 miles from Kiska, our fighters really did their offensive stuff. P-40s and the P-38s would dive right down the AA gun barrels. They silenced the gun crews or drove them into their foxholes. And from their nearby bases, the fighter planes could fly many more missions per day. While weather in this area would not permit flying every day, repeated missions on the same day gave the Japs no letup.

It's no easy trick to land a high-performance plane on an Aleutian strip in a stiff cross wind. Runways in the Aleutians are often built on the only flat land available, which means: Look out for nearby hills or peaks. The fighter pilots had more, perhaps, to fear from fog closing in on their airfields while they were out on a mission, than the bomber pilots, who had larger gasoline loads. As rapidly as possible, airfields and auxiliary bases have been built, so that if one island is closed in the planes can reach another. But fighter pilots still have their problems.

Not long ago a P-38 mission took off to strafe Kiska. Fog blanketed their home base. Several men flew to another base and managed to land through a "hole" in the soup. One pilot, with his gas running out, elected to land on the water, but he was seriously injured while doing it and was drowned. Another P-38 pilot landed in the water of a lake on a nearby island which was clear of fog. He climbed out of his peashooter before it sank, swam 150 yards to some rocks and waited there

for rescue. A Navy PBY had to land on the sea, three miles from the lake. The PBY crew carried a rubber life raft to the lake, launched it and rescued the pilot.

The line crews have done a splendid job in keeping a high percentage of planes in the air. Maj. Gen. W. O. Butler, commanding general of the 11th Air Force, has paid them high tribute. Early in the Aleutian campaign, there were no hangars to protect ground crews from the elements. There are not many today. Most of the repairs are made in the open. When a "push" is on, the line crews work hour after hour without letup. One day thirteen fighter missions went out, in addition to reconnaissance and patrol planes.

During the past winter a storm came up, with snow-laden gusts running up to 100 miles an hour. Six hours later, Colonel DeFord of the Bomber Command went down to the dispersal area to see what planes had been damaged in the storm. To his pleasure, he found not only that no ships were damaged by the storm due to careful preparation and anchoring, but the line crews also had two full squadrons of planes *ready* to blast the Japs.

The line crews know that their fighters are doing a large part of the job of killing Jap soldiers, destroying their weapons, destroying their ability and will to make war. Fighter pilots in the Aleutians have proved that they could pour on the Japs more than the Japs could take, week after week, month after month—paving the way for the enemy's annihilation. ☆

THIS IS YOUR ENEMY

... IT'S YOUR LIFE OR HIS!

AIR-TO-AIR bombing has been employed for more than a year against our bombardment aircraft, chiefly in an effort to split up tight formations.

The enemy has directed bombs at our planes over the South Pacific, the Aleutians, western Europe, the Mediterranean and southern Europe.

Most of the bombing has been done by enemy fighters flying from 1,000 to 3,000 feet above and in line with our formations. Although individual attacks have been most common, simultaneous aerial bombing by Jap fighters flying in V formation has been reported. Dive bombing has been attempted by both Japs and Germans, with bombs being released from 150 to 500 feet above our formations.

Enemy fighters have been known to fly at the same altitude and speed, and on the same course of a formation but out of gun range, obviously giving data to fighters overhead prior to the release of bombs from the latter. Air-to-air bombing often is followed by conventional attacks with guns and cannon.

The bombs believed used in this manner have varied from 20-pound fragmentation to 500-pounders. Our crews have reported the bomb bursts to be of various colors—red, black, blue and white; others have been characterized by purplish smoke and white streamers; still other bursts have cascaded into smoke streamers with a waterfall effect.

There is evidence that the enemy also is experimenting with balloon and parachute bombs. Crews over Europe have seen red balloons rising toward a formation and exploding with a red flash at about the same altitude. A white balloon with an attached cable was released by an ME-110 close to a formation of B-17s over the Mediterranean. Parachute bombs were reported in use over Sicily this spring. Over France a small red parachute has been observed dropping from above supporting a small unidentifiable object. In at least one instance, the enemy has dropped aerial mines, in addition to bombs, in front of the lead group of bombers.

Up to date, air-to-air bombing has obviously been largely of an experimental nature, with little or no pattern to it. But it is definitely listed as an enemy tactic, and some pilots have expressed the belief that, if perfected, it could become a threat to tight formations. The attacks have been numerous enough to score, by the law of averages, a certain number of hits; but



regardless of the number of hits, the enemy apparently hopes air-to-air bombing will affect our crewmen and impair the effectiveness of our missions. So far he has been unsuccessful.

DECAY METHODS. In an unsuccessful attempt to lure our troops into ambush in New Guinea, the Japs set up captured weapons abreast of our positions, fired other captured weapons to dupe our men into believing we held those places, and even posed the body of a dead United Nations soldier in view of our troops hoping they would send a rescue detail into the trap.

LOADED PURSE. During a German bombing raid on one of our bases in North Africa, a shower of spikes, watches, wallets and facsimiles of K rations came down along with the enemy bombs. An Arab, who happened to be standing near an American soldier, picked up one of the wallets. It exploded, killing them both.

NIGHT FLARES. When Nazi bombers discover our night fighters trailing them they sometimes drop a sodium delayed-fuze bomb which greatly impairs the night vision of the fighter pilot. To counteract this, the pilots duck into the cockpit and close their eyes until the glare is passed.

THE JUMPING ITALIANS. An operation involving about 150 Italian paratroopers, dropped at a coastal point during the North African campaign, is submitted as a perfect case of SNAFU.

The chutists were dropped so far from their rendezvous they found themselves among Arabs; ration containers were dropped before the jump but the troops were unable to find them; radio sets were ripped from their chutes and smashed; many of the water containers dropped were found to be empty.

Their mission was to destroy aircraft on Allied fields, with our bombers having top priority. But the operation resulted in only minor damage to one of our airfields.

Just to top it off, the entire group was easily captured. Only two chutists showed any sign of aggressive activity, and there was ample evidence of deliberate betrayal in order to surrender.

RAG MINE. Examples have been reported of the enemy slipping a rag containing a small package of gunpowder between the gas line and exhaust pipe of unguarded motor vehicles. During the African campaign, one jeep driver, noticing a bright light coming from under the hood, found a rag and threw it out. It exploded on the road.

HOT WATER. The canteen of a prisoner may look harmless enough, but you can't always be sure of what's inside. For example, surrendering German soldiers have been known to conceal small automatics in these water carriers. This is accomplished by splitting the aluminum container down its entire length, inserting the weapon, fitting the halves together again and replacing the canvas cover. Since the weight of the automatic is about the same as the customary water supply, the ruse is difficult to detect without close inspection.

CUSHIONED LANDING. Nazi mountain troops are reported to have been dropped successfully from aircraft without chutes. The jumps were made over Norway into snowbanks from an altitude of approximately thirty feet.



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GUIDING LIGHT. While approaching his target—Kahili airdrome on Bougainville—on a B-17 night bombing mission, one of our pilots noticed a Jap reconnaissance plane flying a parallel course at the same altitude but out of range. As they neared the target area the Jap turned on a bright searchlight. Shortly afterward anti-aircraft opened up with extremely accurate flak, thanks to the setting of the B-17's altitude and speed by the Jap reconnaissance plane. However, the run was made and the targets hit with two 2,000-pounders.

CONSTRUCTION CAMOUFLAGE. At Munda the Japs began building runways without clearing the trees from the area, laying the surfacing around the trees in an attempt to avoid detection during the early stages of construction. We discovered the ruse and bombed the budding runway.

NIGHT AIRDROME DEFENSE. Night intruder raiders from the British Isles, swooping low in strafing attacks on German airdromes, have been momentarily confused by lights which look as if planes were snaking their way along the runway. The lights are mounted on a boom which is carried by an anti-aircraft truck. On other occasions, raiders have encountered the fire of anti-aircraft guns concealed in dummy planes which "taxi" out when the attackers approach.

ITALIAN LATRINE-O-GRAM. If you don't think enemy troops are fed the old hokum—and thick—you might dip into the diary of a certain Italian soldier.

This guy was a B-17 fan. He called it "the famous Flying Fortress which was to astonish the world." But even he was leery of the stuff they had told him about B-17 pilots.

"They say that sixty percent of the pilots are women," he wrote in his diary, "but I really do not believe it although one of the women pilots is said to have been made a prisoner from a plane shot down by pursuit planes."

Then the final touch. "They say she had a lacerated breast," wrote the Italian.

TICKET TO ARMISTICE

USE THIS TICKET, SAVE YOUR LIFE
YOU WILL BE KINDLY TREATED

Follow These Instructions:

1. Come towards our lines waving a white flag.
2. Strap your gun over your left shoulder muzzle down and pointed behind you.
3. Show this ticket to the sentry.
4. Any number of you may surrender with this one ticket.

JAPANESE ARMY HEADQUARTERS

投降票

此ノ票ヲ持ツモノハ投降者ナリ
投降者ヲ殺害スルヲ嚴禁ス

大日本軍司令官

Sing your way to Peace pray for Peace

Post cards bearing this little invitation to surrender were scattered about Guadalcanal by the Japs during the early days of our invasion there. On the opposite side of the card, in an attempt to make the invitation more enticing, was printed the picture of a comely nude (so comely and so nude that postal authorities won't permit our printing it), and strictly occidental.

The Japanese writing on the card instructs Jap sentries as follows: "Ticket to armistice. The bearer of this ticket is a surrenderer. It is strictly prohibited to kill this surrenderer." It is signed by the "Japanese Imperial Army Commander."

All this came from the same guys who gave such "kindly treatment" to our airmen who were captured after the raid on Japan.

P.S. The boys answered the invitations—with bullets.

OVER-THE-SHOULDER ORDERS. A Nazi colonel ordered his driver to blow up his staff car. He then stepped aboard a JU-52 and left Cape Bon Peninsula for the safety of the homeland. The Nazi driver watched his colonel take off in the half-loaded transport, filled the staff car with fellow soldiers and rushed off to the nearest Allied POW camp.

No DRIVER'S LICENSE. Our bomber crews continue to report enemy-operated B-17s over both France and Germany, and in one case they have spotted the Germans flying a captured P-47.

The B-17s obviously are being used to observe our formations and probably to act as decoys. They undoubtedly also serve as practise targets for German fighter pilots.

The P-47, accompanied by an ME-109 and an unidentified aircraft, made several approaches at one of our bomber formations over France without attacking. ☆

BAIL-OUT AT

First person account of a record high altitude parachute jump, made to test the AAF's bail-out oxygen system.



40,000 feet

Before take-off, Colonel Lovelace poses (below) in the position he later assumed to step off the bomb bay platform at 40,200 feet.

By Lieut. Col. W. R. Lovelace

CHIEF, AERO-MEDICAL LABORATORY, WRIGHT FIELD

HITTING the silk at 40,000 feet may become common before the end of the war. We have the planes to fly up there and we know that our bail-out oxygen equipment will function in the thin, frigid air. We know this because it was tried on June 24 when I bailed out of a B-17 to make certain the oxygen system would work under actual conditions.

Although high altitude flying was not new to me, jumping definitely was brand new. I never had made a jump before. In addition to setting a record, it was an experience that may make such jumps safer in the future. Aside from my personal reactions, the eight-mile descent revealed many factors essential to preserving life and health when abandoning a plane in the stratosphere.

To profit from the experience gained on this jump, you really should make the jump yourself—minute by minute, second by second.

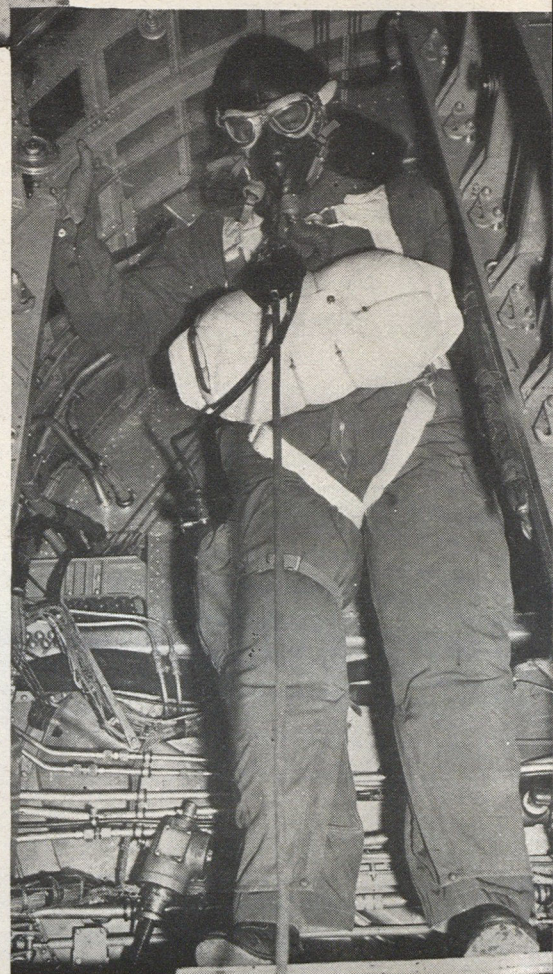
To do this, I'll ask you to step into my shoes, the GIs that go over two pairs of woolen socks.

Next, you put on your oxygen mask (a

new A-14 type) and hook it up to a constant flow commercial size oxygen cylinder that is on a two-wheel cart. The oxygen hose to the cylinder is about fifty feet long. It isn't time to fly yet. Instead, you are going to breathe 100 percent oxygen for a half hour while playing baseball with the other three members of the flight team—Boeing flight test engineers.

The time is 1000 o'clock. The ground temperature is close to 80° F. You take calisthenics, then toss the ball around for a while. It's good exercise and it doesn't take long to work up a healthy sweat. At the end of the half hour, you call time and amble over to the B-17 that is on the flying line already gassed up. The cart with the oxygen cylinders is wheeled along with you so you won't have to take that oxygen mask off.

The half hour you just spent was an all-important prerequisite to the experimental flight. During the exercise period you squeezed all of the nitrogen out of your blood, muscles and joints—a process that is technically known as denitrogenation. Aero-embolism is the price you may



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pay if you don't take this precaution. Aero-embolism is a first cousin of the "bends," except that on return to sea level pressure from altitude you lose all the symptoms of the attack that was caused by bubbles of nitrogen.

Upon reaching the plane you put on your high altitude flying gear. Over your chino uniform you don the latest two-piece chicken feather suit developed for high flyers. Next, your fatigue overalls, the ones that have the bail-out bottle, altimeter and stop watch sewed into them.

You slip on your flying helmet, ear-phones and B-7 goggles—for you are wearing the new A-14 oxygen mask and your face is completely covered. Next comes the all-important parachute backpack and an emergency pack on your chest. You put a pair of silk gloves on each hand and a pair of woolen gloves over them. You crawl into the plane, detach your oxygen tube from the cylinders on the cart and hook into the bottle that carries your supply in the plane. Then, you slip on a pair of leather and rayon mittens that almost come up to your elbow.

YOU'RE all set, and you're on your way at 1123 as the big plane rolls down the runway. Pilot, co-pilot and flight engineer are your crew members. As soon as you're off the ground you start noting instrument readings since this is a flight to obtain practical test on equipment with complete data on all that happens.

First on the check list is the oxygen regulator, not only yours but those of the rest of the crew. You check them and the oxygen pressure of each cylinder. Months have been devoted to preparation for this flight and you can't let any symptoms of trouble pass unnoticed.

The altimeter never falters but keeps going round and round at about the speed of the second hand on your watch. You have forgotten that you are going to make your first parachute jump—a jump during which you may lose consciousness if you lose your oxygen supply for more than fifteen seconds.

It has been ten minutes since take-off, you note by the sewed-in stop watch on your sleeve. Time to check the pulse beat, color of lips and fingernails of your crew. If they should turn blue, you know the oxygen system isn't functioning properly. You make the check and find everyone is normal. So far, so good. You stroll back to the bomb bay, keeping the ten-foot special oxygen hose on your left side so it won't foul on any part of the plane. It's a short walk—no trouble to do it later on when you will step onto that small platform after the bomb bay doors are opened. You return to your post behind the co-pilot. Standing back of him you again glance at the regulators that are feeding in the oxygen—pure oxygen. Time for another pulse check. Everyone still is doing fine.

The earth has dropped away far below

COMPUTING ALTITUDE

The parachute jump of Lieut. Col. W. R. Lovelace was made from 40,200 feet density altitude and 39,750 feet pressure altitude.

Density altitude is approximately "tapeline" altitude. Aero-dynamically, airplane performance speed, propeller pull, lift of wing, trajectory of bomb is judged by this figure.

Pressure altitude, which may be either greater or less than density altitude, is determined by the actual reading on the altimeter. Physiologically, human performance is judged by this reading. Horsepower delivered by the engines of an airplane also is a function of the actual pressure of the outside air.

Use of oxygen equipment and the probability of an airman getting the "bends" and anoxia depends on the actual reading of the altimeter in the airplane and not on the true height above sea level. An error in judging the numerical altitude by 2,000 or 3,000 feet in the 35,000-45,000-foot range may induce anoxia before a pilot is aware of his predicament.

and you still climb steadily upward. You are too busy to evaluate your flight, though, for you are checking the oxygen regulators, the pressure dials, the pulses of your crew until finally you are over 40,000 feet. You had almost forgotten that this flight is the one from which you are going to jump. You look at your check list which was carefully prepared so no slips could be made in the rush. You are being hurried now because one engine is not running smoothly.

Number one on the check list, take off the head-set. Number two, walk back to the bomb bay and step on the platform, keeping your oxygen line on the left side. Number three, have flight engineer fasten parachute to static line so chute will be opened immediately. Number four, have flight engineer open bomb bay doors.

Number five, turn on bail-out oxygen supply and check to see if it is operating satisfactorily. Number six, detach hose from the plane's oxygen supply. Number seven, before you can think about it, you step off into space . . . tape line altitude 40,200 feet, pressure altitude 39,750 feet, time 1233, temperature —49° F., speed 100 mph indicated, 200 mph corrected.

You see a huge shape passing over you; it is the belly of the B-17. The tail is overhead and the engine drone is receding. You feel a terrific jerk as the parachute billows open—a jerk that throws your gloves off, you remember. Then you don't remember, for you have been knocked unconscious by the jolt.

A sensation of lazily floating on a dream cloud comes over you while something is droning in the far away and everything else is quiet, very quiet. You vaguely recall an altimeter reading of 30,000 feet. Then, it is quiet, very quiet, with that far-away hum and you look down to see the earth gradually coming to meet you. You are breathing the oxygen from that little cylinder sewed into your suit until the pressure finally drops down to zero. The altitude is 15,000 feet so you don't need additional oxygen anyway. The bail-out cylinder had plenty. Your senses begin to sharpen now. It still is very quiet except for the droning of airplane engines. You hadn't noticed the cold but you feel the warm air now.

THEN, you see a plane—the AT-6 that was to pick you up. You're at 8,000 feet now and you wave to the men in the plane to let them know that you are OK. Down below is a huge expanse of an already harvested wheat field. You see the big B-17 you left eight miles up has come down with you. The AT-6 swoops down for a landing. As you hit the ground, you run with the wind (for you landed downwind), collapse your chute and the jump is over. But your left hand is awfully cold when you touch it. The hand must have frozen for there's no glove on it. Your right hand is still covered by the snug fitting silk glove.

Within two minutes, the AT-6 crew is with you. The pilot helps thaw out your fingers by holding (Continued on Page 48)



This H-2 type bail-out oxygen bottle, used by Colonel Lovelace, will replace the H-1 type with the handle valve. On the H-2, the ball release opens the supply valve.

How to Keep Well in the ITALIAN THEATRE

Brig. Gen. David N. W. Grant

AIR SURGEON

ENEMY bullets, anti-aircraft shells and other man-made implements of war are not the only hazards to the health and lives of Army Air Forces personnel now fighting in the Italian theatre.

Though not as grave, perhaps, as those abounding in more remote areas, many diseases prevalent along this north-central Mediterranean coastline can seriously deter military operations unless sufficient precautions are taken to prevent their contraction.

Generally speaking, sanitation in this area is very poor. Italy has always been faced with a serious public health problem, and health conditions are even more acute in the islands of Sardinia and Sicily. The ceaseless Allied bombing of much of this area and the strain of more than three active war years have lowered considerably even those health standards which normally existed.

Water and sewage facilities are extremely inadequate except in very few of the larger communities. In some cases municipalities obtain water from lakes and reservoirs in the hills and mountains and transport it from these surface collections by means of aqueducts. In rural areas shallow wells, springs and streams are used. Many water supply systems are ancient and, for one reason or another, are frequently cross-connected with sewers.

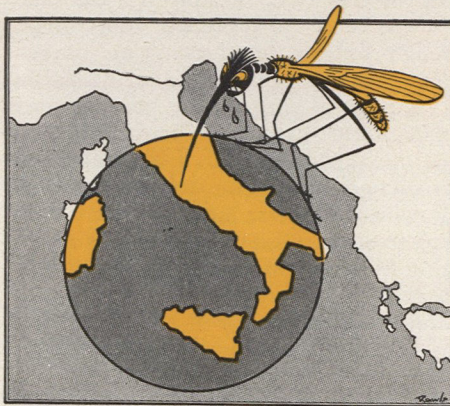
Sewage treatment systems are rare in this area. Sewage is usually emptied raw into streams or into the sea. Pit privies are generally used in rural areas and in many of the slum sections of larger cities. Human waste is frequently collected by cart and used as crop fertilizer.

The high rate of typhoid and paratyphoid fevers, particularly in the vicinity of Rome, indicates that water is frequently contaminated. For the purpose of military forces going to the Italian theatre, all water must be considered dangerous and should be treated by military personnel before use.

Pollution of the soil also renders fruits and vegetables unfit for eating unless they are dipped in boiling water. Milk, too, should be boiled for there are few facili-

ties for pasteurization in this area. Tuberculosis and undulant fever are common in dairy herds.

Of the insect-borne diseases, malaria is by far the most prevalent in the Italian theatre. The Romans centuries ago shied away from the Pontine Marshes, expansive swampland along the Tyrrhenian Sea coast west of Rome, because they believed evil spirits were in the air over this area. The "evil spirits" happened to be mosquitoes but their precautions were well founded. Although the marshes were drained—mainly to reclaim land for economic use—by the fascist regime several years ago, malaria still abounds in this section of the Italian boot. Italy's malaria



rate is among the highest of the Mediterranean countries, and that of Sardinia is considered to be the third highest of any area in the world.

Throughout the Italian theatre, troops should be particularly on guard against malaria-bearing mosquitoes. When you go out after dark, wear long trousers tucked into boots or leggings, and long-sleeved shirts. Use mosquito repellants, headnets, gloves and mosquito boots whenever possible. Sleep under mosquito nets.

Dengue or breakbone fever, also mosquito-borne, is prevalent in the coastal areas. Although this disease is rarely fatal, it is incapacitating and, should it reach epidemic proportions, it could seriously hamper the military effectiveness of

troops. The same mosquito which carries dengue also is the carrier of yellow fever. This disease, however, has not been found in Italy for many years, but the return to the country of infected individuals or the transmission of an infected mosquito by plane or ship from a yellow fever area could cause the rapid spread of the disease.

With this possibility in mind, Army Air authorities have been careful to spray with insecticide the planes taking off from points in central and west Africa for Mediterranean bases.

The presence of disease carrying ticks, lice, sandflies and the like in the Italian theatre makes it necessary for military personnel to take additional precautions against insect bites. A new GI powder repellant for use against creeping and crawling insects has proved particularly effective. Troops should bathe whenever possible, examine their bodies carefully for ticks and lice, and inspect their wearing apparel frequently.

Mediterranean tick fever, or Boutonneuse fever, is found throughout Italy and Sardinia. It is borne by dog ticks and is much like our Rocky Mountain spotted fever. Typhus and relapsing fever are two louse-borne diseases common in this area.

Here, as in other war theatres, utmost care should be exercised by military personnel to avoid venereal diseases. Syphilis, gonorrhea and chancroid are prevalent in Italy. Normally, prostitution is controlled by police laws requiring segregation and medical examination at weekly intervals, but considerable laxity in enforcement is to be expected under the stress of immediate military operations.

In summary, it should be borne in mind that simply because this theatre of operations happens to embrace a section of the world that is highly civilized, in contrast to many of the areas in which our troops are fighting, health precautions must not be tossed overboard. This theatre, if anything, has more than its share of health hazards in peacetime, and as the scene of active combat operations these hazards are multiplied manifold. ☆

AN

Open Letter

TO MEN OF THE ARMY AIR FORCES

It is a privilege to reach the men of the Air Forces through our official service journal as it gives me an opportunity to tell them of the wonderful work their wives and mothers are doing, and to ask them to cooperate with us more and more as time goes on.

You know, we wives and mothers of the Air Corps are red-blooded, self-respecting American women who want to do our part in the organization to which our men belong. We want to take care of the home front while our men are fighting or in training. Our first responsibility is to our homes and children; our second, to see that our Air Corps family is kept busy and happy.

We already have made an excellent start. Through training in Red Cross classes, we are taking our places in volunteer work of various kinds. In some places our Air Corps hospitals are being supplied with dressings and other articles made entirely by Air Corps women in post Red Cross auxiliaries. We have nursery schools on many posts. There are canteens in operation, manned by wives of Air Corps men. The cadet wives in some training centers are organized to take care of the housing situation.

The Air Forces Branch of Army Emergency Relief is using volunteers to help in its relief work in many locations. Mrs. Barney Giles has recently been appointed to organize Army Emergency Relief Volunteers in the Air Forces Branch, as the duties of the Army Emergency Relief officers are growing more complicated as time goes on, at all posts, and the need for volunteers is increasing. Air Corps Mothers Clubs are being organized all over the country; their aims and purposes are to make it happier for their boys and for the boys of other Air Corps mothers who are not at hand. In one city the Air Corps Mothers Club has a sewing room where any cadet can bring his clothes in need of repair, and find an interested and capable "mother" to take care of him.

In addition to such volunteer activity, there are many fields of endeavor in which the women of Air Corps families are busy doing war work—airplane factories, for instance. In fact, in industries of all kinds they are taking their places to relieve men who are needed in the Army.

Yet, there is much more to be done. I am asking you to help in seeing the problems and to cooperate with us in carrying out plans for the future. If near a post, there is work to be done in the chapels, libraries, hospitals and Army Emergency Relief. On some posts, the Red Cross auxiliaries are already organized and doing fine jobs. We need more auxiliaries. We need volunteers on relief committees in the Army Emergency Relief. We need sympathetic Air Corps women to help morale among the enlisted men's families when tragedy strikes; it may be just a note of sympathy—a word to say, "Call on me if you need help."

We are all one family. We need the backing-up of our husbands to do some of these things, especially if new in the Air Corps. After a visit to many of our camps that have sprung up over night, I found the most urgent need to be a Bureau of Information for the women who come to see their men at camp—often to say "goodbye."

Someone wrote me the other day and said, "Can't something be done to keep these wives at home? There is no place for them around here—even for a day or so."

I say the Air Corps women are loyal and devoted to their husbands and that nothing in the world can keep them from going to say "goodbye." Therefore, it seems a simple thing for us who have spent many years in the service to at least have a desk where questions can be answered on transportation and housing and on many other important subjects. This can be, and often is, done by auxiliaries on our posts. Where there are no auxiliaries, let it be a function of the Army Emergency Relief Office and man it with volunteers of the Air Corps. There is no necessity for civilian organizations to take over duties which are rightfully ours.

Please—put the feminine members of our big family to work! They want to help and you may rest assured that while you are in far places we will do our utmost to take care of those left at home, for, as in the words of Martha Merrell's lovely poem, "Nothing can ever break the tie that binds the wives of the men who fly."

Phyllis P. Arnold


MRS. H. H. ARNOLD




BETWEEN MISSIONS

With the AAF around the World

WHILE every theatre of operations has its own peculiarities, bunk fatigue and relaxation between missions is pretty much the same the world over. The boys read; they write home; some go sightseeing when there are sights to see; they play cards; they build and patronize their own clubrooms; they play ball and a thousand other games they've made up for their own diversion; they play in the surf when there's a beach nearby. In a few choice spots there's even feminine companionship to be had. But here are a few of the stag activities engaging AAF personnel around the globe.

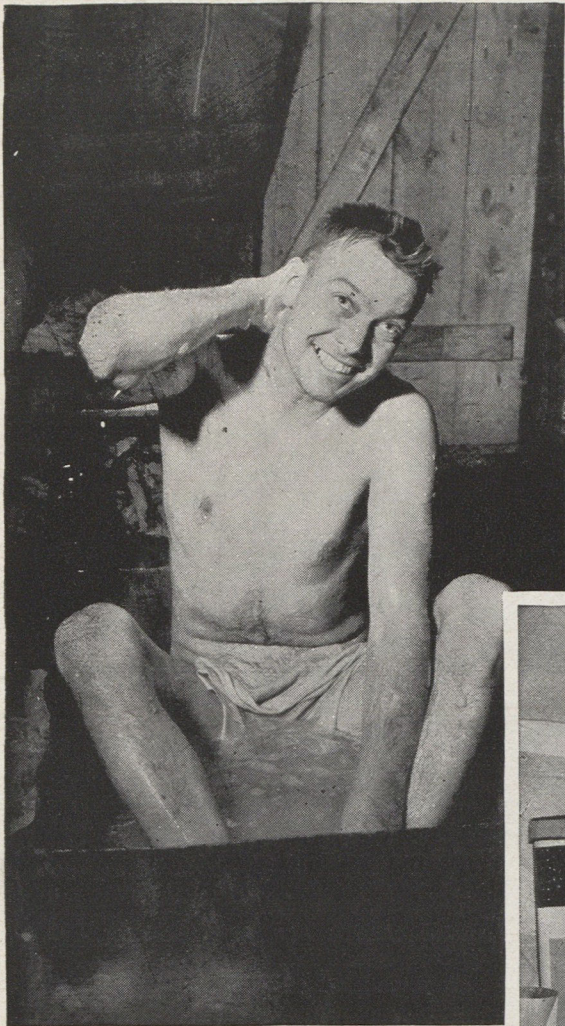


BEACH PARTY. Sunny Florida? No indeed! These men of a heavy bomber squadron enjoy the beach and surf on a South Pacific island.



LONDON TOUR. St. Paul's Cathedral in London, surrounded by scars left by German bombers, is a sight these two Yanks will long remember.



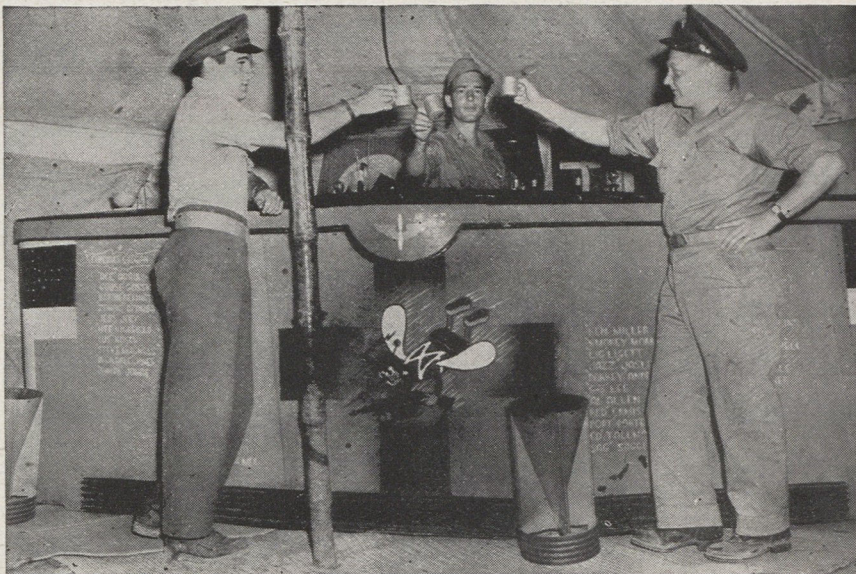


BATHROOM BALLAD. While not as modern and shiny as that tiled shower at home, this halved gasoline barrel suffices in Alaska. And the vocals are the same.

RELAXING 'ON THE SET.' These fighter pilots lounge on bunks during a "stand-by alert" at their Caribbean airbase.



THE PASTEBOARDS. A little game of fan-tan occupies the time of these members of a B-25 crew in China as they await word to take off on a mission over Jap-held territory.



UNIQUE SCRAP HEAP. This bar in North Africa is made of salvaged parts from enemy planes: front panels are ME-109 wings, rail from a JU-88 and the top from a French plane used by the Nazis. The bomb fins hold cigarette butts quite adequately.

WARM-UP. The great American pastime is a lot of fun even in the Aleutians. Does it matter if a righthander uses a lefthander's mitt?



OUR NEW AVIATION CADET PROGRAM

By Lieut. Col. Willis S. Fitch

CHIEF, AVIATION CADET BRANCH,
HEADQUARTERS, ARMY AIR FORCES.



A cadet at Brooks Field, Texas, looks into the future.

SOME time ago our office received the following telegram:

WAS NOTIFIED WOULD BE CALLED TO ACTIVE SERVICE ON HAVE USED ALL GAS, COFFEE, SUGAR STAMPS. SOLD AUTO, FURNITURE, CLOTHES. QUIT JOB, WIFE. MADE WILL AND PEACE WITH MAKER. AM TEMPORARILY LIVING IN MAN-HOLE. IF THROUGH ERROR WAS ENLISTED FOR NEXT WAR, CHANGE TO THIS ONE.

We've received others like it from eager and impatient enlisted reservists.

It is no secret that during the early stages of the war it was out of the question to build and expand training facilities rapidly enough to accommodate the vast numbers of men who flooded the Army with their applications. Some of those accepted had to wait weeks or even months before beginning pre-flight work.

Thousands of enlisted men as well as civilians were rejected for one reason or another upon application for flight training. Our educational and physical standards were rigorous. This tradition of the AAF undeniably caused many disappointments.

Today, both sides of the picture are greatly changed. The purpose of this article is to set forth the "how" and "why" of such changes.

Creation of ample training facilities was in itself a huge undertaking—construction of scores of airfields, production of aircraft, building of various classroom training devices and the like. All this has been accomplished. In addition, more than 100 of the country's top-ranking colleges and universities have been brought into the academic phase of our flight training program. A man who is now accepted for aviation cadet training in the AAF begins intensive work within the month of his acceptance.

Throughout, it has been the Army's policy to maintain the quality of training at the highest possible level. Anything less would have been unfair to the cadet himself, would have been a military inefficiency. Delay in training was far preferable to the alternative, a lowering of training standards.

Proof that quality of training has been sustained is the fact that, even in a stepped-up tempo of wartime, more than 95 out of 100 pilots are being trained without injury of any kind. This achievement has received recognition from the National Safety Council which on June 22, 1943, presented to the Commanding General of the Army Air Forces a special wartime award for "Distinguished Service to Safety."

Educational and physical requirements for flight training were adhered to for the same reason. Here, however, there was another consideration.

An Air Force is primarily a striking power. As such it depends upon an extreme degree of teamwork all along the line, particularly among members of a bombardment crew. It was and is essential that such crews be composed of men eminently adapted for the work.

Had standards of any kind been lowered at the outset of the war—without benefit of battle experience—the entire success of the AAF might have been materially affected.

But with nearly two years of war behind us we have discovered many things. It has been found, for example, that some graduate Ph.D.'s fail to display any aptitude for military flying, whereas some men with only one or two years of high school education become expert.

Likewise it has been discovered that certain physical requirements did not warrant the importance given them. Dental qualification was a case in point. Our requirements in this regard today might well be summed up by the statement, "If you can eat, you can fly."

In other words, after extensive study and analysis, after careful examination of the experience not only of our own Air Forces but those of England and Canada, we concluded that certain requirements for flight training could safely be made less exact—safely from the standpoint of the student, safely from the standpoint of military efficiency.

That is the "why" of recent changes introduced in our Aviation Cadet program.

What are the present requirements?

First, physical attributes. The requirements for both visual acuity and hearing have been altered slightly. An applicant whose visual acuity measures as low as 20-30 in both eyes—correctible to 20-20 in both eyes—will now be accepted for air crew training if otherwise qualified. The minimum hearing requirement now permits 15-20 hearing in one ear, while the 20-20 standard in the other ear is still demanded.

Restrictions as to teeth, height, weight and other physical conditions have been modified. This includes the standards concerning feet. The day is long past when a flat-footed man might have trouble with the pedals of an airplane.

Lack of a formal education is today no handicap, since our tests for aviation cadet training are designed primarily to determine flying aptitude. Practical judgment and rapid perception are the basic necessities rather than education. Experience as a mechanic or as a soldier is quite as apt to be an advantage as a college degree—particularly since the passing grades of academic examinations have been lowered. This latter point should be of particular interest to many men who were borderline cases in the first bout with the cadet examinations.

Suppose you are an enlisted man, want

War experience has wrought many changes in requirements for flight crew training.

to fly and feel you can pass these moderate requirements. How do you go about it?

Virtually all airfields and airbases have aviation cadet examining boards. If there is none at your field there is certainly one in a nearby city and your commanding officer will grant permission for you to visit it.

You can obtain an application from the CO of your field. Or, if for some reason you prefer it, you can probably obtain forms from such organizations as the Red Cross or USO or from any U. S. Army recruiting station.

You must be a citizen; must have passed your 18th birthday and not reached your 27th; you must accompany your application with a copy of your birth certificate and three letters of recommendation.

When the aviation cadet examining board receives these documents, you will be given an appointment for examination. The mental screening test takes less than three hours. The physical examination will require several hours.

If accepted for aviation cadet training you will be transferred to the Air Corps on an unassigned basis. This means that you will be definitely transferred out of the unit with which you have been stationed. Even if it subsequently should be "alerted" for overseas duty you will be given your opportunity to stay in this country for flight training.

Another point of considerable importance is the new provision by which you may retain your rating.



An aviation cadet in active training receives \$75 a month plus a monetary allowance of one dollar per day subsistence. In addition, he receives quarters, medical care, uniforms and all incidental equipment, and is given a \$10,000 government life insurance policy while undergoing actual flying training (which must, however, be continued at his own expense after graduation).

An enlisted man who holds a rating may, during the period of training, obtain the alternative status of aviation student rather than aviation cadet. This means that he will be paid on the basis of his rating and can maintain dependency allotments and other benefits.

As was stated previously, the man accepted for cadet training can expect to begin such training within a month. He will first be sent to a classification and basic training center. There further tests will be given him to determine whether he would be best suited as pilot, bombardier or navigator.

If he has had basic military training he will then be sent promptly to one of a selected list of colleges for a five-month period to receive some further military instruction, physical conditioning, and—toward the latter part of the course—some flying. He will also take up several courses of study designed to help him in his subsequent pre-flight and academic training. These courses will be assigned to him in accordance with his previous education.

If, incidentally, he has not been found well adapted to the requirements of a pilot, bombardier or navigator, he may still have the opportunity of becoming a member of a combat crew by being assigned to an AAF technical school and subsequently to flexible gunnery training.

Granting, however, that he is sent to a college, an aviation cadet or student upon completion of his five-month college course will go at once to a pre-flight school.

There, in a nine-weeks course, he will obtain instruction in engines, aircraft structures, theory of flight, meteorology, radio and communications practice, aircraft identification and other allied subjects.

He then will begin actual flight training, going through the three stages of elementary, basic and advanced training, and upon graduation receive the rank of flight officer or second lieutenant. Both ranks carry the same pay—\$246 per month for single men, \$327 per month for married men, which includes fifty percent extra base pay for flying duty, subsistence and quarters allowance if required. In addition, a uniform allowance of \$250 is given to each officer upon graduation.

Our new aviation cadet program is designed to give every man who wants to fly a chance to play his part in the future of American aviation. ☆

PREPARE FOR



TIMELY ADVICE FROM THE AIR INSPECTOR

Matters presented here are informative only, and are not to be considered as directives.

PROPER ASSIGNMENT OF PERSONNEL:

We know a base administrative inspector who checks on ten assignments of personnel a day to see that the right man is on the right job. The inspector is building morale plus, and, in addition, is assuring that the base is getting the most out of its men.

Proper assignment is a *responsibility of command* (AR 345-5). Assignments made by a commander are a criterion of his efficiency. They are not to be made for his sole convenience, but for the benefit of our war machine as a whole.

To the individual, malassignment often becomes a morale deterring factor which causes the soldier—officer or enlisted man—to become a liability instead of an asset.

Much has been done to assure proper assignment in the Army Air Forces following a conference in Washington of personnel officers of the Air Forces and commands, but correction is a constant process. Check and check again on malassignment.

BIG AND LITTLE: Squadron Supply Officers: Those big and little men in your organization may get cold feet—and not from meeting the enemy—if you land them in the Aleutians without extra shoes to fit them. POM inspectors checking at final phase training stations to see that you do not make this mistake report that they must remind many of you to submit requisitions for six months' maintenance of special measurement or nontariff size clothing.

CHECK BEFORE FORCED LANDING: If the airplane in which you fly is equipped with an emergency sea-rescue transmitter, are you as familiar with it as you should be? Do you know where it is stowed in the ship? Do you know how to unpack it, assemble it and get it operating? This is an efficient and useful piece of apparatus in case of forced landings, especially at sea, but it isn't much help if it is allowed to sink with the plane. An in-

struction book is packed with the set, but it is a good idea to know something about the equipment before you find it necessary to open the package.

KNOW YOUR ALLIES: To salute or not to salute—that is often the question overseas when a man in an Allied uniform comes into camp. To keep you posted, WD Training Circ. 70, May 21, 1943, directs that all military personnel will be instructed so that they will be able to recognize the commissioned personnel of the principal Allied nations. This instruction will be given in training and staging areas and aboard transports.



Keep that mechanic on the line . . .
and we don't mean typing line.

CRASH TRUCK CHECK-UP: Notes from the scratch pad of a technical field inspector after checking on crash trucks:

"Crash kit incomplete and improperly maintained. Some tools rusty. Low speed hack saw blades in kit. (TO 00-30-44) . . . Short on Asbestos suits. Suits improperly stored (TO 13-1-7) . . . CTC fire extinguisher low in pressure. . . . CO₂ fire extinguisher equipment not stenciled as required by TO 16-20-2 . . . Flashlights not kept in a suitable metal container, and no record of flashlight inspection available. One light inoperative. No spare flashlight batteries on hand (TO 00-30-44)."

What is the condition of your crash trucks?

AIRCRAFT MAINTENANCE FORMS: Crew chiefs and engineering personnel, you are reminded by technical field inspectors of the importance of keeping up aircraft maintenance forms. It is only through the use of these forms that historical records of the planes can be preserved and necessary maintenance performed. Frequent inspections of such forms as Nos. 1, 1-A, 41-A and 41-B are necessary to assure that they are kept properly at all times.

THE INSPECTOR IS IMPRESSED: Use of the telephone to save rubber and gas was graphically demonstrated for a major from The Air Inspector's office when he called for a car to take him from a western railroad depot to an airbase ten miles away. The girl driver who appeared at the station apologized for being a few minutes late, explaining that the motor pool dispatcher had telephoned the main gate at the base as she was leaving and instructed her to pick up an express package on the trip to town. The major assured her that there was nothing like "killing two birds with one stone."

While driving through town enroute to the base, the driver stopped the car and said: "I have to stop at that drugstore over there and telephone the base to see if there are any other assignments in town. The free use of the phone is one of the store's contributions to the cause."

The inspector was duly impressed.

PARACHUTE TOWER HAZARD: A technical field inspector noticed a snagged parachute in his inspection of a parachute room at a west coast base. Seeking the cause, he found exposed nails in the tower. If you are a parachute rigger, you should "spike" this possibility of torn parachutes by looking over the walls of your tower today.

KEEPING THE GASOLINE FLOWING: "You have to keep 'em rolling to keep 'em flying."

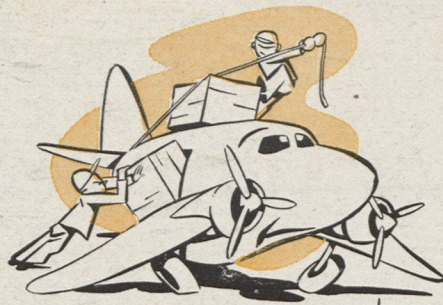
These words were never more true of the big AAF fuel servicing trucks than they are today. They are being called on to make long hauls of gasoline, which often test the metal of the trucks to the limit. More severe usage calls for better

maintenance. Technical field inspectors are stressing this fact wherever they go, and your compliance may mean the difference between planes in the air and planes on the ground.

HOSPITAL FIGHTING MEN: Just because a germ has your serial number on it, soldier, and you land in a hospital you have not been scratched off the list of potential fighting men. Your training is carried on.

AAF Memo. 25-9 provides for a convalescent training program in all AAF hospitals. This program is designed to prepare patients for full military duty by carefully supervised physical training and by a course of military instruction.

Inspectors can be of considerable help in assuring the utilization of convalescence time for training. They should check especially to see that training aids such as films and film strips are available, and that there is coordination with such men as the special service officer, Red Cross representative and chaplain.



BREAKING THE PLANE'S BACK: A cross-country truck driver knows the weight of his load just as readily as he knows his own age. And, if it is important for him to know that, it is twice as important for a pilot to know the weight of his plane load.

With the increase of gross permissible weights, the importance of never loading airplanes beyond these limits is greatly increased. Technical inspectors in the field report, however, that some pilots are not paying sufficient attention to the gross weight of their aircraft and are unable to

estimate it within 1,000 to 2,000 pounds.

The center of gravity location is equally important. It can be found by the load adjuster, supplied with most modern aircraft.

GOOD FROM BAD WEATHER: "Ceiling zero."

That is the signal in a tactical organization for a take-off on administrative work. Squadron commanders, you may be able to improve your administration greatly by checking to see whether those non-flying days are being fully utilized.

TACTICAL INSPECTION: To make your organization second to none in combat, your tactical inspector is stressing:

Constancy of supervision.

Teamwork.

Realism in Training.

Planning of training flights, wherever possible, over terrain similar to that in which the unit will operate overseas.

Familiarity of pilots with the types of hostile aircraft likely to be encountered, their armament, armor and fields of fire.

(Inspection Continued)

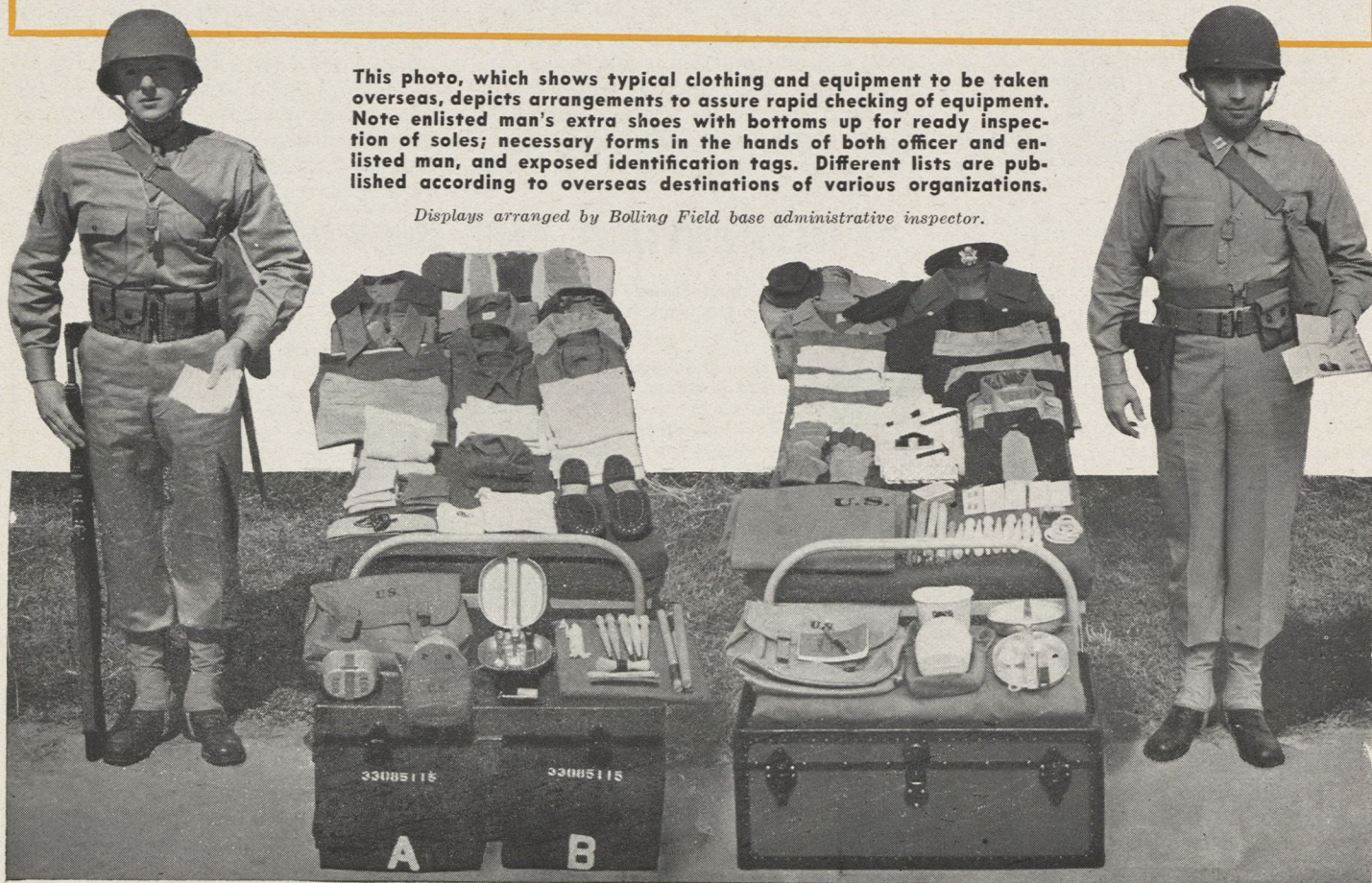
Showdown Inspection: Attention: commanding officers of Overseas Replacement Training Centers.—It is your responsibility to see that officers and enlisted men going overseas are as fully equipped as possible with serviceable material. Don't wait until the last minute. Every man must be inspected to see that his clothing is properly marked and will stand six months of wear; that his shoes are serviceable; that his qualification firing as been entered on his Form 20. Although they may

seem trifling, such details are of major importance and must be accomplished. Every soldier is anxious to know what to do. Help him now with a display.

To accelerate overseas preparations, POM directs that a showdown inspection be held immediately after warning orders are received. The Air Inspector feels that a permanent display of clothing, equipment and records in proper order, under the supervision of a competent guide and instructor, would allow each man in ORTC to become familiar with what is standard.

This photo, which shows typical clothing and equipment to be taken overseas, depicts arrangements to assure rapid checking of equipment. Note enlisted man's extra shoes with bottoms up for ready inspection of soles; necessary forms in the hands of both officer and enlisted man, and exposed identification tags. Different lists are published according to overseas destinations of various organizations.

Displays arranged by Bolling Field base administrative inspector.





HERE ARE THE ANSWERS

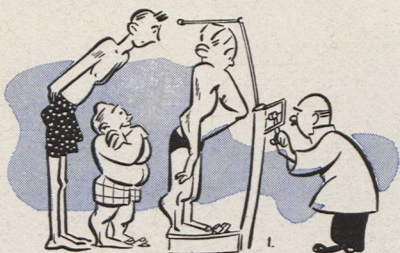
Q. Is there a limitation on the amount of dividends an Army exchange may declare?

A. The amount of dividends distributed to organizations will not exceed an amount equivalent to fifty cents per man per month (WD Circ. 98, 1943).

☆☆☆

Q. What are the size and weight requirements of fighter pilots?

A. Six feet or less in height, 180 pounds or less in weight (AAF Reg. 35-26).



Q. Is the recording of the chest X-ray in the Service Record still required?

A. No (WD Circ. 137, 1943).

☆☆☆

Q. What is the priority for Quartermaster Corps laundry service?

A. 1. Enlisted men's laundry. 2. Hospital, government property, Army Transport Service. 3. Officers and other authorized patrons (Par. 14a, AR 210-10).

☆☆☆

Q. May an officer maintain personal files of War Department publications?

A. No, unless he is assigned to duty of such character that official files are not readily available for reference (Par. 1c, AR 310-200).

☆☆☆

Q. May a flight officer perform any air crew duty?

A. No qualified flight officer will be denied, because of his grade, the opportunity of performing any air crew duty

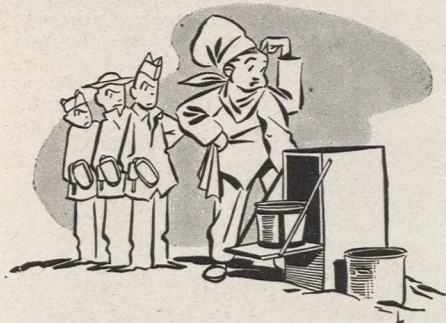
normally performed by a commissioned officer (AAF Memo. 35-21).



Q. Is there a directive forbidding the exchange of shoes that do not fit among enlisted men?

A. Yes. WD, AGO Memo. S850-31-43 states that if shoes do not fit after they have been properly broken in, enlisted men will be refitted under the supervision of their organization commanders. Under no circumstances will shoes be exchanged with other enlisted men.

LIGHT UP FIELD RANGES: You are supposed to keep your field ranges (M-1937) gleaming, but the gleam should not be the original one put there by the manufacturer. Take a tip from mess sergeants overseas and start training with the ranges



be reactivated by baking at about 400 degrees Fahrenheit until the blue color is restored. One common way is to place a medium power electric light bulb in a coffee can, fill the can with crystals, and turn on the light. Do not employ the simple but ruinous expedient of drilling a hole in the bottom of the housing to permit water to drain off.

FIRE PREVENTION IN HANGARS: Do you work in a hangar? If you do, AAF Reg. 85-6 should be on your must reading list. You will not find this regulation on fire prevention "dull copy." It tells you how to avoid disaster for yourself as well as for the expensive and vital equipment in the hangar. Some points well worth

checking for compliance in your own hangar are:

When planes are brought into the hangar for storage or repairs, either overnight or for a longer period of time, or for repairs after having been serviced with gasoline, great care will be taken to prevent overflow of gasoline tanks from expansion due to change of temperature. Airplanes will not be refueled or drained of gasoline while inside buildings.

Blow torches will be restricted to isolated places in the hangar.

Radio transmitters installed in aircraft will not be tested or operated with the dynamotor running, unless all parts of the antenna system are at least one foot away from any other object. ☆

the day they are first unloaded in your organization supply room. You will know what to do then on a rainy night in Australia when the burners refuse to function and several hundred hungry men are rattling their mess kits. Particular note should also be paid to WD Circ. 143, 1943, which rescinds WD Circ. 359, 1942, and places the responsibility for preventative maintenance, including cleaning, minor repairs and replacement of worn or damaged parts, on the using organization.

BLUE OR PINK CRYSTALS? Radio operators, do you check regularly the colors of your "chameleon"? The chameleon, of course, is the dehydrator which permits the housing for the automatic radio compass to "breathe." The crystals (silica gel) in the transparent tube of the dehydrator should be a deep blue, but they fade to a pale pink when they become saturated with water absorbed in the very necessary process of drying the air passing into the housing. Saturated crystals can



INSPECTING THE INSPECTOR

Do your inspections stop short of determining the cause?

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When someone comes to you with a perplexing problem, are you supplying the answer or "passing the buck"? Do you have complete sets of regulations and directives to give answers quickly?

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Base administrative inspectors, are you concentrating your efforts on alerted units? Are you giving them every possible assistance in their show-down inspections? Are you stressing important items, not picaresque points?

Command inspectors, are you keeping in mind the provisions of POM and AIR POM when you make your inspections during the various periods of training? Commanders of units inspected by POM teams at final phase training stations have stated that they wished they could have been given similar inspections earlier in their

training. All "inspection roads" should lead to overseas movement. Your philosophy should be "advise, aid and be sure that responsible persons understand what must be done and how it must be completed prior to readiness date." Such philosophy does not go so far as to excuse gross negligence or even carelessness, but you will find those factors apparent in only a few instances.

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Are the basic fundamentals of soldiering being neglected due to extreme concentration on specialist training?

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As a base administrative inspector, are you thoroughly familiar with AR 210-10? This regulation lists the responsibilities of a base commander, and they all are matters to be looked into by an inspector.

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Are you seeing that there is emphasis on these three points—Discipline, training, leadership?



Flying nurses wear this outfit when they aren't in the extreme cold. It is blue-grey worsted two-piece suit (skirt of same material can be worn). Boots are of rubber and felt with sheep shearing. The cloth helmet is wind resistant and Alpaca lined.

In the Arctic cold the girls wear long undies made of cotton rayon. The stuff doesn't scratch, fits skin tight and holds body warmth.



FASHIONS FOR FLYING NURSES

By Cpl. Douglas J. Ingells
Wright Field

FOR years men in the clothing unit of the Materiel Command have been designing high altitude flying suits and other paraphernalia for our airmen who are subjected to the cold of the stratosphere and for ground personnel who keep our planes flying in the frigid temperatures of the Arctic circle.

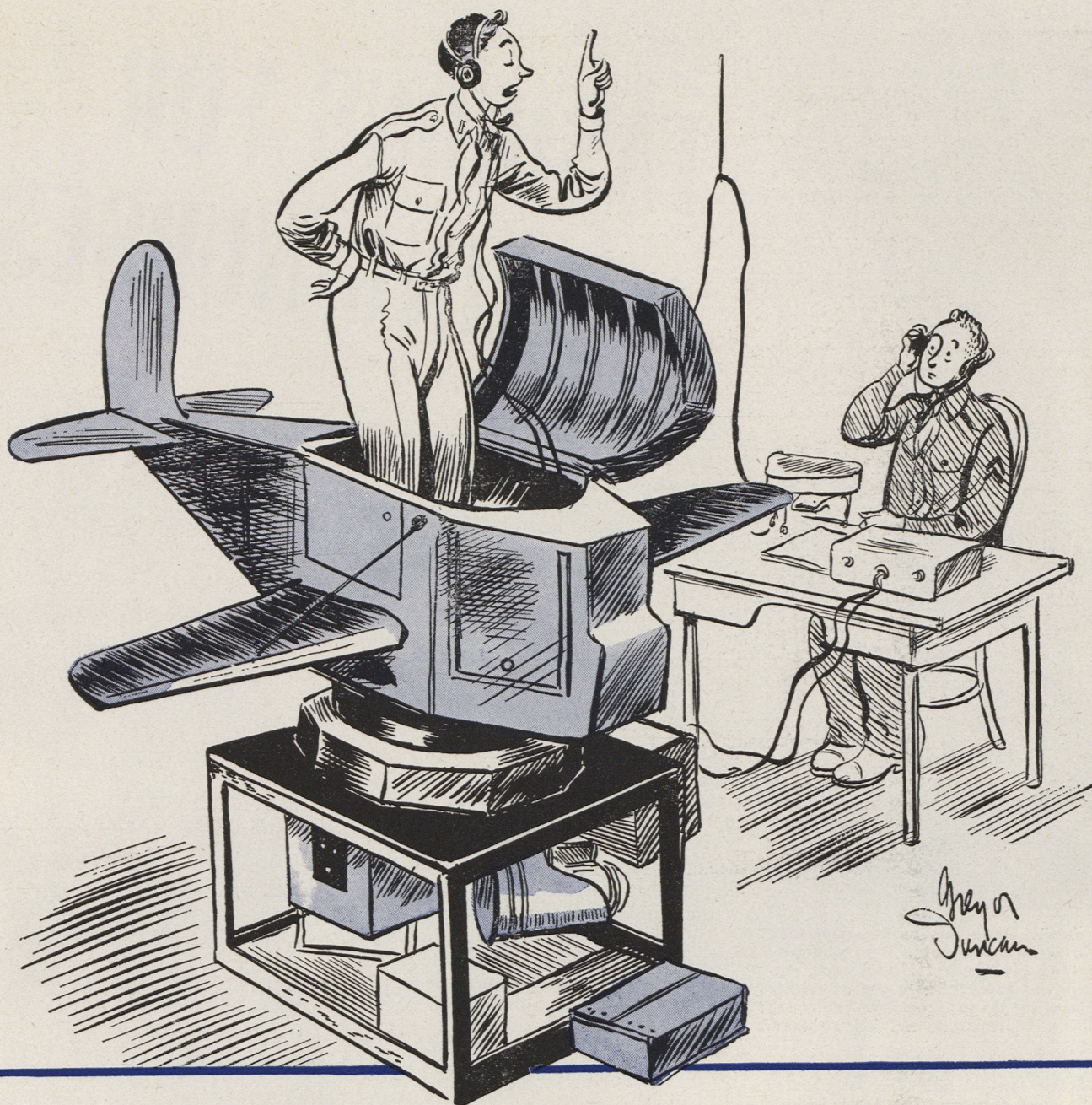
But now these clothing designers are faced with a new demand in styles for Arctic and high altitude wear—flying suits for the flying nurses of the Air Evacuation Group. These nurses are now flown to all theatres of operations where American troops are fighting the enemy, and they need new types of women's clothes—dress designs that will keep them comfortably warm under any circumstances.

"We realize that for warmth our clothing may have to be bundlesome, but please give us something with some style to it." This was the plea the nurses' commandant directed to the AAF clothing experts in the equipment laboratory at Wright Field. Our tailors went to work, embodying in the designs specifications and recommendations made by the nurses themselves, and soon they came up with a snappy batch of togs that make the flying nurse look like the little lovely who is taking in the skiing season at Sun Valley.

A few of the frigidwear styles are shown in the accompanying photographs. Almost every week now, a new shipment of these garments is flown to Alaska, Greenland, Iceland and other bases to make our nurses the warmest—and best dressed—of them all. ☆

This is the complete Arctic costume for flying nurses: Two-piece light-weight flying suit worn under Parka-type outer garment, Mukluk boots, gloves and purse. The coat is cotton poplin lined with Alpaca, the Muklucs have rubber soles and canvas tops, and the hood is trimmed with wolf fur. The entire outfit weighs little more than eight pounds.





'I WON'T GO A FOOT HIGHER WITHOUT OXYGEN!'

Maybe Charlie is a trifle overcautious—but his instincts are good. He shows the beginnings of a fine altitude attitude.

But he isn't perfect—not yet. Although he knows the life-saving necessity of oxygen at high altitudes and always uses his mask at the proper times, he has a tendency to forget some important details in using his A-10 mask. Such as:

Checking his flow regulator and emer-

gency valve before take-off. (He has left his auto-mix "OFF" at low altitudes a few times, too, thereby wasting his oxygen supply.)

Checking the pressure gauge.

Obtaining a better fitting mask.

Keeping oil and grease away from his oxygen equipment and making sure it's always in *perfect working order*.

Second of a series by the Flight Control Command.

GROUND OBSERVERS CAN TAKE IT

By Charlotte Knight

YOU'VE heard 'em; so have we.

Priceless stories about our ground observers—such as the yarn, now worn and tarnished, about the woman who picked up her observation post phone and reported a P-38 to her filter board as “something that looks like two planes with their arms around each other.”

Or the one about the observer who spotted a plane “with raglan sleeves, flared bodice and a nipped-in waist.” Or the blimp seen from some distance as “one submarine, flying high.”

Ever since Pearl Harbor the nation's cartoonists and gagmen have had a field day at the expense of the AAF volunteer ground observers—called “spotters” in some sections. These trusty civilians have taken it on the chin from time to time because they have failed to identify certain test planes flying over their posts. What the wisecracks and critics haven't known was that in months past it was not the responsibility of observers to *recognize* a plane overhead. Their specific orders from the fighter commands instructed them merely to report the number of aircraft, the number of motors, approximate altitude, location from the post and direction of flight: “One bi-motored—high—two miles—SE . . .” and so on.

To most of the many thousands of observers manning the vast network of observation posts flanking our coasts, such designations as P-47, A-20, B-26, L-type and the like were just so much aeronautical jargon.

Mrs. Clemens had “enough to do, heaven knows, with the children and the house, and working for the Red Cross and taking my ‘watch’ on the OP without learning the difference between a P-39 and a P-40 or whatever they call ‘em.” Besides she couldn't even tell a Studebaker from a Packard; how could she be expected to tell a Marauder from an Avenger?

So it went—for a whole year. Every plane in fighter command areas was reported by a telephone call; every call was plotted on Army filter and operations boards. As the AAF expanded, the number of operational flights increased every week. Aircraft warning information centers became swamped with calls until every filter board looked as if someone had dropped a can of angleworms on it.

There remained but one solution:

The AAF relieves a headache for its Aircraft Warning Service by teaching ‘spotters’ aircraft recognition.

Eliminate the majority of these “plots” by teaching the ground observers to recognize our ships by type; relieve the congestion on the filter boards by instructing the observers *not* to report specified types.

Teach aircraft recognition to hundreds of thousands of civilians whose time was already taken up with jobs and volunteer war activities? Teach it to people to whom an error in type might mean failure to report an enemy bomber overhead?

“Impossible!” said our coastal fighter commands. So they did it.

Now, six months later, housewives, school boys, lawyers, stenographers, architects, farmers, plumbers, busy executives—the average cross-section of an American community—can teach some of the Air Force men for whom they work a few things about planes. The AAF has made its ground observers plane-conscious in a big way. Visit any observation post and you'll hear, instead of what Mrs. Proctor told the minister at the Larsons' party the night before, something about a plane with “an inverted gull wing with a negative dihedral” or “four Rolls-Royce in-line motors” or another with “short, stubby motor nacelles, a swept-back leading edge and a fixed tail wheel.”

It's no passing fad. These civilian volunteers really know their ships. This one really happened: The commanding gen-

eral of one of our fighter wings journeyed to a small town to present aircraft recognition diplomas awarded for completion of a five-day course to civilian observer students, most of whom were barely able to distinguish between a fighter and a bomber before they took the course. After the ceremony the general stopped to chat a moment with several observers standing around a table full of plane models of all types. At random the general pointed to a ship, turned to a woman nearby and queried her politely as to the type of ship it was.

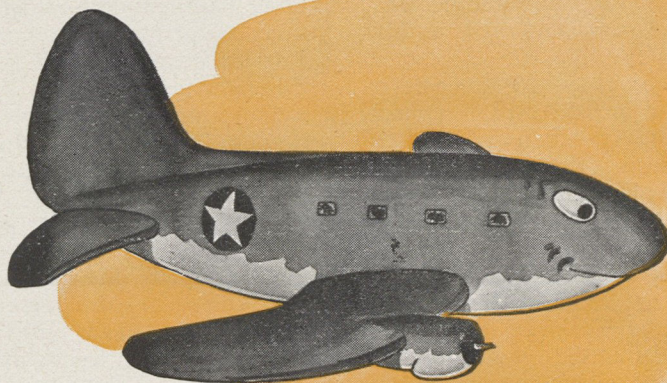
“It's the Halifax,” she replied without hesitation.

The general smiled, softened his voice as he corrected her, “Don't you mean a Lancaster?”

“No, General,” she said with all the assurance of a woman and a civilian, “that's a *Halifax*.”

“I'm sorry,” the general persisted, “I'm afraid we'll find it's the Lancaster.” They turned it up to read the small printed name underneath. It was the Halifax.

All this has come about since the beginning of the year. Air Force recognition officers, trained at Orlando's AAFSAT or at the 4th Fighter Command headquarters in California, were sent to all filter areas in the fighter wings where they set up recognition schools complete with the latest teaching aids; these included individual sets of flash cards, posters, pictures, slides, projectors, recognition handbooks and everything else an imaginative instructor could dream up. This was the acid test, for it was in these schools they would attempt to teach civil-



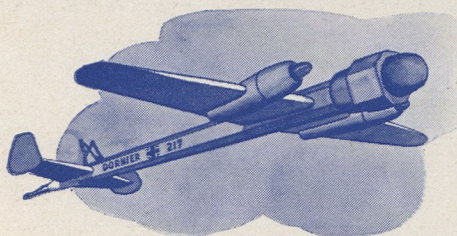
C-46—whale with wings.

ians in *five days* what it had taken them weeks to master.

To the schools come civilian observers—one representative from each observation post in a particular filter area, thirty to forty in a class, a new class each week until all the posts have been covered.

Surprisingly, the majority of the students are men—business men, farmers and professional men, who have had to arrange their affairs to take a week off to attend the Army school. Some, however, are housewives; some are mothers who have left the task of cooking Sonny's breakfast with their husbands while they learn about Focke-Wulfs and Heinkels.

The instructor, usually an officer, and two enlisted men who assist in the enrollment, teaching and motion picture projections, comprise the school's faculty. Classes begin at 0800, sharp. Each Monday morning the officer faces a new group of eager, ambitious observers. "My name is Underwood," he may say. "Our business here is war." And the school is on.

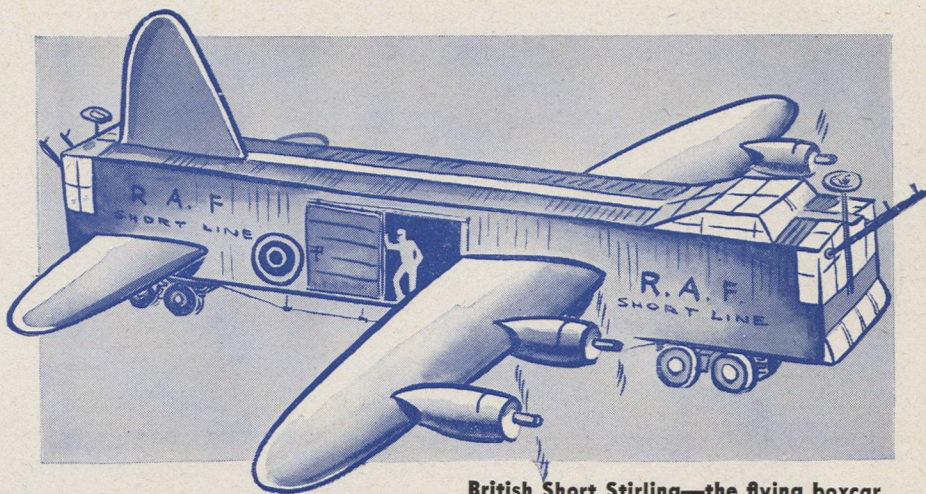


Dornier 217—the flying pencil.

For the next five days and nights these students don't know what hit them. The instructor doesn't pull any punches with these volunteers. He gives it to them straight and fast.

From 0800 to 1800, with a ten-minute break in the forenoon and afternoon and time out for lunch, they get planes, planes and more planes. Fifty-four different ships, more than ten new types a day—fighters, bombers, trainers, transports, Army ships, Navy ships, the enemy's—wing span, trailing edge, horsepower, fin-and-rudder. Dinner, shop talk. Then they have the evening off for play or study. Nobody plays. Most of them go back to the classroom for an informal session, more slides and silhouettes, and a thousand questions to ask the instructor. Later, in their own rooms, they look at flash cards until all the ships become just so many spots before tired, red-rimmed eyes.

The teaching method used is a modified—or slowed up—form of the Renshaw flash system. If, at the end of the course, these civilians know their planes at 1/10th of a second, it is considered satisfactory. There are no holds barred on the type or number of tricks an instructor may use to make his students learn their planes. The more stories, combat yarns and dramatic episodes he can dig up about the planes in question, the better. Association of ideas is also good. Students remember the Stirling because

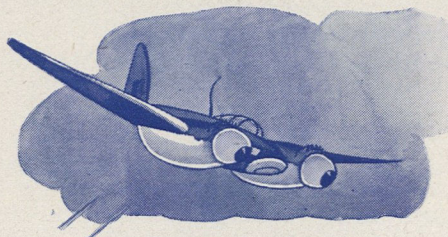


British Short Stirling—the flying boxcar.

it resembles a flying boxcar; the Com-mando, because it looks like a whale. The L-type is a grasshopper, and the Avenger they learn as TBF (two beers free; this is a natural because of the barrel-like fuselage, and the vertical fin and rudder resembling the stein).

If anyone who attends these classes had an idea this week-away-from-home was going to be a picnic, he is quickly disillusioned. For the vast majority of these students this is the first formal classwork they've had since they left high school or college so many years ago they'd rather not talk about it.

The first two or three days are the hardest. Up to Wednesday night, everyone in the class is sure he's going to fail. By Thursday, when the observers are up to their 42nd plane, they begin to see a faint glimmer of daylight. By Friday night, they've made it. They've passed



De Havilland Mosquito.

with flying colors. Saturday morning: graduation. Usually there is an unrehearsed flash-test demonstration for the visiting high-ranking officer who delivers the commencement speech. And finally come the diplomas, signed by the commanding general of the fighter command certifying they have met the AAF requirements in aircraft recognition and are now full-fledged civilian "recognition officers" for their particular post.

Almost without exception there's a party. In exactly one week's time there has developed between these people, regardless of age, creed, profession or nationality, a fraternal feeling that will bind them together for the rest of their lives. No Rotarian ever greeted another with the back-slapping that Fred Meacham from

Class One gets when he meets Joe Turner from the same class some six months later.

A fourteen-year-old boy was sent to a recognition class in California to represent his post. In Maine, a 78-year-old woman who walks three miles three times a week to keep her watch on her OP was sent to the school. An Adirondack guide made a seven-mile trip on snowshoes in the dead of winter to get an auto to take him to the train for Syracuse where he attended the initial recognition course there. A woman student in a west coast class received a telegram one morning that her son had been killed in action. She continued her school work. "My son would want me to carry on," she explained.

Whatever they did before they came to the school, however large their bank balances, whichever side of the tracks they live on, the great common denominator is the conviction with all of them that they are part of the Air Forces, that regardless of the cost in time and effort, they are doing something the Army considers necessary to the efficient functioning of the Aircraft Warning Service.

As they leave the school, each brand-new "recognition officer" takes away with him a huge packet of teaching aids: handbooks and flash-cards for every observer on the post. Once home, their *real* work begins: teaching aircraft recognition to every observer on their respective posts, numbering from 50 to 250 students. School is again set up in an available room, schedules are worked out with day and evening classes to accommodate everybody, and the fun begins. Classes are staggered over a four-to-six weeks' period, the objective being to give each observer at least ten hours of actual instruction in recognition.

When all the observers in a filter area have completed this training, the fighter wing is ready to give the new aircraft reporting system the green light.

Does it work? The answer is an unqualified "Yes." Enough time has now elapsed since the initiation of the new

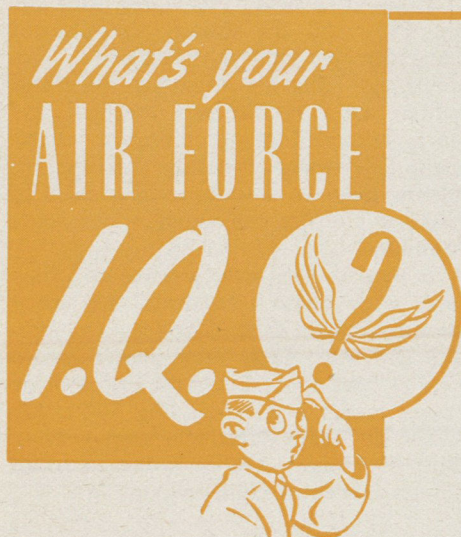
method in many of the fighter wings to evaluate results. They have far exceeded the most optimistic hopes of AWS officers. By instructing the observers in one eastern area, for instance, not to report three clearly recognizable plane types, more than 6,000 calls a day were eliminated from the filter center. The ships on the observers' "negative" lists naturally would vary in different wings according to the preponderance of specific types in the neighborhood of certain aircraft plants and AAF fields. The 1st Fighter Com-

mand estimates that more than fifty percent of their "plots" will eventually be eliminated with this system.

When the observer spots an aircraft of the type in question and the ship is sufficiently low and sufficiently close to the post so there is no doubt in his mind that it is a P-47, for instance, he merely "logs" it in his official observation post record, but he does not phone the report. If the plane is too high to be clearly seen, or if he's not yet sure about the type, a report is made to the filter

center and the flight is plotted in the usual manner. By this screening process, by greatly reducing the number of flights plotted on obviously friendly planes, the accuracy of the remaining plots (which would naturally include any hostile craft) is proportionately increased.

Teaching aircraft recognition to the AAF Ground Observer Corps is no longer a dream. It has been done. Once again the members of this corps have proved they can take anything the Army can dish out. And like it. ☆



1. Fifty caliber guns on the P-47 total

- a. Six
- b. Eight
- c. Five
- d. Seven

2. The present location of the 14th Air Force is

- a. England
- b. North Africa
- c. China
- d. India

3. The Beaufort scale estimates

- a. Air Speed
- b. Wind velocity
- c. Altitude
- d. Rate of climb

4. Paramushiro is

- a. One of the Japanese cities bombed by General Doolittle
- b. The main Chinese stop on the India-China run
- c. A Jap stronghold on the northern tip of the Kurile Islands
- d. A key American base in the Aleutians

5. What is the WEFT system?

6. Fill in the missing letters to complete names of AAF planes

- a. Liber_____.
- b. Must_____.
- c. Comm_____.
- d. Mitch_____.

Swing your fifties over these and let go, scoring five for each bulls-eye. One hundred is perfect; ninety, terrific; eighty, good; seventy, fair, and sixty, passing. Any less and you need to brush up on your mental gunnery. Answers on Page 56.

7. The military designation for the DC-4 is

- a. C-87
- b. C-54
- c. C-78
- d. C-47

8. Which word is out of place in the following grouping?

- a. Chandelle
- b. Reversement
- c. Immelmann
- d. Resonance

9. Identify this insignia:



10. Barksdale Field is located in

- a. Texas
- b. California
- c. Louisiana
- d. Florida

11. Differentiate between absolute ceiling and service ceiling.

12. A williwaw is

- a. A nonrotating device for producing alternating current
- b. An electrode having openings through which ions may pass
- c. Pigeon English for an airplane
- d. A sudden violent gust of cold land air

13. The approximate range of the B-24 is

- a. 2500 miles
- b. 4000 miles
- c. 3500 miles
- d. 3000 miles

14. In a one-minute turn, the bank is maintained at

- a. 45 degrees
- b. 30 degrees
- c. 60 degrees
- d. 25 degrees

15. A parachute pilot is

- a. A pilot who bails out too quickly
- b. A small auxiliary parachute
- c. A pilot with the Airborne Command
- d. A member of the Caterpillar Club

16. When walking with a civilian, military personnel should always walk to the left.

- a. True
- b. False

17. The MIG-3 is

- a. An American tank
- b. An Italian dive bomber
- c. A Russian pursuit plane
- d. The Navy designation for the A-20

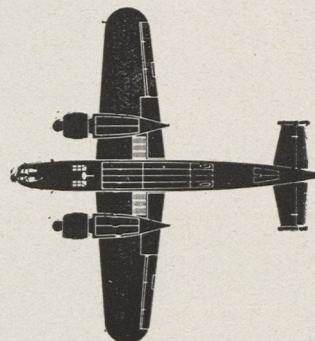
18. The British Air Marshall is equivalent to what rank in the AAF?

- a. Flight Officer
- b. Major General
- c. Colonel
- d. Lieutenant General

19. The number of feet in a nautical mile is

- a. 6080.2
- b. 5280
- c. 5820.6
- d. 5000

20. Identify this plane:



TRAINING AIDS



IF your bomber cracks up in mid-ocean and you and your crew take to life rafts, the man who is worth more than a million dollars to you is a good radio operator. This is the theme of a new training film (TF 1-3310) produced by the AAF First Motion Picture Unit, Culver City, Calif., and billed as "Radio Operator." The film's purpose is to help attach to the radioman the importance he deserves and to orient the student operator to a job that can become the most vital one among members of a bomber crew.

John B. Hughes handles the narration and begins the film with a news broadcast, which dissolves into the story of Recruit Joe Donahue. Highlights of the story are told in the accompanying photos taken from the film strip.

Joe reads the sign (1) as he passes through the gates at Scott Field and remarks, "They shouldn't count their operators before they hatch." Still unim-

pressed, Joe begins his classroom work and one day cuts his finger while tinkering with a life raft radio transmitter (2). A companion tells him to take it easy and learn because someday he might be happy that he can repair such a set.

"Keep sending," they tell Joe as he practices for hours on end (3). "Keep sending even when your finger is so numb you can't feel the key. Keep sending until you're sure your message has been received."

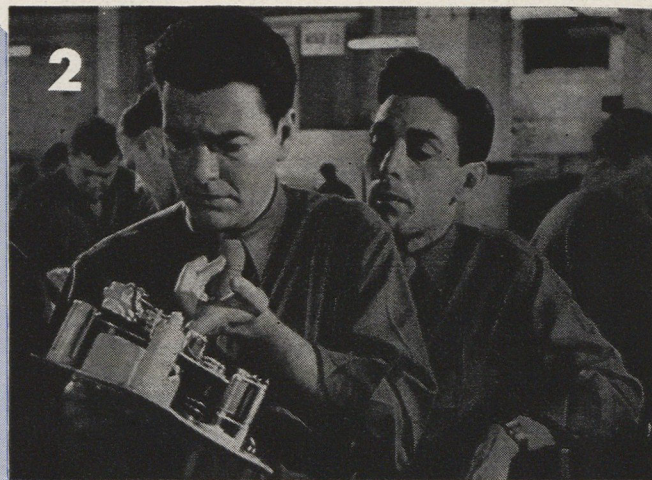
Joe feels better when he finally gets assigned to a B-17 and, as the bomber is primed for a take-off, Joe gets busy with his instruments (4). He is nervous and his voice cracks. The tower operator mocking Joe's voice cracks back: "Relax, Donahue, relax." Joe does.

Then come routine flights, one after another, until one day the pilot informs his crew over the interphone that they have taken off under sealed orders and

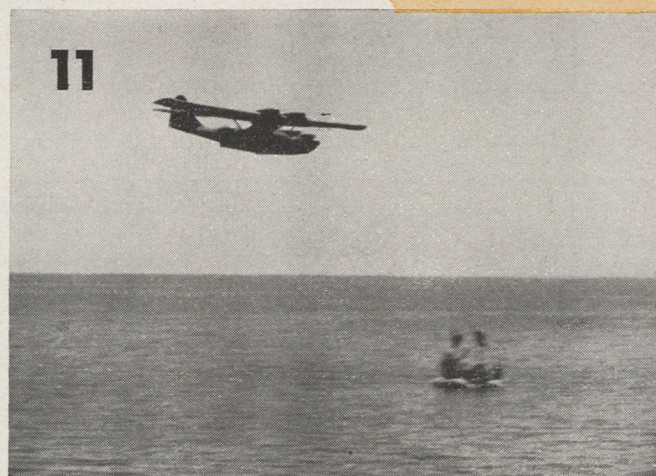
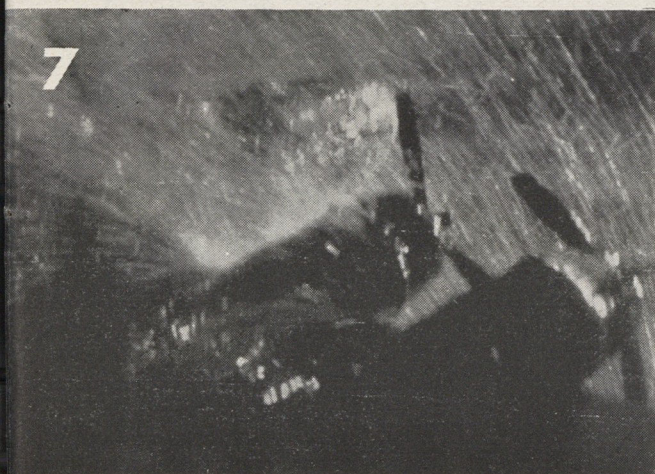
are on their way across. The crew members grin and slap each other on the back (5). That night, out over the ocean, trouble develops. "Fire in number four," the pilot shouts (6) and the crew members prepare for a crash landing. Joe notifies all vessels in the vicinity. The bomber hits the sea (7) and the crew scrambles for life rafts (8) to get away from the sinking plane. Joe has kept his head, brought his life raft radio set with him. He takes the transmitter from its wet, torn case and discovers it's on the blink.

Hour after hour, Joe works with the set (9), and the thirsty, sun-blistered crew members grow short-tempered. Suddenly, Joe cuts his finger on the transmitter, just as he did back in school, and he is reminded of an important adjustment. He works feverishly with the set, finally borrows a companion's shirt to make a kite for the antenna and starts sending.

It works. They hear a plane and then after a few anxious moments, they see it heading toward them. The crew members yell and wave (10) until they're certain they've been spotted. As the rescue plane comes in for a water-landing (11), Joe kisses his radio. The film ends with a Roll of Honor. On it is the name of Joseph Donahue, radio operator. ☆



RADIO OPERATOR



SYNTHETIC DEVICES

INFORMATION on the availability of synthetic training devices may be obtained

from the AAF Training Aids Division, Park Ave. and 32nd St., New York City.

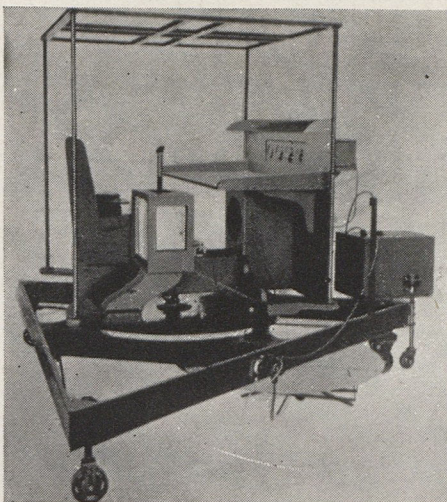
Stereoscopic Viewmaster

THIS device is designed for recognition and range estimation training. It provides stereoscopic views or "three dimensional" pictures of the major friendly and enemy operational aircraft.

Approximately eighty airplanes constitute a set. Each airplane is displayed on a "reel" disc. Seven views of each plane are covered including those from the front, side and 45-degree angles. Six different sky backgrounds are used on the discs, three of sky colors and three of clouds.

Reflector sight rings superimposed on the planes are used for the range estimation. The ranges vary from 100 yards to 600 yards. A typical "reel" is one of the

B-17 showing this bomber in various attitudes at ranges of 400, 205, 600, 216, 132, 123, and 136 yards.



Navitrainer

THE Type G-1 Navigation Dead Reckoning Trainer, more commonly known as the "Navitrainer," is a compact device supported on a triangular moving base. Problems in dead reckoning navigation may be simulated and the results recorded.

The Navitrainer is composed of three main assemblies: the navigator's car, triangular frame and the windroducer. The navigator's car contains the plotting table, drift meter, compass and other flight instruments. The car is totally enclosed by a canopy and is mounted on the frame, which moves in any direction and travels at a speed proportionate to the air speed

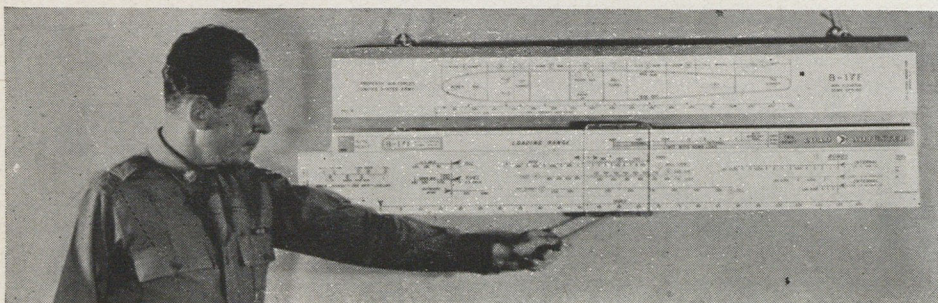
are made for specific plane types and models where loading situations of crew members, fuel oil and cargo must be quickly computed for center of gravity determination.

The Giant Load Adjustor is used for demonstration and instruction in classrooms. This device is ASC issue.

Giant Load Adjustor

THIS training aid is a large, exact reproduction of the slide rule type of load adjustor used for determining quickly and accurately the proper loading of a combat or cargo airplane for safe and efficient balance during flight.

Load adjustors and the giant mock-ups



of the simulated airplane. The windroducer serves two functions. It introduces wind direction and velocity, and it supports a chart or map that is used as a reference for determining the simulated airplane's position or course of travel.

An instructor, who exercises supervision through an externally located instrument control box, can introduce drift and control the readings on the other instruments.

This equipment operates from a standard AC light outlet.

What They're Reading

HERE'S LOOKING AT 'EM

THE long-awaited pictorial recognition manual (FM 30-30) is out. A joint Army-Navy publication, it is made up in loose-leaf form so that as new planes come into service pages can be prepared and inserted and as planes become obsolete existing pages can be removed without revising the entire publication.

In its present form, the manual describes some eighty operational aircraft—American Army and Navy, British, German, Japanese and Italian. One page is devoted to each plane, and each page contains recognition and performance data condensed into short paragraphs, head-on, side and top drawings and silhouettes, and four aerial photographs.

In addition, the introduction includes sections on aids and methods for recognition training, names and letter designations of various planes, a glossary of terms and a set of scaled plane silhouettes which show at a glance comparative sizes of different aircraft.

RECOGNITION TRAINING

INSTRUCTIONS for the AAF Method of Recognition Training" is exactly what its title implies—instructions for teaching recognition of planes, vehicles, and ships, and for employing the equipment on which successful teaching by that system depends.

It is planned to include a copy of the pamphlet with each set of equipment, primarily for the benefit of those using the equipment for instructional purposes. The pamphlet, however, gives enough of the idea behind the method to be of interest to anyone concerned with the problem of successful recognition instruction.

The pamphlet also includes plans for a simple flash shutter which can be made at any post or station.

Editor
AIR FORCE Editorial Office
New York, N. Y.

Stuttgart, Arkansas
Squadron 25, S.A.B.

Dear Sir:

I am now enlisted in the Army Air Forces as a glider pilot trainee. Before entering the Army I was employed as a laundry executive, having spent two years at the Ohio Mechanics Institute studying the laundry business.

Since I have been in the Army, I have found that there is no laundry service on many posts or the laundry service offered is inadequate to meet the needs of the men. As a result, many men attempt to wash their own clothes. They have no knowledge of how the job should be done and usually either ruin the clothes or end up with them as dirty as when they started. Many of these men give up after two or three attempts and throw underwear and socks away when they become too dirty to wear. I have seen this happen so many times that it occurs to me that there must be a tremendous waste of clothing throughout the armed forces plus a lot of men who would be healthier and much more comfortable if they knew how to launder their clothes properly.

Sincerely yours,
(signed) Staff Sgt. Arthur H. Brown

SERVICEMEN are all apt to find themselves stationed, sometime or another, at a post that never heard of a laundry. Although we moan and groan there is no way to get our clothes cleaned except to wash them ourselves. We postpone the job as long as possible but, finally, we get down to that last clean pair of shorts and something must be done.

Washing your own clothes is not nearly so disagreeable as you might imagine, especially if you have some knowledge of how to go at it. There is a definite satisfaction in turning out a good clean job.

Let's suppose that we have the one pair of shorts left and have decided to wash all the dirty clothes we have stored up. Carrying them to the washroom, we hope there is hot water available, for it will make the work much easier. Cold water will do, but a little more elbow grease will be required to shake the dirt loose.

Before washing the clothes, we separate them into different groups. Colored materials should never be washed with white because the colors often run. Also, never wash very dirty clothes with those that are only slightly soiled. The dirt will be transferred to the cleaner pieces.

The easiest and safest method of doing clothes is to wash each type of garment separately. In other words, wash all underwear together, all colored socks together, all white socks together, all handkerchiefs together and so on.

Use the washtub if there is one available, otherwise use two wash bowls. A large cake of GI soap will be needed. However, a package of granulated soap (one that is recommended for home washing machines) will make the job easier because it will dissolve more readily in the water.

Fill the tub or bowl with enough water

to cover the clothes to a depth of two or three inches. The water should be slightly hotter than lukewarm and should be prepared before the clothes are put in, so that any garments containing wool will not be shrunk by getting under the hot water faucet.

After the clothes have been put into the water add enough soap to keep at least

half an inch of suds on top of the water at all times. This is very important because the soap has two functions: the first is to loosen the dirt from the clothes; the second is to keep that dirt suspended until clothes are removed. As soon as that layer of soapsuds disappears from the top of the wash-water, the dirt begins to settle back into the garments.

This dirt, however, is held by a layer of lime soap. (Lime soap is the same sticky substance that made the ring around the old bathtub.) Most of the poor laundry work turned out in camps, especially that with a brownish tint or black greasy specks, is the result of having insufficient soap dissolved in the water.

If a washboard is not available, scrub your clothes by rubbing them between the hands. A scrub brush can be used on very dirty pieces but it is not recommended for most work. Two suds and three rinses are the minimum for a good clean washing.

If you are using two washbasins, you can have a batch of clothes soaking in one while you work in the other. There is, however, no benefit derived from soaking clothes more than fifteen minutes.

The clean clothes should be wrung out and hung to dry. Squeeze water gently from all garments containing wool because wringing will damage the fabric. Sunlight has a sterilizing and bleaching action, so your clothes will be whiter and purer if they are dried outside.

If you find handkerchiefs hard to get clean and slightly slippery, soak them in salt water for an hour before washing.

Now let us summarize the "Do's" and "Don'ts" of this washing business and you can go to work.

1. Separate your laundry into the various types of garments before washing, being sure never to wash colored work with white.

2. Mix each basin of water before putting in the clothes.

3. Maintain at least half an inch of soapsuds on top of the water during each sudsing operation.

4. Dry garments in the sun whenever possible.

5. Don't attempt to wash clothes under running water, such as in basins without stoppers or under showers, because for good washing it is necessary to build up a concentration of soap in the water itself and this is impossible when fresh water is constantly being added. ☆

HOW TO WASH YOUR CLOTHES

By Staff Sgt. Arthur H. Brown



*"To service combat units of the Army Air Forces
at all times and under any conditions,
regardless of the difficulties encountered"*

THE ROLE OF THE SUB-DEPOT

By Lieut. Col. Arthur V. Jones, Jr.

COMMANDING OFFICER, 29TH SUB-DEPOT,
ENID ARMY FLYING SCHOOL, OKLAHOMA

THE slogan "keep 'em flying" has become a familiar sight and sound to Americans. Everywhere it is seen on banners and posters. It is heard as a radio greeting and sign-off. It has become a conversational by-word.

Let us examine the conditions that lie behind that short phrase. First and foremost is the apparent fact that superior air power makes possible a greater offensive power in this war. Air power, then, is a major factor in tactical planning.

The planning staff must first have a source of adequate supply of aircraft and parts. The second necessity is a system for the storage and issuing of these supplies, and for the maintenance, repair and reclamation of these aircraft.

The first problem is met by industrial expansion throughout the United Nations. The second is the function of the Air Service Command of the Army Air Forces.

The Air Service Command controls, handles and distributes all Air Forces property throughout the world. It also conducts repair, maintenance and reclamation of all U. S. military aircraft.

In the continental United States, these activities are coordinated through eleven control area commands and control depots, and then through the lowest domestic ASC echelon, the sub-depot.

SERVING every Army airbase and flying training school is an Air Service Command sub-depot. Command is vested in an Air Service officer who is responsible to the station commander (on other than Air Service Command stations) in matters of post administration only.

In addition to his technical knowledge of the activities of his sub-depot, the thorough CO keeps a finger on the personnel pulse of his organization.

The fundamental precept of personnel

management — knowing one's employees — was never more true than in the sub-depot set-up.

It is of utmost importance that the commanding officer "get around" the shops, the warehouse and the hangars and keep in close touch with his people.

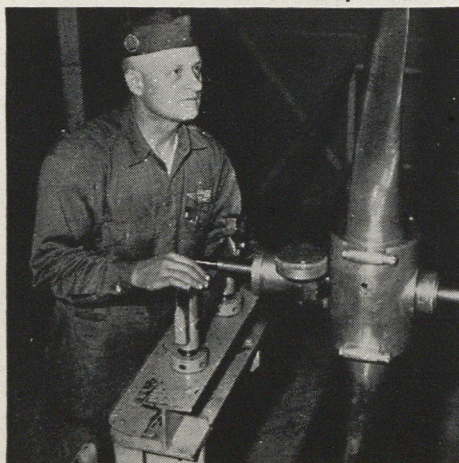
The sub-depot that is run entirely from the cushioned chair in the commanding officer's headquarters office cannot be the alert, vigorous organization it should be.

Nearly all domestic sub-depots are operated by civilian personnel administered by officers of the Army Air Forces. A sub-depot at a training base, such as the Enid Army Flying School, will employ several hundred civilian employees and be staffed by a small corps of officers. (Of course, very few civilians are used in combat areas.)

The sub-depot exists for one purpose. That purpose, briefly stated, is to do everything within its power to keep the aircraft flying and in combat fitness.

The aggressive sub-depot commander will place his services at the disposal of the flying organizations of the station 24 hours a day and seven days a week. He should make certain that the sub-depot is never called upon at any time of the day

Clyde Smith tests a prop for absolute static balance at Enid, Okla.



or night that it cannot perform the service required. To accomplish this end the sub-depot commander has three major departments; supply, maintenance and signal.

The maintenance department is organized and equipped to perform all second echelon airplane maintenance and as much of third as lies within its space and equipment limitations.

It can perform major repair of aircraft and any assembly thereof, except engines. It operates extensive shops for all types of wood, metal, plastic, leather and cloth manufacture and repair. It operates the parachute unit and performs all second echelon inspection and maintenance.

The maintenance officer is the final authority on the base in regard to technical matters pertaining to aircraft. He maintains a technical order compliance system and aids the station technical inspector and organization engineering officers in their efforts. It is his duty to take the objective view and offer aid to any organization, whether or not the problem is brought to him.

By a consolidation of daily aircraft status reports he is able to keep close check on all station aircraft.

In most every case there is no ordnance officer on the sub-depot staff. Ordnance requirements and servicing are handled by the air force or the command which operates the airbase or airfield on which the sub-depot is located. This differs from overseas operations wherein the air depot group, or mobile miniature of a control depot, has an ordnance section attached to its headquarters and headquarters squadron. Also in overseas operations, the air service group, or mobile miniature of a sub-depot, gets its ordnance servicing and requirements from its own supply and maintenance squadron, which includes ordnance specialists.

The sub-depot is responsible for furnishing the station all supplies and equipment peculiar to the Air Forces,

(The motto appearing at the top of this page is that of the 59th Sub-Depot, Lowry Field, Colo.)

maintaining an adequate replacement stock and expediting the shipping and receiving of more than 15,000 items.

It is the duty of the supply officer to anticipate demands upon his stock resulting from changes in aircraft types assigned to the station, from seasonal changes, from operating conditions and from normal rates of consumption.

He has funds which are available for the local purchase of necessary supplies that are not available through normal supply channels.

tive matters he is, as are all department heads, responsible directly to the sub-depot commander.

If the sub-depot is to function at utmost efficiency, the officers heading each department should be able to look beyond their own units and understand the problems confronting their fellow workers.

To accomplish this end a plan was effected at the 29th Sub-Depot which is saving hundreds of man-hours each week by placing vital supplies at the place they are needed most at the time they are needed, on the flying line and in the shops. The system entails the services of a liaison man who is well informed on

much time lost both for the supply department because of frequent interruptions and for the foremen who were forced to be away from their departments to check on undelivered merchandise.

A major and vitally important function of the sub-depot is the training department. A course in foremanship is attended by all supervisory employees. Lectures in safety practices and first aid are a requirement for all employees. Up-grading is fast in these days of dwindling manpower and a progressive educational system is vital.

The training supervisor, a civilian with a background of teaching administration and organization, maintains a reading room and library of technical books, obtains training films and coordinates with local off-the-post schools, and state and national organizations featuring adult vocational education programs.

The sub-depot safety engineer functions largely as a technical advisor to foremen and top management. He is also qualified to recognize the existence of health hazards. He studies causes of absenteeism, keeps records and makes reports on all injuries.

At the 29th Sub-Depot, daily inspections are made by the safety engineer during which safety suggestions are gathered from foremen and employees. At the end of each month a detailed report is made to the commanding officer. Safety hazards, suggestions for corrective action, accident classifications and frequency and severity statistics are included in his report.

THE aggressive action of the 29th Sub-Depot safety engineer has resulted in the enrollment and subsequent training of forty 29th Sub-Depot employees in a special safety training course sponsored by the War Manpower Commission and presented as a 96-hour night school course by the state university.

Chief among the unsung heroes of any organization are such behind-the-scenes men as janitors, building repair men, equipment alterers, carpenters and freight handlers.

At most sub-depots this work is done through the station engineers. In order that these tasks may be accomplished with greater speed, a utilities and plant maintenance department has been created at the 29th Sub-Depot.

Headed by a utilities supervisor, the personnel of this department form a labor pool which is capable of performing almost any task with the greatest economy of time. He may also "borrow" skilled and technical assistants from other departments.

This department works closely with the station utilities department for in many instances repairs and alterations cannot be made until permission is granted from the station engineer or commander. ☆



John E. Wright, blacksmithing for the 20th Sub-Depot, Coffeyville, Kan.

The signal sub-section, whose parent unit is the control depot signal section, is responsible for the storage and issuing of all items of Signal Corps equipment used by the Air Forces and assigned troops. It installs and maintains all ground radar and fixed ground communication equipment, performs all necessary service and maintenance of airborne radio, radar and navigation equipment used by the Air Forces. This section supplies replacement sets and maintenance parts for such equipment.

In technical matters pertaining to the installation of signal equipment in airplanes the signal officer is responsible to the maintenance officer. In administra-

tion matters he is, as are all department

heads, responsible directly to the sub-depot commander. Functioning as a trouble-shooter, the supply coordinator receives all not-in-stock requisitions as they are returned to the maintenance department. It is his duty to ascertain whether or not an error has been made in the nomenclature or stock number. If the requisitioned merchandise is truly not in stock, he notifies the foreman who placed the order as to when he may expect the merchandise.

After receiving this information, foremen often find it advisable to make substitutions rather than hold up production.

Before this system was instituted every foreman was responsible for the follow-through on his orders. This resulted in



WHAT'S WRONG WITH THIS PICTURE?

RALLY around, men, for another session of uncovering boners.

We all know there's a right way and a wrong way of doing everything but these mechs are jacking a plane the hard way. They might just as well have begun correctly and followed through, for valuable time is wasted by starting

incorrectly and then backtracking to patch up mistakes.

The men who posed this job in the blundering way are Cpl. Henry Dickens on the wing and (left to right) Pvt. Andrew Gilstein, Sgt. Clarence Schwake and Tech. Sgt. Chas. A. Petrou, all attached to Headquarters Squadron, ASC.

Sergeant Petrou can find eight mistakes in the picture. These are listed on Page 48. Do you see any that he missed?

ON THE LINE

IF YOU DON'T KNOW HOW, LEARN HOW . . .

Frequently you stand watching an airplane take off into the skies. You've done this lots of times, haven't you? Now and then something of your own spirit soars with the craft as your eyes follow it away. You ought to feel pretty proud because you helped get that plane aloft. It's going on its mission in fine fettle, properly serviced. You did a good job.

When you didn't know how to tighten a hose clamp to the proper tension, you were smart enough not to do it until you learned the right way. Experienced mechs in each squadron are always ready to answer questions for new crew members. *Do it right or don't do it at all.* Don't slip up on the slightest detail. If in doubt, consult the proper TO. When you work on an airplane, give it your best. Mistakes that jeopardize the safety of pilot and crew are unpardonable.

These are the words of an AAF captain, still young after fifteen years as an enlisted man, who looks back with pride to the work he did ON THE LINE because he feels confident it was done the right way.

DON'T BE A JERK . . .

Using a straight wrench, when an offset wrench is called for, to get on the nut squarely results in "rounding" the nut, barking your knuckles and wasting more time generally than would have been required by procuring the proper tool right off the bat. Incidentally the threads on a bolt or nut are stripped easily by jerking on the wrench instead of using a steady, even pull.



Sit under the apple tree,
If you will, but not on plane wings.
Men or obstacles shouldn't be up there.

AIR FORCE, OCTOBER, 1943

PAINT SHOP . . .

Just a reminder that your paint shop should be well ventilated at all times. It is a likely place for a fire to start. Essential fire-fighting equipment in necessary quantity must be ready at all times.

Repeatedly you are cautioned against spraying paint in a closed hangar. Just to keep this grave hazard firmly in mind, refer to TO 07-1-4.

TAKE IT OFF . . .

Before each flight take a look at the exposed pistons of pneumatic shock struts on landing, tail and nose gear. They must be cleaned of ice, mud, dust or sand to cut down excessive wear on the strut and packings. Use a cloth saturated with alcohol as emphasized in TO 03-25-6.

SHIELDED BEARINGS . . .

It is said that metal shielded anti-friction bearings with fixed seals are being oiled in some instances. TO No. 29-1-3 states that grease (specification AN-G-3) shall be used as the lubricant. The original grease is the only grease for the life of the bearing. Oil washes away the essential grease, exposes bearings to dust and grit. To say the least, this doesn't do the bearings any good.

THINK THIS OVER . . .

Some planes fly week in and week out and never get a major write-up from the pilot. There must be a reason. And the reason is that they are serviced by you mechs who really know proper maintenance procedure.

HERE YOU HAVE IT . . .

Mechs, we have but one job—to see that our pilots fly the safest possible airplanes.

PUT 'EM BACK . . .

When tools are removed from a plane's special kit it is impossible to maintain the craft properly while on flights away from its home base. Reference: TO 18-1-26.

SLIPPING ON SLIPPAGE MARKS . . .

Painting the prescribed slippage marks on tires makes inspection much easier. Also, failure to inspect tires for slippage will end up in the valve stem pulling out, causing tire and tube failure. Reference: TO 04-1-11.

A monthly maintenance roundup prepared in collaboration with the Air Service Command and the Technical Inspection Division, Office of the Air Inspector.

FUEL LEAKS . . .

Fire, either in the air or on the ground, can start almost immediately from fuel leaks around the carburetor and primer system. Many such leaks are found, indicating that fuel systems are not being checked under pressure. Check fuel systems under pressure at the 25-hour inspection, according to the Airplane Handbook of Service Instructions.

FIRE EXTINGUISHERS . . .

Do you have a date tag on all one-quart type fire extinguishers as stipulated in TO 03-45-1? Also, TO 16-20-1, paragraph 8-d directs that contents of CO₂ extinguishers should be stenciled on the cylinders in letters approximately an inch high. And, TO 16-20-2 states that the date it is placed in use be marked in three-quarter inch letters. Paragraph Six requires that an extinguisher be inspected every six months and date of inspection lettered on the cylinder.

Check WD Circular 261, 1942. A thorough and frequent system of inspection for contents of fire extinguishers will be instituted by post, camp and station COs to see they are filled with the proper fire extinguisher fluid and *not* with inflammable liquids. This is in addition to other inspections. ☆



Get a reading lamp, Buddy!
Or those wing lights may fail when needed for a landing. See TO 01-1-61.

them between his hands. Then they take you to their plane, less than 200 yards away, and you head back to the Ephrata hospital and airbase. The hand is treated with sulfadizine ointment and bandaged. It didn't take long. The parachute drop was 23 minutes, 51 seconds, almost exactly what had been figured out theoretically before by personnel in the physics branch of aero-medical laboratory.

AND that was the jump I made on June 24. What I learned and what I would like to pass on to airmen who may be making a jump from such a height is theory no longer. I know, and the Air Surgeon's Office knows, for it received the complete account of the jump first hand as soon as it was possible for me to make a full report to Brig. Gen. David N. W. Grant, the Air Surgeon.

Here is what I learned.

Be sure to have bail-out oxygen equipment on all flights above 30,000 feet. When the parachute jerks open, the sud-

Bailing Out at 40,000 Feet

(Continued from Page 25)



Colonel Lovelace has his equipment adjusted by members of the Boeing flight test department.

MISTAKES IN "ON THE LINE" PICTURE ON PAGE 46

(Reading from left to right)

1. The belly landing made by the mech on the wing was an unnecessary emergency. Men and materials should not be on the wings during jacking. To loosen Dzus fasteners use a shorter screw driver and stand on a crew chief's stand. Pressure is needed, not just a twist of the wrist.
2. Somebody's going to kick the bucket—the one under the prop, to be specific. Such irrelevant objects cause sprained ankles and broken necks.
3. You wouldn't have to scrunch under the nacelle, Sergeant, if that jack were in position. Where you are now, one move and you'll bump your noggin against the cowl flap. The hydraulic pump should be on the foremost leg *away* from the plane.
4. Say, you standing behind the jack, take your right foot off the hose made of that rare substance, rubber, ere you ruin it. See TO 04-5-2.
5. No need to page Sherlock Holmes on this one—there's grease on the floor! Only a little bit, to be sure, but you might discover it too late to avoid an accident.
6. It looks as if that jack ram is not properly aligned under the jack pad. One slip and you'll ruin the wing. The jacking cone being used isn't the proper one for the jacking pad. A cone adapter is on instead of a spherical adapter which should be used. Reference: TO 19-1-18.
7. Bad business, putting that wooden block under the leg of the jack. Can't you see you're throwing the whole works off balance? Move the jack into proper position and don't attempt to doctor a wrong set-up by raising one leg.
8. And now, an old saying that can be followed advantageously ON THE LINE is: "A place for everything and everything in its place." In this instance it applies to the oily rags and scrap rubber receptacles on the cart, which obviously have nothing to do with jacking a plane. Keep your working areas clear of clutter.

den compression of the chest by the parachute harness forces all oxygen from the lungs. To start breathing again, you will need all of the oxygen you can get to refill your lungs. The bail-out bottle will take care of you.

In a large plane, a bail-out bottle is extremely necessary for without it you easily could lose consciousness before reaching the emergency exit of the plane.

To ease the shock of the parachute opening, you should fall free of the plane until your forward momentum is lost. This will lessen the jolt when the parachute checks your fall and you more likely will be able to retain consciousness.

The importance of retaining consciousness was emphasized ten days after I had made my carefully planned jump. One of Wright Field's test pilots was forced to bail out at 32,000 feet when the plane he was testing had a structural failure. The pilot did not have bail-out oxygen equipment so, before leaving the plane, he inhaled three deep breaths of oxygen. Then, holding his nose, he jumped out. After tumbling for 2,000 feet he began to feel fuzzy so he pulled the rip-cord and then lost consciousness as the parachute snapped open.

The pilot fully regained consciousness at 10,000 feet but was so weak from lack of oxygen that he could not control parachute oscillations or his landing, which resulted in back injuries.

With adequate oxygen, I was able to retain my strength and revive more quick-

ly from the unconscious period following the opening of the chute. Thus, I was able to handle myself upon landing.

For those of you who may not know, pure oxygen should be given to any person who has been exposed to a lack of oxygen. This should be given to the patient until his color returns to normal.

In the event of frost-bite of your hands, put them between your legs or under your arms or against any warm part of the body—but *don't rub them*.

In addition to these observations, I satisfied myself that the GI bail-out bottle contains adequate oxygen for jumps over 40,000 feet and that the oxygen equipment with which we have been working for the last five years will operate under extreme cold and low pressure conditions.

Preparation for this flight and jump was very detailed. While at Wright Field, I followed a simulated flight and parachute descent pattern in the pressure chambers of the aero-medical laboratory. On another flight, preceding the jump, a dummy was dropped on a parachute to ascertain the number of minutes the descent could be expected to take.

I had made three previous flights well over 40,000 feet—one piggy-back in a P-38. From these I found it to be easier to fly at high altitudes than to simulate such flights in a pressure chamber.

In the aero-medical laboratory at Wright Field, Lieut. K. E. Penrod conducted extensive physiological tests through simulated parachute jumps from various altitudes to ascertain what conditions I would have to withstand. Capt. Perry Thomas was largely responsible for the research and development of the mechanical equipment, including the cylinder and the means of metering the oxygen, which was a modification of the RAF system.

Colonel Lovelace began his oxygen research work in the Mayo Clinic in 1938. He previously had been graduated from the Randolph Field School of Aviation Medicine as a flight surgeon. Other medical education was obtained at Washington University in St. Louis, Harvard University, and University of Minnesota, from which he received the degree Master of Surgery. He now is president of the Aero-Medical Association of the United States.

As a civilian at the Mayo Clinic, Colonel Lovelace had a part in the development of the first practical production model oxygen mask—the BLB, from the initials of Doctors Boothby, Lovelace and Bulbulian. For this and other original oxygen research work by Mayo clinic scientists with Col. Harry G. Armstrong (former director of the Wright Field aero-medical laboratory), and the airlines, the Collier trophy was awarded in 1940, and Colonel Lovelace was one of those privileged to receive it from President Roosevelt. ☆



CARIBBEAN BASE OPERATIONS

by *Lieut. Wm. T. Lent*

An orchid to the earth-bound operations officer. Tied to his desk by administrative responsibilities, he manages to thrive on worry and live for the day when he may spread his wings again and soar into the clouds of combat.

Even the "brass hats" are human in the AAF. Colonel Brown is needling Colonel Larkin about piloting their B-17 into a bumpy landing. Their conversation is amusing to the fledgling fighter pilots in the background who just caught hell from the CO for buzzing the field.



The forecaster is being very cagey about divulging secret weather information to the pilot who chooses to be likewise cautious about his specific destination. This kind of thing is likely to result in a temporary stalemate. They'll get together over a coke and a cigarette, however, and the pilot will be on his way, shaking his head over the forecaster's psychic power (or lack thereof).



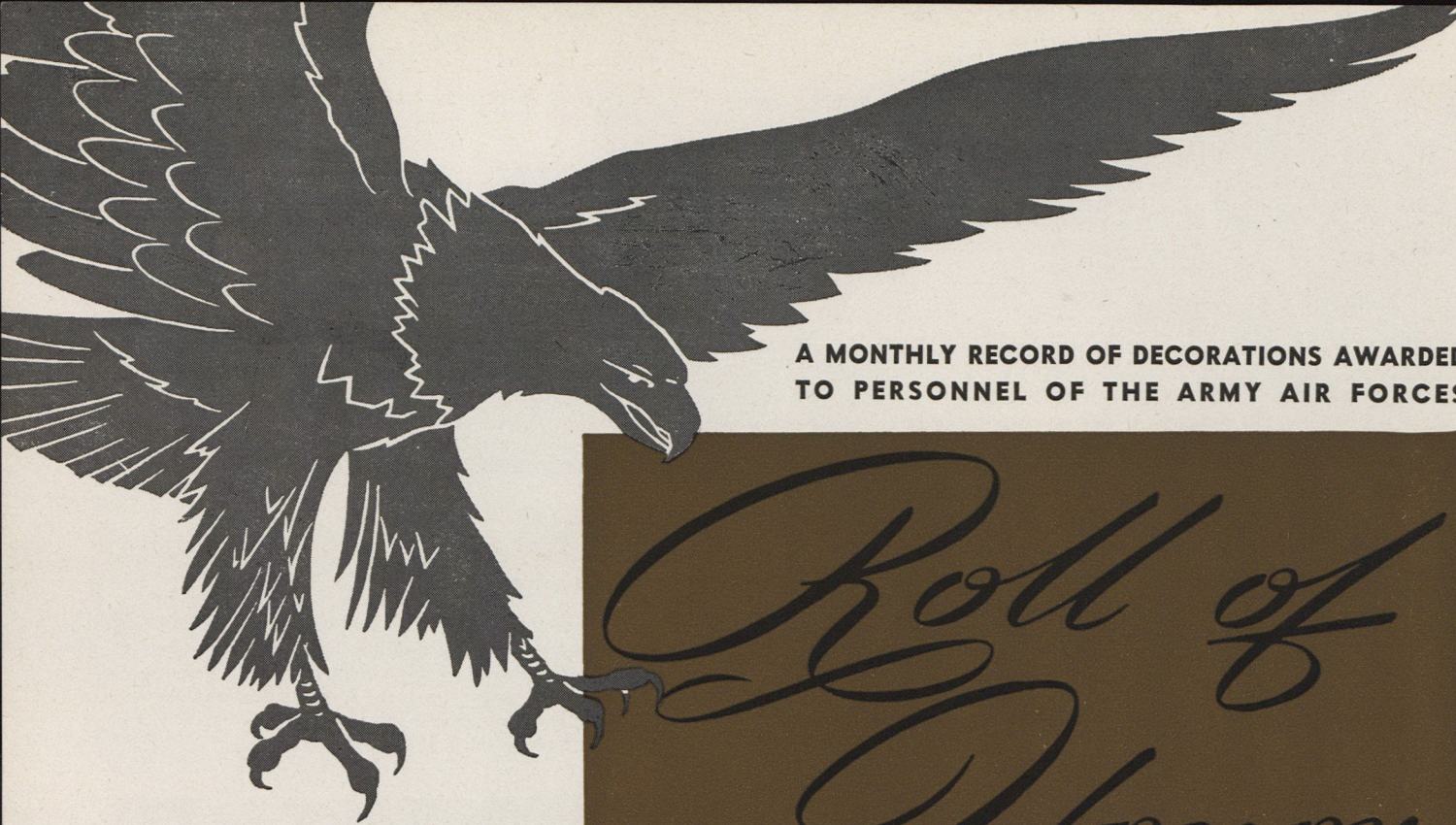
The distraught dispatcher has his problems too. Through the din of teletype machines and the inter-com phone he manages to break the hourly bottleneck of air traffic. At the moment the line chief is checking with him on a missing parachute while an overdue pilot standing behind him is sweating out his clearance.



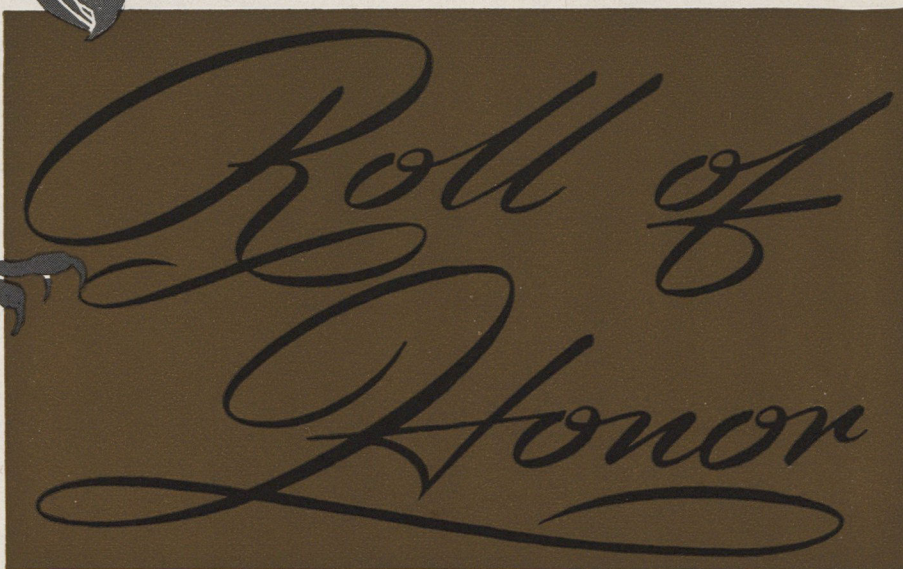
ATC Pilot Betts has just landed his transport and is offering a PX hot dog to passenger Clarence Calkins, civilian engineer. Having completed his first and probably last flight down the usually stormy coastline, Clarence will take the slow boat back to the States after completing his job at the base. Just now the hot dog is a bit revolting to Clarence.



The crash truck boys are members of the alert crew. As a plane comes in for a landing they'll start the motor and, with pardonable pride in their profession, secretly hope for a "nose-over."



A MONTHLY RECORD OF DECORATIONS AWARDED
TO PERSONNEL OF THE ARMY AIR FORCES



MEDAL OF HONOR

LIEUTENANT Jack W. Mathis*. **STAFF SERGEANT** Maynard H. Smith.

DISTINGUISHED SERVICE CROSS

LIEUTENANT COLONEL Chesley G. Peterson.
LIEUTENANTS: John J. Howell*, Harold L. Pederson*.

DISTINGUISHED SERVICE MEDAL

LIEUTENANT GENERAL Carl Spaatz. **BRIGADIER GENERAL** Hoyt S. Vandenberg. **STAFF SERGEANT** Frank W. Bartlett (Also Distinguished Flying Cross).

LEGION OF MERIT

COLONELS: Bartlett Beaman, Julian M. Joplin.
LIEUTENANT COLONELS: Leighton I. Davis, Bradley J. Gaylord, Horace H. Manchester*.
MAJOR David M. Van Ornum. **LIEUTENANTS:** William F. Haizlip, Rocco Sansone. **MASTER SERGEANT** George W. Mitchell.

SILVER STAR

BRIGADIER GENERAL Fred L. Anderson, Jr.
COLONEL John E. Barr. **LIEUTENANT COLONELS:** John R. Alison (Also Purple Heart and Distinguished Flying Cross). **CAPTAINS:** Everett W. Holstrom, Mario F. Sesso. **LIEUTENANTS:** Bryan W. Brown, Zed D. Fountain, Vernon L. Head, Hazen D. Helvey, John E. L. Huse*, Elwin H. Jackson, Ralph C. Johnston, Walter E. Lacy*. **TECHNICAL SERGEANTS:** Clinton P. Merrell, Arvle D. Sirmans. **STAFF SERGEANTS:** Sam J. McGlaughlin, Jr., John D. Zealor. **SERGEANT** William P. Laplant. **CORPORALS** Riley J. Bryan, Jack W. Newton. **PRIVATE FIRST CLASS** Thomas S. Bartlett. **PRIVATES:** Donald A. Ward, Edward T. White.

OAK LEAF CLUSTER TO SILVER STAR

LIEUTENANT Jack I. B. Donaldson.

PURPLE HEART

MAJORS: Frederick Delaney, Jr. (Also Air Medal), John D. Lombard (Also Distinguished Flying Cross with Oak Leaf Cluster and two Oak Leaf Clusters to Silver Star), Charles W.

* Posthumous

Marsalek*. **LIEUTENANTS:** Irwin Foster, Thomas Frederick Lohr. **FIRST SERGEANT** Chancy M. Hills. **TECHNICAL SERGEANTS:** Leonard M. Fox, Jennings H. Palmer (Also Distinguished Flying Cross and Air Medal with 3 Oak Leaf Clusters). **STAFF SERGEANTS:** Edwin M. Breedlove, Anthony B. Cumm, John T. De John (Also Air Medal), Nathan R. Gelber*, Eber J. Neely, Robert D. Pannier, Stanley Poplaski. **SERGEANTS:** Hyman Bernstein, Nelson P. Reed. **CORPORALS:** Raymond H. Alsip, Clarence M. Hoehn, Marcellus B. Olmsted, James D. Robinson, Lonnie D. Wright. **PRIVATES FIRST CLASS:** James A. Horner*, John T. Haughey*, Marion H. Zaczekiewicz*. **PRIVATES:** Jack A. Downs*, Harry W. Lord*, Ruby Prater, William S. Riley, Merton I. Staples*, Walter D. Zuckoff*.

DISTINGUISHED FLYING CROSS

LIEUTENANT COLONEL Frank Dunn. **MAJOR** Dill B. Ellis (Also Air Medal). **CAPTAINS:** Curtis B. Caton*, Frank C. Church. **LIEUTENANTS:** John L. Cronkhite (Also Air Medal), Fred G. Henry, Hulet C. Hornbeck (Also Air Medal), William W. Martin, Stephen Poleschuk (Also Air Medal), Robert L. Ramsay, Jr. (Also Oak Leaf Cluster to Silver Star), Walter T. Schmid (Also Air Medal). **FLIGHT OFFICERS:** George M. Pearce, William H. Rogers. **MASTER SERGEANT** Norman L. Biehn. **TECHNICAL SERGEANTS:** Edwin R. Isaac, Mahlon E. Leed, Wallace E. Odneal. **STAFF SERGEANTS:** Forrest M. Adams, Henry F. Arts, Jr., Jesse D. Bergquist, Fred M. Clark, Guy W. Clary, John D. Cox, Gillman W. Gilbertson, Walter W. Keck, Lloyd J. Mahan, Leroy M. Norgan, Coleman A. Robinson, Kenneth G. Wagoner. **SERGEANTS:** Rex A. Applegate, Robert J. Gaines, Robert W. Mader, Charles P. Pamrowski, Wallace E. Smith (Also Air Medal). **CORPORALS:** George H. Behrens, Frank L. Bonito, Carl H. Firchau, Owen H.

Golden, Walter R. Green, Ferdinand Milisci, Dennis Murray, Marvin D. Swenson. **PRIVATES FIRST CLASS:** Gerlad J. Bogacki, Charles L. Coury, Jacob J. Deyarmond, John P. Hawley, Marcellus Lampe, Louie E. Philpot. **PRIVATES:** Cyril H. Arnzen, Dell C. Drawdy, Joe S. Gallagher, Conrad H. Kopperud, William G. Latteman, Carl L. Milberger, Gilbert L. Runnels, Royce L. Shepherd, John M. Swenson. **FORMER AVG MEMBER** John E. Petach, Jr.

OAK LEAF CLUSTER TO DISTINGUISHED FLYING CROSS

MAJOR Albert J. Baumier. **CAPTAIN** Thomas J. Lynch. **LIEUTENANT** Anthony C. Yenalavage.

SOLDIER'S MEDAL

TECHNICAL SERGEANT James D. Warrington. **SERGEANT** Floyd R. Hudgens. **TECHNICIAN FOURTH GRADE** Frank A. Derosa. **CORPORAL** Charles H. Reynolds.

OAK LEAF CLUSTER TO SOLDIER'S MEDAL

MASTER SERGEANT Joseph D. Healy. **SERGEANT** Hendrik Dolleman.

AIR MEDAL

COLONEL Cecil E. Combs. **LIEUTENANT COLONEL** George E. Schaetzel. **MAJOR** Harley C. Vaughn (With Oak Leaf Cluster). **CAPTAINS:** Charles N. Bannerman, John F. Barrett, John E. Bartlett, Clayton J. Campbell, Clement V. Charbonneau, Charles J. Hoey, Robert E. Kimmel, Henry P. King, John L. Lambert (With Oak Leaf Cluster), Richard W. La Roque, Harold J. Larson, John Carter Legg, III, Kenneth L. Lueke, Irving Paul MacTaggart, Henry M. McAleenan, Samuel B. McGowan, Laidler B. Mackall, Frank Leslie Martine, John W. Miller, Mitchell J. B. Mulholland, William E. Mullin, Albert Nowak, Elmer L. Parsel*,

AIR FORCE, OCTOBER, 1943

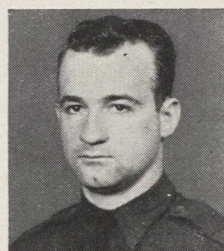
Thomas E. Peddy, Paul M. Person, Maurice V. Salada, Harold D. Schmoldt, John H. Shaw, Pete C. Sianis, Donald A. Simpson, Glenn W. Sorensen, Edward F. Stoddard (With Oak Leaf Cluster), Howard K. Teague, Arthur H. Tuttle, Jr., Sachse Wallace, Cyrus A. Whittington, Cloyd Woolley. **LIEUTENANTS:** Robert J. Art, Paul R. Badger, Bernard L. Barber, James R. Barbour, Carl H. Barton, Charles R. Cook, Walter H. Coons, R. S. Couture (With Oak Leaf Cluster), Gerard J. Creamer, Charles W. Crisler, Jr., William S. J. Curley (With Oak Leaf Cluster), Charles Clifton Cutforth, Lawrence J. Daly, Jr., Edward L. Daniels, John D. Davenport, Thomas C. Day, Clyde E. DeBaun (With Oak Leaf Cluster), Julian A. Dickey (With Oak Leaf Cluster), John M. Dibley, Stephen P. Dillon, Joseph F. Disalvo, Jacob Wylie Dixon (With Oak Leaf Cluster), Anthony Donabedian, John R. Downswell, Cecil C. Duncan, Edgar H. Dunn, Jr., Harold E. Dymont, Eugene B. Ellis, Sherman E. Ellis, William J. Emerson, John W. Emmons, Thomas W. Ferebee, Paul Griffith Ferstle, Rocco A. Franchi, Howard W. Fraser, John H. Frick (With Oak Leaf Cluster), Joseph Ernest Fuszek, Charles F. Gallmeier, John A. Gallup, Kenneth Gaynor, Victor J. Giles, Joe D. Gillon, Jr., Otto Goldsteinn, Theodore H. Gorton, Robert L. Gould, Eugene E. Greeson, Silas M. Grider, James A. Grigsby, James M. Hair, Dan G. Hann, Clarence L. Harmon, Ralph Daniel Harrison, Everett E. Haskell, Jr., William D. Hector, George G. Hedblom (With Oak Leaf Cluster), William J. Heldt, Delbert R. Hetrick, Alvin J. Hill, Morey L. Hodgman, Kenneth W. Holbert, Gaylord D. Holmes, John J. Hood, A. T. House, Jr., Carl H. Houseworth, William T. Humphries, Jr., William Hunter, John H.

Ijams, Jr.*, Joseph R. Irvin, William G. Ivey, Harold M. Jaffe, Frederick R. Jenks, Wayne S. Johnson, John C. Johnston*, Joseph P. Johnston, Garret J. Jones, Jack Jones*, Randall L. Jones, George W. Jordan, Duncan G. Kaye, Albert W. Kellams, Eugene E. Keller, Glenn R. Kraus, Paul R. Ladd, Jesse W. Lankford, Jr., Sumner P. Lapp, Jack L. Laubscher, Glen V. Leland, Jr., Edward Leroy Leonard, Rex E. Lewis, William C. Lewis, Sumner E. Locke, Raymond Lucia, Gordon M. MacLeod, Claud McAden, Howell P. McCorkle, Charles S. McCune, John J. Mackey, Morris E. Mansell, Jr., Sidney L. Miller, James W. Moore, James P. Morgan, Robert E. Nelson, Charles Gard Oliveros (With Oak Leaf Cluster), Thomas C. Parkinson, Samuel J. Parks, Seymour J. Ponemome, Clifton K. Pool, Dale B. Prescott, Jack Donald Pritchard, John G. Rankin, Frank S. Rathbone, Jr. (With Oak Leaf Cluster), William E. Read, Percy W. Robinson, James P. Rogers, Claire M. Smartt, Francis David Schroth, Jr., J. F. Segrest, Jr., Lee Roy Senter, Rodney Nelson Sheain*, Joel M. Silverman, Paul J. Slocum, Sidney Slotoff, Nathan Sutin, Grant Swartz, Thomas K. Taylor, John J. Testa, Downey L. Thomas, Jay T. Thompson, Jr., Harold R. Townsley, Peter Val Preda, Sylvan H. Viner (With Oak Leaf Cluster), Brent F. Walker, William P. Walsh, Jr., William T. White, Jess O. Wikle, Jr., Russell S. Wilkin, Aime J. Wood, Jr. **MASTER SERGEANTS:** William J. Dabney, James H. Daddysman, Alpha G. Storey, Joe L. Wilderman, Elmer R. Wyckoff. **TECHNICAL SERGEANTS:** William E. Andrews, Phillip H. Arnaud, Richard V. Arrington (With Oak Leaf Cluster), Kenneth W. Baldrige (With Oak Leaf Cluster), Rex W. Barada (With Oak Leaf Cluster), Glen Beard, Harold V. Brooks,

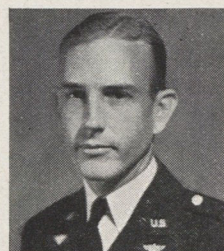
John W. Buck, Francis X. Caulfield, John T. Durden, Roland E. Gates (With Oak Leaf Cluster), Raymond B. Hoke, Jr. (With Oak Leaf Cluster), Clarence V. King, Joseph G. Marcelonis, Jack G. Richardson, Bensing Webster. **STAFF SERGEANTS:** Frank G. Antosz (With Oak Leaf Cluster), Forest W. Bertsch (With two Oak Leaf Clusters), Clarence K. Blend, William Herrington Bosworth, Joe Bowles (With Oak Leaf Cluster), Charlie B. Brown, Howard A. Clarke (With two Oak Leaf Clusters), Solomon Cohen, Charles P. Chalcroft, William Joseph Everhard (With two Oak Leaf Clusters), Julius A. Foster, George H. Fowler, Jr., Wilford O. Gaines, William J. Pash, Walter J. Polinski, William M. Prull, Charles S. Savoini, Walter S. Sloan, Charlie O. Smiley. **SERGEANTS:** Jack Belk, Nick Bober, Henry P. Bobinski, Raymond Gerald Boucher, Arthur N. Bouthillier, Lloyd A. Burkholder, Joseph M. Caserta, Ernest B. Clark, Claude E. Cockrell, Beryl R. Cundick, Edward J. Czekanski, Herman W. David, Walter S. Deahl, Warren J. Ewing, Joe G. Ferrero, George Fry, Michael Geroik, Morris W. Hancock, Robert E. Hawkins, Durwood W. Hitchens, Chester A. Martin, Horace E. Moore, Chester H. Oliver, Ralph O'Neill, Paul E. Price, Richard Reading, Robert L. Rice, Thomas B. Roberts, John F. Rose, Daniel O. Ruttiger, Howard J. Ryerson, Richard F. Schnorr, Leo W. Shelton, Jack P. Thomas, George H. Townsend, Richard W. Troxell, Thaddeus J. Wallace, Edward B. Wisnowaty. **CORPORALS:** Paul M. Drossel, Robert W. Harrington, John W. Melvin, Donald J. Morris, George L. Pohl. **PRIVATE FIRST CLASS:** Willard R. Madison. **PRIVATEs:** William I. Hall, Charles Jimmick, Charles E. Martin, Michael D. Mazzeo. ☆



Lt. B. L. Barber



Capt. R. E. Kimmel



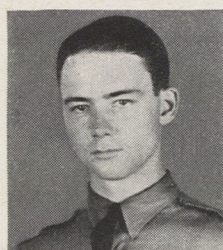
Capt. Henry P. King



Major A. J. Baumler



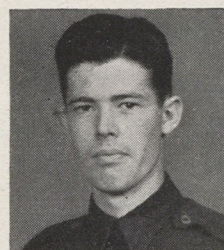
S/Sgt. Wm. J. Pash



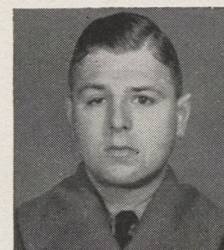
Lt. W. J. Emerson



Capt. Albert Nowack



Lt. J. A. Grigsby



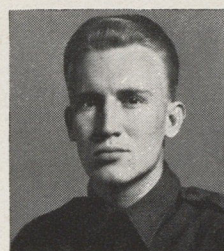
Lt. C. F. Gallmeier



Lt. Clyde de Baun



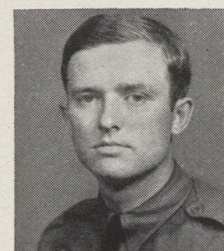
Col. J. M. Joplin



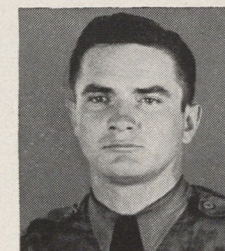
Lt. James M. Hair



Lt. Jack Donaldson



Lt. J. R. Irvin



Lt. Clare M. Smartt





Caterpillar Landing Gear

A caterpillar landing gear, which may be the forerunner of new-type landing gears for large aircraft, has been successfully tested by Wright Field engineers. It is the first ever built for aircraft in the United States.

The increased footprint area provided by the rubber track will enable heavy planes to operate from soft ground or deep sand which is impossible for present aircraft with conventional tire-wheel landing gears. Such a gear, for example, would make it possible for the giant 62-ton B-19 to land on any airfield instead of being restricted to concrete runways.

The new landing gear is constructed with steel bracing and grooved aluminum bogey rollers. An air spring partially cushions the landing impact. The rubber track has a circumferential wire beading and is grooved to fit into the roller grooves, thus preventing side-slippage.

On large aircraft this type of landing gear would save weight and would be easier to retract than such tires as the 96-inch ones of the B-19.

Landing characteristics of the A-20 with the caterpillar tread are the same as with the ordinary tricycle gear.—**Lieut. R. V. Guelich, Wright Field.**

constructed in collaboration with Capt. Ralph J. Gross, base operations officer, enlisted men of the navigation plotting section and workmen of the 46th Sub-Depot.

Actually there are four separate boards but placed side by side on the wall they give the appearance of a single board. The boards in order are Inbound, On Base, Outbound and Destination Arrived. The On Base and Destination Arrived boards are each twenty inches wide, while the other two measure forty inches each. Overall height is 45½ inches.

On both the Inbound and Outbound boards there are six columns, at the top of which are hooks where hour indicators are hung. Each column is sub-divided into thirty slots, numbered consecutively from top to bottom at two-minute intervals from :02 through :60. This two-minute calibration of each hour is believed to be sufficiently accurate for recording ETA.

Hour indicator strips for the top of each column are numbered consecutively from 00:00 through 23:00. Only twelve of these strips are needed because both sides are used, the numbers on the two sides of each being six hours apart. At the end of a six-hour interval it is only necessary to turn over the hour indicator strips to make the board ready for the next six hours of operation.

In this system colored cards in various shades are used, each color representing a particular type of plane. For example, salmon represents a B-17; tan, B-25; pink, B-24; pale blue, A-20; buff, B-34; canary, A-29; dark blue for scheduled airlines and cargo planes, and white for all others.

The 4-inch by 6-inch cards are used on both sides—one side for the Arrival Record, the other for Departure. Three-fourths of an inch of the card protrudes at the top when it is in position in its

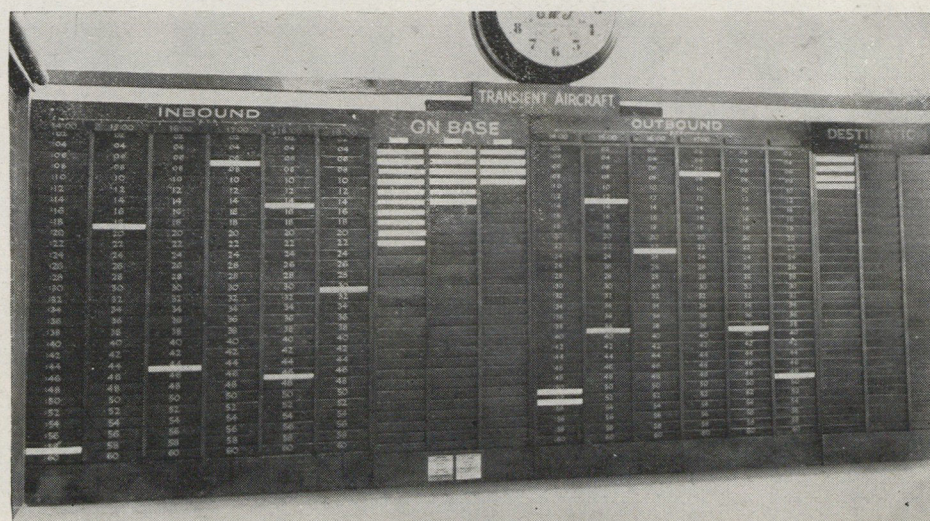
Transient Aircraft Traffic Board

A new and improved transient aircraft traffic board has been developed at the Houlton (Maine) base of the North Atlantic Wing, Air Transport Command. The board is capable of handling complete data on as many as 180 inbound and outbound flights on a single wall of a small room and has been in satisfactory use for several months. A glance gives a quick visual reference on all transient plane movements to or from the base.

It replaced the conventional blackboard used in most operations offices, which in the same space could list only twenty or thirty flight plans, and has greatly simplified the work of operations clerks.

The new system was conceived by Col. James A. Ellison, base commander, and

A convenient new Transient Aircraft Traffic Board.



slot on the board. The following data is recorded on the arrival side of this portion: date, serial number, type, pilot, from, departure, ETA, arrival and parking position. On the lower section of the card, which does not show when it is in the slot, are two divisions—schedule and crew. Facts under "schedule" include: arrived from, home station, mission and remarks. Information on the "crew" side is pilot, co-pilot, navigator, radio operator, flight engineer and others.

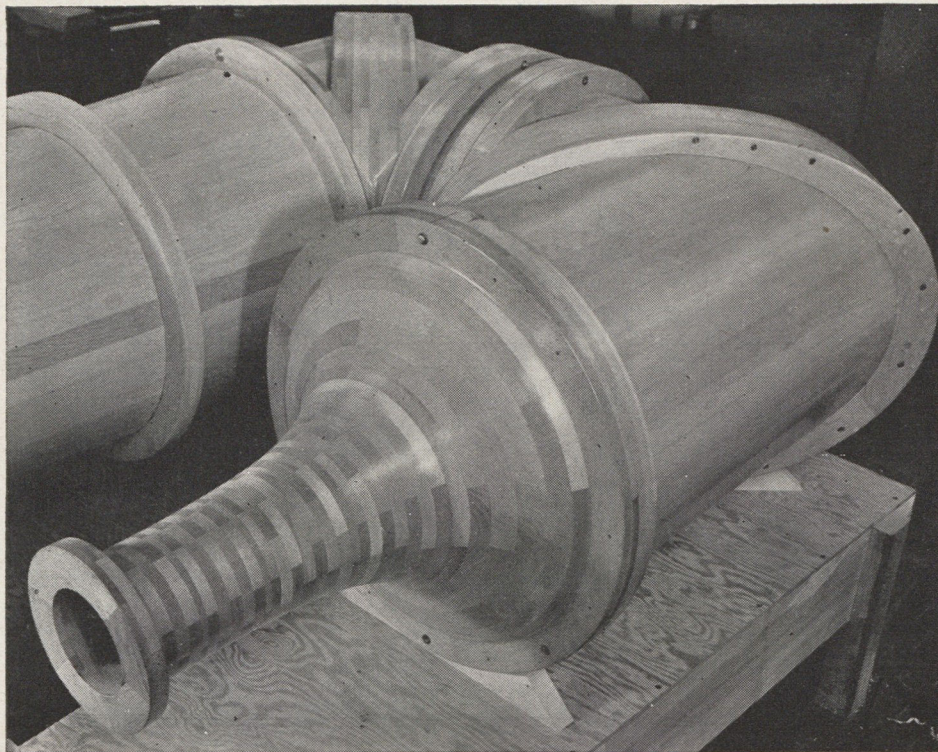
The departure record on the opposite side of the card lists across the top: date, serial number, type, pilot, to, departure, ETA and arrival. Under "schedule" is given: to, mission, per authority, cleared by and remarks. "Crew" information is similar to that on the arrival side.

With this system it is possible by glancing at the board to get a complete outline of information on any and all inbound and outbound traffic, as well as on all planes on the base. At the end of the day the cards are filed according to date making them readily available for reference. One card gives complete information on any craft, making it unnecessary to search through a stack of bulky flight plans. The file requires a minimum of space.

While the board is simple for the operations worker to understand, it may appear complicated to casual visitors in the office, who do not know what the colors represent and can not get close enough to the board to read any information from the cards.

Flexibility is a feature. An adaptation would fit almost any particular situation at any base. The board can be readjusted easily to record the status of planes, weekly or monthly aircraft movements, movements of planes to specific bases or any other special uses an operations officer might wish to apply.

Gone forever at the Houlton base are the days when operations clerks were straining to write on the top lines of unsightly blackboards and attempting to wipe chalk dust from their hands, hair and uniforms.—**PRO, Air Force Base, Houlton, Maine.**



Wooden model of the new 600-mile-an-hour wind tunnel under construction at Wright Field. The model is built to a scale of one to twenty.

Powerful New Wind Tunnel

Designed for testing models of high altitude bombers and fighters, a funnel-shaped, ten-foot wind tunnel which will generate winds reaching a velocity in excess of 600 miles an hour at a temperature as low as 67 degrees below zero is being constructed by the AAF Materiel Command at Wright Field.

The tremendous velocity will be made possible by using two 20,000 horsepower motors to drive the huge fans and by tapering the tunnel from its maximum cross-section to a minimum diameter of ten feet at the throat where the blasts will reach their highest speed.

Temperature and pressure conditions found at altitudes ranging from sea level to 50,000 feet will be simulated in the new tunnel. A monster storage-type refrigerator system can reduce the tempera-

ture of the wind as it roars through the tunnel to 67 degrees below zero.

Supplementing the work of the familiar twenty-foot tunnel which in its period of operation to date has won wide acclaim, the new tunnel will permit tests of an entirely different nature, including icing and winterization experiments.

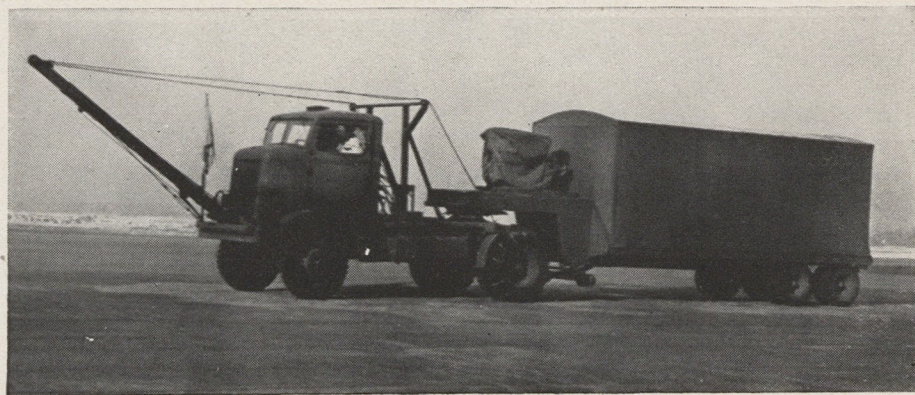
The twenty-footer is an atmospheric tunnel, highly valuable in testing aircraft and component parts under simulated sea level conditions. It was not designed, however, to reproduce altitude pressures or temperatures and as a result such conditions cannot be controlled in it.

The constant increase in speed of planes at higher altitudes has required the installation of the new structure. The new testing tunnel will be built in the shape of a long, narrow rectangle of the closed return type.

Its operation at a vacuum of less than

ALL-PURPOSE CRASH TRUCK

To take care of crashes occurring at points away from base, a mobile crash unit has been assembled by Capt. George Saltzgeber of the 333rd Sub-Depot at Grenier Field, N. H. The unit permits crash crews to handle a wreck at the scene eliminating trips back and forth. The crane has a lifting capacity of 3,500 pounds at a 30-degree angle and is hand operated. Mounted on the trailer platform is a gasoline-driven generator and air-compressor unit.—**Capt. L. C. Martin, Assistant PRO, Grenier Field.**



one-eighth atmospheric pressure, approximating pressure conditions found at 50,000 feet, is one of the engineering features of the tunnel.

Important aircraft modifications necessitated because of high altitude operations, addition of armament, changes in cowlings and other alterations exert a direct influence on the speed of planes and on changes in aerodynamic characteristics. Since many such modifications made on the Army's planes originate at Wright Field, a wind tunnel capable of testing models of planes and parts suitable for high altitudes will be a boon to the work of the Materiel Command.

The refrigeration system, housed in a separate building, will contain a cold chamber for testing equipment at minimum temperatures. The four doors of the chamber weigh more than four tons each and measure 25 by 25 feet.

A series of cooling coils will regulate the temperature of the air as it speeds through the tunnel. To simulate conditions found at 50,000 feet the air is chilled to sub-zero temperatures as it passes over the coils and by the time it reaches the throat of the tunnel drops to a temperature of 67 degrees below zero. The tremendous decrease in temperature at that point is due to the lowering of air pressure as the speed of the air is increased upon reaching the narrow throat. Refrigeration engineers estimate that this minimum temperature can be held for an hour or more before the cooling process need be repeated.

Before an actual test is run it will be necessary to chill the cooling coils with vast quantities of calcium chloride brine solution. This solution is brought to a temperature of forty degrees below zero by means of two huge compressors before being circulated through the coils. Twenty hours are required to complete the job.

The newest and fastest of the Army's wind tunnels will be constructed of steel plate varying in thickness from $\frac{3}{8}$ to $1\frac{1}{4}$ inches. The two 20,000 horsepower motors will drive the counter-rotating fans, each of which measures nineteen feet in diameter. The fan blades, made of wood, are being fabricated at Wright Field. Control equipment governing the twenty-foot tunnel will also be used for the new project.—**T. A. Berchtold, Wright Field.**



Maj. Robert E. Reed and the emergency tourniquet system he has devised for his flight coveralls.

Tourniquets On Flying Suits

A simple method of safeguarding the

lives of combat crews who may be injured during missions has been devised by Maj. Robert J. Reed, 8th Air Force pilot. With a pair of scissors, some heavy ribbon and six dowel sticks he has equipped his flight coveralls with six emergency tourniquets at vital artery pressure points on arms and legs. Pencils may be used instead of dowel sticks if necessary.

This is how they are used. Suppose the ball turret gunner has been hit in the arm by a shell fragment and is bleeding profusely. Quite often no one can come to his aid while the fight with the enemy continues, so the gunner, using his free arm, reaches into his breast pocket and pulls out a dowel stick. A heavy ribbon, previously sewed into the upper arm of the flying suit, already encircles his arm. About three inches below it is a loop that also has been sewed or cut into the suit.

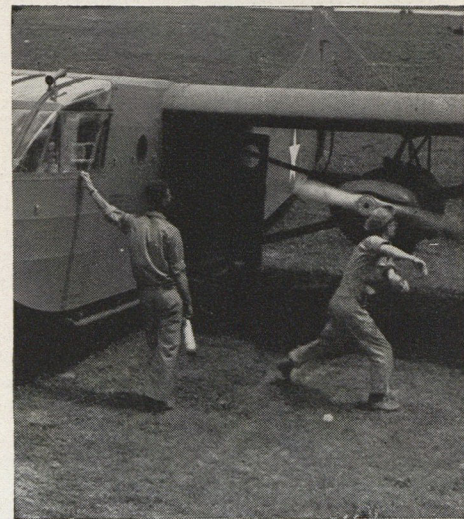
Taking the dowel stick, he slips it between the ribbon and suit and twists it as a tourniquet until the blood flow is stopped, then pushes the lower end of the stick through the loop on the sleeve and anchors the tourniquet. Besides safeguarding his own life by halting the flow of blood, he also can man his guns or, if they have been knocked out, can help other crew members at their posts.

This same application is possible on the legs, either below the knee or on the upper thigh. By releasing the tourniquet every fifteen minutes, clotting is avoided.—**Wright Field. ☆**

AAF Power Gliders

The AAF Aircraft Laboratory has developed an engine installation for the CG-4A glider that can be mounted in one hour. The engines, one for each wing, are 130 horsepower air-cooled Franklins which actually are package power plants. Gas tanks and instruments are carried in the engine nacelle.

The power glider, known as the XPG-1, is slow and has a limited range. When empty it can take off and fly under its own power, and when loaded it can extend its range after being released from the tow plane, thus giving the pilot more choice in selecting a landing spot, as well as enabling faster cargo service between bases.—**Wright Field.**



to the contribution "B"-40 pilots made to our situation in the China-Burma theatre. During the spring of this year, the Japs made a determined effort to clean up the Assam-Burma frontier and destroy certain of our installations which we very much wanted right where they were. What stopped them was the stuff dropped three or four times a day by swift little planes which appeared as if they had a bad case of goiter.

Below the railhead at Myitkyina the "B"-40s indulged in a game called "threesies"—blowing up one large bridge and then two smaller ones, one on either side. By the time the poor Nips got the little ones repaired so they could work on the big one, similar damage had been

THE 'B'-40 OVER BURMA

(Continued from Page 5)

done to several other points along the line. Supplies just never reached the Jap troops who needed them and the monsoon finds our foul-breathed friends right back where they started—but tired and sadder.

By now practically all the pilots in the fighter group which fostered the "B"-40 have mastered the technique of dive-bombing with the 1,000-pounder, but there's still the six-man first team which, literally, has never gone after a target and not destroyed it. For aspirants to his varsity, Colonel Barr, who recently received the Silver Star for his work with the 1,000-pounders, has laid down a set

of rules. He has taught his boys a definite pattern based on a method of target approach that is meticulous in its detail. Like a well-coached football team, the pilots follow the pattern—day after day after day.

Out here it's taken very much as a matter of course and frequently A-3 has trouble deciding whether to send the B-25s or the "B"-40 after some particular target. The only people who retain their astonishment—except, perhaps, the Japs—are the pro-Allied Naga headhunters of northern Burma who have had some very close views of our work. They speak of the 1,000-pound-bomb-carrying P-40 as "the double-airplane-which-drops-half — BOOM!" ☆

BASE OASIS IN NORTH AFRICA

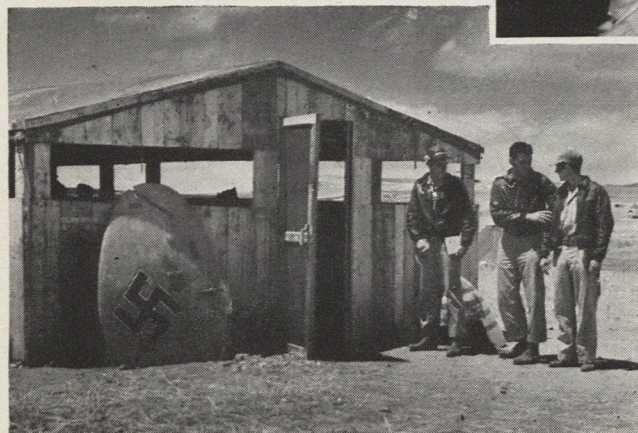
AIRMEN get fed up at times with all work and no play. And there are comparatively few opportunities for recreation at an airbase in the field in North Africa.

But one B-26 squadron worked out a solution by building a "community center" out of odds and ends of available scrap material. It's not as finished as the average club in the States, but it's a



The exterior of this squadron's recreation center in North Africa is decorated with the rudder of a fallen Messerschmitt. The interior view is typical. Note the phonograph at left.

By Lieut. SNOWDEN T. HERRICK
NORTHWEST AFRICAN STRATEGIC AIR FORCE



howling success just the same. The club-room was put together in only two days after Maj. Richard B. Polk, squadron CO, started the ball rolling. Lieut. Robert O. Hauser, navigator, calling on his pre-AAF experience as an architect, did a great deal of the necessary procurement and supervised the construction. The squadron carpenter, Master Sgt. Frank Peters, a full-blooded Iroquois, took care of the carpentry.

Wood for the building, which came mostly from packing boxes used for fragmentation bombs, was collected after an

unrelenting search. Heavy beams and posts served originally as crates for heavy equipment. Tents and tent flies made a neat waterproof roof.

The structure is portable and the squadron fondly hopes to pack it along if and when it moves to another location. The lumber alone makes the building precious in the land of few trees.

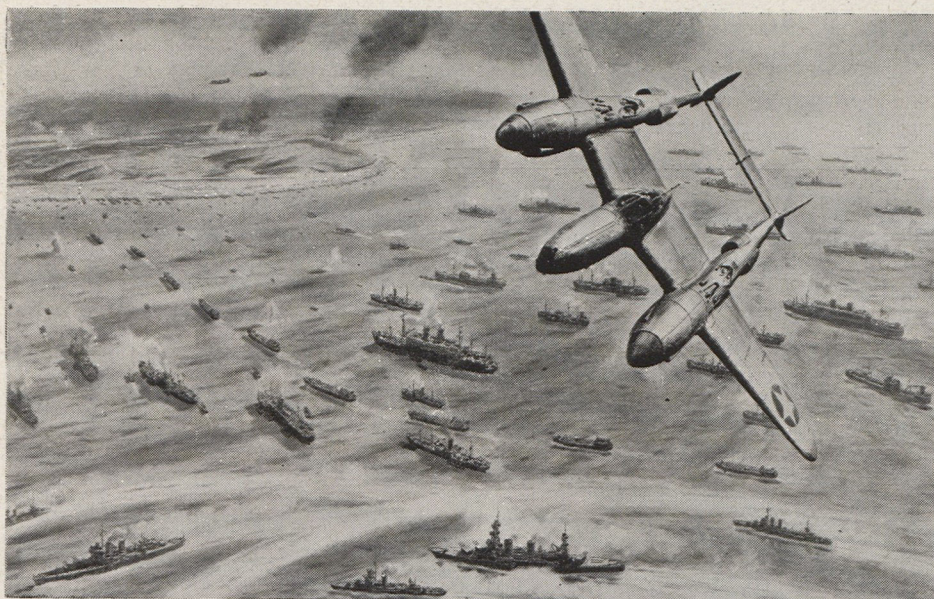
The club is furnished in good taste with a bar in one corner made of metal linings salvaged from ammunition boxes hammered flat and pieced together to make a smooth surface. The usual odds and ends

of wood served as the bar framework.

A modernistic ceiling lamp was procured at a nearby native town. Most of the chairs are the nail-less, woven straw variety which the Arabs invented to satisfy European seating customs. The card tables are homemade.

The club has proved so profitable under the management of Lieut. S. A. Kaufman that cigars, cigarettes and even candy are on the house. The supply problem is sometimes difficult. Because of this uncertainty the "bartender" is often forced to serve water straight.

On one occasion the pilots, navigators and bombardiers brought in some Coca Cola syrup. They refuse to reveal the source, except to say that the syrup came from a long way off. The soda water they had been saving as a mixer had disappeared the previous night, but the cokes tasted OK mixed with plain water. ☆



This is Illustrator Noel Sickles' conception of a portion of the Sicilian landings. The drawing was done on the basis of intelligence reports and on-the-scene accounts. More than 3,000 surface craft participated.

THE LUFTWAFFE AT BAY

(Continued from Page 7)

Once we had established ourselves, we began to team closely with the advancing ground armies—our task as part of the tactical air force. The principles involved in this operation had been employed successfully in the Tunisian campaign, and now that we were putting them to use for the second time the job came much easier and, if anything, it was performed more efficiently.

In addition to protecting our ground forces from threats of air attack, we flew strafing missions against ground targets—enemy tanks, artillery emplacements, troop concentrations and supply routes. The major share of this particular task, however, was carried out by the fighter-bombers—A-36s, bomber version of the P-51, and the P-38s and P-40s—for which we usually flew cover.

Just as in the North African campaign, there was complete cooperation between air and ground forces in the battle areas. And the lessons learned in Tunisia paid dividends in the advance of our forces in Sicily.

From our standpoint in the tactical air force, the lack of anything even remotely resembling the air opposition we encountered in North Africa made our part in the operations easier to carry out in most respects. Lack of opposition, how-

ever, can be a dangerous thing in offensive operations, and it caused more than little concern in the earlier stages of the Sicilian drive. When you encounter steady opposition, you have something on which to base your plans. Without it, you must determine where and when the enemy intends to concentrate his limited air. Otherwise, your superior force can be seriously crippled if it is spread too thinly—which it is almost sure to be without a careful analysis of the opposition's possible moves and the proper application of your own decisive air power. In addition, with nothing in the skies to fight most of the time, pilots unconsciously adopt a false sense of security and become careless unless they are continually prodded to keep alert. A fighter pilot should always remember it's the guy you don't see who knocks you out.

THE enemy pilots we met over Sicily no longer had the same fight, the same skill and the same training that they had demonstrated over Western Europe, or even Tunisia. Our group had seen this tailing-off quite clearly weeks earlier in intercepting enemy bombing raids on our occupation forces in Pantelleria. At that time, flights of from ten to twenty fighter-bombers, escorted by fighters, would come in on a raid, and the moment we engaged them in combat they would try to break away and head for home. They seemed to be panicked in their scramble to avoid a fight. We shot down 28 FWs and MEs in two and a half days, with a loss of only two of our fighters.

This reluctance to fight can be attributed in no small degree to the superiority of the Spitfire over the best of the German fighters. We knew we could fly rings around the enemy, and it didn't take him long to discover the same thing.

As far as our group was concerned, enemy fighters were always on the defensive. Another factor was the lack of experienced leaders on most of the enemy missions. Even on the occasions when a good leader was participating, the other pilots seemed to follow him around the sky like a flock of geese.

We have every reason to believe that many of the planes which raided Pantelleria, and later Malta, were operating from the same field we eventually occupied on Sicily. One of the more convincing pieces of evidence discovered at the Sicilian base was a carefully drawn topographic map of Malta found in the operations office. Such details as the location of fighter bases and flak installations were marked as targets on the map.

Just as the enemy pilot's morale seems to be going downhill, our morale has been, and continues to be, tremendously high. This applies to ground crewmen as well as flying personnel.

When I returned to Washington—while the Sicilian campaign was still in progress—I left one of the finest groups in anybody's air force. Our outfit is highly confident of victory, but not cocky. It's just that nobody ever goes on a mission with the thought, "Maybe I won't come back."

Every man in the group knows the value of teamwork. Every man knows that everyone else depends on him to do his job well. As for the ground crews, they seem to be happier than the pilots when a good job is done in the air. ☆

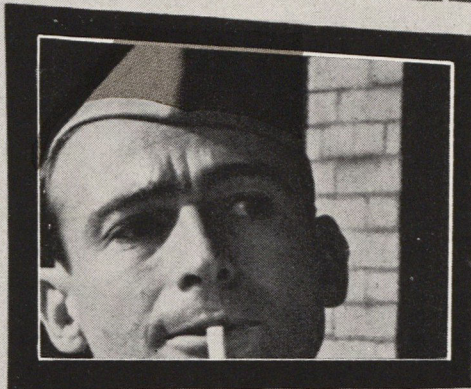
Answers to Quiz on Page 39

- (b) Eight.
- (c) China.
- (b) Wind velocity.
- (c) A Jap stronghold on the northern tip of the Kurile Islands.
- A system of aircraft identification which gets its name from the structural units which the student is drilled to take up in order: W—wings; E—engines; F—fuselage; T—tail.
- (a) Liberator. (b) Mustang. (c) Commando. (d) Mitchell.
- (b) C-54.
- (d) Resonance.
- Ordnance.
- (c) Louisiana.
- Absolute ceiling is the maximum height above sea level at which an airplane is able to maintain horizontal flight under standard air conditions; service ceiling is the height above sea level, under standard conditions, at which a plane is unable to climb faster than a specified rate.
- (d) A sudden violent gust of cold land air.
- (b) 4000 miles.
- (b) Thirty degrees.
- (b) A small auxiliary parachute.
- False.
- (c) A Russian pursuit plane.
- (d) Lieutenant General.
- (a) 6080.2.
- Dornier 217E2 Bomber.

PICTURE CREDITS

5: 10th Air Force. 9: British Ministry of Information. 12: 7th Air Force. 25: Wright Field, Ohio. 27: Harry Conover Cover Girl. 28-29: Acme Newspictures; Signal Corps. 30: Brooks Field, Texas. 33: Bolling Field. 37-38: Drawings by 1st Fighter Command Volunteer. 46: Patterson Field, Ohio. 48: Bolling Co. 55: 12th Air Force. Third and Fourth Covers: AIR FORCE Editorial Office. All other photographs secured through official Army Air Forces sources.

**THIS MAN
WANTED ALIVE!**



But **CARELESS talk
can kill him!**

**DON'T DIVULGE FORTHCOMING TROOP MOVEMENTS,
DESTINATIONS, NUMBER OF TROOPS, TYPES
OF AIRPLANES OR QUANTITIES OF SUPPLIES.**

**THE ENEMY IS ALL EARS...
...DON'T BE ALL MOUTH!**



Salute Proudly!

The snap and precision of your salute, the bearing of your head, and the forthrightness of your glance reflect the pride you have in your Army, your unit and in yourself.

