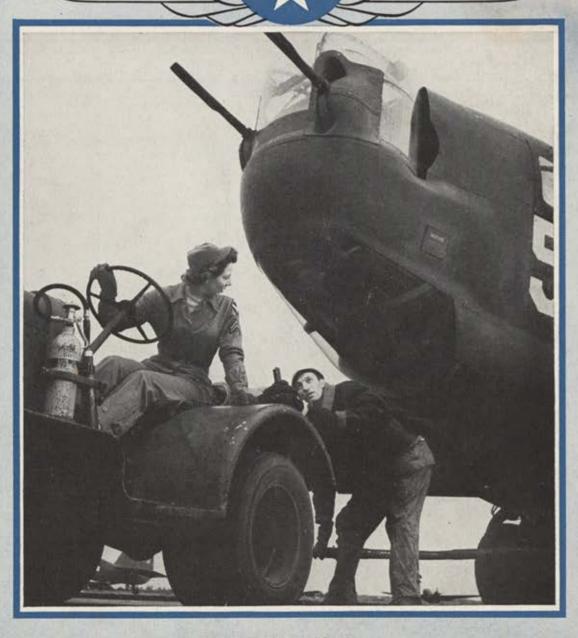
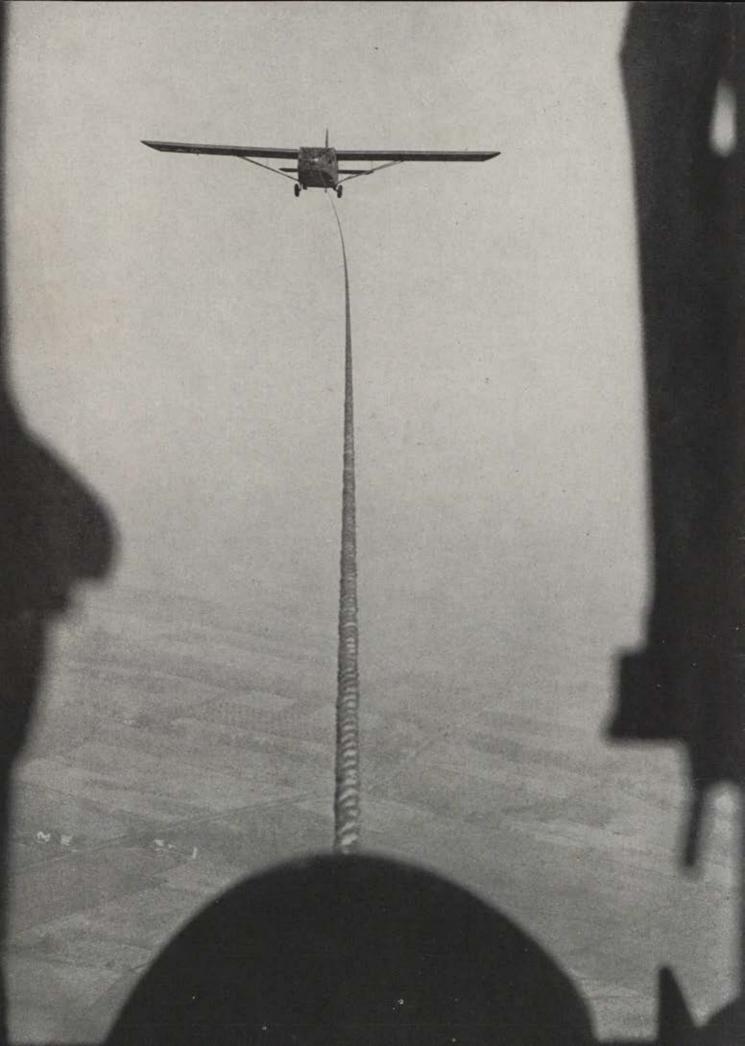
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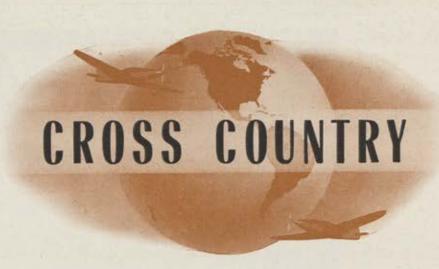
THE OFFICIAL SERVICE JOURNAL

OF THE U.S. ARMY AIR FORCES



FEBRUARY 1944





GENERAL ARNOLD has released to the nation a detailed report to the Secretary of War on the progress of the Army Air Forces during two years of war. It is a document that pays tribute to personnel of the AAF and the "one hundred and thirty million people" who have been responsible for "the building of what is now the world's largest air force."

But General Arnold warns that the biggest battles in the air and on land are yet

to be fought.

In revealing that the AAF has grown to approximately 2,385,000 officers and men as of January 1, 1944, the Commanding General explains that as the war continues emphasis will naturally shift from the training of vast numbers of new men to the training of replacements and to increasing the technical knowledge of the men already in the service.

General Arnold's report stresses the importance of regarding our air war effort in broad outline rather than attempt to measure the effort in terms of isolated missions.

"It is the overall cost to us, in relation to our ability to bear that cost, measured against the overall result and the enemy's ability to endure that result, which must decide for or against the resolute prosecution of a military campaign," General Arnold emphasizes.

"To a question posed in those terms, there is only one answer. We will not falter."

THE HUB

Not far from the ancient temples in India is an airdrome so modern that the comic strips are up to date and so cosmopolitan that the poker games are cluttered and complicated with greenbacks, yens and rupees. It's the spot where ferry pilots swap tales of life in the States with combat pilots and their stories about the Japs.

4

From the tail of a tow-plane the YCG-13, our largest in-production glider, looks like this. The craft is primarily an equipment carrier. (See Technique, Page 54.) This airport, familiarly known as the Hub, is the spot where new planes are exchanged for the battle-scarred veterans being retired to the States, and where the boys from China stock up on candy and chewing gum and gorge themselves on the most successfully Americanized food between Kansas City and Chungking. For Americans the Hub is the best place to fill in on what's happening back at home, and for those who like to analyze their news it is the greatest rumor generating plant in southeastern Asia.

Twenty-four hours a day, the planes pass through with important personnel and rush cargo. In more than 15,000 such take-offs and landings there has been but one fatal accident, that when a Chinese pilot crashed due to engine fail-

ure. According to our staff correspondent in the C-B-I theatre, the AAF legal department is still pondering over a suit filed as a result of that accident. A scared Indian knocked the top off his charcoal pot and burned all the hair from his head.

This air hub of India is also a great place for reunions. Transient brothers meet there, old classmates cuff each other in startled recognition, barracks buddies encounter each other again, and even fathers and sons are brought together for a brief hour. It's a very busy place, too. For eight months Tech. Sgt. Bill Dav-enport has been meaning to look up a cousin of his on the opposite side of the

HERO'S ROLE

Only seconds remained before a formation of Allied bombers were to leave an Italian base to bomb Colvi Vecchia, a strongly fortified village held by the Germans. The bombers were to attack in sufficient strength to wipe out the Nazis. While safety belts were being adjusted and the engines gunned for the take-off, a colonel dashed out from the operations tent and yelled "Hold it! A brigade of British troops has entered Colvi Vecchia."

An American carrier pigeon named GI Joe had just sailed into the airbase with a message which cancelled the flight and averted possible disaster. Blue-and-white Joe of the Signal Corps has been credited with one of the outstanding pigeon flights of the war. During his most important



mission he flew twenty miles in exactly twenty minutes.

PENCIL PUSHIN'

If we have any particular hobby it is singing the praises of the unsung. And for that reason we have taken warmly to a letter from Staff Sgt. Sol P. Freedman in the Southwest Pacific. Freedman writes:

"You deal out reams of information on our AAF general staff, page after page about peashooter, heavy and biscuit bomber pilots and crewman, and last but not least you give the praise that our grease monkeys deserve. All this in accordance with my own line of thinking, because without these men doing their jobs in all theatres of operations our Air Force could not have attained the prominence it has in so short a time. But—the poor old pencil pusher never gets a break."

Before continuing the sergeant's letter let us say that he has struck a responsive chord. Modestly we want to note that we have belabored the noble pencil somewhat ourselves. In fact, we are now checked out on both the speedy Eagle "Sunbeam"—117, and the Dixon "Federal" 1055 No. 2 (soft lead); and even prior to that we fooled around with an all-wood Ticonderoga and the heavily armored Eversharp. So, since the sergeant has set down a swell compliment for pencil pushers, we are happy to continue it here.

"Honest, Mr. Editor, it's no picnic for so-called white collar men out here. Each time the Allies get an advanced base these clerks go right along with the bombers. The orderly room men, operations, intelligence and engineering clerks are always on that advance echelon helping to build up a new base. Did you ever type a letter, or memorandum, in a tent, with the wind blowing everything around, in eight copies? Did you pay the men on the last day of each month, yes, even over here? Did you see that the officers got their perdiem and did you ever have the CO storm into the operations tent and want to know why in hell he wasn't given credit for twelve hours this month? And while on the subject you might give just a little credit to the 'ground' adjutant, the supply officer, and all the rest who do a mighty fine job making the squadron click."

That's what we think, too. And why doesn't some pencil pusher write us an orderly room adventure story?

SCHOLARSHIP FUND

The 4th Air Force Fund, to insure an education for the children of men who meet death while in the service, has been set up by officers' wives under the leadership of Mrs. William E. Lynd, wife of the commanding general. In conjunction with the AAF Aid Society the fund will be used primarily for the education of dependents of personnel who have at any



These pictures of destruction reveal the havoc spread by our bombing planes over land and sea. The black, swirling column of smoke rose 4,000 feet into the air after a flight of B-26s scored direct hits on fuel storage dumps at Chievres, France. The concussion from the bombs, multiplied many times by the exploding petroleum, bounced the raiding planes around at an altitude of 10,000 ft.

Here again our aerial wreckers do a job on the Capodichino Airfield in Italy. The destruction was accomplished by forty tons of bombs dropped from B-17s despite hampering weather conditions. Hangars, field installations and planes were reduced to shambles. The attack took place back on September 6 and helped pave the way for the Salerno landings. With receipt of ground pictures lagging behind aerial shots, this photograph has just come in from the Mediterranean theatre.



time been members of the 4th Air Force, but have become casualties; this either as scholarships or supplementing education of dependents to be self-supporting. A child may accept with pride a scholarship from this fund, coupled with the knowledge that it came from those with whom his father served.

"The fund is our assurance to all our people and their children that in such circumstances the future will not be without hope for those who may be left behind in a post-war world," Mrs. Lynd explained.

LITTLE LUCY

On the scroll of honorable planes which is sure to be drawn up after this fracas is over, there will have to be a place for Little Lucy, the cub. That little girl has certainly had herself a time.

Most famous of all the "grasshoppers" in the Mediterranean theatre (right now she's got 1,500 flying hours behind her), she has given up all thoughts of active combat and has settled back to taxi work on a Sicilian airfield. After all, dogfights with those ME 109s get on your nerves after a year.

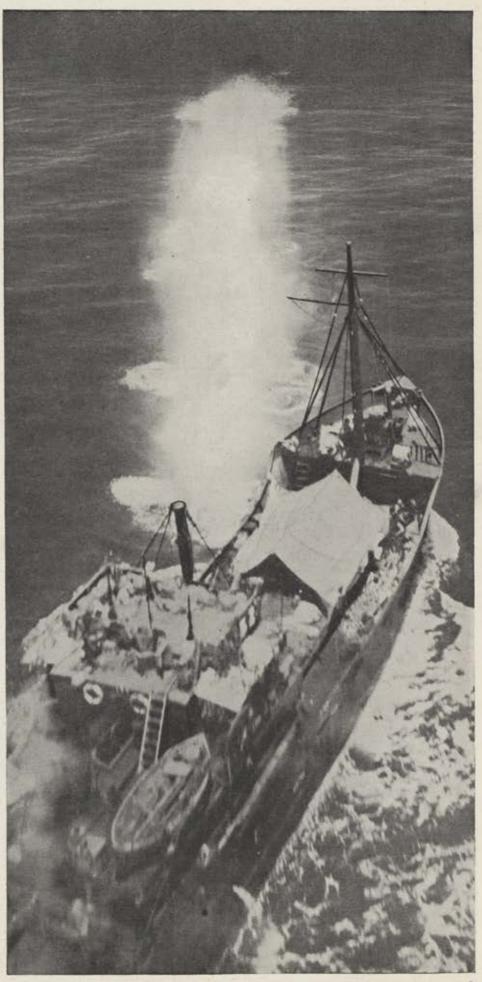
Little Lucy was the first American aircraft to alight on French soil during the North African landings. From sixty miles at sea she took off from a carrier—the first of her type to ever attempt such a stunt—and flew into a Fedala airport, just north of Casablanca. Lucy really came in with guns blazing—at her. It was like this:

About five minutes before she arrived, three Jerry planes had swept over and thoroughly bombed and strafed the field. Consequently, our ack-ack crews, seeing Lucy, and being unprepared for such a little bug to lead the American invasions, let go at her with everything they had, just to make sure. Lucy, however, considered it all in a day's work and glided in without a scratch. A little less calm about the whole business was Maj. Edward Gordon of Rural Hill, N. C., her pilot.

Standing on the field were members of the Lafayette Escadrille, who, delighted with her cool performance, promptly made her an honorary member. She still belongs, and she wouldn't think of going out without her famous Indian head insignia.

Lucy knew exactly what it was all about in the African campaign, but it was in Sicily that she really got cracking. She was a beginning-to-end veteran of the Island 'do'—and in that time she flew a hundred combat missions, not to mention

Bombs from a low-flying B-24 laid diagonally across the bow of this 1,500-ton Jap transport sent the heavily laden vessel to the bottom of the Pacific. Note the bomb pattern leading into the port side of the ship. One bomb has forced up the water into a white geyser, and has caved in the hull. Another bomb struck amidships an instant before this picture was taken.



scores of less hazardous trips. Her 760 pounds of plywood, canvas and tubing was a familiar sight over enemy territory, as she hung around directing artillery and anti-tank fire. Oh, she was certainly a gal-of-all work. In the morning she might correct a battery's range, and in the afternoon lug a general or a spare part wherever he (or it) wanted to

Now, in a sort of semi and luxurious retirement, Lucy isn't the naive maiden she was on the September morning in 1942 when she tumbled off the assembly line. She has become, in fact, a kind of international siren, for it cannot be assumed that Lucy never met with misadventure. Certainly she had her good times, and her bad times, as who does not, and at the moment her inner working can best be described as helter skelter.

For instance, her present landing gear was compounded from an ME-109 and a French bomber, and her instrument panel shows souvenirs from chance meeting. with a P-38, a P-39, a P-40 and an armored half track. (That last took quite a bit of explaining to the boys who knew her well.) She has scrounged unused glass from another P-40, she has tubing from a French fighter, and-to get downright clinical about the whole thing-her tail assembly was a gift from a cracked up jeep.

But, please, don't think you can em-barrass Little Lucy. She flies through the Sicilian air with the ease of a virtuous girl who has just been delivered from

the factory.

L'ENVOI

We have just learned with regret that the B-17 radio operator-gunner who wrote the lilting verses of "Lightnings In The Sky" (December AIR FORCE) has failed to return from a mission over Italy. We think he contributed one of the slickest poems we have ever used in the magazine. Remember the first verse:

Ob, Hedy Lamarr is a beautiful gal And Madeline Carroll is, too: But you'll find, if you query, a different theory Amongst any bomber crew. For the loveliest thing of which one could sing (This side of the Heavenly Gates) Is no blonde or brunette of the Hollywood set, But an escort of P-38s.

EVERYTHING'S RELATIVE

Ordnance men love guns and take great pride in caring for their armament. They jealously guard their equipment from all types of abuse and consider any damage to ordnance a sad commentary on military efficiency. We especially like a story emphasizing this deep devotion which came to us from Lieut. Frederic Kohn of the 4th Fighter Command.

A flight of P-38s returned to their home base one morning and were particularly jubilant as they walked toward the Intelligence Office to report a very successful interception of Germans. One of the young men was unusually happy because he had knocked down one ME-109, two Macchis and one JU-52, all within two and a half minutes. This individual was Lieut. James (Country) Rivers.

While the exuberant pilots were being interviewed by Intelligence, an officer of the Ordnance Department stormed into the room and demanded: "Where's Riv-

Rivers identified himself and the ordnance man shouted, "Rivers, how often do we have to tell you how to shoot guns? You have burned out four barrels." There was a brief silence before another lieutenant protested, "But Rivers knocked down four planes."

The ordnance man was not to be sidetracked by any such evasion, however. His righteous anger had been aroused. Four gun barrels had been burned out and that was a serious matter. Waving the explanation aside he turned again to Rivers. "I don't care how many planes you knocked down," he said. "What I care about is that four barrels are junk. You guys will have to learn to shoot in short bursts-not long bursts. You are destroying valuable property."

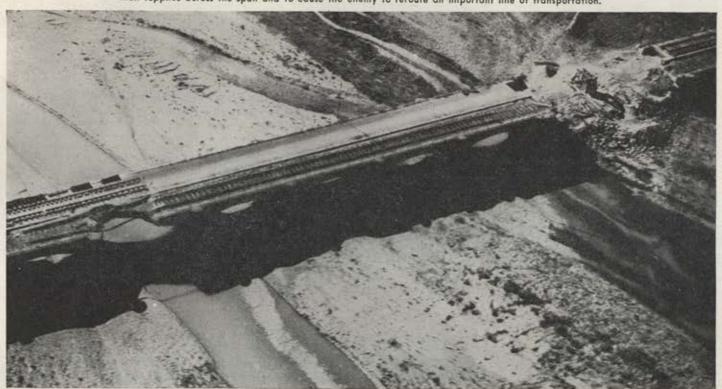
PERSONAL AFFAIRS

A Personal Affairs Division has been set up under the Assistant Chief of Air Staff, Personnel, to discharge Army Emergency Relief functions within the Army Air Forces.

With generally the same duties as those formerly exercised by the AAF Branch of Army Emergency Relief, the new division administers a program which includes:

1. Development and administration of

Two aerial bombs crippled this important railroad bridge located near Giulianova, Italy, 95 miles from Rome. With these direct hits, American flyers caused enough damage to halt the movement of Ger-man supplies across the span and to cause the enemy to reroute an important line of transportation.



the AER program within the AAF.

2. Assistance to AAF personnel and their dependents regarding their personal

affairs and problems.

3. Assistance to AAF personnel and their dependents in obtaining employment, re-employment, education and vocational rehabilitation.

The AAF Branch of AER remains as a branch of the new division. Its duty will be to administer and supervise the AER program within the AAF as it applies to loans and grants, fiscal and accounting activities, handling of field office reports, requisitioning and allotment of AER funds, and the accounting and collection of loans.

Other branches are:

Advice and Claims Branch, which assists personnel in personal affairs, including allotments, allowances and other pay from the government.

Placement and Education Branch, which, working in cooperation with the Redistribution Center and other agencies, helps AAF personnel and their depend-

ents in obtaining employment.

Women's Volunteer Branch, which organizes and supervises activities of volunteer women's units for such services as visiting homes of AAF personnel, arranging for hospitalization, establishing day nurseries, and providing clerical assist-

Personal affairs officers have been appointed at most continental AAF stations to handle field activities of this kind, Many overseas commanders have named personal affairs officers. However, all AAF personnel have been authorized to correspond directly with the Chief, Per-Affairs Division, Headquarters AAF, Washington, D. C.

THE COLLIER TROPHY

General Henry H. Arnold, Commanding General of the Army Air Forces, has been awarded the Collier Trophy for his outstanding contribution to aviation during the past year. This cherished award in aeronautics was presented to General Arnold at a dinner honoring Orville Wright and commemorating the fortieth anniversary of the historic day when the Wright brothers made the first flight in a heavier-than-air machine. The trophy is given "for the greatest achievement in aviation in America, the value of which has been thoroughly demonstrated by actual use during the preceding year." This was the 32nd year the award had been made.

MAGIC WORDS

The presence of unidentified overalls in Mrs. Murphy's chowder has been shouted over the wide waters of the central Pacific by the crew of a Liberator operating over the Gilbert Islands. This Gaelic ballad, in fact, has become something of a hymn to the crew (Continued on Page 62)



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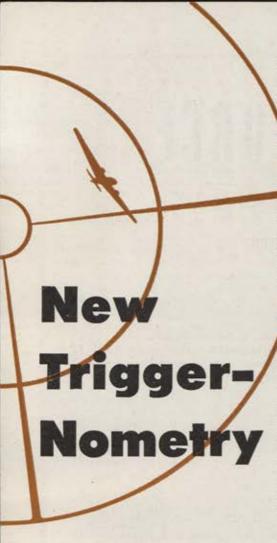
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Flexible gunnery has been worked out to a mathematical formula, a system called 'position firing' which is based upon speed, course, air density, deflection and many other factors. Despite these calculations it is much simpler and more accurate than older sighting methods.

F the man behind the gun can't protect his plane from enemy fighters, the world's best pilots, bombardiers and navigators are rendered useless. There is no denying the importance of flexible gunnery to the accomplishment of our mission, and statistics from the combat areas are backing up that fact.

We also are more than ever aware of the difficult and complicated task facing the gunner. The bombardier, for example,

aims at a stationary target from a plane being held on a straight and steady bombing run. But the gunner is firing from a platform moving 250 miles an hour in any direction and trying to hit an object moving perhaps 350 miles an hour in a different direction.

Every schoolboy knows that a hunter has to aim slightly in front of a flying duck—has to "lead" it—to allow for the ance the duck will have flown by the time the bullet reaches it. He also knows that if a newsboy on a bicycle aims directly at the customer's porch when he throws a rolled newspaper, it won't land on the porch but probably in the bushes next door because he has failed to allow for the forward motion of the bicycle.

Put these factors together, boost the eed up to hundreds of miles an hour, et the directions be forward, backward, up, down, toward you, away from you, or any combination of these directions, and you get the beginnings of an idea of the

The problem is not easy. Nor is it impossible.

Good minds went to work on it long ago. What it would take, all agreed, would be a means of simplifying the gunner's sighting methods. The task was undertaken simultaneously by three different groups of mathematicians, who took a system developed by the RAF, refined it, and came up with something interesting.

In Detroit, a Navy consultant worked on it. At the Aberdeen Proving Ground, the Ordnance Department provided new ballistic tables and then the National Research Defense Council worked on it. In North Africa, three operations analysts with the 9th Air Force developed an improved sighting system and checked its results in actual combat.

What these experts did was to work out the complicated mathematical formulas governing the relation between the bomber's direction and speed and the enemy fighter's course and speed. Then they cal-culated the amount of lead, or deflection, which the gunner had to allow to hit the fighter at any instant of attack. To do that, they had to make exact allowances for the bomber's speed, the muzzle velocity of its machine guns, the varying den-sity of the air at different altitudes, the direction of the fighter with relation to the bomber's line of flight, and the fighter's speed and range.

Despite all these variable factors, the brain trusters working independently in Michigan, Maryland and North Africa came up with essentially the same equation for calculating deflection. The mathematics were formidable, but the answers -and the answers are the gunner's concern-are surprisingly simple. The result is a system known as "position firing." It is a development of great significance. And the beauty of position firing is that it is both simpler and more accurate than the older sighting methods. It proceeds upon the doctrine that while every enemy fighter is dangerous and needs watching, he becomes most dangerous and at the same time easiest to hit when he starts a direct attack. To hit your bomber, he must keep aiming at the spot where his target will be by the time his bullets get there. To keep aiming at this spot, he must fly in a slight curve. This is called the pursuit curve.

ROADLY defined, position firing is a method of calculating lead or deflection based on the enemy fighter's angle of attack and the subsequent angles along a pursuit curve which the enemy fighter must follow to get continuous hits on you. More simply, it is a system by which the gunner's deflections are figured out for him in advance; he comes to use these calculations almost automatically.

As the enemy fighter flies along the pursuit curve, he slides in toward the tail of the bomber he is attacking. Because this curve is predictable, the fighter becomes vulnerable to the fire of the gunner who understands the principle that the forward speed of his own plane is added to the speed of his bullet. The bullet keeps this forward speed no matter what the direction of the aim-above, below or to either side.

The drag of the air on the bullet is, of course, another factor. This air resistance we used to call trail; now we call it what it really is: bullet slow-down. It is important for some shots, but not nearly as important as the effect of the motion of the gunner's own airplane on the direction of the bullet.

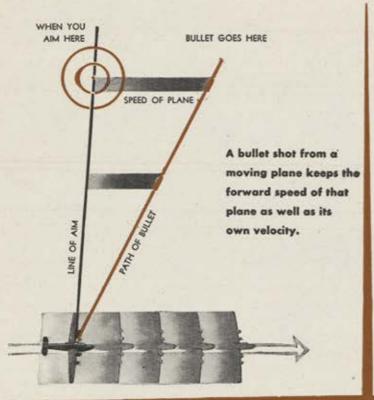
This is not to say that the principle of bullet slow-down may be disregarded. The gunner should fully understand this factor. The combined effects of bullet slow-down and of the forward motion of the gunner's own airplane sometimes lead to faulty observation by the gunner. Many, having observed the behavior of a tracer bullet fired from an airplane, will argue that it moves in a curve. This is an optical illusion; it does, indeed, appear to curve in the direction opposite that of the airplane from which it is fired. Actually, except for the downward curve caused by the force of gravity, the bullet moves in a straight line. The explanation of the illusion is that the bullet loses speed as it flies, while the airplane from which it is fired continues to move at constant speed. If the relative speed of the airplane and that of the bullet remained constant, the bullet's path would appear to be the straight line that it is. Gunners, therefore, must not rely on tracers to disclose the behavior of their fire. What the gunner sees as his tracer flies out into space may not be in line with the facts.

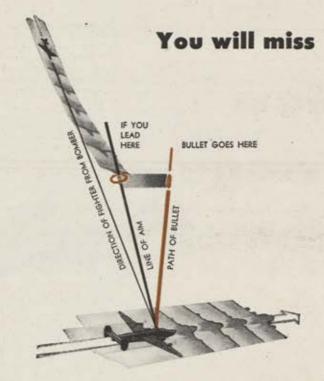
Ways of teaching the new system of gunnery have been worked out by the Instructors School (Flexible Gunnery) at Fort Myers, Fla., and these instruction methods are being passed along to AAF gunnery schools. Existing training devices like the Waller trainer, in which the gunnery student bangs away with an electric gun at movies of fighter planes projected on the inside of a spherical screen, are being adapted to the teaching of position firing. Brand new practice gadgets, which will enable the student to fire real ammu-

nition from a real turret at model airplanes and hit a target only if he has used the right deflection, are being devised.

An animated movie, which will make the theory of position firing almost as easy to understand as Mickey Mouse, is in the works. So is the new Gunner's Information File, a looseleaf textbook that will combine pictures and drawings with a simple text to teach position firing, as well as the complicated workings of machine guns and turrets. A pictorial manual, written in terms simple enough for a fifth grader to grasp, is being distributed.

The men who know gunnery best are confident that the AAF soon will have thousands of aerial Annie Oakleys who will be able to push the fighters-downed-to-bombers-downed ratio up to the point where it belongs and keep it there.

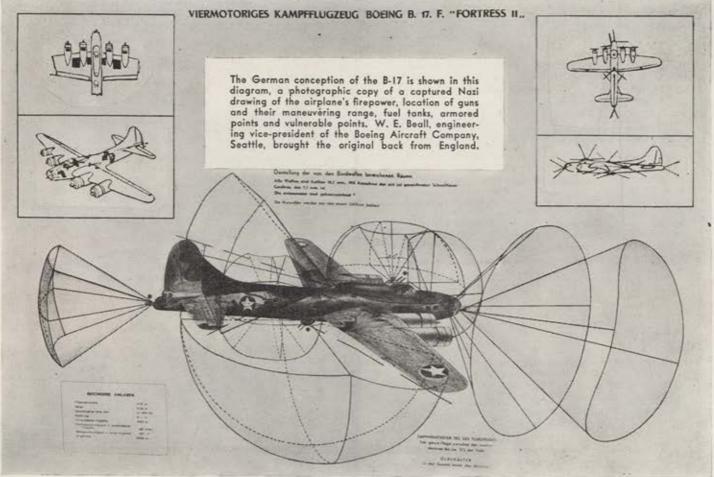








THIS IS YOUR ENEMY



The Germans are up to strange tricks with captured B-17s. Our pilots have reported several instances of unidentified 17s appearing in their formations or staying out of range to one side of one of our flights.

The Nazis are said to have formed special units called "Flying Fortress Staffeln" which fly captured and rebuilt B-17s. They engage in mock air battles with Nazi fighters and attempt to work out

new tactics which will give their fighters more of a chance against our big bombers.

Only crews who speak perfect English are chosen to man the bombers. To make things as real as possible the members of the Flying Fortress Staffeln have nothing to do with other German airmen, and have contact with the regular Luftwaffe only through liaison officers.

They plan their tactics with great secrecy and try to act like Americans. After each "battle" the liaison officer makes a long report to the fighter group, pointing out mistakes and making suggestions.

The Germans also have been using "Kommandos," whose job is to recover allied aircraft still fit for use. The "Kommandos" are mechanics who have worked abroad. They dismantle planes which can be of use again, and the parts are sent to a special factory which supplies the Flying Fortress Staffeln.

ROLL OVER. One pilot in from the South Pacific stresses the fact that Jap fighters usually fly a loose formation and because of this can be spotted from some distance. Too, they have a trick of making a slow roll at intervals. Our pilot believes they do this—which slows down the highly maneuverable Zero very little—so they can see if anything is below them.

He says that their bombers, however, always fly a tight formation no matter what happens. In one case, a flight of our P-39s was flashed word that eleven Jap bombers were heading for one of our bases. Our fighters struck at about 12,000

feet and knocked down two. The Japs moved up to fill in the gaps, and they were picked off until only one was left. He landed on one of our strips and was captured.

JAPS TAKE TO WATER. Transportation seems always to be a problem for the Japanese who are really extended in that department. Of late they have been using any kind of water carrier they can get—barges, sailing vessels, sampans, anything.

They have been arming many of them so as to lessen the pressure on escort vessels. One bomber pilot reported that a barge he attacked opened up on him with antiaircraft and machine gun fire. Until recently, the Japs had not put guns on barges, but it looks now as though anything they have carrying waterborne freight is likely to be armed.

One of the reasons the Japs are now hauling freight in anything that will float is that we have been getting a lot of their good merchant ships. They changed tactics on the supply run between Buka and Rabaul, and began using smaller vessels. They were difficult targets and if one was hit the loss in tonnage was lighter than when a large ship was sunk. They also

began sending lone ships out of Rabaul, making a fast run and presenting a less valuable target than a large convoy.

NICE FELLOWS. A man, not a belligerent, who lived on a Jap-held island, and who recently escaped, has some interesting tales about Jap army life. From his talk, it would appear that the lot of a GI in the Jap army is not very pleasant. At that, the Japs don't seem to mind it.

The Japs hold to a rigid caste system, he said. Jap flyers will not talk to Jap marines. The soldiers, at the bottom of the Jap military heap, will not speak to Koreans. In fact, the Japanese habit of hissing their words comes from their sucking in as they talk. The idea is that a man's breath should never fall on a superior. When a Jap is an equal, he breathes in as a matter of courtesy.

Showing how the caste system works among the officers, the man said that a Jap officer had done him a favor and so the man had given the Japanese his last two eggs. The following day, the officer's superior called, kept looking at the ice box and said, finally, that he wanted some eggs too. The man had to prove he had no more, and then the Jap staged a tantrum because a junior officer had been shown preference.

TAKE-OFF ASSIST. The Germans have designed some underwater wings for aiding a seaplane in taking off. The wings have a curved profile and whirl around an axis like an old fashioned paddle wheel. The blades adjust automatically at a constant angle to the relative flow, giving a high efficiency.

WHAT'S COOKING. Japanese eating habits, it is reported from the South Pacific, have caused quite a number of Japs to stop eatingpermanently. Each Jap carries rice in a bag slung over his shoulder, and at a bivouac each one cooks his own, using a recipe handed down from his honorable ancestors. A Jap thus engaged is a very engrossed fellow, bent over a small fire and pot and longing for some fish heads to give the stuff flavor. In this position he makes a fine target for low-strafing P-38s and P-39's. When eating, he can't even bear planes, it seems. One morning after a strafing job our pilots counted seventy Jap bodies toppled over cold fires and spilled rice.

THEY HAVE THEM, TOO. From a captured German training document: "The soldier's optimism must be refreshed time and again. Occasionally the leader might even start a good latrine rumor."

HAPPY DAYS. The Japanese like to celebrate national holidays with a lot of casualties among themselves and their enemies, and so it is good to know what these special occasions are. It is an honor, a Jap feels, to do some killing or get killed on any of the following days:

January 1—New Year's Day. January 3—Genshisai: Emperor cele-

p- brates opening of New Year.
he January 8—Beginning of Jap Army

February 11—Anniversary of founding of the Jap Empire and the accession of Emperor Jimmu.

March 6—Birthday of the Empress. March 10—Army Day (anniversary of the Battle of Mukden, 1905.)

March 20-21—Spring Equinox Festival. April 3—Anniversary of the death of Emperor Jimmu.

April 29—Emperor's Birthday (a big

April 30—Festival of Yasukuni Shrine. May 27—Navy Day (anniversary of the Battle of Tsushima, 1905.)

September 23-24—Autumn Equinox Festival.

October 17—Kannamesai: Imperial Thanksgiving of Autumn.

November 3—Commemorative festival

for the Emperor Meiji. November 23—Niinamesai: Autumn

offering to Imperial Ancestors.

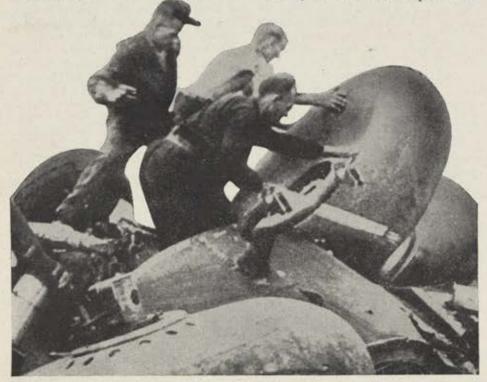
December 8—Great East Asia Day (Pearl Harbor Day, Jap time).

December 25—Anniversary of the death

of Emperor Taisho.

The Yasukuni Shrine Festival, on April 30, starts ceremonies lasting three days. On such occasions people go to the shrine and hear their dead soldier sons and brothers deified and enshrined. Minor Yasukuni ceremonials take place on October 22 or 23. A nice practice at these rites is the cremation of parts of Japanese bodies brought home from battlefields—not the whole bodies, just parts. Since Pearl Harbor the Japanese are required to observe the 8th of each month as a Greater Asia Commemoration Day.

Our men in the Pacific have developed a slogan—"Send a Jap Home for the Holidays." Most any day will do. ☆



The Germans call their salvage men "Kommandos." Here, three of them look over wreckage of an Allied bomber, hoping to find something they can use. The tires seem to be what they are after.

BRITISH CHIEFS COMMANDER OF STATE IN CHIEF THEATRE COMMANDER AIR FORCE CG TACTICAL UNIT

COMBINED CHIEFS OF STAFF

WHY THAT TARGET?

By Capt. Luther Davis
AIR FORCE STAFF

THE formation of heavies was scheduled to bomb a railroad bridge south of Mandalay. At the briefing a visiting general asked a pilot what he thought of the mission.

"Frankly, sir," the second lieutenant replied, "I think it stinks. I mean, why that dinky little bridge when we could

just as well bomb Rangoon?"

The answer, strangely enough, is in Washington, D. C., and is known as the Combined Chiefs of Staff. This super group, composed of representatives of the United Nations, is responsible for a lot of seemingly inexplicable thingssuch as why you're where you are, wherever that is. It sets overall American-British military policy and acts as advisor to our heads of states. With the help of more sub-committees than the New York Junior League and a great many economic, psychological and political experts, the Combined Chiefs of Staff provides a background of thinking and recommending for such master decisions as when to invade Europe, and where.

To get back to the bridge near Mandalay, the Combined Chiefs of Staff (which hereafter in this article will be referred to simply as "Boss") may determine that for a certain period of time our air effort in Southeast Asia would aim to prevent the Japs from carrying supplies into a northern area. The "dinky little bridge" follows naturally because it is a bottleneck in Jap rail communications between north and south Burma.

THERE are lots of people who want us to bomb nothing but Berlin and Tokyo, but Boss says no. Friends of Boss point out that the German attempt to knock out Britain failed, first because of the RAF's magnificent fighter effort and, second, because of what can be described as just plain bad staff work on the part of the Nazis. Unable to decide whether to concentrate on Britain's will or her

ability to resist, they tried to destroy both at the same time—and muffed.

We have learned from their experience and, thanks to Boss, aren't making the same mistake. Every Allied sortie is supposed to be part of the master plan—and most of them actually are. It may be difficult to see how a few B-24s over Sourabaya fit into our "integrated design for the application of air power in a global war," but it has to do with tying down Jap fighters and spreading them thin. Other seemingly haphazard raids on the fringe of Japan's Greater East Asia may be part of a canny plot to get the Nips to use more shipping further from home.

It all works strictly "through channels" of course. Boss assigns a mission to each theatre of operations and, with that basic premise in mind, a less big committee goes to work on all intelligence at hand to find out how to implement the job assigned to air in that theatre. They call for studies of such matters as the enemy's production, agriculture and political situation, and they get their answers in books hundreds of pages thick. These staff officers and cooperating civilians ultimately boil it down to very simple summariza-tions. Maybe it all points to the single sentence that the enemy's most vulnerable point is his industry (or shipping or land communications). Then still more people of the headquarters variety work on that until another workable thought arriveshis most critical essential industry is tool production (or his most critical rail installation is a certain marshalling yard). From such careful studies come lists of lucrative targets which are then sent to the theatre commander for action. It's taken for granted, however, that ahead of any such list of targets comes the basic job of neutralizing the hostile air forcein the accomplishment of which task theatre commanders frequently have complete freedom of action.

Enter the air force commanders who take the lists of targets Boss has sent out and consider them in the light of last-minute combat intelligence on the enemy's defenses, his immediate capabilities, the weather, and then go to work on tactical planning for the mission itself.

It is the air force commander who decides which of the permissible targets will be bombed when, and, knowing the general plan, orders missions against targets of opportunity. In addition to doing what Boss wants done and keeping the enemy's airplanes out of his hair, the air force commander may be charged by the theatre commanding general with special bombing programs.

The mission of the ground troops in the theatre, for instance, may require that the enemy's harbor installations be destroyed at a certain moment, or that he suddenly be cut off from his PX supplies. The air force commander decides what are the most important targets in the directed categories while the group commanders under him usually have freedom in deciding when, in what force, and in

Bombing objectives can usually be linked to the Combined Chiefs of Staff — just plain "Boss" to you.

what formation a specific job is to be done.

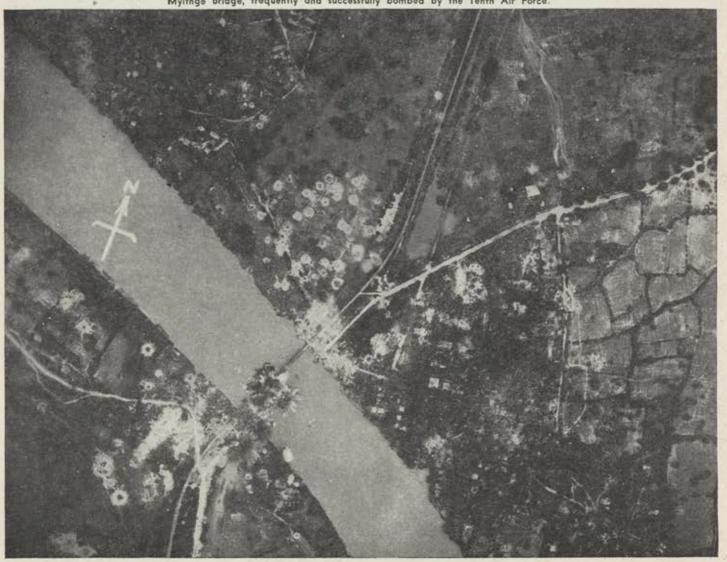
Sometimes aircrews complain because on the way to what strikes them as a dull target they pass over better objectives which they've been instructed not to hit. This is usually taken as further proof of headquarters muddleheadedness. More probably, however, Boss is up to something about which everyone is keeping his mouth shut. Deals with underground organizations, sabotage schemes, invasion and commando projects all have to be taken into consideration.

There is the perfect example of a lone B-25 which radioed for permission to attack some naval vessels in Italian waters. When permission was refused, the pilot made a hell of a racket until he learned the reason—the ships were on their way to surrender to us.

So-called "diversions" are another sore point, particularly among the medium bomb boys in England. For the better digestion of all crews everywhere who find themselves going after a secondary target, let it be known that these targets are from Boss's master list no less than the primaries. Usually a target is secondary only because it is more likely that lighter planes can get safely in and out or because a small force is considered sufficient to do the job. The same is true of running interference for other formations—it's an essential job in the first place, and in the second the diversionary target is on the list too Eventually, why not now?

The plain truth—and we're delighted to pass it on—is that every time you so much as fly over the bomb line you're carrying out schemes hatched by some of the very best minds in the world. Even though the objective may appear to be just a "dinky littl. bridge" it must be destroyed—at that moment it is as important a target as Berlin, Tokyo, or Hitler.

"A dinky little bridge" south of Mandalay being treated for Jap trouble. This is Myitnge Bridge, frequently and successfully bombed by the Tenth Air Force.





STRAFE-BOMBING PAYS

How it Wrecks ENEMY AIRDROMES

By Col. Donald P. Hall COMMANDER OF AN ATTACK GROUP

THE boys call the system "Wewaking." It got that name from its first large-scale application, which resulted in the destruction of 206 parked Japanese airplanes on the airdromes at Boram and Wewak.

Today the proof of its effectiveness is abundant. If anyone doubts it, let him study the Boram-Wewak record of August 17. Let him consider the October 12 raid on Rabaul, where the Japs lost 177 airplanes. Or the records of Buna, Lae,

Salamaua, Hansa Bay, Cape Gloucester and Gasmata.

Wewaking is a medium or light bomber assault on an enemy airdrome which—given the element of surprise—destroys aircraft on the ground before they can get into the air. Briefly, the system is to come in low, spread out into a line abreast formation, pin the defenses down with forward-firing fifties and then finish off the job with delayed-action or parachute bombs.

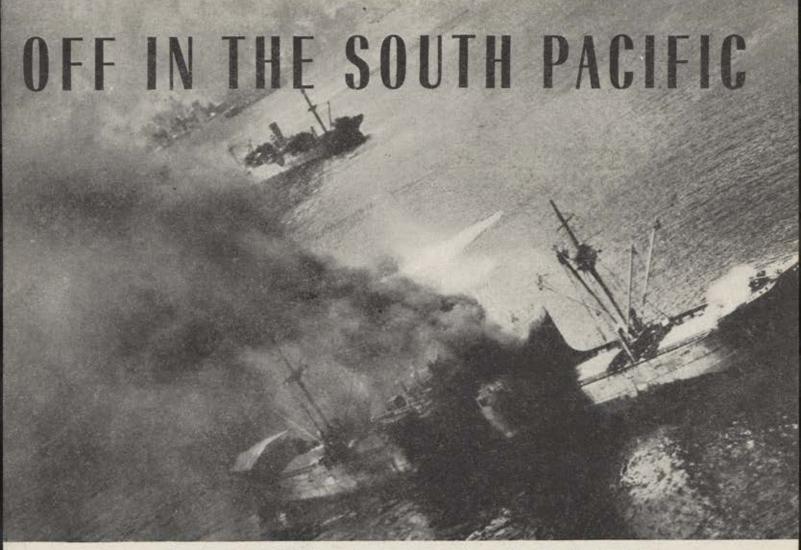
It sounds easy. And if the circumstances are right, it's a cinch. But it takes planning, long and tedious planning. It takes good reconnaissance. There can be no guessing about the photo interpretation. It takes split-second timing. And it takes daring execution.

This is not intended to start an argument with the devotees of any other type of operation. Low-level bombing assaults will not take the place of high-level bombing. One com- (Continued on Page 15)

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"Pin the defenses down with forward-firing fifties and then finish off the job with delayed-action or parachute bombs."





"Up and over he pulled, skipping his thousand-pounder into the merchantman's vulnerable side."

How it Blasts

By Lee Van Atta

The following article was written for AIR FORCE by special request.—The Editor.

FOR three consecutive nights, lights had burned ceaselessly in Headquarters House.

For 72 tense hours, tactical leaders of the 5th Air Force had stood constantly alert in the New Guinea air war room waiting for a break in the thunderheads that swirled over New Britain.

The reports from a half-dozen weather reconnaissance craft were all negative; storms towered 40,000 feet above Kiriwina Island, fighter jumping-off point on the long air highway to the target; the immediate objective was obscured by clouds; 1st Air Task Force reported clinging ground fogs over all take-off strips

The concern in the expressions of Maj. Gen. Ennis C. Whitehead, deputy commander of the 5th Air Force and tactical commander of the Northeastern Sector, and his chief of staff, Col. Merian C. Cooper, changed to worried frowns.

For they knew better than anyone except General Douglas MacArthur and Admiral William F. Halsey, that unless the Fifth was able to strike on the morrow, the position of the U. S. naval and marine forces landing on Bougainville

Island would be rendered precarious in the extreme.

The vigil continued; intelligence officers brought more word of the vital need; weather officers told of the impossibility.

Then, as the night of Monday, November 1, gave way to the cloud-scudded dawn of Tuesday, the first optimistic information began to arrive; weather, miraculously, was clearing on all fronts; favorable conditions could be anticipated.

Swiftly, Whitehead flashed the broad attack directive to Brig. Gen. Frederick H. Smith, Jr., commander of the 1st Air Task Force and directly responsible for tactical operations:

UTILIZING MITCHELL ATTACK BOMBERS AND LIGHTNING FIGHT-ERS, STRIKE JAPANESE SHIPPING IN SIMPSON HARBOR AT RABAUL FROM MASTHEAD ALTITUDES US-ING THOUSAND POUND BOMBS.

With take-off time hinging only on weather, one of the most daring missions in the history of air warfare was ready to be launched.

CONCEIVED by Lieut. Gen. George C. Kenney, commander of the Fifth, nearly eight months ago, perfected through hours of study and discussion by nearly every senior officer in the Southwest Pacific air command, and rehearsed to assure precision execution, the attack against Rabaul was destined to be the decisive point in the battle of the South Pacific as well as the final test for a new technique in sky battle.

The odds were all too apparent; the terrain was in itself a handicap to attack bombardment; American airmen were striking a target similar to Pearl Harbor without the tactical surprise favoring the Japanese; enemy fighter strength at Rabaul exceeded in numbers the whole American invading force; anti-aircraft, from both ships and shore, was calculated to be the greatest concentration of defensive power yet assembled against any American striking formations.

The credit ledger said three things: careful planning, trained and courageous

pilots, forward firepower.

As swiftly as he had received his own directive, General Smith summoned the group and squadron commanders responsible for the annihilation of Rabaul as a major merchant marine and warship base:

Maj. John P. Henebry, veteran of

eighty attack bomber missions, leader of the strike-shipping-force;

Capt. Richard H. Ellis, deputy leader

of the shipping echelons;

Maj. Benjamin Fridge, leader of the B-25 formations assigned to neutralize short anti-aircraft by strafing fire, bombs and smoke;

Capt. Gerald Johnson and Capt. Richard Bong, co-leaders of the P-38 covering

They re-read the field order and heard last-minute intelligence reports from Capt. Robert R. Herring, A-2 for General Smith, and rehearsed again the complex communications plan.

By 0530 the conference was over; by 0615 all Mitchells had been preflighted and pilots and crews were on ten-minute

readiness.

The morning passed slowly-first 0800 then 0900 and 1000-still no break.

About 1050, telephones in alert huts clamored insistently: Take off in ten minutes, on course in forty.

WITH a crescendo that sent cockatoos screaming from their jungle perches, a dozen airdromes and 200 airplanes roared

Every airplane assigned to that mission cleared the widespread runways; within seconds the whole sky seemed filled with fighters and bombers.

They were in echelons, strung thousands of yards across the sky, as rapidly as flights could assemble and flights become squadrons and squadrons become groups.

By noon, New Guinea could no longer

be seen.

At maximum cruising speed, hugging close to the shark-infested Solomon Sea,

and with P-38s a bare 300 feet above, the B-25s sped toward Rabaul.

In the bomb bays of those formations were 172,000 pounds of high explosives; in the forward turrets were tens of thousands of rounds of .50 caliber ammuni-

Two hours later, the assembly point in St. George's Channel, midway between New Britain and New Ireland, was reached; the flights went into battle eche-

Ahead by perhaps ninety seconds were the anti-aircraft silencers-Mitchells; on our right, great splashes told us the Lightnings were dropping their belly tanks and were ready for trouble; behind us more squadrons hurried into combat echelons.

Suddenly the action began. Two Japanese destroyers in mid-channel, believed to be spotting ships, opened fire at us

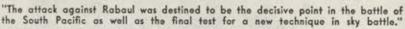
with five-inch gun salvos.

From New Ireland's shore, even as the warships turned and gave ludicrous chase, still firing heavily, came great gusts of anti-aircraft; overhead, the P-38s were already embroiled in combat with endless waves of Zeros.

We passed the mouth of Simpson Harbor and Blanche Bay, swung parallel to the Mother and Daughter Volcanoes, belching fiery missiles from a hundred flak batteries, sought and gained altitude, and began our run toward the target.

A thousand .50 caliber machine guns chattered toward shore and ship as we raked over the narrow, rugged pass between the Mother and Daughter and clearly saw the enemy, almost within handshaking distance, firing at us.

Simpson Harbor, in that quick look we had before we dove down at a 60-degree angle to begin our (Continued on Page 64)





HOW IT WRECKS ENEMY AIRDROMES

(Continued from Page 12)

plements and gives effect to the other. Both were involved in the successes at Wewak and Rabaul. They do, and must, work in partnership. There are missions which can be accomplished only by altitude bombing. There are missions in which a combination of low bombing and strafing is the only effective operation.

Why do I believe in the low-level bombing-strafing assault? There are eight

important reasons:

(1) The element of surprise places the enemy at a great disadvantage.

(2) Bombing is more accurate at low levels.

(3) Great destruction by firepower of forward guns can be accomplished.

(4) It has defensive advantages. Flying at minimum altitude makes it impossible for enemy aircraft to attack from beneath the formation; frontal firepower discourages head-on attacks.

(5) It eliminates guesswork about your target. You see exactly what you are after and you get it at close range. Too, results of the attack can be observed more closely and more accurate assessments of destruction made.

(6) Low oblique photography is better than high altitude photography in establishing the location and disposition of enemy defenses, supplies and personnel.

(7) It defeats the enemy's camouflage

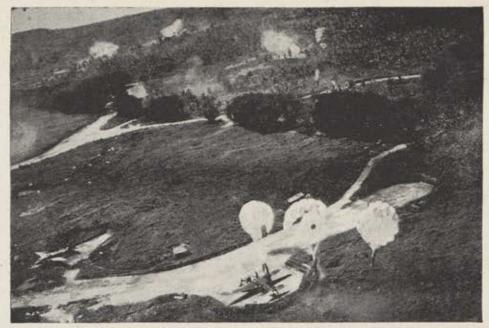
(8) Hits by heavy defense guns are negligible. Even machine guns have trouble tracking low-flying planes, and not many Japs have the courage to keep shooting.

THE Buna raid of September 12, 1942, gave the system its first real recognition. Of 22 Jap fighters on the Buna runway, we destroyed seventeen, making five passes at the airdrome. We went over the first time in formation, then broke up and took assigned targets. The last time we passed over, there was no opposition. We didn't lose a plane.

That mission convinced us. Since then, we have equipped the B-25 with eight forward-firing fifties, and its performance has been magnificent. We have improved on the system itself, learning by our mistakes. How it works is best told by a narrative account of the two airdrome missions which I consider outstanding: Boram-Wewak of August 17 and Rabaul of October 12.

For Boram and Wewak, we had planned for months. It is General Kenney's policy to wait until the target is juicy. We waited. Reconnaissance reported finally that both airdromes were crowded to overflowing, and the raid was ordered.

On the night of August 16, the heavies



"Along the runway, parked airplanes started burning. Parafrags floated down like snowballs."

struck. They did a fine job of weakening the targets for what was to come next day. We took off early on August 17 flying B-25s, each equipped with forwardfiring .50 calibers, each carrying a load of parafragmentation bombs. There were four in each crew-pilot, co-pilot, radio gunner and upper turret gunner. In addition, the lead ship, which was mine, had a navigator.

At an appointed spot, the bomber formation assembled and continued to a rendezvous point in the Owen Stanley mountains, where we picked up our P-38 escort. The distance to the target and back was great, one of the longest missions ever undertaken by P-38s.

The plan was for my squadron and Maj. J. A. Downs' to strike Boram. The squadron headed by Capt. Phil Hawkins would skirt Boram and hit Wewak. Then Major Downs' and mine, after leaving Boram, would follow in and strike Wewak.

When we were a few minutes short of the target, we dropped to treetop level. At that point I dropped my turret tank. Looking back, I saw several other tanks fall. Flying in three-ship elements, stacked slightly up, we followed the Markham valley, keeping behind a ridge which rose about 800 feet on the island side of Boram airdrome.

We changed to offensive formationline abreast. I kept expecting trouble. It was too much to ask, it seemed at the time, that we would catch the Japs completely off guard. Yet that is precisely what happened. We moved in unmolested.

My squadron and Major Downs' eased over the ridge and headed for the Boram drome, which now was in sight. When we squared away for the run, our formation stretched out all the way from the beach on the right to the supply areas on the left. Ahead, the scene was peaceful. Even then nobody on the airdrome seemed aware of our presence.

We crossed and recrossed a winding road leading to the airdrome. Several vehicles were moseying along. We let them have it and they stopped as if paralyzed. One turned over in the ditch.

JAP soldiers were swimming in the surf, the men in my wing ships reported afterwards. Many were lolling on the beach, some wearing brightly colored robes. A few were playing medicine ball. Our fifties blazed away at them. Some ran. Some fell. I guess we'll never know how many of them got up again under their own power.

Before we were within effective range, we threw in a few shots to make them duck. We waited a few seconds, and then cut loose again. A Betty bomber blew up on the runway. From then on we held our gun switches down, raking plane

after plane.

My heart leaped with joy at the sight of that airdrome. When reconnaissance men reported that it was crowded, they understated the case. Jap airplanes were lined wing-tip to wing-tip the whole length of the runway. Four fighters were taxiing leisurely. Several fuel trucks were parked alongside airplanes. Crews were busy. In the revetment area, a few airplanes were being loaded with bombs.

The surprise was complete. Not an AA gun was fired. Not a plane got off the ground to intercept us. A fellow dreams of situations like that, but never expects to see one. Japs scattered. They seemed to dart to and fro with no particular destination in mind. The scene was one of confusion and helplessness.

We attacked at a slight angle instead of directly down the line of the runway. This serves to give more effective concentration and control to the gunfire, and also assures every ship in the formation a chance to shoot.

My co-pilot, Maj. Dave Conley, served as bombardier. He had opened the bomb doors as we moved into line. Now, as we passed over the airdrome, he got set, put his hand on the toggle switch, and waited. He let go clusters of three, one after another. He looked back. Afterwards, he told me that those parachutes drifting lazily down from our formation looked like a cloud of snowballs.

As we cleared Boram, we pulled up slightly and turned left to get lined up for Wewak. It soon became apparent that Captain Hawkins' squadron had done a good job, and that Wewak would be a setup for our fifties. Fires were blazing here and there. Japs were running about, apparently looking for cover but too confused to find it. A few machine guns on the ground were firing wildly.

We had no bombs left, but we blazed away with our fifties. We had a choice of targets. The formation separated a bit to permit better selection. As we left, we finished off several gun emplacements on

the far end of the drome.

The P-38s gave us beautiful cover, as always. Knowing that they were above us, we could concentrate on our job.

We turned then and flew back behind the ridge, lifting now and then for a look at the two dromes. Fires were blazing everywhere, and broken, twisted planes lined both sides of the runways. The Boram drome looked like two burning powder trains. We hadn't lost a plane.

BACK at our base, I reported to Maj. Gen. Ennis C. Whitehead, commander of the 5th Air Force advanced echelon, that I thought we had destroyed seventy airplanes at Boram and forty or fifty at Wewak. I remember thinking at that time that such numbers probably sounded like a flight of fancy. Actually, the photographs, which were developed immediately, showed that my guess was far too low. The number was 206. And that wasn't all. The photos revealed supply areas, and priceless information on what we had hit and what we had missed. General Whitehead said we would give them no rest, and ordered another mission for the next day.

Again we took off early in the morning loaded with delayed-action bombs. Our targets would be supplies protected by wooded fastnesses which parafrags would not penetrate. This time the heavies struck a few minutes before we did, and when we arrived we found fires on both airdromes and in the town of Wewak. We attacked in a driving rain.

We didn't expect to surprise the Japs again, and we didn't. They were waiting for us, and several Nip fighters broke into our formation as we approached. We scrapped it out with them, shot down a number of fighters and lost one B-25. Several of our ships were damaged.

But we accomplished what we had set out to do. We battered the supply areas with our fifties and our bombs. Maj. John Henebry's flight worked on shipping in the harbor; a Jap tanker was left blazing. The photographs showed that three ammunition dumps had been blown up and an oil fire started.

The outstanding success was the first day's when we had two important elements on our side—surprise and weather. The importance of surprise cannot be overstated. Catch them off guard and they are helpless. Let them know you are coming, and you've got to fight them in the air.

Now for Rabaul.

On this mission, unlike Boram-Wewak, the heavies struck shipping a few minutes after we left. We planned it this way, be-



cause we must avoid establishing a pattern or time-table for such raids. Also, it is undeniable that the element of surprise is more important to us than to the altitude bombers. And the second Wewak attack proved that when the heavies tip our hand by striking just ahead of us, the Japs will be in the air and waiting for us when we reach the target.

Our group headed toward Rapopo airdrome, the other two groups continuing up the Warangoi River to attack Vunakanau airdrome. Beaufighters hit Tobera airdrome, between Rapopo and Vunakanau.

Pulling up to get over the ridges surrounding the targets, we could see columns of dust from the dromes. It was apparent that the enemy had not been caught completely off guard. We estimated later that the notice had been about three minutes. As results proved, three minutes' time is not enough warning for adequate defense. Several Jap airplanes were taking off, and four or five were in the air, low and climbing. We tightened our formation. A Sally broke through our formation in attempting to clear the drome, and we gave him a burst. He made no effort to fire or to turn. He went down.

Three more Nip planes headed into us. We fired and so did the P-38s. All three crashed. Another started through us directly in line with my ship. I opened up on him. His right wing exploded, and he dove into the ground. One ship ground-looped trying to take off.

ABLE now to get down to the business we came for, I surveyed the drome. A number of bombers were lined up on the sides of the runway—sixteen on one side and fifteen on the other, the photographs showed later—and additional planes were parked in dispersal areas in a nearby cocoanut grove.

Because of the terrain, we couldn't get down very low before reaching the drome, but we quickly dropped and before we cleared the drome we were extremely low. We went over in three waves, each in the usual line abreast formation. The first squadron attacked along the longitudinal axis, the second at an angle to the left, and the third at an angle to the right.

There was not the helpless confusion on the airdrome that we found on the first Wewak mission, but our fire was none the less effective. Ack-ack bothered us some, but we soon discovered that it was pretty wild. From the direction of the beach we could see tracers coming at us, but with a little right rudder we were able to fire into the gun pits at the crouching Japs. The guns were silenced.

Along the runway, parked airplanes started burning. Parafrags floated down. Two trucks turned into the far end of the runway. They stopped suddenly, as if the drivers had just become aware of what was going on, and several Japs jumped out and scampered off toward the woods. As we passed that point, we peppered their hiding place; we couldn't see well enough to assess the results.

We continued out to sea until we were outside the range of shore batteries, then turned to the right and headed home over the St. George Channel route. Just to put a finishing touch on the mission, we damaged two Jap barges which we sighted directly on our home course.

It developed later that our ships had been heavily attacked at Vunakanau and one B-25 was lost. But they had destroyed 48 Jap planes, most of them on the ground. At Tobera airdrome the Beaufighters destroyed a number of enemy planes and lost one ship.

Then the heavies came over, leaving more damage behind them. All told, we accounted for 177 Jap planes. Indeed, as the boys said, "We-waked Rabaul,"

FILMING THE AIR WAR

By Capt. Carl Dreher

AAF MOTION PICTURE SERVICE DETACHMENT

An excellent panorama of the war in the air is to be had from a seat in a small projection room in New York City where AAF combat films are shown. A man can serve on only one front at a given time, whereas a single screening may bring together material from every one of the air forces currently operating in active theatres. For sheer scope and variety you can't beat 600,000 feet of stuff like this, the equivalent of 111 hours of looking and listening. That is the approximate yearly run-off at the offices of the AAF Motion Picture Service Detachment.

Not all combat film is about combat. Somewhat less than half of it is. The remainder includes technical footage—modifications in aircraft, medical procedures, weather forecasting, forward air-

How the AAF gets motion pictures to study its worldwide combat operations.

port construction, and other supporting activities. And then there is a mass of what might broadly be called newsreel material, which may be anything from a USO show in Egypt, featuring Bob Hope and Frances Langford, to a conscientious description of military funerals and graves registration in the New Hebrides. It is all combat film as long as it is shot in or near a combat area.

The organization which shoots, edits and releases this type of film was activated under a directive of 10 November 1942, which ordered the formation of combat camera units attached to air forces in active theatres for covering their opera-

tions in motion and still pictures. The Motion Picture Service Detachment, a component of the Technica! Services Division, is charged with carrying out the functions of this directive. At the present time it has combat camera units with the 5th, 8th, 10th, 11th, 12th, 13th, and 14th

Air Forces.

The camera units expose original negative according to their opportunities and best judgment, and ship it back to the States by air express. The bulk of this footage is standard 35mm black and white, but a considerable volume of 16mm color film also comes through. At Headquarters each incoming shipment is given a subject number, sent to a laboratory for developing and printing, and screened for the staff. Brief reports on content and photography are cabled or

Underneath a tent which shades the cameras from the hot Pacific sun, Capt. E. E. Bergholz and Maj. Frank Lloyd of the 13th Combat Camera Unit grind away on a film at Munda, New Georgia.





Allied ship hit by German dive bombers, burns fiercely in Salerno harbor (above). The motion picture cameraman, by "panning" the harbor, was able to record the huge scale of the landing operation. Backing up the Salerno landing, engineers built a landing field in Italy in 24 hours. A Combat Camera Unit kept its cameras rolling during most of the operation, recording construction technique. The frame below shows the first plane to take off.



airmailed to the originating units. Selected portions of each week's incoming footage are assembled in rough cut, with sound, as a film digest for the information of members of the General Staff, the Air Staff, and AAF departments in Washington. This is a fast, impromptu service for busy executives, without any movie folderol or editorializing.

At the same time that the weekly digests are being made, film reports intended for a larger audience are in process of editing. These reports are usually supplied with a sound-track commentary based on information secured from A-2 and other sources. Often animated sequences, such as tactical charts and maps, are added. Completed reports are shipped to the combat camera units and to key Army organizations in the United States, such as the Training Command, training centers, the four continental air forces, the Air Intelligence School, and the Command and General Staff School. Other

outlets for combat camera footage, not in report form, are newsreels (through the War Department Bureau of Public Relations), industrial incentive films shown at manufacturing plants, historical records of the AAF, and numerous Army and government agencies which make special-purpose films.

One never knows what the day's screening will bring. A subject of the greatest potential value to the AAF may be ruined by bad photography. Almost always it is something that can never be shot again. But often no one is at fault. What looks like underexposure may be emulsion deterioration under tropical conditions, or fading of the image because the exposed film could not be got to a laboratory in time. Or the photographer, perfectly aware that his light was inadequate, may have shot anyway, hoping against hope that something usable would get on the film.

Picture content is just as uncertain as

photographic quality. Yet, in the midst of a mass of indistinguishable or trivial material, at any moment the screen may light up with a sequence so clear, informative and vital that it is a sufficient compensation for all the wasted time and effort that preceded it.

Under wartime pressure an approach to the efficiency of the news-gathering services is possible and steps to achieve it are well under way. The principal lag at the present time is in technical and operational films. A recent survey shows the following distribution of subjects sent in by combat camera units:

I. Strategic and tactical 44.6%

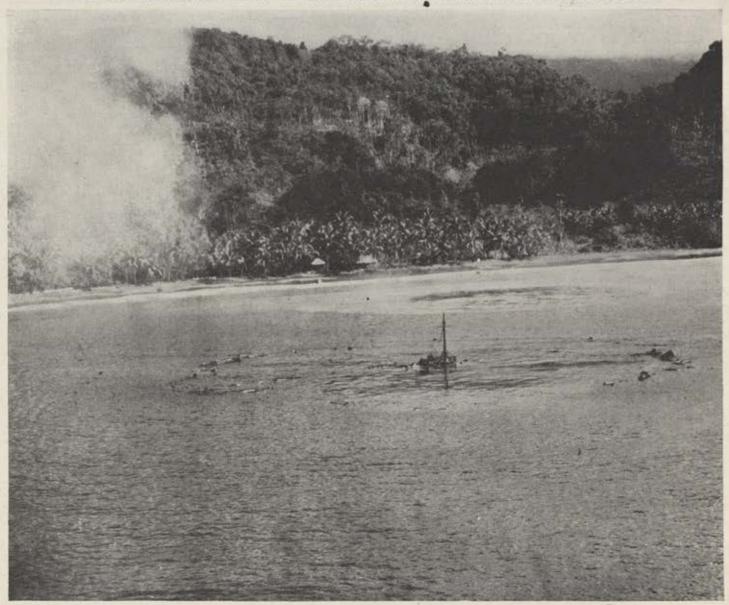
II. Technical and semi-technical

III. Entertainment, ceremonial, spectacular, and atmos-

phere 33.6%

"One foot of technical information," it has been remarked, "is worth a hundred take-offs, landings, parades, and cita-

A Japanese cargo ship goes down off the southern coast of New Britain, coughing up smoke and debris. American bombers spotted the ship on its way to deliver supplies to Nip troops, and an alert cameraman got this striking picture.





tions." Yet, by the above analysis, the number of Class III subjects, consisting of desirable but largely unessential material, is seen to be considerably greater than the vital Class II subjects on which the strategic and tactical functioning of the AAF largely depend. Moreover, the content of technical combat films is the least satisfactory of all combat film subjects.

This would indicate that as far as films are concerned the hard-won knowledge and experience of the men in the field are not reaching the rest of the AAF in sufficient measure. The importance of this deficiency may be gauged by a glance at the materiel manufacturing industries,

which have a parallel problem.

The best designed military airplane, thoroughly flight-tested and with all the bugs apparently ironed out, must still be proved in combat. It is only in a hostile environment that its real fighting characteristics are revealed. Its further improvement then calls for the closest collaboration between front line flyers and ground crews and the designers and production men back at the factory. As sizable numbers of a model are sent into combat, the center of gravity of technical know-how automatically shifts in the direction of the fighting fronts. A production organization which failed to recognize and move with this shift would not

This is not so well understood in relation to military films, but the situation is essentially the same. The function of military movies differs for an army which is preparing for combat, an army which is in a state of limited combat, and an army which has reached the stage of total combat. As this culminating stage is approached, technical combat films assume a role of paramount importance. The same shift of the center of gravity occurs in film production as in aircraft production, and for the same technological reasons.

The obvious danger is that administrative measures will lag behind military developments. At best, the difficulties of administration and planning in military film production are very great. AAF technical and training films, in particular, cover a vast range of activities, subject to many changes. The first requirement is order. Order calls for classification. So we try to differentiate between training films and combat films; for example: we say to one organization, training films

Top—A B-17 over Bremen, fatally damaged by German anti-aircraft, was caught by a photographer who shot this picture out of the side window of an accompanying B-17.

Center—USO shows in overseas theatres are also covered by the Units. Here Bob Hope, Frances Langford, and Tony Romero cut up for the boys in North Africa. Frances' bare midriff stole the show.

Bottom—As A-20 swooped within 60 feet of the ground to get this shot of smashed enemy planes at Lae, New Guinea. Medium bombers and Zeros shown were among more than 50 Jap planes destroyed in the raid.

are your responsibility, and to another, combat films are yours. This is all well enough, but only on one condition-we must never forget that sound organization cannot lose sight of technological realities. We cannot, by any static act of classification and division, prevent the shift of the center of gravity of operational knowledge from the zone of the interior to the combat areas, and that shift must be reflected in film production. The only choice of the administrators is between seizing an opportunity and neglecting it -and the cost of neglect is loss of men and materiel for lack of the information and training which overseas technical

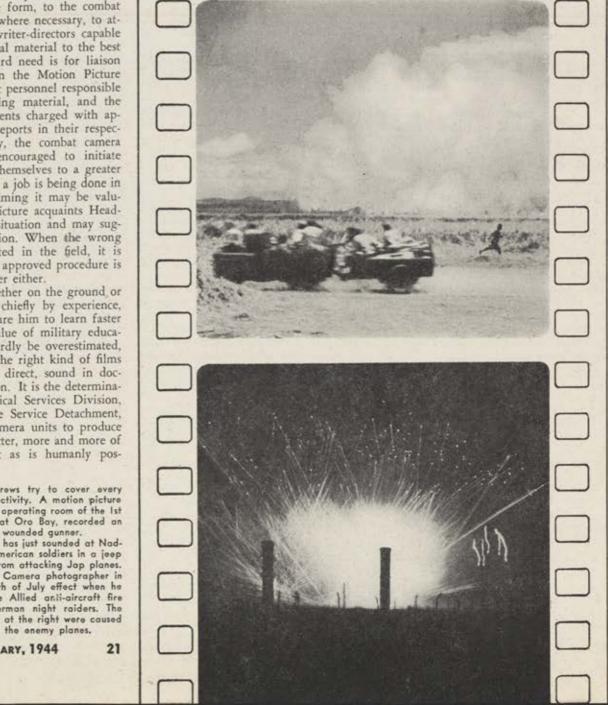
films can give. The answer in this case is largely a matter of bridging existing gaps in organization. First, there must be close and continuous contact between the technical and training departments of the AAF and the Motion Picture Service Detachment. The second step is to pass this material on, in film outline form, to the combat camera units and, where necessary, to attach to the units writer-directors capable of shooting technical material to the best advantage. The third need is for liaison in reverse, between the Motion Picture Service Detachment personnel responsible for editing incoming material, and the Air Force departments charged with approving technical reports in their respective fields. Finally, the combat camera units should be encouraged to initiate technical projects themselves to a greater extent. Even when a job is being done in the wrong way, filming it may be valuable, in that the picture acquaints Headquarters with the situation and may suggest a better solution. When the wrong procedure is adopted in the field, it is usually because the approved procedure is not the right answer either.

The soldier, whether on the ground or in the air, learns chiefly by experience, but films can prepare him to learn faster and better. The value of military educational films can hardly be overestimated, but they must be the right kind of films -simple, realistic, direct, sound in doctrine and orientation. It is the determination of the Technical Services Division, the Motion Picture Service Detachment, and the combat camera units to produce films of that character, more and more of them, and as fast as is humanly pos-

sible. A

Top—The camera crews try to cover every phase of Air Force activity. A motion picture camera, set up in the operating room of the 1st Evacuation Hospital at Oro Bay, recorded an entire operation on a wounded gunner.

Center-An air alert has just sounded at Nadzab, New Guinea. American soldiers in a jeep and a native scurry from attacking Jap planes. Bottom-A Combat Camera photographer in Naples got this Fourth of July effect when he photographed intense Allied anti-aircraft fire blazing away at German night raiders. The bright streaks of light at the right were caused by flares dropped by the enemy planes.





ONE MANCREW

and

Capt. Robert V. Guelich

AIR FORCE Staff Correspondent

Sgt. William G. Mors

it was too late. Cannon shells ripped through the bomber, one exploding in the auxiliary wing tank with a burst of flaming gasoline.

The other Nip was still in Labat's sights, but he was so intent on hitting him that he wasn't using his sights; a short burst from his twin fifties showed the Jap was almost in range as he came boring in for a frontal attrack.

"I OPENED up and poured a long burst that seemed like 600, but probably was 60, rounds into the Jap. Our nose turret wasn't firing at the Zero; I wondered why. (Staff Sgt. William Burtch was killed by the first Zero as he, like Labat, was tracking the second Jap plane.) My guns were so hot the turret cut out; I hit the reset button and threw more lead at him as he kept coming in at our nose until I was sure he was going to pull one of those 'For the Emperor' tricks and ram us.

"The terrific crash of an explosive shell, flying glass and debris around my legs, the rush of cold air, and a burst of flame from the Jap as some of my shells exploded his gas tanks—all happened simultaneously. When it seemed too late, the Zero pulled up just enough to miss us, hurtling over my guns like a Roman candle on the Fourth of July.

"I knew we were hit bad now; our wing still was burning. Before I could get out of my turret to see what had happened, the right wing dropped and we slid off in a skidding dive underneath the other planes in our formation. Then I couldn't get out of my turret because the negative 'G' had me plastered against the top. By reaching down to the ammunition boxes, I finally managed to pull myself down out of the dome as our radio command set was screeching 'Bail out, bail out before it's too late . . . bail out, you don't have a chance, bail out."

"I never had thought much about hitting the silk before and I didn't have time to think about it then for something was wrong in the cockpit and I had to know what it was. It was bad. Blood was splattered over everything, and maps and papers were flying around in the blast of air coming through a shell hole in the windshield. Kurth was slumped forward over the stick, Graves was wavering in his seat, and we were dropping fast."

As the sergeant, who had just shot down his first Zero in 256 hours of combat flying, leaned over to get Kurth off the controls, Graves pleaded, "For God's sake, get him out of there."

Labat unbuckled Kurth from his chute and dragged him out of the seat. It didn't take a second glance to see what had happened. A 20 mm shell had pierced the windshield and exploded in Cy's face; he was dead—the quick and easy way.

Sergeant Labat, pilot, clambered into the empty seat, captured the loose controls and gradually dragged the diving Liberator out of its plunge. Graves, suffering from shrapnel wounds and shock from the shell explosion within a few feet from his head, still clung to consciousness and the controls. The plane responded and leveled off at 8,000 feet, still over enemy territory but far out of formation.

THE wing fire had put itself out—the self-sealing fuel tank, apparently having sealed off the gasoline after the first splattering from the explosive shell. The plane was riddled, for two Zeros had followed "Old 26" most of the way down peppering it with shells. Both waist gunners watched bullets pierce the fuselage where they had been a fraction of a second before as they were tossed about by the falling plane, but they ducked them all; their numbers hadn't come up yet.

The hydraulic system was perforated in half a dozen places and the prop governor on No. 3 was frozen at 2300 rpm. But the plane still was flying and had made its way back into another squadron's formation for protection. Graves, though still fighting off unconsciousness, told Labat he could hold the plane so the pilot-gunner took over his turret again.

Navigator Lieut. Grant Erwin had been calling out Zero clock positions from his dome in front of the cockpit but couldn't get any responses on the interphone. He climbed up to the flight deck to investigate. When he saw Graves was wounded and flying by himself, he patched up his wounds with first aid bandages and then slid into the empty seat to help fly the plane. Although he wasn't a pilot, he

TECH. SGT. DOUG LABAT didn't learn to be a gunner, a flight engineer or a pilot the academic way. But in one day he proved he could serve as all three—and it paid off.

Take-off time for his plane, "Old 26," of the Flying Cobra squadron, was the morning of November 11—Armistice Day. Sergeant Labat was flight engineer of this B-24 crew. He had taken over the top gunner's spot when his outfit got its new Liberator with the nose turret position.

Target for the day was He-ho airdrome, deep in Jap-held Burma. Photo recon pictures showed Zeros at He-ho, lots of them; every man looked at the pictures the night before. Labat looked at them too. He knew and every other crew member knew the bombers were going to be intercepted.

Take-off was routine, with Sergeant Labat on the flight deck behind pilot Lieut. Ben Graves and co-pilot Lieut. Cy Kurth. Because they were to fly number three position in the first element of the squadron, Graves and Kurth swapped seats as they headed toward Burma through some scattered clouds, flying formation that tightened up as the planes neared their target several hours later.

At 16,000 feet they went in on their bombing runs, hindered only by cloud fluffs below. At 1137 the bombardier sang out that welcome cry, "Bombs away"—and the Japs struck. Sixteen Zeros dove out of a blinding sun.

Sergeant Labat, gunner, was tracking one of the Nips as it swung out for its attack on "Old 26" when Graves called out a Zero coming in at one o'clock. But

An aircrew needs good pinch hitters when the going gets tough in combat.

had picked up co-piloting time with the RCAF and with the USAAF after his transfer.

No sooner had Erwin filled in on the controls than a Jap I-45 started coming in from twelve o'clock to finish off the crippled Liberator. Graves threw the ship into violent evasive maneuvers but gunner Labat held his guns on the Nip and drilled it with short bursts until the Jap finally slid off in a dive that was witnessed by other crews and scored as a probable.

Despite the protection of two other ships that stayed with "Old 26" another Zero came in for a pass but the guns from all three planes played a tune on him. Without pressing his attack, the Zero pulled away and headed for home. Still another Zero made a pass but the tail guns of one of the protecting ships scared him homeward too.

Apparently away from the last of the Japs, Labat slipped out of his turret (Score: one Zero destroyed, one I-45 probably destroyed, one Liberator and crew saved) and discovered that Lieutenant Erwin was helping fly the ship. He then checked the gas supply and found it adequate for the long haul back home.

Bombardier Lieut. Cecil Day and Staff Sgt. Robert Block (radio operator and waist gunner) meantime were breaking through the glass of the jammed nose turret where they discovered Burtch dead, with his guns pointed in the direction of the Zero he never got a shot at, for the first pass by the Jap from the sun had got him. His death grip on the interphone button had kept the system from operating.

Staff Sgt. James McKernan in his belly turret had been doused by fluid from the ruptured hydraulic lines but had kept playing his guns to make the Japs think he still was in action, although he couldn't see through his glass enclosure.

After checking the gas, Labat relieved Erwin at the controls so he could return to his navigating job. During the air battles, Erwin had mentally noted headings and speed and now was able to determine the location of the plane after the protecting ships pulled away in what was believed to be safe country. Lieutenant Day, who had been circulating through the ship bolstering the spirits of the rest of the crew, now took over the top turret position, although he was the bombardier.

Behind the controls again, pilot Labat mentally projected the entire return trip. "I even pictured myself on the approach to our field and went to the extent of worrying whether I could clear the wires at the end of the field on landing, even to the point of foolishly thinking of flying under them."

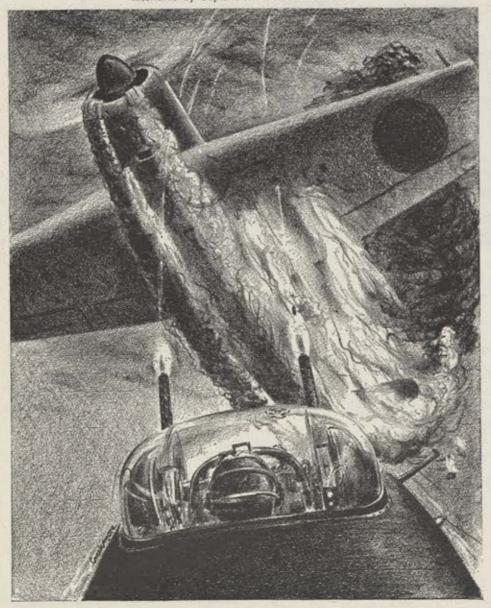
As Graves, still in a semi-conscious condition, continually made instinctive adjustments of the controls, Labat patiently corrected them and eased the ship back on course. Although No. 3 prophad been a drag with its frozen governor, it was a help at cruising speed so it was not feathered.

"Zero at five o'clock at 2,000 yards" came barking over the interphone from waist gunner Sergeant Block, jolting everyone from their reveries. A grim tenseness settled down on "Old 26," for the ship had been through a lot of hell already and another attack might be the last straw. A second Zero appeared and both started to follow the wounded ship. The crew sat and waited, a wait that was years, a wait that only was ended when Erwin told Labat to head for an emergency landing at a nearby field. When the plane nosed down for its approach to the field, the Zeros turned away.

Then, on the downwind leg of the landing approach, Labat learned that the crew couldn't get the landing gear cranked down. Turning the controls over to Erwin, with instructions not to go in for a landing until the gear was reported down, Labat struggled with the crank until he got both wheels down (the nose wheel had dropped down OK) but one wouldn't lock into position. The plane was on its final approach, hardly fifteen feet above some sailing ships, before the wheel finally clicked into place.

Swinging back to the flight deck the sergeant, who had been nursing the ship

Illustrated by Capt. RAYMOND CREEKMORE





We don't know, young lady-but we agree with you that it's time for him to pass on that copy of AIR FORCE. How about it, soldier? Do you share your copy of the service journal with the other men of your unit? Don't hog your copy; don't mail it home; don't keep it for your personal file. Pass it on!

all the way back, saw a dike looming up ahead of the plane-too high to clear. All he could do, as Graves was shooting the landing was talk into his ear. "Haul back, haul back, haul back. . . " The big plane did ease up a bit but the wheels dug into the dike and before anyone could catch another breath, Graves had recovered and set the ship down perfectly on the runway.

With only 800 pounds hydraulic pressure remaining, Labat again resorted to repetition as he warned Erwin and Graves to keep their feet on the brakes, not to let up for an instant, for there was only one application of brakes left in "Old 26."

THE brakes were held and as the battered ship rolled to a stop Graves, who had been flying on spirit and instinct all the way, passed out completely. Ambulance and crash truck came to a wailing stop as Labat and Erwin carried their wounded pilot out. Coming to momentarily, Graves' only question was, "How is Cy?" then he lapsed into unconscious-

ness again and was hospitalized. "Old 26" got back because it had more than a one-man crew, but the men who saved the ship were the ones who could pinch-hit for other teammates in a tight

Labat shot down the Nips as a gunner, he pulled the plane out of its dive and flew it most of the way back to base as a pilot, he kept his ship in the air and then got it safely down on the ground as flight engineer. He was a one-man crew himself.

Navigator Erwin successfully pinch-hit as co-pilot, sticking with his courageous pilot through the perilous landing. Bombardier Day pinch-hit as a turret gunner, after dropping his eggs squarely on the He-ho airdrome, and still was at battle station as his plane hit the runway. Said Tech. Sgt. Doug Labat, "Those

crewmates of mine really deserve a lot of credit; they kept calm when most guys would have fallen apart. They did a wonderful job in bringing us back home."

Lieutenants Erwin and Day tell another story, however, and the hero of their account is Doug Labat-flight engineer, gunner, pilot-who practically carried riddled and battered "Old 26" of the Flying Cobras back from its mission over Burma. A

PICTURE CREDITS

PICTURE CREDITS

FRONT COVER, 42, 43: Tech. Sgt. Roger Coster, AIR FORCE Staff; SECOND COVER: for AIR FORCE by Lt. Homer Dean, Wright Field; THIRD and FOURTH COVERS: AIR FORCE Staff; 8: Washington (D. C.) Evening Star; 9: Office of Strategic Services; 24: setting by W & J Sloane, model, Miss Pat Fordyce of John Robert Powers Agency, Photo by AIR FORCE Staff; 35, 36: Cpl. Harry Cowe; 47: New York Daily News; 52, 55: AAF 1st Motion Picture Unit; all other photos from official Army Air Forces sources.

GUIDES ALONG THE ICY AIRWAYS

Life is cold and rugged for our communications men who literally talk the planes across the North Atlantic routes.

THE North Atlantic Route, along the great circle from Newfoundland to England, is now the most travelled oceanic

airway in the world.

Thousands of big and medium bombers and even a few fighter planes have made the trip one-way, from the factories and training fields of the United States to the bomber bases of England. In addition, there are some thirty big transports running a regular shuttle service between Britain and America. They carry passengers, mail and freight—men on vital military or diplomatic missions, mail and special cargo needed at the front in a hurry.

There have been thousands of crossings, many of them by pilots making their first long over-water hop, and yet more than 98.5 percent of the planes starting out on this run have made their destinations. None of the transports has been lost, and in many cases the crews of combat ships forced down have been res-

cued.

This record of efficiency has been made possible by well-trained pilots and navigators, excellent equipment, able mechanics and those seldom publicized men—the radio operators and mechanics—of the North Atlantic Airways Communications Area, men who are handling one of the toughest and most necessary details in the Army, living in lonely, storm-swept stations, eating canned and dehydrated foods, with mail call every two or three months if they are lucky, every six months if they are not.

These men of the Army Airways Communication system literally talk the planes across the big hop. There are ground-to-air messages, giving pilots their clearances and instructions, station-to-station communications having to do with the administration of this gigantic airline. In addition, each station collects and broadcasts weather information hourly. In all, the North Atlantic system of the AACS handles six to seven million words a month, enough to fill a couple of shelves at a public library.

By now an entirely new radio communications system, developed in Bell Laboratories in the United States, has been installed. Earlier, both short-wave and long-wave were used. The physical cantankerousness of that part of the world is matched by odd and capricious disturbances of the ether which play hell with



By Col. Juan L. Garman
CO. ARMY AIRWAYS COMMUNICATIONS WING

radio communication. Short-wave, highfrequency transmission depends upon waves going up and outward, bouncing against the Heaviside Layer around the earth, and ricocheting down to points where the messages are received. This works excellently except in the far north where the Aurora Borealis breaks up the Heaviside Layer, allowing the messages to escape into infinity where they fail to aid anyone. Long, low-frequency waves follow the earth's circumference and are not disturbed by the lack of a retaining wall, but they are subject to static which is present in considerable quantity in Northern area. Long-wave also requires much more power than short-wave.

It was absolutely necessary that the AACS put stations in the north. The weather of England, France, Germany and the Scandinavian countries is "made" in that section of the Arctic. The data collected there is invaluable. Hourly reports are sent out from small stations, detailing temperature, wind velocity and direction, humidity and aerological information. These reports are collected and analyzed at larger stations, and the combined reports are made available to the AAF, the Navy, other branches of the Army, the RAF, RCAF and the U. S. Weather Bureau. This knowledge of weather, knowing today what the sky over Bremen will be like tomorrow, has given the Allies many advantages in the air war over Europe.

By now most of the 1,400 odd officers and enlisted men who went into the north two years ago to establish the AACS system have been relieved from the grueling detail. A few have remained—those rare fellows who seem to like solitude and bleak wastelands. The rest of them were happy to get away. A few had been holding conversations with seals, and one or two had complained that the mountains were crowding in on them, moving a little closer each day.

The entire system was tough to establish, and it is tough to maintain. The first station was in Labrador. An officer and six enlisted men were flown in and left there. Materials had been brought in the day before, and the seven men were to assemble the equipment—radios, prefabricated buildings and whatever else was needed.

They put the camp together, installed the receiving and transmitting equipment and obtained power from a Canadian company. Before the station went on the air, the Canadian company's power plant burned down, and the men had to make a power plant for themselves. They had one mobile tool, a dilapidated snow plow, stuck in first gear, and bound to a speed of five miles an hour.

Later the American officer managed to acquire a jeep. He loaded it into a transport plane, tied it down and tied four enlisted men to the seats. They became the first and only four men to fly a jeep from Maine to Labrador. At the station the Canadian CO took a ride in the jeep, and he was so intrigued that the American officer had some time prying him out of it. The CO finally got out of the little car, and disappeared for three days. On his return he, too, had a jeep, and to this day he hasn't told where he got it.

At one station the communications office



A big flying boat of the type shown and four native kayaks—about the only kind of transportation available in the North Atlantic area.

was an uninsulated metal trailer. The men couldn't wear gloves and it was so cold their hands stuck to the metal equipment. They acquired a kerosene stove. The warm air generated by the stove rose to the ceiling where it condensed and then froze until the ceiling was covered with a thick layer of ice. One day the weather turned warm suddenly, as it sometime does, and the ice on the ceiling melted and rained down on the radio equipment, putting it out of commission for a short time. Any number of small and annoying difficulties arose. There were major problems, too. None of the men had been in the north before, one man's experience on an ice truck one summer being the closest thing to arctic work any of them could boast. The men had to learn how to work in that country-and it was tough learning. In all the stations as they were established there were the problems of temperatures below zero, gales that blew down buildings as they were erected, and the bleak wasteland that has a depressing effect on many men.

THE Air Transport Command has laid several routes out for the hops to Scotland and other points, some of them with relatively long water hops, and others with fairly short flights over water. The type of airplane, the experience of the pilots and weather conditions usually determine which course a group will take.

There is little flippancy or casual conversation between planes and the ground in that country. It is a deadly serious operation, and so many messages are being transmitted at all times that no idle talk is tolerated. Any operator, who wants to expand "Roger" into a few friendly comments about how he's feeling

the designation of one of the big bases up there.

Most of the communications are in code which is changed often. The changing of codes causes difficulty because old ones must be destroyed and new ones delivered to the outposts. Sometimes it is impossible to get to one station, and it will be transmitting in one code while other stations use another, complicating work unduly. But it can't be helped.

There are places which are almost impossible to supply. A crew started out in October, 1942, in Captain Iceberg Smith's SS Belle Isle to establish a certain station. It meant breaking all records by putting a complete station on bare rock in two weeks. They did it. They put up prefabricated warehouses, barracks, an opera-



Ice and rock is about all you see in the North Atlantic. Beautiful until you have to live there.

and how the world looks from where he is, is quickly shut up.

The average chat between a plane—called, let us say, R of the Bangtail Group—and a station may run like this:

"Hello, Bangtail R; this is Ford, over."
"Hello, Ford, this is Bangtail R., QRK.
Over."

"Hello, Bangtail R. This is Ford. Your signals QRK Five. QRU Nil. Over."

"Hello, Ford. This is Bangtail R. Roger. Thank you. Bangtail R out."

This may take ten or fifteen seconds and there may be many planes coming across that day, and each one, normally, is talked to. Bangtail R may be cleared to a control tower, or he may be going on his way and not stopping. He must be talked to. And then there are the hourly weather reports and administrative messages. Some repair parts may be needed on a lonely island, and the message ordering them must go through, or it may be a part needed for a B-17 which made a bad landing at Bluie West One,

tions shack and a few outbuildings. These had to be guyed down with cables, anchored deep in rock and cement, for the winds in that barren part of the world hit 120 to 140 miles an hour at times.

ONCE all the buildings were up and three transmitters and six receivers in operation, an AACS crew was left with supplies for a year, and Captain Smith put out to sea with the SS Belle Isle. The captain, a weatherbeaten old man who has been in the north longer than anyone cares to remember, knows that section of the Arctic as well as a blind man knows his room. When he pointed the Belle Isle away from the station, he saw that the ice pack was already closing in. He kept on out to sea anyway, and he was probably the only man who could have made it with a ship the size of the Belle Isle. Navy escort vessels went ahead of the Belle Isle, nudging the floes and icebergs, and the big steamship followed behind. The ice pack, almost as though it

were alive, moved in on the ships as the men watched helplessly from shore. It took Captain Smith's ship and the Navy boats 48 hours to go ten miles out of the harbor into clear water. When they looked back at the base, it was hemmed in by ice, cut off from the world.

The next stop was in a harbor too shallow for the Belle Isle to anchor in close to land, but the hardy, tough fellows of the AACS went ashore in long boats. The Belle Isle stood out in open water, tossed about by screaming winds and high, cold seas. The men took supplies, prefabricated houses, equipment to shore in lighters. These craft could stand only a few trips before they were wrecked by the buffeting from water and rock. The men who were to build the station huddled in the shelter of crates. The Belle Isle was running short of fuel and had to sail away. She couldn't wait until the men had built their houses and sheds.

Twelve hours after the ship left, a blizzard struck. During the five days it lasted the men could not keep a fire in their stoves because the terrific wind created drafts which sucked the fires, coals

and all, out of the chimney.

The Belle Isle weathered the storm into a base, refueled and returned to the station. The wind died down to a gale, and the Belle Isle, standing well out from the shore because of the winds, tried to send in additional supplies to the men marooned on the rocky shore. Fuel, particularly, was needed for the station couldn't operate nor could the men get through the winter without it. Captain

Smith tried to use a motor launch, but the high seas capsized it. He wirelessed headquarters of his predicament and a Coast Guard boat with tenders was dispatched. The seas were too much for the Coast Guard craft. Finally there came a break. The wind died down one afternoon and, in a few hours, with men on ship and men on shore working at terrific speed, everything was unloaded. The Belle Isle sailed away, and the men on shore were too busy piling and shoring their supplies to even wave good-bye. They were there for the next year.

That's the routine life for AACS men in the north country. All work outside is back-breaking, and the work inside with the radio instruments and weather recording machines is deadly monotonous. Seven or eight men may be isolated for eight and ten months, and in that time they understandably get completely fed up with their companions. When the stations were first installed there were little or no comforts. There was little fuel, and most of it went to power the wireless equipment. Little of it could be used for light or to keep the men warm.

One unit in Greenland unpacked a piece of radio equipment they needed. Everything was there, everything fitted, except there were no screws or nuts. Instead there were instructions stating that the small screws needed were of a standard size and "may be purchased at any local hardware store." The nearest local store of any kind was 3,000 miles away. At another location the men, oddly

enough, had a pinball machine for their barracks, but only part of the remote control system for their radio. One of the men took the pinball machine apart and used the insides to rig a control system. Many outfits use coke and beer bottles for insulators. When things break down, the men often have to make the repair parts needed. They have to take care of themselves when they are sick, do their own cooking, and lead a primitive life while surrounded with fantastically intricate, delicate machinery, and not one luxury of this modern age.

Of late they have had more fuel, and they are relatively warm. They have lights for reading, but it is still a grind, as the men who have gone out there as replacements well know. Sometimes they have to hang up an antenna in a seventy-mile gale, or lash down an instrument shed in the same kind of weather. At one place the snow is so deep that the only way the men can leave their shack is through a hole in the roof. They reach their extremely primitive latrine through

a tunnel of ice.

The officers directing the system think every man who lives through months at a station out there is a hero. The work is hard, unglamorous, and the bleakness, wind and cold of those isolated outposts is hard for some to withstand. These men have been doing it, and the big transports, the bombers, carriers and heavy fighters have been getting to the battle-fronts, nursed and talked over the hop by men living in incredible hardship so that we can win this war.

In the winter, the buildings at this Army Airways Communications station will be covered by snow, and winds may go about a hundred miles an hour. AACS men stay at the posts, though, and nurse the planes across the North Atlantic hop. It's a vitally necessary, tedious job.









Joe always looks like a jerk on the loose, and he hasn't done a thing right since the Battle of Antietam. However, he talks good. He may act like a simpleton, but the advice he hands out is solid. He's an example of "Don't do as I do; do as I say."

THE American soldier, well equipped and efficiently trained, can do his job in this world fracas only if his equipment receives proper maintenance. Joe Dope, the ordnance dogface about whom even the dogs complain, is doing his job in his own little way. The advice Joe's antics represent is good, but his work around the planes frequently is little short of sabotage. Joe is a simpleton who hears it incorrectly and does it worse. The flight surgeons say he is hard-of-thinking and his Form 20 is a constant source of merriment around the orderly room. But there's a funny thing about Joe. Although he snaffs up everything he tries to do, his advice is always good. He is a sort of horrified technical manual. Proof that the American soldier is a very sensible individual is seen in the fact that he came through the hard fought African campaign with the same equipment with which the operational movements began. And while Joe can't claim credit for this remarkable maintenance, the fact remains that Joe is on very sound ground when he says that preventive maintenance pays off like three black bars-twenty-one plus the jackpot. Consequently, Joe Dope is for it. In fact, Joe is a case of "Don't do as I do, but do as I say." At best, maintenance is an unglamorous job, and the importance of his activities has placed a mighty chore upon the aviation ordnance man. The only feasible solution is preventive maintenance of a standard that keeps ordnance in good working order over a longer period of sustained air operations.



PREPARE FOR INSPECTION



TIMELY ADVICE FROM THE AIR INSPECTOR

Administrative Communication

Technical Tactical

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

From Typewriters to Teletypewriters: Improvising begins "at home," not on the field of battle.

Communication inspectors report that they have observed teletypewriter training 'proceeding on schedule" in newly activated organizations, although authorized teletypewriter equipment was lacking. The men are learning procedure by sending "canned" messages and replies on typewriters. Following this stage, the training is carried on through the cooperation of the base signal officer. The neophyte operators practice on the teletypewriters of the base signal office during "off hours." Once they have become proficient, they help the base by taking shifts on the teletypewriter net, and help themselves to some good training. When they receive their own equipment they are expert operators and can carry on without missing a key.

- Previews of Training Films: Tactical inspectors who have observed training films in use at bases have particular commendation for the instructors who have thoroughly studied the films before showing them. Instructors familiar with the contents of a film are able to emphasize particular points or elaborate on them.
- Field X-Ray Machines: Here's a tip from overseas to medical officers in service groups which are training in the United

States: You cannot pay too much attention to training with your field X-ray machines. Those machines have proved to be of immense value in every theatre of operations.

A medical officer returning from overseas reported watching group personnel using the machines to find pieces of lead in wounded flyers. The machines did the job quickly, efficiently, because the medical men had been thoroughly trained in their use.

- ▶ Coolant Line Maintenance: Technical inspectors are stressing the importance of frequent checks of rubber hose connections on the coolant lines of aircraft engines. Numerous leaks originating from the connections have been traced to faulty maintenance.
- Take Another Look at Forms 81: Attention, commanding officers of organizations under orders for overseas movement: This is to remind you that organizational designations must not be on WD MD Forms 81 (Immunization Registers) to comply with the security provisions of Par. 34a, Sec. VII, POM. Organizations, generally, are promptly removing or effectively obliterating unit organizational designations, markings, insignia, badges and the like from uniforms, other clothing, baggage, property and equipment, but POM inspectors report that they have found numerous cases in which the unit designation was still carried on Forms 81.
- ▶ Right Size or Else: If that soldier going overseas is a perfect 36, and all you have on the shelf is a Size 40 in herringbone twill, sergeant, just leave it on the shelf. Here is what happens if you don't:

The soldier gets his serial number stamped on the herringbone twill, which makes him look like Omar the Tentmaker in one of his own creations. The soldier doesn't wear the Size 40 because he is afraid of becoming lost in it and, accordingly, he stows it away in his barracks bag. There the Size 40 stays until an in-

spector notes it at a showdown inspection, and it is turned in. However, it has the soldier's serial number on it and, as a second-hand garment, becomes Class B clothing. It will eventually be worn out by a big fellow in this country, but it should never have been issued in the first place.

That goes for other items of clothing
—shoes, pants, shirts, etc. If the right
size cannot be supplied at the home sta-

tion, the article in question should be listed as a shortage. (Sec. II, WD Cir. 259, 1943.)

▶ Easy on Those De-icer Boots: Here are short cuts that are cutting short the life of de-icer boots of inboard wings:

Some mechanics are dragging fuel hoses across the de-icer boots and damaging them beyond repair. Others are climbing over the leading edge of the wing and doing damage that only makes an ex-paperhanger happy. Take a little more care and cut out the phoney short cuts.

- ▶ Filter Maintenance: From the fighting fronts comes information that lack of proper maintenance on air intake manifold filters is causing numerous engine failures. Some of these failures have occurred after as little as two hours' use. Maintenance men should check TO 01-1-23 and follow its directives on filter maintenance to keep those engines purring.
- ▶ Bombs: Handle With Care: Because it is so important to all men in the Army Air Forces who handle bombs, we are going to pass on some information contained in an article in the October, 1943, issue of The Ordnance Sergeant.

Four major reasons advanced in the article for disastrous bomb accidents are:

Rough handling of fuzed bombs, causing the fuze to strike against some object.

Use of oversized slings in hoisting

Failure to inspect fuze cavities before fuzing.

Rough handling of bomb bodies in shipping and in delivery to landing strips. (Rapid starting and stopping of bomb lift trucks with fuzed bombs on platforms

or cradles has caused accidents. This applies also to the use of bomb lift trucks in bomb handling without using platforms.)

The article points out that "repeated handling of bombs and fuzes will always lead to short cut methods, but violation of basic safety principles is never authorized." Practice

in correct procedure until it becomes a habit is the No. One method for assuring safety.

Getting Those Special Orders Right: Special order clerks in headquarters have a tough job. The sergeant major is forever breathing heavily over the left shoulder of a clerk and saying, "Hurry up with those orders." Speed is paramount, but if the orders are not right, both the



clerk and the sergeant major have been wasting their time—and the time of others who must see that the orders are corrected.

A report from the commanding officer of an airport of embarkation points out that air crews have been arriving with



numerous errors in their special orders—misspelled names, wrong serial numbers and the like. Before any orders are released, they should be checked carefully against records or with the individuals concerned.

Another factor that has caused delay is the practice of placing the special orders among the personnel records, and then hunting all over the place to find them. The orders should be placed in a special envelope and carried separately.

Radio Mechanics and Tech Orders: We know a radio mechanic who carries a copy of Robert W. Service's poems with him at all times. He will recite "The Shooting of Dan McGrew" at the drop of a GI hat. But if you ask him what TO 08-10-50 states in regard to making a pre-flight inspection of his SCR-274N radio equipment, his face suddenly gets a blank look.

No one expects him to recite a Technical Order in the manner of a Service poem, but he should be thoroughly familiar with the TOs pertaining to the equipment he operates. TOs look impressive—and sometimes forbidding—when stacked in long rows on a shelf. They are doing no one any good, however, until they are taken off the shelf, and the information they contain is put into practice. This fact, incidentally, doesn't apply only to radio mechanics.

Dil + Heat = Expansion: Oil expands when hot. That's a fundamental fact, but technical inspectors tell us that some maintenance men are forgetting it. Planes are being needlessly grounded because of too much oil in the systems. In one particularly bad case, two gallons of oil had run into the belly of the ship, and it was necessary to remove the radio to clean off the oil. So when you start pouring in the oil, just remember your high school physics which told you all about heat expansion. ☆

AIR FORCE, FEBRUARY, 1944

INSPECTING THE INSPECTOR

Does headquarters have a good follow-up system? On correspondence? Pending projects? Directives? Complaints? Irregularities and Deficiencies?

Again, we remind you—are you checking to see that everything possible is being done to save on rubber tires?

Do you know if the budget and fiscal officer at your station is carefully scrutinizing all proposals for procurement to assure that quantities are reasonable and that procurements are proper charge against the funds avail-

able? Are procurements which are deemed improper called to the attention of the commanding officer? (AAF Memo. 30-7, 22 October 1943).

Has the firing range been inspected recently? Is it being given maximum usage in the minimum of time? Is the range officer well qualified for his job?

Do you know whether commanding officers are taking action to insure that the men of their commands are fully informed as to the availability and advantages of the Soldiers' Deposit System? (Sec. IV, WD Cir. 169, 1943.)

HERE ARE THE ANSWERS

Q. When will an individual's illness be recorded in the Morning Report?

A. It will be recorded only when such illness involves a change in duty status. (Ch. 1, AR 345-400, 29 July 1943.)

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Q. Do flight officers wear the commissioned officers' service cap insignia?

A. No. They wear the warrant officers' cap insignia, an eagle rising with wings displayed standing on a bundle of two arrows, all inclosed in a wreath. (AAF Memo 35-32, 25 October 1943.)

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Q. Does Change 24, Par. 9b, 25 June 1943, AR 600-35, mean that the officer's overcoat, wool, long, can no longer be worn?

A. No. The long overcoat will no longer be procured as an article of uniform, but whenever changes in design or material of uniforms are made, the old style may be continued to be worn as authorized in AR 600-40. (Par. 1c, AR 600-35.)



Q. May civilian guards be hired for aircraft grounded in a locality where military personnel are not available?

A. When on authorized cross-country flights, landings are made at points where no federal, state or municipal protection facilities are available and when the provisions of AR 95-120 are not applicable, civilian guards or watchmen may be hired to protect government property provided that no enlisted personnel eligible for guard duty are present. Amounts paid to guards will be at the rate paid for similar

services in the vicinity. Pilots hiring guards will secure certified bills in quadruplicate. (Ch. 1, Par. 8, AR 35-6300, 2 June 1943.)



Q. May WACs be detailed to duties requiring participation in aerial flights in Army aircraft?

A. Yes. Individuals having command jurisdiction over members of the Women's Army Corps are authorized to detail such members to duties requiring participation in aerial flights in Army aircraft. WACs on duty with the AAF will not be detailed to flying duties with combat units of the AAF, nor will they be detailed to a course of training involving regular and frequent flights in aircraft embraced in the category of combat training. (AAF Reg. 35-45, 12 November 1943.)

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Q. Are GI movies exempted from property accountability?

A. Yes. They are exempted from property accountability under the provisions of Par. 3c, AR 35-6520. Appropriate and adequate records on the distribution of such films will be maintained by the organizations distributing the films. (Sec. IV, WD Cir. 278, 1943.)

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Q. Must qualification in arms of an enlisted man be entered in his Service Record even though it does not affect his pay?

A. Yes. The rating of each enlisted man will be entered in the Service Record as well as on WD, AGO Form 20 (Soldier's Qualification Card). (Sec. II, WD Cir. 265, 1943.)



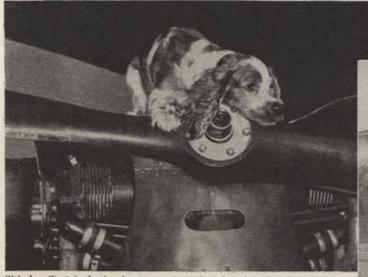
When Flopper, on hand for the "mountain climb" event in the Alaskan Olympics, saw Sqt. Jess Horn of his outfit come puffing down the stretch on top, he just couldn't resist showing his elation with a lick on the sergeant's leg.

Tex and Scotty, whose masters handle P-47s for the 8th Fighter Command, come through with their best camera mugging. From their angle those parachutes could have been done up in Scottish plaid, with perhaps a kilt or so hung over the guns.

Only the weary crew members of a bomber just returned from a tough mission know what it means to find good old Rover, their mascot, meeting the plane with his tail wagging and welcome written all over his face. In AAF units all over the world, the mascot—whether he be goonie or goat—is somehow tied up with the pep and spirit of his organization. Now and then, just for luck, a mascot flies a mission with his boys; now and then, when luck is not so good, the name of Abner the Aardvark or Stanley the Squirrel will appear on the list of the missing. These mascots have become almost as much a part of life in the AAF as the planes their masters keep in the air.







"It's humiliatin', that's what it is. Just plain humiliatin'. Here I make the hop to England in a four-engine job, they give me the monicker 'Trans-Atlantic Topper,' and now, just like that, I'm back in Primary!"

Why is it that most goats with four legs are known as "Billy the Kid"? So it is with this young fellow who is attached—and definitely—to an outfit in North Africa. And since the most intriguing phenomenon of the goat is his gastronomics, it is interesting to note that although this Billy eats almost anything, he considers cigarettes his favorite delicacy.



The pilots of a 6th Air Force fighter squadron who submitted this photo from the Caribbean area would like you to believe that Willie the 'Coon is giving final instructions to the ground crew before a take-off. With a touch of naiveté, we will assume that the boys have picked up a smattering of raccoonese and chalk up the pictured event as another service mascots are nobly rendering the AAF around the world.





THOSE SCREAMING INVADERS

By Sgt. Arthur W. Everett, Jr. 12th Air Force

AMERICAN A-36 Invader pilots, after five months of operation in the Mediterranean theatre, are making the Germans wish they'd never heard of divebombing.

Their close support in pounding German positions has softened the task of advancing Allied ground forces from

Sicily up the Italian boot.

At Troina in Sicily they blasted into submission a battery of Nazi 88 mm guns and enabled our ground forces to take that strategic town. It was one of the decisive battles of the Sicilian campaign.

Later when American ground troops were scheduled to move against two well-defended heights in the center of the enemy line in Italy, the Invaders sent waves of planes over the area every ten minutes until the hills were pockmarked with bomb craters. They dive-bombed only a few hundred feet ahead of American lines but not an Allied soldier was singed and the Germans were forced to draw back leaving the battered area to our troops.

These are only two of many examples of the split-second timing and dead-center accuracy that is the trademark of the A-36 groups operating under Maj. Gen. Edwin

J. House's command.

It's difficult to separate the Invader pilot from his plane. He's inclined to give all the credit for his exploits to the aircraft itself. That's not quite true. No plane is any greater than the pilot who flies it.

The A-36 fighter-bomber carries 500pound bombs. It travels fastest at medium altitude where it can weave and twist along through heavy flak. Near the target the pilot pulls the plane up several thousand feet, rolls it lazily over on its back, pulls back on the stick and sends the plane screaming down in a vertical dive on the target. He drops his bombs after

Our A-36s in Italy are making the Germans wish they had never heard of dive-bombing.

a dive of several thousand feet. Like grey teardrops they drip off the nose of the A-36 and fall straight down ahead of the ship. The pilot begins to coax the ship out of its dive while it's traveling at about 375 mph straight down. As he eases back on the stick his eyes bug out, his cheeks feel like they're being drawn down to his knees, and his stomach acts like it's going right through the floor of the cockpit. But there's seldom any black-out and, after about 1,500 feet of dive, the A-36 straightens out.

It is impossible to describe the terror this plane strikes in the hearts of enemy troops beneath it. Its shrill scream is louder and more eerie than the German Stuka's. It plunges down through three levels of flak straight at you and there's no way in the world to dodge it on the

ground. Italian troops captured in Sicily after being heavily bombed by A-36s were so shaken they were actually hysterical. They wept and moaned of the "screaming hell-divers," their own nickname for the fighter-bomber.

Once the Invader drops its bombs it becomes a low-level strafing plane. Its six 50 caliber machine guns are deadly when the plane skims along enemy roads at tree-top level. German trucks by the hundreds litter roads in Sicily and Italy, twisted monuments to the effectiveness of these strafers.

Because you never know what you'll hit, this low-level work is the toughest of all. On one mission Lieut. Col. Dorr E. Newton, San Antonio, Texas, commander of one A-36 group, ran smack into a high tension wire that had escaped his notice as he winged along. But he lived to tell about it.

Not so fortunate was one youngster in Italy. His flight of four Invaders moved in to strafe an innocent-appearing string

The planes in the air are coming home after a job over Italy. On the ground a group of crew chiefs are counting and sweating it out. Those are their planes up there, and they want them all back.





Lieut. Walter L. Gibson, pilot, gets buttoned up by the assistant crew chief, Sgt. Paul S. Goldman, just before taking off on a mission above Rome. It's a long haul in a fast, tough plane.

of forty enemy box cars on a rail siding. He turned his guns on them and the whole earth for thousands of feet around literally blew straight up in the air. The train was loaded with munitions. The pilot was blown up with his plane and his flight comrades, one of them over a mile away from the last, narrowly missed a similar fate. Their planes were twisted and peppered with holes. The three of them managed to limp home.

Another pilot strafed a German dump

in Italy early in the campaign. It, too, was chock full of munitions and they went off together. The pilot managed to crawl out of his burning plane and landed safely in the sea a few miles away. He was back in the air the next day.

The men who man the Invaders are not, strictly speaking, fighter pilots. Their job is to get in there and bomb or strafe and then get out and home again. But they can fight if they have to. During the desperate days on the Salerno beach-

PHOTOGRAPHS BY CPL. HARRY COWE

Bombing up. The cart was the idea of Lieut. James Collins. Pfc. George E. Rodgers lines up the bomb beneath the bomb rack, and Cpl. Richard Paige is backing the bomb cart into position. At the right are the bomb service truck and trailer with bombing crews aboard. They'll soon be laying those bombs down on German positions in Italy.



heads they rushed the Invaders in from Sicily to fly patrol above our troops. They did such a good job on this unfamiliar task that they drew the unstinting admiration of American Spitfire pilots to whom combat is an old, familiar story. They shot down a dozen or more of the Luftwaffe's best fighter planes in three days. And they didn't lose a single A-36 to the enemy in the air.

Invader pilots age fast. They are young—all pilots are. The average age is about 23. They haven't the cockiness of a Spit-fire pilot, the suave nonchalance of the P-40 fighter. But they have an esprit de corps that's incomparable. They're intensely proud of the ship they fly and the job they do. Many of them now have upwards of sixty missions to their credit. That's a lot of combat and it can't help but age a man. They've been pounding the Germans ever since they went into combat last June over Pantelleria.

One group, headed by Lieut. Col. Robert C. Paul, of Lake City, Fla., has been plugging away at Germany's Hermann Goering division ever since the landings in Sicily. Members of this group know each other intimately by now. The Germans are constantly trying new ruses to conceal their heavy flak guns and bag the A-36s. The Invaders are just as intent on devising new ways of sneaking down on the enemy troops and blasting more of their men and equipment to bits.

The A-36 groups operate close to the front lines. In fact they love to play host to visitors who don't realize this fact. You can stand in front of their operations tent and watch a flight of the square-winged, square-tailed 36s take off. A few minutes later an officer will hold up a hand for silence. Sure enough you can hear the thump of their exploding bombs on German territory only a few miles away. A few minutes later they're back on the ground, piling into a jeep headed for interrogation at the Intelligence tent.

The pilots named the A-36 themselves. Probably they're the first flyers to do so.

It happened this way:

Back in Africa when they first entered combat the news releases referred to the planes as Mustangs, or P-51 fighterbombers. That irked the boys. True their ship is a Mustang converted into a divebomber. But they felt their work was such that they were entitled to some distinction from the P-51 fighter pilot. Sitting around a tent on a dusty Cap Bon airfield one day they were trying to pick a name for their ship. After several failures. Lieut. Robert Walsh spoke up: "What's the matter with calling it the Invader? They're using us right now to invade Sicily. Some day not so long from now we'll be invading Europe." The others agreed. Since then the name has caught on and has received official sanction. The plane has lived up to its name. \$\price \tag{\tag{7}}



WOMEN IN THE AAF:

THE CADET WIVES LEAGUE

A IR FORCE wives who follow their husbands through training from field to field find upon arrival at any station in the Western Flying Training Command that their biggest problems have been met for them by an organization known

as the Cadet Wives League.

Finding a place to live in crowded Army areas is headache No. One. Then come the search for a job and the problems of finding medical assistance when needed and locating congenial friends with whom to share the long days while waiting to see cadet husbands for a few precious hours each week. The league takes ready care of such matters. By working closely with the USO, YWCA, hotel and housing agencies, each local league headquarters is able to assure new arrivals suitable living accommodations almost immediately.

The employment situation has been neatly solved. Most of the cadet wives arriving at Santa Ana want to keep busy by working in their spare time. Positions are available but the employer in most cases is not willing to accept a cadet wife knowing that she will leave the job as soon as her husband goes to his next station. The league's assurance to the employer that a replacement will be pro-

vided to keep the position occupied has helped to overcome this problem.

Through coordination with Special Services, the league has been able to set up a plan whereby a cadet wife who so desires may obtain a position at the station to which her husband is assigned and upon his transfer to a new station, obtain employment at that station by making application to the Special Services officer. This arrangement not only has provided cadet wives with employment and the opportunity to be near their husbands but it also has filled an urgent need for women to serve in clerical jobs, in PXs, Service Clubs and the like.

Special provisions for emergency medical attention have also been made by the league. When word is received at local league offices that medical service is needed by one of these cadet wives, an officer's wife calls on her and, if necessary, arranges for hospitalization or medical attention. Calls on all patients in homes or at the hospital are made by members of the Officers' Wives Committee.

As each new cadet wife arrives the league sends her a letter of welcome which is followed up with a personal call by a member of the Cadet Wives Calling Committee. She is advised of the assist-

ance the league can offer and is urged to join its social activities. At a supper each Wednesday evening, the wives become acquainted, conduct group singing and listen to talks given by selected officers on such topics as "Customs of the Service," and "Safeguarding Military Information."

The idea for the league began with the Woman's Club of the Army Air Forces at Santa Ana, Calif., more than a year ago. A committee studied problems facing cadet wives and organized the league to meet them. Branches were begun in all stations in the WFTC. A committee of officers' wives and another of cadets' wives work together to handle the business of the league, Cadet wives are urged to register at the headquarters of each new station when they arrive.

The U. S. Employment Service reports to the league any available employment in the area. Army Emergency Relief keeps a representative at headquarters and responds promptly in all cases where financial or other emergency assistance is necessary. The success of the plan in the WFTC has led to the organization of a similar Cadet Wives League in San Antonio, Texas, and at Turner and Cochran Fields, Ga. Incidentally, the identifying badge of the league is a flying wedding ring.

An officer's wife and an AIR-WAC are on duty daily at the Cadet Wives League headquarters to answer questions and unravel problems of incoming wives of aviation cadets and aviation students.



Cadet wives recently employed by the AAFWFTC Officers' Mess learn the art of balancing trays. These patriotic women are proving valuable in jobs for which enlisted men are no longer available.





FLYING SAFETY

Suggestions from the Office of Flying Safety, Headquarters, Army Air Forces, in the interest of accident reduction.

These items are for educational purposes and are not to be construed as directives.

DANGLING WHEEL LANDINGS

Photographs showing a demonstration of the Hendricks Field, Fla., method of landing a B-17 with a dangling left wheel were published in last month's AIR FORCE.

Since that landing was accomplished, the field has taken steps to make the task easier. The drag links on the main gear have been reinforced by a flexible cable (see photographs).



How cable is installed.



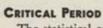
Cable holds wheel up when link is severed.

In case of a broken drag link, the cable is intended to hold the wheel at least in a forward position if it can't be entirely retracted. With the wheel in a forward attitude, it will slide naturally in the nacelle well when the plane settles on the runway during an emergency landing.

When a B-17 is equipped with a ball turret, and it is certain damaged gear will go up into the nacelle, Hendricks Field recommends that the other wheels be extended for the landing.

A board of officers which surveyed heavy bombardment training recommended that these procedures be known wherever a crippled B-17 might be required to land.

A complete description of emergency landing procedures for B-17 aircraft, developed at Hendricks Field, may be obtained by writing Headquarters, AAF, Office of Flying Safety, Safety Education Division, Winston-Salem, N. C.



The statistical officer of a fighter group at Dale Mabry Field, Fla., has figured out when various critical periods are reached in a flyer's career on the basis of past accidents.

When one of the group's pilots reaches one of these critical stages he is presented an illustrated card which points out principal causes for accidents in the particular category and offers advice in exercising caution. For example, a portion of the thirty-hour card reads:

"Plain sense equals plane sense. Overconfidence and 'shining your rind' are expensive and dangerous forms of egotism. Fly within the limits of your technique."

STAMP

The stamp shown above is placed on all clearance forms issued by operations at Smith Reynolds Airport, Winston-Salem, N. C., and is designed to help a pilot follow tower instructions. A new version of the stamp is to include the tower frequency. Where use of a stamp is not feasible, the same result can be achieved by clipping a mimeographed sheet to the Form 23.

BEWARE OF 'FEATHERITIS'

A mule skinner snaking a load up a hill with a team of four wouldn't automatically cut out a mule that wasn't giv-



New clearance form stamp.

ing full output. As long as the mule was pulling more than his drag, the skinner would keep him in there to avoid overloading the other three.

However, if the mule was obviously sick, or pretty certain to collapse, the skinner might grant relief, but considerable care would then be needed to nurse the remaining mules along.

And before he acted, the skinner would be sure to unhitch the correct mule—a feat not beyond the capabilities of the average muleteer, or pilot either for that matter.

This little parable has considerable significance for the pilot of a four-engine bomber, who is bound to be faced with the problem of the unruly engine. This is especially true in combat where flak and enemy fighters have a way of placing a premium on a thorough knowledge of emergency procedures.

One more barnyard analogy, then we'll take to the air: The mule skinner's troubles may have arisen from previous abuse or overwork of his faltering charge, and this type of conduct can cause a pilot similar grief.

It's no secret that there have been too many B-17 and B-24 accidents attributed to engine failure. Regional safety officers of the Office of Flying Safety recently made a survey to determine how many of these failures were induced by the pilot, either through ignorance or confusion.

A substantial percentage of the accidents, it was found, showed the pilot lending a hand to the outcome. This is something for a director of training, concerned with making the best use of every available hour, to ponder. And a fourengine pilot, who lightly passes up an opportunity to be present at a 50-hour inspection, might also give it a little thought.

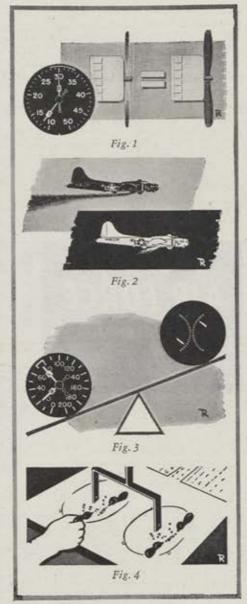
THESE induced failures, as might be expected, were caused in the main by lack of knowledge of engines, instruments and controls—either one or all three. Specifically, the failures usually resulted from overheating through exceeding power limits or misuse of the cooling system, improper use of the propeller controls, or unfamiliarity with the fuel system.

The study disclosed a new malady which seems to have afflicted many pilots of multi-engine aircraft. It's known as "featheritis." These flyers somehow have gathered the notion that prompt action with the feathering button is the solution of any and all engine problems.

The origin of this disease is a matter of guesswork, but it probably stems from the training a pilot receives in flying his plane with one or more engines inoperative. Pilots must remember that these maneuvers are "emergency procedures," with accent on the word "emergency." They aren't intended for use every time an engine loses ten pounds of oil pressure.

In this business of being a fast man with a feathering button, the Prevention and Investigation Division, Office of Flying Safety, makes the following recommendation:

As a general rule, an engine losing power should not be feathered as long as



it shows twelve inches of manifold pressure and is not vibrating excessively.

Twelve inches of mercury reveal sufficient power to offset any saving in drag which would be effected by feathering. (Figure 1.)

Pilots also should remember that any time an engine is turning over faster than the wind-milling speed it is still deliver-

ing power.

Once an engine is feathered, there is always the danger of the failure of the remaining three. Reports of B-17 and B-24 accidents prove this point. The subsequent failures are caused by "pouring the coal" to the remaining engines, which brings on complete loss of power, with detonation as a prelude.

The problem is made acute by the widespread use of 91 octane gasoline in training. Satisfactory two- and three-engine operation is possible with this gas, but the critical limit of the engines is greatly reduced. Pilots should be very careful with that boost.

After feathering, many pilots perfectly aware of the danger of a heavy hand on the throttles still make the mistake. That's because after pushing the throttles forward, the adjustment of other controls takes longer than they had anticipated. When there's sufficient altitude, it's a good plan to throttle back first, make necessary adjustments, then increase power as needed. But nurse it, brother, nurse it.

Before any engine is feathered, it should be remembered it's easier to throw power away than it is to get it back. Power is something like money in that respect. Except in case of fire, there's no particular need to hurry.

And even when fire is suspected, two conditions can lead a pilot astray. After

(Continued on next page)

P. & I. SAYS:

(The Prevention and Investigation Division, OFS, is composed of veteran flyers. These reports include comments by these veterans on recent accidents. Read and heed.)

DYERSBURG, Tenn. — Two members of the crew of a B-17 were killed when they were thrown from the plane without their parachutes from an altitude of 4,000 feet.

The men were catapulted through a hatch in the radio compartment as the result of a violent maneuver to avoid collision with another Fortress.

P & I COMMENT: This should be food for thought for men who regard a parachute as a useless encumbrance.

CERRO, N. Mex. — All members of the crew of a B-17 were killed when the plane flew into a mountain peak near here at 11,500 feet.

The plane, on a night navigation mission, was 150 miles off course. The weather was CAVU, but with a light haze. It is believed that a contributing factor was impaired night vision caused by not using oxygen.

P & I COMMENT: The importance of using oxygen at night in high altitude equipment cannot be overemphasized. For instance, at 12,000 feet night vision without oxygen is only half as good as at ground level. Throw in a little haze and you can understand why the pilot couldn't see the mountain peak.

EL PASO. Texos — A B-24 crashed near here when the pilot tried to stretch his glide after it became apparent he couldn't make the field due to a fuel failure. The failure was caused by unfamiliarity of the aerial engineer with the fuel system. He set all four selector valves on the main tanks to cross feed, thus cutting off the supply to the engines.

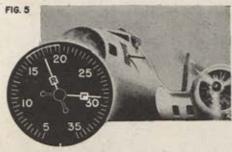
Five members of the crew were killed and three sustained major injuries. The

airplane was demolished.

P & I COMMENT: To stop these fuel system tragedies (there have been others), aerial engineers, assistant engineers and others concerned must understand the system and not have only a superficial knowledge of which valve to turn under normal conditions. This requires thorough teaching, using mock-ups when possible, and subsequent checks both on the ground and in flight.

Reports from combat invariably stress the vital importance of this training, a fact which is easily understandable when the number of emergencies that can arise on any mission are considered.

FLYING SAFETY (Continued)



the take-off, an engine which has been improperly cleared will give out clouds of black smoke. On night take-offs, red flames at times may be seen shooting from the turbo if an excessively rich mixture has been used. These aren't fires. (Figure 2.)

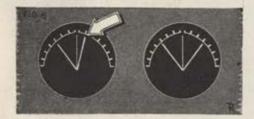
When the oil pressure drops on an engine, a pilot should double check on the oil temperature gauge. The oil tempera-ture will come up if there's anything radically wrong. (Figure 3.)

If an engine develops roughness, the

magnetos should be checked. The motor might do all right on one mag. (Figure 4.)

It should always be borne in mind that instruments on an airplane aren't infallible. In one bomber, for instance, trouble in the electrical system frequently has caused the indicators on the manifold pressure and RPM gauges to go down gradually, giving a picture of a loss of power.

Before the throttle is jammed forward (which really will cause a loss of power), the eyes and ears should be used to detect whether the engine appears to be operating normally. The head tempera-



ture gauge will furnish another check. (Figure 5.) The head temperature will decrease if power is being lost through failure of the fuel or ignition systems. If the trouble is detonation, the temperature will rise. (Figure 6.)

Head temperature readings also provide an invaluable clue in locating the engine causing trouble. This isn't always as easy as it might seem. The manifold pressure and RPM of an engine won't always tell the story, because wind-milling can delay the reaction of these gauges.

When trying to single out a bad engine, a pilot should look for vibration and keep in mind that a plane will tend to turn into the side which isn't deliver-

An over-revving prop doesn't necessarily mean it's in the runaway class.

Unless the RPM has reached a danger point, set by the pilot in advance, the engine should be kept in operation with reduced manifold pressure.

However, before a pilot decides on this matter he should check with an instructor pilot or engineering officer. The danger point will vary with the equipment.

When a feathering button has been pushed too quickly, it is not necessary for the whole cycle to be completed before the prop can be unfeathered. If the RPM has not dropped below 1,000, all that is necessary to unfeather is to pull out the

By a wide margin, the greatest single

cause for the failure of an engine comes from abusing it by excessive demands for power. Any time the red line is needlessly ignored, trouble is around the

Small things as well as the big items must be watched. Here's a commonplace procedure that places an engine in danger: The practice of reducing to low RPM before lowering the manifold pressure when setting the controls for climb after take-off or cruising after climb.

This simple thing can cause the manifold pressure to exceed red line limits for sufficient time to cause detonation. The procedure should be exactly reversed. A



a. P-38 c. A-20 -d. P-47 6. P-51

D minus 15 refers to

a. An international code word for "All Clear"

b. Fifteen degrees off true north c. An AAF Technical Order

d. Fifteen days before the date set for an attack

3. Bougainville is located

a. In New Guinea b. Due west of Hawaii

In the Solomon Islands

In the Marshall and Gilbert Islands

A First Sergeant receives the same base pay as a

a. Master Sergeant b. Technical Sergeant d. Warrant Officer

a. Warrant Officer
c. Staff Sergeant
A number of fighter planes fly in a
tight circle, defending each other's
tails. The name usually given to this formation is

a. Immelmann c. Company Front b. Lufberry d. Renversement

6. The Commanding General of the 14th Air Force is

a. Maj. Gen. Claire L. Chennault Lient. Gen, Ira C. Eaker

Lient. Gen. Carl A. Spaatz Maj. Gen. Frank O'D. Hunter

7. AAF personnel are entitled to longevity pay after how many years of service?

a. Three b. Five c. Ten d. Two

B. Rime is a. A form of torque resulting from

reduced airspeed b. A cloud formation usually found in the South Pacific

c. Air sickness resulting from poor oxygen flow

d. A form of ice which adheres to exposed surfaces

9. Lowry Field is located nearest to a. San Antonio, Tex. c. Tampa, Fla. b. Denver, Col. d. Stockton, Calif.

50, room for improvement. Answers on Page 51. 10. A "grasshopper plane" usually re-fers to a

a. Light plane often used for liaison and reconnaissance work

A-20 used in low-level attacks
Plane out of control which rises
and falls violently

d. German ME-110 11. Vertigo is

a. A form of dengue fever b. Severe limb paralysis

Dizziness

d. A form of temporary deafness

12. Here are three of the Four Freedoms. Fill in the fourth.

Freedom from want Freedom of speech

Freedom of religion

13. The name popularly given to the A-36 is the

Invincible c. Terrier
d. Invisible b. Invader

14. To what instruments does the 1-2-3 system refer?

a. Altimeter, airspeed and directional b. Artificial borizon, needle and ball

and altimeter c. Rate of climb indicator, altimeter

and needle and ball

d. Needle and ball and airspeed

15. The capital of Australia is a. Melbourne c. Canberra b. Brisbane d. Sydney

16. The Skagerrak is

a. A Russian fighter plane b. A body of water between Norway and Denmark

c. The capital of Iraq d. An instrument used by P-51 pilots "Flying the milk run" usually refers to

a. A monotonous or routine flying assignment

b. Flying to a supply base for additional rations

Target towing for gunnery practice d. Flying students on practice missions

18. A nephoscope is used to

a. Determine fuel supply Measure cloud movement

c. Indicate approximate position of nearest radio tower

d. Regulate voltage imput from generator to battery

First Pilot Fredericks gives himself a pre-flight hocus-pocus briefing before each mission. This ritual includes fondling the squadron horseshoe and mascot. His co-pilot razzes him about such foolishness but covertly carries a rabbit's foot himself.

BOMBER CREW

By Lieut. Wm. 7. Lent



Radioman Brown, ex-philatelist, is now a collector of impedimenta of war. Here he wraps for mailing home a piece of flak that came perilously close to his ear phones this morning. Tail Gunner Judy had a busy day with enemy fighters, yet seeks a thrill from a murder mystery.





Back over friendly territory after a mission, the waist gunners keep one eye peeled for enemy interception and the other on a Spam sandwich and a can of fruit juice. These men have a standing bet on their combat marksmanship and today's score is three ME-109Gs to two in favor of Sergeant Horton. He will exact the usual payment at the PX bar tonight.



Without the use of his hands, an airman would be tongue-tied. Navigator McQuiston, as is his wont, gives forth on the necessity of maintaining level flight for proper navigation. His audience consists of rotund Ball Turret Gunner Coster, the custom-built member of the crew who grows to resemble his environment with the passing of each combat mission.



Returning from a successful raid, the entire crew heaves a collective sigh of relief. The co-pilot jokes with the bombardier about the shell hole in the fuselage. But for a few inches of inaccuracy, the missile might have ventilated his midriff. Other crew members demonstrate their love for the sturdiness of their bomber.





OUR AIR WACS

By Charlotte Knight

AIR FORCE STAFF

The girls have proved themselves to the AAF, and thousands more are joining up.

THEY are officially the Air Wacs now. Radio operators and grease monkeys, dispatchers and draftsmen, pharmacists and photographers, chemists and cartographers, typists and teachers, pigeoneers, plotters, meat cutters, cooks, dog trainers—200 different jobs in the Army Air Forces at about 200 different stations. That is the record achieved by the AAF contingent of the Women's Army Corps in less than a year.

But still there aren't enough to go around. More Wacs are needed at every AAF station. The AAF has launched a nation-wide campaign to add 46,000 Air Wacs to its ranks immediately.

For the first time since the Women's Corps was organized, WAC enlistees may now request assignment to the Army branch of their choice and may also be recommended for the type of job they desire. And from all reports thousands of new recruits are choosing the AAF.

The admiration is mutual. Air Force leaders, enthusiastic about the Women's Army Corps since its inception, needed

42

These readings will lead to some important forecasts about the kind of weather the boys up yonder can expect. These Air Wacs are expert weather observers at Mitchel Field, N. Y. no converting to the idea that khakiskirted women could replace men in scores of non-combatant jobs. As long as eighteen months ago, the AAF startled even the most ambitious WAC recruiters by announcing that it could and would use 375,000 Wacs if it could get them. And the AAF finally has received the green light to do its own WAC recruiting.

The Training Command absorbs the majority of Air Wacs, but a generous allotment is made to other commands and stations. For example, a qualified woman radio operator, upon completion of her basic training at Oglethorpe, Des Moines or Daytona, may be assigned immediately to some AAF station for radio duties. If further training is needed, women may be given on-the-job training, or may be sent to one or another of the AAF technical schools.

A check list of GI tasks performed by Wacs reveals that a year has transformed them into electricians, printers, truck drivers, translators, photo retouch artists, link trainer instructors, cryptographers, hospital orderlies, fingerprinters, dental hygienists, entertainment directors, airplane inspectors, chaplain's assistants, bombsight mechanics, surgical technicians, MPs, and statisticians. They have even

invaded the control towers at our air bases.

The endorsement that counts most comes from the officers who have had Wacs working for them. Those officers are now shouting: "Send me more. Send me as many as you can get."

Until the WAAC dropped an "A" last September and became an official part of the regular Army instead of an auxiliary, WAC officers were confined to administrative positions, doing the "housekeeping" for the corps itself. Now, however, WAC officers directly replace male officers in a constantly growing number of technical and administrative jobs. So don't be at all surprised to see a silverbarred Wac holding down a spot on your field as public relations officer, special services officer, legal officer, base personnel officer, PX officer or even air traffic officer.

After taking over the desk of a male officer, one WAC captain in the Air Transport Command reported: "We found some of the officers actually had suitcases packed ready to go overseas waiting for us to arrive. They were certainly glad to see us."

The ATC, incidentally, is one of the WAC's most enthusiastic boosters. Early in July, convinced that WAC officers could assume many of the command's administrative duties, the ATC took 100 women officers for strictly "operational" jobs. Now they want many more.

You'll find these women of the ATC serving in priorities and traffic offices, intelligence sections, weather offices, postal services, public relations and a dozen other offices. One WAC officer replaced a major in the Maintenance Engineering Division, where she keeps track of the ATC's grounded planes and expedites delivery of parts to get them in the air again. Another, as personal affairs officer for the Sixth Ferrying Group, assists the men in settling financial affairs, arranging insurance, allotments and claims. Others handle negotiations, clearances and general preparations for embarking and debarking passengers who pass

When she replaced a male soldier as maintenance mechanic on the flight line at Moore Field, Texas, this Air Wac discovered she had taken on a man-sized jab. But these coveralled and grease-smeared women take to the engine repair shops as readily as to the kitchen—and seem to enjoy it more. The AAF needs hundreds more for mechanical jobs, electroplating, etc.





through ATC terminals. One such WAC operations officer was asked if she liked her job. "Like it?" she exclaimed. "I've checked in Lord Louis Mountbatten, Winston Churchill and Sir John Dill in one week. Who wouldn't like it?"

Air Wacs are being sent overseas at a steadily increasing rate. England and Africa have most of them at the present time, although plans are being made to send Air Wacs to several other theatres. The majority of Wacs in Britain serve the 8th Air Force in some 150 different jobs. Many assist in the preparation of target reports for raids over Germany, others plot the bombers' courses, prepare analyses of the mission's success, chart graphs, keep statistical records of battle casualties, and interpret aerial photographs taken on the mission.

They don't fly planes or pull triggers or release bombs. Theirs is a behind-thelines, frequently underrated role. But the Wacs are soldiers, doing soldiers' jobs to keep the AAF's planes in action. Ask any harassed, understaffed CO. ☆

'An Enviable Record'

The following commendation was received by Col. Oveta Culp Hobby, Director of the WAC, in the form of a letter from General Arnold:

"I have been highly gratified with the record of the members of your command now on duty with the Army Air Forces.

"Not only have members of the Women's Army Corps made an enviable record through their work at AAF installations in this country, but splendid reports have come to me on the work of the Corps with the Eighth Air Force in the European Theatre of Operations.

"As you know, the AAF desires to utilize the WAC component of the Army to the fullest extent. You may be assured that the AAF will do everything possible to assist in recruiting women for this important Army work."

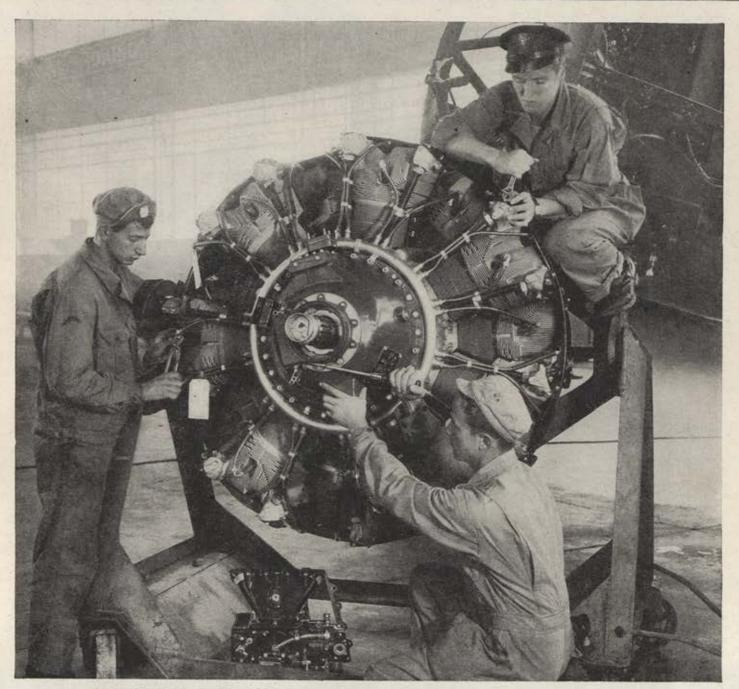
Number One Wac in the AAF is Major Betty Bandel, first Wac to win her gold leaves and who, as Air WAC Officer, channels 43 percent of all Wacs into waiting Air Force jobs.



RUSSIA







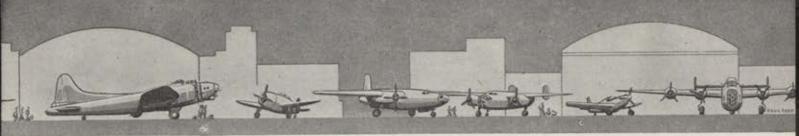
WHAT'S WRONG WITH THIS PICTURE?

The engine in this picture has been pickled. So were the mechs working on it, we'd say, if we didn't know that they posed these boners in cold sobriety. In the picture are Pfc. Jack Bergel (left), and Pvt. Don R. Johnson (right), of the 478th Air Base Squadron, Patterson Field, and, on the engine stand, Pfc. Harry F. Sawyer, Headquarters Squadron, Air Service Command, Patterson Field, Fairfield, Ohio.

The three privates can point out seven mistakes in the picture. These are listed on Page 64. Can you find any more?

Picking out these boners may seem a cinch, men, when we tell you that all the mistakes in the photograph are covered basically by TO 02-1-1. Overseas reports indicate careless preparation of engines for storage. That's all, brother. Get the number of this TO down pat—TO 02-1-1.

"The Preparation of Engines for Storage."



A MONTHLY MAINTENANCE ROUNDUP PREPARED IN COLLABORATION WITH THE AIR SERVICE COMMAND AND THE TECHNICAL INSPECTION DIVISION, OFFICE OF THE AIR INSPECTOR

TO FLY THROUGH THE AIR WITH THE GREATEST OF EASE . . .

To achieve speed a race horse is fault-lessly groomed and as slick as one of the new steel pennies. A new airplane, too, is just as spotless as the designer can make it. Keeping an airplane immaculate is termed aerodynamic maintenance, a two-dollar phrase that merely boils down to a lot of simple, horse-sense maintenance habits that frown upon cabin doors or cockpit hoods improperly fitted as well as leading edges of wings, stabilizers and cowlings dented. It takes in such stuff as leaving unused radio insulators still installed or mechs walking on wings with heavy nailed shoes.

Internal dirt, also, adds unnecessary weight to aircraft and roughened or nicked propellers retard the airplane's

best performance.

Smoothness or lack of it in high-speed aircraft may mean decisive superiority or inferiority to the enemy airplane in combat. Be more particular than you were of your Sunday best civvies in this matter of aerodynamic maintenance. Obstructions or roughness which increase drag can mean disaster.

The old Jennies of the first World War flew at eighty miles per hour with approximately ninety horsepower. A projecting part on a P-47 would cause approximately 125 times the amount of drag that one of equal size would have on a Jenny. Figure it out. A Jenny in this war would amount to a speedy invitation to be a harp-player.

There are a flock of factors that determine yes or no to an airplane's whirring across the sky in smooth perfection. Read the whole story in TO 01-1-140, "Aerodynamic Maintenance of Aircraft." And there are plenty of pictures in it.

CORROSION . . .

The lagging not being removed from oil scavenging and propeller feathering oil lines results not only in corrosion of the metal lines but deterioration of non-metallic lines as well. Take a look at TOs 02-1-44 and 03-20CC-7.

TO INDEX NOW BI-MONTHLY . . .

Instead of the monthly issuance of TO 00-1 (the index), the new schedule calls for a new index every other month. On

the first and fifteenth of each month a supplementary listing of all new TOs and those TOs rescinded during the previous two-week period will be issued.

B-17 'SLUGGER' GOES 900 HOURS WITHOUT AN ENGINE CHANGE . . .

A new world's record for B-17s is believed to have been rung up by "Slugger," a Roswell (N. Mex.) Army Air Field training plane, which recently flew 900 hours without an engine change. The time is about 150,000 miles of routine flying at this AAF Training Command Four-Engine Pilot Transition school.

Strictly a veteran of the battle of New Mexico, the Fortress arrived at Roswell straight from the Vega plant in Burbank, Calif., with 12.9 flying hours to her credit. There "Slugger" became one of the regulation training ships, assigned to the squadron commanded by Capt. Van A. Pierce, and began shooting landings and going on cross country flights with student officers at the controls.

The B-17 went through the usual maintenance routine—change of oil, a new supercharger and the necessary precautionary checks. After 500 flying hours a Fortress is supposed to be ready for new engines. But when "Slugger" completed 500 she didn't need any. And the excitement began.

Maj. George E. Franks, director of maintenance, interceded and won permission from Air Service Command to fly "Slugger" another 100 hours. The B-17 completed these and asked for more. The

Air Service Command extended the time to 750 hours. Still the B-17 didn't need an engine. Major Franks then got permission to go to 900 hours and "Slugger" thereupon set what is believed to be a new record for planes of her class, to the jubilation of all including field representatives Philip A. Benson and J. A. Higgins of Boeing and George A. Peavy of Wright Aero.

After 900 hours—371/2 days of roundthe-clock flying—"Slugger" got new engines and a bath.

Hats off to the mechs of the AAF who kept "Slugger" slugging.

Not So Much Stuffing . . .

Overloading in life raft compartments is a principal cause of life raft doors failing. This is fatal. See Par. 6 b (2) TO 04-15-1.

USE THE BATTERY CART ...

The failure to use battery carts to start all aircraft equipped with external power plug causes run-down batteries and run-away propellers. See Par. 1 g TO 03-5-39, Par. 2 a (3) TO 03-20B-3 and TO 01-1-52.

COMING IN FOR A LANDING . . .

Drain plugs are to be safetied in left and right landing gear down lock valves on B-25 Series aircraft. Otherwise, there might be a failure of landing gear locking mechanisms should the plug work loose and come out. Another landing gear failure might result if the main strut attachment bolts are loose on left and right landing gear of P-39 Series aircraft.

TOO MANY TIMES . . .

Numerous cases of loose spark plugs and loose spark plug lead elbows are showing up on all types of aircraft. Remember that loose plugs cause rough operation and loss of power. See 03-5E series TOs. \$\Delta\$

"Slugger," the 900-hour engine B-17, is shown below with her crew, engineering officers and factory representatives at Roswell.



30 II off

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



MEDAL OF HONOR Chefi, Raiph, Maj. (Also DFC & AM)

DISTINGUISHED SERVICE CROSS

*Alsip, Raymond H., Cpl.
Bengel, George H., T/Sgt.
Brown, George S., Maj.
Conroy, Thomas C., Capt.
Crays, Edward, Maj.
(Also SS, PH. DFC & 3 OLC &
20LC to AM).
Fegan, Robert W., S/Sgt.
Helder, Ronald L., Lieut.
Herlevic, Frank A., T/Sgt.
Judy, James B., Lieut.
McFarland, Kenton Dean, Lieut.
(Also DFC).
Mix, Joseph E., T/Sgt.
Sicssor, Lee D., Lieut.

DISTINGUISHED SERVICE MEDAL

"Idu Pont, Richard C.

LEGION OF MERIT

Allen, Brooke E., Col. (Also DFC)
Almand, William J., M/Sgt.
Backus, Edward N., Col.
(Also AM & OLC)
Briggs, James E., Col.
Frietcher, Albert W., Maj.
Hutchins, Russell, Sgt.
Imparato, Edward T., Maj.
Murray, Charles E., Maj.
Olsen, Roy W., Cap.
Sheyda, Walter W., Maj.
Sheyda, Walter W., Maj.
Wells, Leslie L., Capt.

SILVER STAR

SHLVER STAR

Allen, David W., Lieut.

(Also DFC & AM)
Anderson, Fred E., T/Sqt. (Also DFC)
Angel, Frederick, L., Lieut.
Arne, Earl W., S/Sut. (Also AM)
Avendano, Joseph, Lieut.
Bacon, William C., Maj.
(Also DFC & OLC & 2 OLC to AM)
Bevlock, James J., Capt.
Bewak, Fred J., T/Sqt.
(Also PH & DFC)
Blakey, George A., Lieut. Col.
(Also DFC & AM)
Bloombuff, John E., Lieut.
Bosso, Philip, S/Sut. (Also DFC)
Brainard, Ceylon M., Lieut.
(Also DFC & AM)
Breen, John E., Sqt.
Brown, Paul D., Maj.
Brewn, John E., Sqt.
Brown, Paul D., Maj.
Cameron, William R., Capt.
Coms, Mayron R., Lieut.
Dessert, Kenneth O., Maj.
Dicklinson, Clair E., Sqt.
Eduundton, James V., Maj.
(Also OLC to DFC)
Canton, Clair E., Sqt.
Eduundton, James V., Maj.
(Also OLC to DFC)
(Also OLC to DFC)
Gavara, Charles S., Lleut.
Gallup, Charles S., Lleut.
Gardner, Bruce A., Capt.
Cardner, Bruce A., Capt.
(Also DFC & AM)
Goodrich, Earle, A., Lieut.
(Also DFC & AM)
Golotto, Frank, Sqt. (Also AM)
Goodrich, Earle, A., Lieut.
(Granch, Kenneth W., S/Sqt.
Gossard, Leonard J., Lieut.
(Also DFC & AM)
Goodrich, Earle, A., Lieut.
(Also DFC & AM)
Hanceck, Humphrey B., T/Sqt.
(Also AM)
Hanceck, Humphrey B., T/Sqt.
(Also AM)
Hanceck, Humphrey B., T/Sqt.
(Also AM & OLC)
Hansell, Haywood S., Ir., Brig., Gen.
Harris, Jack O., Sqt. (Also AM)

Posthumous

4 At the time of his death, Mr., du Poot w
Special Assistant to the Coeumand!

Posthumous
 Al the time of his death, Mr. du Poot was Special Assistant to the Commanding General, Army Air Porces, in charge of the AAP Gilder Program.

Hasik, George L., Lieut.
Heising, Richard J., S/Sgt.
(Also AM)
Helms, Barney W., T/Sgt. (Also AM)
Helveston, George T., Lieut.
Henderson, Benjamin W., Sgt.
(Also DFC & AM)
Hensley, Harold P., Lieut.
Hicks, Preston R., Sgt.
Holtiday, Robert L., Cpl.
Helt. Charies E., S/Sgt. (Also DFC)
Helt. Charies E., S/Sgt.
(Also DFC & AM)
Imman, Harold R. S/Sgt.
Jenkins. Edwit C., T/Sgt.
(Also DFC & AM)
Imman, Harold R. Syst.
Johnson, A. C., Sgt.
Johnson, A. C., Sgt.
Johnson, A. C., Sgt.
Johnson, A. C., Sgt.
(Also DFC, A. AM)
Kaley, James M. Lieut. (Also AM)
Kelley, James F., Lieut.
Kales, Joseph S., S/Sgt.
Kosakowski, Joseph E., Lieut.
Lee, Jack, Lieut.
'(Also OFC)
Meader, Stell, Lieut.
'(Also AM)
McCullar, Kenneth Dalton, Maj.
'(Also S OLC) to SS, PH. AM & 3 OLC)
Meader, Stell, Lieut.
'(Also DFC, AM & 3 OLC)
Rester, George J., Jr., Lieut.
Rordon, Timothy, T/Sgt.
Svensson, Berthel, Lieut.
Taylor, Wallace C., Capt.
Watson, James A., T/Sgt.
Weaver, Worden, Lieut.
Zemke, Hubert, Col.
(Also DFC, AM & 3 OLC)

OAK LEAF CLUSTER TO SILVER STAR

Andrade, Michael R., Pic. (Also DFC)
Barlow, Robert L., T/Sgt. (Also DFC)
Bayles, Joseph. Cpl.
Bender, Frank Peter, Capt. (Also AM)
Blakely, Quentin W. Sgt.
Bonham, Denald L., Lieut.
Bryant, Warren E., Lieut. (Also AM)
Burton, Frank M., Lieut.
Faurot. Robert L., Lieut.

PURPLE HEART

Antesz. Frank G., S/Sgt.
Auman, Rictor H., Lieut.
Samber, Jeyce J., Lleut. (Also DFC)
Bannen, John R., Lleut. (Also DFC)
Bannen, John R., Lleut. (Also DFC)
Bauman, Rexford G., Lleut. (Also DFC)
Beasley, William D., Lieut.
(Also OLC to DFC)
Belleville. Walter B., Jr., T/Sgt.
(Also DFC)
Boothe. Harry J., Lieut.
Britt. James O., Lieut.
Britt. James O., Lieut.
Britt. James O., Lieut.
Brooks. Harold V., T/Sgt.
(Also OLC to AM)
Buchholz. Martin. A., S/Sgt. (Also DFC)
Dean. John A., Lieut.
Elliott. Wilson C., S/Sgt.
(Also AM & 2 OLC)
Gilliam, Delbert Clyde. Sgt.
(Also AM & 2 OLC)
Gustafson. Everett W., Sgt.
(Also AM & OLC)
Haller M., Syst.
Hammer, Stewart W., M/Sgt.
Hancy, Richard P., Lieut.
Hammer, Stewart W., M/Sgt.
Hancy, Richard P., Lieut.
Haward, Hugh B., S/Sgt.
(Also AM & OLC)
Heffernan, Rollin B., Sgt.
Herron, James L., Sgt.
Holbert, Georue R., S/Sgt.
(Also AM & OLC)
Kadinner, Gilbert S., Lieut.
Lancaster, James W., Leut.
Also AM
Shoot, James A., Lieut.
Mitchell, Robert A., Jr., Lieut.
Col.
Takio AM
Shoot, James M., Leut.
William, James W., Le

OAK LEAF CLUSTER TO PURPLE HEART

Bradshaw, Thomas E., Col.

DISTINGUISHED FLYING CROSS

Abb, Robert G., Lieut.
Acraham, William E., Tyst.
Abram, Robert V., Lieut.
Ackerman, Lonnie L., Sst.
Adams, Norman C., Lieut.
Addams, Norman C., Lieut.
Addams, Norman C., Lieut.
Addinan, Arthur R., SySt.
(Also AM & OLC)
Aiken, Albert Shelton, Capt.
Allien, Willett I., SySt.
(Also OLC to AM)
Allison, Connaid J., SySt. (Also AM)
Allison, Ronald J., SySt.
Allen, Willett I., SySt.
Allen, William J., Tayst.
Anderson, Warren W., Lieut.
Anderson, Warren W., Lieut.
Anderson, William J., Tayst.
Anderson, William J., Tayst.
Anderson, William J., Capt.
Anderson, Wellen, W., Capt.
Anderson, Wellen, W., Capt.
Anderson, Wellen, W., Capt.
Anderson, Wellen, W., Capt.
Ashinhurst, Thomas E., Lieut.
Aresnoult, Larence J., SySt.
Ashoraft, Hugh G., Lieut.
Also OLC to AM)
Abell, Clarence E., Sgt.
Ashoraft, Hugh G., Lieut.
Also, Carle T., Col. (Also AM & OLC)
Aubrey, Carl L., Lieut.
Also, Carle T., Col. (Also AM & OLC)
Aubrey, Carl L., Lieut.
Also, AM & 2 OLC,
Bagby, Edward L., Sgt.
Baird, Harley S., Syst.
Baird, Harley S., Syst.
Baird, Harley S., Syst.
Baird, Harley S., Syst.
Baird, Hugh G., Lieut.
Also AM & OLC,
Baker, David A., Lieut.
Also AM & OLC,
Baker, David A., Lieut.
Also, AM & OLC,
Baker, Syst.
Balen, John L., Jr., Cpl.
Bales, John T., Lieut.
Barr, John E., Syst.
Bales, John T., Lieut.
Barr, John E., Col., (Also AM)
Bennet, Francis L., Tyst.
Also AM, & OLC,
Barten, John L., Jr., Syst.
Bennet, Favel, J., Lieut.
Bishel, Lond B., Lieut.
Bishel, Lond B., Lieut.

Blake, Robert C., S/Sgt.
(Also 3rd OLC to AM)
Blevins, Hilary M., Lieut.
Bley, Charles W., Lieut.
Bley, Charles W., Lieut.
Bleyer, Julian M., Lieut. Cel.
(Also AM & 2 OLC)
Blonshins, Leroy H. Sgt.
Blounet, Wesley E., T/Sgt.
Blounet, Wesley E., Lieut.
(Also OLC to AM)
Begert, William D., S/Sgt.
(Also OLC to AM)
Bell, John J., Lieut. (Also OLC to AM)
Bellon, Williard L., Lieut. (Also AM & Bolc)
Beock, Robert A., Lieut.
(Also AM & 3 OLC)
Boock, Robert A., Lieut.
(Also AM & 3 OLC)
Boock, Foseh W., M/Sgt. (Also OLC to AM)
Bower, Jack R., S/Sgt.
Bower, Jack R., S/Sgt.
Bower, Jack R., S/Sgt.
Bower, Jack R., S/Sgt.
Bower, Robert H., Lieut.
Boyle, Jehn B., Jr., Cpl. (Also AM)
Boyles, Frank W., M/Sgt. (Also AM)
Boyles, Frank R., Lieut.
(Also OLC to AM)
Branch, Edward M., Lieut.
(Also AM & 5 OLC)
Brandt. Waldo B., S/Sgt.
Brill, Allea, Lieut.
Brinnen, Sheldon S., Lieut.
Brinnen, Sheldon S., Lieut.
Brown, Allen D., S/Sgt.
Brill, Allea, Lieut.
Brown, Allen D., S/Sgt.
Brown, Ben S., Capt. (Also AM)
Brown, Loyal G., Lieut.
Brown, Riebard T., S/Sgt.
(Also AM & 3 OLC)
Brown, Allen D., S/Sgt.
Brown, Ben S., Capt. (Also AM)
Brown, Loyal G., Lieut.
Brown, Riebard T., S/Sgt.
(Also AM & 2 OLC)
Burking, Walter C., Sgt.
(Also AM & 3 OLC)
Burking, Walter C., Sgt.
(Also AM & 3 OLC)
Burking, Walter C., Sgt.
(Also AM & 3 OLC)
Burking, Walter C., Sgt.
(Also AM & 3 OLC)
Burking, Walter C., Sgt.
(Also AM & 3 OLC)
Burkey, Allen D., S/Sgt.
Burkey, Allen D., Lieut.
(Also AM & 3 OLC)
Burten, Arneld L., S/Sgt.
Burkey, John Sidney, Capt.
Death, Harrey C., T/Sgt.
Compten, Lieut.
Butter, William A., S/Sgt.
Duf



S/Sgt. Eugene Light



Brig.Gen.J.H.Atkinson Maj. J. W. Edmundson





Lt. H. G. Ashcraft



Lt. Col. C. G. Peterson



Maj. J. L. Jerstad

Foltz, John W., Lieut,
Fournier, George G., S/Sgt.
(Also AM & 2 OLC)
Francis, Paul H., Capt.
(With OLC & AM)
Gardinier, Russell J., Lleut.
Garrett, Frank D., T/Sgt.
Gauthier, Joseph A., Sgt. (Also AM)
Glibbs, Harry E., T/Sgt.
Giddens, Paul Owen, Sgt.
(With OLC, AM & 3 OLC)
Glillette, Major R., Lieut.
Goza, James M., S/sgt.
Grant, Donald L., Lieut.
(Also AM & OLC)
Grant, Lawrence H., Lieut.
(Also AM & OLC)
Grant, Lawrence H., Lieut.
(Also AM)
Griggs, Charles A., S/Sgt. (Also AM)
Hall, Gerge W., T/Sgt.
Guether, Robert E., Lieut.
Guiffrd, Gerge W., T/Sgt.
Gutra, George H., J/m Maj.
Harkeri, John A., T/Sgt. (Also AM)
Honsen, Pat H., S/Sgt.
Hoffman, Arthur E., Maj. (Also AM)
Honnessey, Edward J., Jr., Lieut.
Heron, Kenneth, S/Sgt.
Hoffman, Arthur E., Maj. (Also AM)
Howston, Rowland B., Lieut.
Hopkins, Allen V., Lieut. (Also AM)
Houston, Rowland B., Lieut.
Hopkins, Gore. Capt. (Also AM)
Houston, Rowland B., Lieut.
Lieut.
Lieut.
Joseph M., S/Sgt.
Jones, John L., Lieut.
Li

Nelson, John W., T/Sgt.
Nichols, Edgar S., S/Sgt.
Ormand, Waverly C., T/Sgt.
Pare, John R., Lieut.
Palmer, Philip T., Lieut.
Palmer, Leonard A., T/Sgt.
Panas, Peter W., S/Sgt.
Panas, Peter W., S/Sgt.
Panas, Peter W., S/Sgt.
Perry, Alton M., S/Sgt. (& OLC)
Perry, Alton M., S/Sgt.
Perry, Alton M., Lieut.
Pilote, Norman R., Lieut.
Pilote, Norman R., Lieut.
Pilote, Norman R., Lieut.
Ramsey, Homer B., T/Sgt.
Redding, Rylan C., Lieut.
Reinhardt, Earl H., S/Sgt.
Riddle, Alpheus H., S/Sgt.
Riddle, Alpheus H., S/Sgt.
Riddle, Alpheus H., S/Sgt.
Roberts, Claude C., T/Sgt.
Roll, Thomas B., Lieut.
Roato, Theodore A., S/Sgt.
Roll, Thomas B., Lieut.
Roato, Theodore A., S/Sgt.
Sheetz, Homer O., S/Sgt.
Simson, Jerome C., Lieut.
Sisson, Jerome C., Lieut.
Sisson, Jerome C., Lieut.
Smith, Albert T., S/Sgt.
Smyder, Charles H., S/Sgt.
Smyder, Charles H., S/Sgt.
Syder, Charles H., S/Sgt.
Syder, Charles H., S/Sgt.
Sterling, Robert W., S/Sgt.
Sterling, Robert W., S/Sgt.
Stevart, John E., Capt. (& OLC)
Stewart, Raymond E., Sut.
Stilwell, Lewis B., Lieut.
Vande, Presion E., Lieut.
Vande, Presion E., Lieut.
Vande Boart, Warren, M., Lieut.
Walker, Clyde B., Lieut.
Walker, Robert A., Lieut.
Walker, Robert A., Lieut.
Walker, Robert M., Lieut.
Walker, Robert M., Lieut.
Walker, Proderick L., Jr., S/Sgt.
Warren, Russell M., T/Sgt.
Warren, Russell M., T/Sgt.
Ward, Joe F., S/Sgt.
Ward, Joe F., S/Sgt.
Ward, John B., Lieut.
Williams, Paul V., Lieut.

OAK LEAF CLUSTERS TO DISTINGUISHED FLYING CROSS

FLYING CROSS
Anderson, Alf Lester, Cpl. (3rd: & AM)
Arneth, John P., Sgt. (Also AM)
Arneth, John P., Sgt. (Also AM)
Arnezo, Cyril H., Pyt.
(Also AM & OLC)
Arts. Henry Fr. Jr., S/Sgt.
(2nd: AM & 2 OLC)
Ashley, Burl S., FrO (3rd)
Atkinson, Joseph H., Brig. Gen.
(Also Ath OLC to AM)
Astroy, Elmer F., Cpl. (Also AM)
Balley, John D., Lleut.
(Also AM & OLC)
Baker, Leonidas, Capt.
Ballantine, John V., Pyt.
(Also AM & GLC)
Bareses, Charles G., Sgt.
Bates, James W., S/Sgt.
(2nd: AM & OLC)
Baynes, Edward E., S/Sgt.
(Also 3rd OLC to AM)

Beadle, Frank R., Lieut.
Beebe, Robert C., Capt. (Also AM)
Bergunist, Jesse D., S./Sgf. (Also AM)
Bergunist, Jesse D., S./Sgf. (Also AM)
Bergunist, Jesse C., Pfc.
(Also AM & OLC)
Biltmaier, Lawrence P., Cpl.
Beetcher, Wendell D., Lieut.
(2nd: Also AM & OLC)
Bogacki, Gerald J., Pfc.
(2nd: Also AM & OLC)
Bogito, Frank L., Cpl.
(Also AM & OLC)
Bornsoe, Hubert S., Lieut.
(2nd: Also AM & OLC)
Bullock, James R., Lieut.
Burleigh, Albert H., Lieut.
(2nd: Also AM & OLC)
Burnside, Barrie Charles, Lieut.
(2nd: Also AM)
Burr, Albert H., Lieut.
(2nd: Also AM)
Burr, Albert H., Lieut.
(2nd: Also AM)
Burr, Albert R., Lieut.
(2nd: Also AM)
Burr, Albert R., Lieut.
(2nd: Also AM)
Burr, Albert H., Lieut.
(2nd: Also AM)
Burr, Albert H., Lieut.
(2nd: Also AM)
Merrell, Robert W., Lieut.
Ryan, John C., Lieut.
"Sewart, Alian J., Jr., Maj.

SOLDIER'S MEDAL

Beattle, Franklin E. S/Sgt.
(Also OLC to AM)
Browhard, Lawrence H. Sgt.
Brown, Emery O., S/Sgt.
Brown, Emery O., S/Sgt.
(Also AM & OLC)
Fryberger, Donald L., S/Sgt.
Harrell, Samuel J., M/Sgt.
Kinley, Walter E., S/Sgt.
Notz, Matt F., T/Sgt.

OAK LEAF CLUSTER TO SOLDIER'S MEDAL

Bongyor, Kalman P., Sot.

AIR MEDAL

Arams, James R., Lieut. (& OLC)
Adams, Edward Bowie, Lieut.
Adams, William M., S/Sgt.
Adams, William M., Lieut. Col.
Adams, William M., Lieut. Col.
Adams, William M., Lieut. Col.
Addridge, Leroy A., Sgt.
Allen, John T., Lieut. (& OLC)
Alspaugh, Kenneth L., Lieut. (& OLC)
Amory, Charles M., Lieut.
Amory, Charles M., Lieut.
Anderson, Charles S., Sgt.
Anderson, Iames L., T/Sgt. (& OLC)
Anderson, James L., T/Sgt. (& OLC)
Anderson, James L., T/Sgt. (& OLC)
Anderson, James L., T/Sgt. (& OLC)
Anderson, John, Capt.
Anderess, Dorn R., Sgt.
Andrews, John, Capt.
Baceski, Edward J., Lieut.
Bacon, Harvey S., Cgl. (& OLC)
Bailey, J. C., Mal.
Baker, Gordon, W/O
Baker, Jess Francis, Lieut. (& 3 OLC)
Barrett, Richard L., S/Sgt.
Barrett, Richard L., S/Sgt.
Barrett, Richard L., S/Sgt.
Bartett, George H., Lieut.
Bats, Samuel B., Lieut.
Bats, Samuel B., Lieut.
Bats, William S., Sgt.
Baue, Clarence E., Sgt. (& 3 OLC)
Baughman, Kenneth O., Lieut.
(& 3 OLC)
Bayer, Emil J., S/Sgt.
Baue, Clarence E., Sgt.
Bean, Hazen R., Capt.
Bedlows, Donno G., Lieut. (& OLC)
Beillows, Donno G., Lieut. (& OLC)
Beillows, Donno G., Lieut. (& OLC)

Belzowski, Frank J., Sgt. (& 3 OLC)
Benn, William G., Maj.
Bentley, Charles T., Sgt.
Berenson, Morris, Lleut. (& 3 OLC)
Bestgen, Walter E., Lieut. (& 2 OLC)
Beyeler, Roy F., S. Sgt.
Biglow, Arthur H., S./Sgt.
Bishop, Leichester B., Lieut. (& OLC)
Bishop, Leichester B., Lieut. (& Tol.C)
Bishop, Leichester B., Lieut. (& Tol.C)
Bishop, Leichester B., Lieut. (& Tol.C)
Bianco, Edmundo, S./Sgt. (& OLC)
Blanton, Nathaniel H., Capt.
Biomeuist, Oscar M., Capt. (& 3 OLC)
Booth, Frank W., S./Sgt. (& OLC)
Bouchard, Real, S./Sgt. (& OLC)
Bouchard, Real, S./Sgt. (& OLC)
Bowland, Charles F., Pfc. (& OLC)
Boyce, James H., Jr., Liout. (& OLC)
Bradley, William B., Col.
Bradley, William B., Col.
Bradley, William B., Col.
Bramer, Fred A., M/Sgt.
Bradley, L., T./Sgt. (& 2 OLC)
Bradley, Merol D., Sgt.
Bradley, Edwin M., S./Sgt.
(& OLC)
Brehme, Carl H., T./Sgt.
Brancelove, Edwin M., S./Sgt.
(& OLC)
Brehme, Carl H., T./Sgt.
Brinkley, Lee R., Sgt.
Browne, Peter E., Capt.
Browne, Peter E., Capt.
Browne, Peter E., Capt.
Browne, Peter E., Capt.
Browne, Fred F., T/Sgt. (& 2 OLC)
Brown, Fred F., T/Sgt. (& 2 OLC)
Brown, Fred F., T/Sgt. (& OLC)
Carbon, Lee R., Sgt.
Cadel, Ciliferof E., S/Sgt.
Cadel, Ciliferof E., S/Sgt.
Cadel, Ciliferof E., S/Sgt.
C





Lt. S. O. Andrews



Lt. J. E. Bloomhuff



Maj. C. E. Murray



Col. Hubert Zemke



Maj. Ralph Cheli



ROLL OF HODOUR ANABELD A MONTRELY RECORD OF DECORATIONS ANABELD CONTROL TO PERSONNEL OF THE ARMY AIR FORCES.

Colberg, Raymond T., S/Sgt.
Cole. Oliver C., S/Sgt.
Cole. Oliver C., S/Sgt.
Coleman, Elmer L., M/Sgt. (& OLC)
Coleman, Melvin M., Lieut.
Coleman, Robert L., Capt.
Collins, Jack L., S/Sgt.
Connors, Wayne S., Capt. (& 3 OLC)
Cook, Max J., Lieut.
Cooley, Calvin L., Lieut.
Cooley, Calvin L., Lieut.
Cooley, Calvin L., Lieut.
Coomer, Samuel L., Jr., Sgt.
Cornett, Alwyn E., Syst. (& 2 OLC)
Cooper, Samuel L., Jr., Sgt.
Cornett, Alwyn E., Syst.
Cornett, Alwyn E., Syst.
Cornett, Alwyn E., Syst.
Cornett, Charles M., S/Sgt. (& 3 OLC)
Cowhed, Ford C., S/Sgt. (& 3 OLC)
Dallas, Frederick, Jr., Capt.
Dallon, Bradford E., Lieut.
Dallon, Bradford E., Lieut.
Davis, Everett. Capt.
Davis, Culmer H., Sgt. (& 3 OLC)
Davis, Everett. Capt.
Davis, Everett. Capt.
Davis, Everett. Capt.
Davis, Everett. Capt.
Demoth, Elwart L., Set. (& 2 OLC)
Domoth, Elwart L., Lieut.
Deer, Maxie G., Jr., Lieut.
Deer, Maxie G., Jr., Lieut.
Deer, Maxie G., Jr., Lieut.
Downing, Joseph A., Lieut.
Capt.
Drake, Nicholas R., Lieut.
Capt.
Draw, Raymond W., S/Sgt.
Drum, Dauglas Samuel, Lieut.
(& 3 OLC)
Drew, Raymond W., S/Sgt.
Drum, Dauglas Samuel, Lieut.
(& 3 OLC)
Drummond, William J., Sgt.
Duun, James W., Lleut.
(& 3 OLC)
Dustin, George W., Cpl.
Dutton, Albert H., Lieut.
Earls, Charles C., S/Sgt.
Easter, James L., Lieut.
Eddris, Warren P., Lieut.
Eddris, Warren P., Lieut.
Eddris, Warren P., Lieut.
Eddris, Charles C., S/Sgt.
Easter, James L., Lieut.
Eddris, Marren P., Lieut.
Eddris, Marren P., Lieut.
Eddris, Marren P., Lieut.
Eddris, Danie, Joseph S., Sgt.
Eddris, Charles C., S/Sgt.
Easter, James L., Lieut.
Eddris, Marren P., Lieut.
Fordan, Marri

Gilson, Vance E., S./Sgt.
Goebel, John A., Lieut. (& 3 OLC)
Golberg, Robert T., Lieut.
Goncher, Bernard A., Lieut. (& 3 OLC)
Goodson, James A., Lieut.
Gourley, Jack, Lieut.
Gourley, Jack, Lieut.
Gourley, Jack, Lieut.
Goyan, Fred F., Sgt.
Graze, John J., S/Sgt. (& 3 OLC)
Grady, Martin T., Cpl.
Gray, Carl R., S/Sgt.
Gray, Carl R., S/Sgt.
Gray, Russell E., Capt.
Greene, Herbert G., T/Sgt.
Griec, Charles R., Lieut.
Grim, Robert A., Sgt. (& 3 OLC)
Grisble, Ernest R., T/Sgt.
Grice, Charles R., Lieut.
Grim, Robert A., Sgt. (& 3 OLC)
Griss, Harvey A., Lieut.
Grim, Robert A., Sgt. (& 3 OLC)
Grisch, Sidney, Lieut.
Hall, Alvin G., S/Sgt.
Guth, Joseph L., Sgt.
Guthridge, Charles B., Capt. (& 3 OLC)
Guthridge, Charles B., Capt. (& 2 OLC)
Hall, Earl W., S/Sgt.
Hale, Laurence E., Sgt. (& 3 OLC)
Hall, Earl W., S/Sgt.
Hale, Laurence E., Sgt. (& 3 OLC)
Hall, Earl W., S/Sgt.
Hale, Laurence E., Sgt. (& 3 OLC)
Hanner, Carl L., Sct.
Hase, Herbert M., Sgt.
Hase, Herbert M., T/Sgt. (& 2 OLC)
Hanner, John B., Lieut. (& 2 OLC)
Hangel, James R., Lieut. (& 0 OLC)
Hardesty, Edwin H., S/Sgt.
Hardesty, Edwin H., Syst.
Hard

Johnson, Daylon R., M/Sqt.
Johnson, Edward F., Sgt. (& 3 OLC)
Johnson, Herbert E., Jr., Capt. (& 2 OLC)
Johnston, David W., Jr., S/Sqt. (& OLC)
Johnston, David W., Jr., S/Sqt. (& OLC)
Jones, Marlon D., Jr., Lieut. (& 2 OLC)
Jones, Shoert S., Jr., T/Sqt. (& 2 OLC)
Jones, Shoert S., Jr., T/Sqt. (& 2 OLC)
Jones, Shoert S., Sqt. (& 3 OLC)
Jones, Shoert S., Jr., T/Sqt. (& OLC)
Jones, Shoert S., Jr., T/Sqt. (& OLC)
Jones, William D., Lieut.
Joy, William M., Capt.
Jurgensmier, Paul E., S/Sqt.
Kane, John Roger, Col.
Karp, Artur D., Lieut.
Kate, Hendrik, Jr., T/Sqt. (& OLC)
Kay, Marvin Edward, Lieut.
Kealey, Christopher R., S/Sqt.
Kagelman, Charles C., Maj. (& 3 OLC)
Keylar, Toy, John H., Capt.
Keller, Daniel J., S/Sqt.
Kelly, Walter Earl, Lieut. (& 3 OLC)
Kessler, Robert, S/Sqt.
Kild, Veanon, S/Sqt.
Kildo, Veanon, S/Sqt.
Kildo, Veanon, S/Sqt.
Kirk, Naoh C., T/Sqt.
Kirk, Naoh C., T/Sqt.
Kirk, Naoh C., T/Sqt.
Kirk, Naoh C., T/Sqt.
Kielman, Lawrence L., T/Sqt.
Kielman, Joe N., Lieut.
Koening, Bernard H., T/Sqt.
Kielman, Joe N., Lieut.
Knapp, Ralph L., Capt. (& 3 OLC)
Konlyth, Seymour G., Lieut.
Knapp, Ralph L., Capt. (& 3 OLC)
Konlyth, Seymour G., Lieut.
Knapp, Ralph L., Capt. (& 3 OLC)
Koening, Bernard H., T/Sqt.
Krisher, Elwood C., Lieut.
Knapp, James B., Lieut.
Lada, Michael, Lieut.
Lada, Robert M., S/St.
William E., Lieut.
Maches, Charles P., Capt.

Nock, Glen M., T/Sgt.
Norman, William P., Pte.
O'Connor, Sauire T., Lieut.
O'Connor, Sauire T., Lieut.
O'Connor, Sauire T., Lieut.
O'Connor, Sauire T., Lieut.
O'Criz, Rajh P., Lieut.
Paderone, John G., T/Sgt.
Palmer, Daniel J., Lieut.
Pedrone, John G., T/Sgt.
Pelegohuk, William, Lieut.
Penn, Loyal Y., Capt.
Pennarden, Leroy H., S/Sgt.
Pennarden, Leroy H., Lieut.
Pennarden, S/Sgt.
Poole, William A., Lieut.
Posten, John Herbert, Capt.
Poole, Jack G., S/Sgt.
Pope, Janes E., Lieut.
Posten, John Herbert, Capt.
Powell, Harvard W., Maj.
Probaska, Joseph M., Lieut.
Posten, John Herbert, Capt.
Powell, Harvard W., Maj.
Probaska, Joseph M., Maj.
Probaska, Joseph M., Maj.
Probaska, Joseph M., Lieut.
Pagn, Capt. L., S/Sgt.
Raper, William S., Capt.
Reicherf, Earl, Lieut.
Reinerth, George A., Lieut. (& OLC)
Reinerth, George A., Lieut.
Reinerth, George A., Lieut.
Reinerth, George A., Lieut.
Reynolds, William H., Cpl.
Riberdy, Victor C., T/Sgt.
Richardson, Wardie W., T/Sgt.
Richardson, Wardie W., T/Sgt.
Richardson, Wardie W., T/Sgt.
Rogers, Charles J., T/Sgt.
Rogers, Panl, S/Sgt.
Schichter, Rogers, Hyman P., T/Sgt.
Rogers, Panl, S/Sgt.
Schichter, Leroy A., S/Sgt.
Schichter, Leroy A.,

Lt. R. W. Merrell



Maj. G. S. Brown



Lt. L. D. Slessor



Col. Edward Backus



Maj. A. W. Fletcher



Lt. Earl Reichert





By Brig. Gen. S. C. Godfrey

THE AIR ENGINEER

GENERAL ARNOLD has said that an air force is made up of three vital elements—flying men, flying machines, and air bases. Today our chain of air bases extends around the world. In some theatres the war is literally a contest for the possession of air bases.

The building of airdromes has been an engineering job of top priority for Army engineers in all theatres. Naval "Seabee" battalions likewise have made it a major task. Thousands of native laborers with hand tools have added their efforts.

The Army Air Forces look primarily to their own airdrome-builders, the Aviation Engineers. A recent trip to seven theatres has given me a chance to see a hundred airdromes and some fifty aviation engineer battalions. I have seen them building runways from sand and sea water, from coral and volcanic ash and iron ore, in desert and jungle. Every conceivable time-saving device, such as the steel landing mat, is used to get the job done in a hurry. Two days after the Fifth Army landed at Salerno, a fighter field was ready in that narrow beach head, fearfully dusty but nonetheless usable by

the fighters that were giving much needed support to the troops on shore. I have seen one complete fighter field built in a spot accessible only by air.

Some of the most interesting observations on my 45,000-mile air tour of combat theatres are worth passing on to other AAF personnel. Theatre by theatre, here are some impressions of the work of our aviation engineers:

England — Essentially one vast airdrome, the British Isles have a relatively standardized type of dispersed airfield. Chief among the differentiating characteristics is that the hard-stands, instead of resembling the cherry blossom type, are turn-outs like railroad sidings. This eliminates the necessity of big bombers having to make 180-degree turns, thus facilitating "marshalling" and take-offs.

Runways, taxi tracks and hard-stands

Runways, taxi tracks and hard-stands are of concrete. Construction work on many new American fields is being performed by our aviation engineers, under the control of the Army Service Forces.

Photographs by the author and official AAF Photographers

North Africa-Sicily — The story of airdrome construction in this theatre was ably discussed by General Davison in the October issue of AIR FORCE, so only a few additional impressions will be passed on.

During the invasion of Sicily, our aviation battalions moved in progressively and on the third day were at work on the excellent Italian field of Ponte Olivo, removing mines that the Italians had planted and filling craters. Other fields were captured and rehabilitated in rapid succession until, after the first week or two, our fighter squadrons were well established in their newly won quarters. One of our aviation battalions built a flight strip on a Naval LST lighter to provide an operating base for liaison planes during the first days of the invasion.

Prior to the actual invasion of Sicily, another aviation engineer unit almost landed on Sicily instead of Malta, where they were headed to construct an additional fighter field. On a rocky island near Malta, with eight bulldozers and graders, this company built an airdrome with two 4,500-foot runways in two

weeks. The RAF had requested that this job be completed in three weeks. The British were so appreciative of the speedy work that a special dinner for the aviation engineers was given, with an air vice marshal and an air commodore in attendance.

At Bengasi, the engineers were stabilizing their sand runways, some with asphalt, others with a sea-water treatment. Thousands of gallons were pumped from the Mediterranean into tanks, and with proper mixture and compaction the sand was hardened to provide a stable runway for use by heavy bombers.

India — Construction of concrete runways by the Indians is a long and tedious process. Rock crawls in by train on overcrowded railways.

The concrete is mixed by hand and carried in baskets. Long lines of women leisurely pass the concrete baskets from one to another until the laborer on the end of the line dumps it into the forms. These laborers work under native contractors who are employed by the British. The whole tempo is painfully slow from our western viewpoint.

Now, however, American engineer troops with our unrivalled equipment are on the ground and are speeding up the task. New fields in Assam have been built with the help of steel landing mats. Aviation engineers also have helped in building a road into Burma.

China — Difficulties of supply limit the employment of engineer troops in China. But the Chinese themselves are



Although the Chinese have to quarry, crush, transport and lay the rock by hand, they succeed in constructing excellent runways of stone, two feet thick. The bed is cemented with a paste of mud.

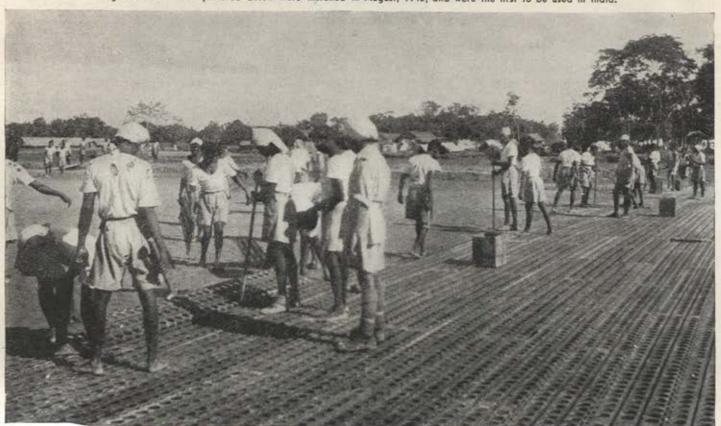
capable airdrome builders. Runways of stone, two feet thick, are constructed by many thousands of Chinese laborers, men and women. The rock is quarried by hand, crushed by hand and carried in baskets to the site of the runway or taxiway. It is then laid by hand in graded layers, and rolled by huge stone rollers pulled by about 150 coolies; this rock bed then is bound by pouring in a paste of mud. This imperfect surfacing is the one flaw in an otherwise high-grade runway. Asphalt is not available locally. Drainage problems are solved by the Chinese, who understand the problem and construct the systems by hand.

These Chinese laborers are cheerful in their work, and their great numbers help to make up for lack of equipment.

New Guinea — Here the engineers all engineers—started from scratch, and had to build docks and access roads as well as a network of dispersed airdromes. The results are impressive. Landing fields around Port Moresby have been bombed many times. Revetments are provided for hard-standings, and have reduced the losses from high altitude bombing.

A number of fields—most of them having runways suitable only for very light planes—have been built with native labor. For a wage of about two shillings

American engineer troops have speeded up the construction of fields in India by introducing steel landing mats. The mats pictured below were installed in August, 1943, and were the first to be used in India.



a month and food, these natives actually tramp out runways with their feet.

The 871st Airborne Engineer Aviation Battalion was our first complete airborne battalion overseas. Starting July 10, it was flown to Tsili-Tsili by companies with a complement of 19 bulldozers and an extra complement of 32 jeeps. They also had twenty-eight .50 caliber machine guns, because they were only forty miles from the Japs and had to defend the field while building it. Within three weeks they had built two runways, one 6,000 feet long and the other 4,500 feet, with seventy hard-standings. It soon became a well-stocked forward field. Twelve Jap bombers attempted to raid it and all twelve were shot down. This site was accessible only by air. (Photo on Page 49.)

After this field had been used successfully in the operations against Wewak and Lae, this unit and another airborne battalion were flown to locations behind enemy lines where they have rapidly built new landing fields north of Lae.

Hawaii — The layout in Hawaii is magnificent. Its installations are secure. Especially interesting is the large amount of underground construction—tunnels for storage, headquarters offices and even a complete repair shop for planes. There are airdromes of all sorts. Around Oahu alone, I counted more than a score of fields.

A few general observations should be added. Specifications for airdromes overseas vary widely. At one extreme is the hasty construction job at the front, and at the other is the elaborate airfield at permanent bases. There is a definite trend, however, to standardize on all-purpose fields with runways, 6,000 feet long and 100 to 150 feet wide.

In removing mines and booby traps from captured fields, the aviation engineers are discharging an important combat function. I visited one field in Africa where 1,700 mines had been taken from one runway. Engineers also have defended landing fields from air and ground attack.

Hawaii is a model of camouflage technique. In most of the other theatres thorough concealment has not been attempted. Camouflage takes much time, effort and material, and a realistic approach dictates that its use be in keeping with its relative value. Always there are vital installations that need concealment. And individuals need an appreciation of concealment and of camouflage discipline. In a large sense, camouflage is a means of deception which can be used as effectively in offense as in defense. Aviation engineers are skilled in making dummy planes and installations which may deceive the enemy as to our strength and intentions.

In general, the need for rapid construction of advanced airdromes overseas is being recognized and met. And thus the engineers are setting the stage for an aerial offensive that strikes deeper and deeper into enemy-held territory.



Paid about two shillings a month for their work, New Guinea natives (above) use this litter device for carrying earth from excavations made during the construction of an airfield. Indian women (below) use a different carrying device, preferring to tote concrete for the runways in wicker trays which they balance on top of their heads.



Answers to Quiz on Page 40

- 1. (c) A-20
- (d) Fifteen days before the date set for an attack
- 3. (c) In the Solomon Islands
- 4. (a) Master Sergeant
- 5. (b) Lufberry
- 6. (a) Maj. Gen. Claire L. Chennault
- 7. (a) Three
- (d) A form of ice which adheres to exposed surfaces
-). (b) Denver, Col.

- (a) A light plane often used for liaison and reconnaissance work
- 11. (c) Dizziness
- 12. Freedom from fear
- 13. (b) Invader
- 14. (d) Needle and ball and airspeed
- 5. (c) Canberra
- (b) A body of water between Norway and Denmark
- (a) Any monotonous or routine flying assignment
- 18. (b) Measure cloud movement

EMERGENCY CARE OF AIR CREW CASUALTIES

TRAINING AIDS

I MMEDIATE first aid given to men injured in air battle has saved many lives, and will save many more if combat crew members know what to do when one of their fellows is wounded or hurt.

This is the theme of a new training film (TF 1-3335), "Emergency Care of Air Crew Casualties," produced by the AAF First Motion Picture Unit in Culver City, Calif. The story gives instruction on the first aid treatment of various types of injuries and then shows how such instruction is put to use when men are hurt and wounded during a fight in the air. It shows why it is essential that each man know what to do in case of fracture, hemorrhage or shock, and that he be familiar with and know how to use Kit, First Aid, Aeronautics.



The scene opens with Capt. Bill Keever, flight surgeon, demonstrating Kit, First Aid, Aeronautics, and the package of additional medical supplies. It is imperative that each member of the crew know what each item is and how to use it.



Captain Keever is ready to demonstrate on Private Gates who
nervously watches the approach of the morphine syrette. "Never
use morphine on a guy who's unconscious or suffering from a
head injury," the doctor warns. Gates looks almost unconscious.



3. Gates is made up to look as though he had been the victim of a flash burn. His eyes are not burned because it was assumed he was wearing goggles, as all crew members should on a mission. "Apply the aintment liberally but gently," the doctor says.



4. Captain Keever demonstrates on Gates the use of materials in treatment of cuts, wounds, burns, fractures, and shock. Gates looks as though he'd been dropped out of a plane and then jumped on. The doctor is giving instructions that all should learn.



5. The scene changes to the "examination,"—what would you do when the heat's on, you're on a low level mission and flak and Zeros are moving in, and although your plane is still going, it's taking some hits? Above, a gunner sights on some Zeros.



7. The fight's over, but things aren't going so well. Odell, the other waist gunner, got it in the leg, shrapnel—open wound and fracture. You cut his flying suit away from the leg, sprinkle a lot of sulfa on the wound, and apply a compress.



9. Thomas, the tail gunner, is hit. He's out cold and suffering from shock. You put an oxygen mask on him, bandage him, cut his suit open, lay him down with his feet higher than his head, cover him with a blanket and keep him warm.



6. Lawson, the ball turret gunner, is hit in the arm. A tourniquet is placed, and on Lawson's forehead the time is marked. The tourniquet must be loosened each fifteen minutes. An oxygen bottle with re-charger tube is ready for the wounded man.



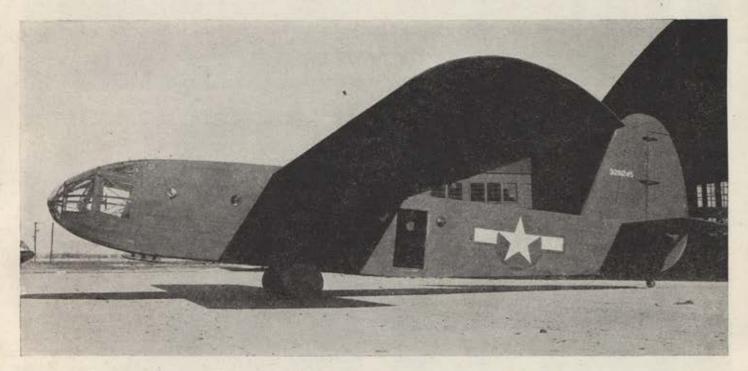
8. You don't let Odell move; you put splints on his broken leg; with seat cushions and flying gear you make him as comfortable as possible. Odell is in pain and he is given some morphine with a syrette as was taught earlier in the movie.



Information on the availability of training films and film strips, aircraft recognition materials, training devices and training publications may be obtained from the Chief, Training Aids Division, Army Air Forces, I Park Avenue, New York 16, N. Y., upon request through channels. AAF Regulation No. 50-19 explains fully the functions of the Training Aids Division.



A Review of Technical Developments in the Army Air Forces



IT is now permissible to reveal that the Army Air Forces has the largest inproduction glider in the world. Designated as the YCG-13, the ship is a highwinged motorless craft primarily built as an aerial freighter.

Even as this is written, one of the production models is somewhere in the skies over North Carolina on maneuvers with the Troop Carrier and Airborne Commands. Before long, others like it will be slipping out of night skies onto Yankcaptured airfields with bulky, intact equipment that cannot be carried by any of our present transport planes.

The big glider can carry more than two dozen infantrymen with packs, rifles, mortars, and small machine guns in its roomy interior. It can lift into the air several tons of equipment and supplies,

nearly as much as some of our heaviest bombers with their four powerful engines. That is why we call it "a damned good

The YCG-13 has not been long in the air. Glider experts of the Aircraft Laboratory at Wright Field have been gathering test data on its predecessor, the XCG-13 (first of the big gliders) since March 10, 1942 when the Waco Aircraft Company of Troy, Ohio delivered the first model to the Army. However, they "flitted" out some bugs on a small delicately scaled model in wind tunnels. Too, a full-sized glider took treacherous punishment in structure tests and proved to be 100 per cent structurally safe.

Glider Giants

By Lieut. Col. Bruce B. Price

CHIEF, GLIDER BRANCH AIRCRAFT LABORATORY WRIGHT FIELD

Hundreds of flight tests, load trials and other practical applications have been tried and checked at the new Clinton County Army Air Field for gliders near Wilmington, Ohio. There, for many months, the experimental version of the YCG-13 was given a rigid flight test routine. Not until Wilmington gave the goahead signal did production begin on the new models.

December 2, 1943, the author made the first flight in the YCG-13 being towed into the air behind a Douglas B-23 bomber from Wold Chamberlain Field in Minneapolis, where the production models are being built from Waco plans by the Northwestern Aeronautical Corporation. It was a very successful flight.

Capt. Ben West, project engineer on the ship, was my co-pilot. Lieut. C. N. Eastlake and Flight Officer John S. Bryant flew the tow plane. The glider took the air after a very short run and we climbed to 5,000 feet where the tow-rope was cut loose. Then we did some stalls, steep banks and executed a few chandelles, landing smack in front of the administration building at the field.

From the test flight it was concluded that YCG-13 had two outstanding characteristics: (1) Although it has approximately the same wing area as the smaller CG-4A in-service gliders, the big ship has double the CG-4's wing loading and hence it is more stable in tow. (2) The controls functioned better than on any glider we had previously flown.

On the second flight of the craft Captain West and Lieut. William F. Sauers took aloft Northwestern's president and nine of the company's engineers who built the aircraft. Then, because there was urgent request for the glider to be used for maneuvers now in progress, we decided to fly the ship to North Carolina via Chicago-Dayton-Wilmington. Its third flight was non-stop 500 miles from Minneapolis to Chicago where darkness enveloped the ship. West and Sauers were in complete charge as its crew and they decided to continue on to Dayton. They flew all the way behind the Douglas tow plane without radio communication and without lights since the electrical system was not functioning in the tow plane. It was pre-arranged with the pilot of the B-23 to cut the glider loose at a certain altitude over Wright Field. When it finally came in over Dayton, it was pitch dark. The tow-rope was cut loose and they landed in the center of the field.

The YCG-13 weighs approximately 8,000 pounds empty. The fuselage is built of steel tubing. This affords good protection for crew and cargo in the event of crash landings. Operations in Sicily proved the glider construction could take it for there the CG-4s which have the same construction caused very few injuries from breaking up in emergency landings. The wings are of all-wood construction. Both fuselage and wings are covered with tough fabric that is stretched drum-tight over the structural frame. When the glider is in tow the wind whistles past the fabric and it is rather noisy

inside.

It has two doors to aid in landing infantry troops, in case it should ever be called upon to move troops en masse.

This glider can land on either wheels or skids. It must have its wheels to get into the air, but once in flight this 300-pound additional weight can be dropped to cut down considerably on the drag and increase the speed in tow. This is done only when the glider is going to be landed on rough terrain. In this case, or for small fields, skids are more effective because they bring the ship to a quicker stop.

The big glider cost about one-tenth of the price of a transport plane which allows for cheaper operations. This is especially true in cases where military operations necessitate leaving the glider after a crash landing. There is another point too: Towing gliders behind C-47s is not an efficient operation. That is, you are not getting anything "free." The loss in climb, speed and extra gasoline used in the mother ship eats up all the gains. However, the glider does allow for more freight carrying space. For instance with a P-38 towing a glider (CG-4A), the fighter becomes fifteen-place transport plane. Therein lies the chief reason for using gliders.

The YCG-13 with its great lift capacity will make possible movement of heavier, bulkier equipment by air than ever before. Someday we hope to be able to move an entire battery.

The Flying '75'

On the ramp of the big armament range at Wright Field stood an old Douglas B-18 bomber, rather frumpy looking with a bathtub structure slung under her belly. Inside the tub was mounted a Model 1898 field piece—a 75 mm cannon. It was the first time a gun of this size had ever been tested on an American airplane. The time was September, 1939.

Everything possible had been done to strengthen the ship's structure, yet some of the men making the test felt sure that when the gun was fired the plane would tear apart. The cannon was loaded, then fired. The old B-18 shook, trembled, jerked back a couple of feet in her cradle, but remained intact.

Many rounds were fired on the ground and over Lake Erie, and while the ship and cannon combination wasn't perfect, it did prove that the armorers and plane makers were on the right track. Numerous tests followed until 1942 when North

American, in cooperation with Army Ordnance experts, successfully installed a 75 mm tank gun in a B-25, employing a new hydro-spring recoil mechanism. After further tests the first of these planes were ferried to the Southwest Pacific to the Fifth Air Force. During first combat in September the gun proved an immediate success. At the same time the new weapon took the Germans and Italians by surprise in the Mediterranean where it was used chiefly against surface craft, ground emplacements and power houses. It is known that at least one Jap destroyer was sunk. An advantage of the gun against ships is that it can be fired over a long range with effectiveness.

The cannon adds a ton of weight to the plane, uses a shell weighing twenty pounds and has been known to hurl its

fifteen-pound projectile several miles.

The 75 mm cannon on the B-25 is an M-4 gun mounted in the forward section of the fuselage to the left and below the pilot's position, the installation having made it necessary to make changes in the pilot and navigator compartments. The cannon-carrying Mitchells can still be used for dive, skip and pilot bombing, but lose their effectiveness as precision bombers. The nose of the B-25 was shortened and heavier armor



This shows the position of 75 mm cannon in nose of B-25.



Loading the 75 mm shells.

was added to the front of the plane.

The gun is hand-loaded and is aimed and fired by the pilot. A magazine for shells is located above the breech of the cannon and within reach of the loader. The gun is fired by a sensitive button on the control column, the same device used to fire the twin .50 caliber guns which are mounted above the cannon.

Heaviest plane cannon previously used was the 40 mm piece employed by British Hurricanes and Russian

Stormoviks with great success against tanks and similar targets. The heaviest previously carried on U. S. planes was the famous 37 mm introduced by Bell a few years ago. How much heavier the airborne cannon will become depends upon the future development and design of planes. (Technique Continued)



Flying Kitchens

They used to say that an army moves on its stomach.

Today's army, however, flies on its stomach.

Recognizing the need for keeping American airmen well fed while their planes sally back and forth on long missions over land and water, the Equipment Laboratory at the AAF Materiel Command, Wright Field, has developed a number of galley kits and food warmers. Experiments are being conducted with still others to provide flyers with warm food while they ride the skies.

Two galley kits which have already been tested by tactical squadrons and which enable as many as ten men to be served

in an hour's time are the C-1 and C-2 units.

The C-1 Kit has been designed for cooking food while planes are in actual flight. Heat is furnished by electrical elements operating from the aircraft's electrical system.

The C-2 Kit can be used both for cooking food in flight and for carrying pre-cooked meals. Food pots, part of the unit, keep the food at eating temperature and storage space is provided in one end of the kit in case it is necessary to cook while in flight. A grill, which may be used for cooking or frying, makes the kit a modern flying kitchen. Also included are one hot cup, a sugar container, and salt and pepper shakers.



This food warmer holds four individual casseroles, each containing a complete meal, and four canteens.

Supplementing the galley kits, equipment engineers have also prepared a "flight lunch" which may be prepared by either of the galley kits just described. It was designed to give crewmen hot food that is tasty and balanced. The complete lunch consists of beef bouillon, dehydrated meat (chopped beef), precooked rice, "C" biscuits, tomato paste, chili powder, preserved butter, coffee and hard candy. Beverages include tea, lemon powder and powdered

milk. Gum, fruit bars and dried fruit are also part of the menu. A minimum of one canteen of water per man is re-

quired to prepare the meal for consumption.

The flight lunch weighs six and a half pounds, and can be prepared by any crew member simply by following the accompanying directions. The rice and meat are precooked, and the beverages require only water.

Army officials recommend that another unit known as the "Quartermaster Outfit, Cooking, Small Capacity" be taken along in case of forced landings. The quartermaster unit includes a gasoline stove for cooking food on the ground.

For shorter flights where hot food isn't necessary, a Type A-1 food container has been developed for carrying snack lunches. In this unit are four thermos bottles and a food basket. Cold foods such as sandwiches are carried in the basket, and hot liquids are stored in the thermos bottles. Facilities are provided for four men.

Another type of galley kit now undergoing experimental tests but not yet released is the AG-1 kit. This unit will provide complete cooking facilities for large crews either on the ground or in flight and will supply hot storage for enough food to give a twelve-man crew two full meals. Outstanding

characteristics of this kit are two cooking elements located in recessed bowls and insulated storage drawers. The latter contain four one-quart utensils and will keep food at eating temperature while in flight. Cutlery and utensils for twelve men will make the eating problem as easy as going on a picnic. Two additional food warming units now undergoing ex-

perimentation are the Type B-2 and Type FTG-1 units.

The B-2 unit consists of a heavily insulated chest with four one-quart-capacity food pots. This unit can feed a crew of twelve men, and amperage drawn from the aircraft electrical system is low even with all four food pots in operation.

The FTG-1 food warmer-one of the most ideal designscontains individual metal casseroles, each holding a complete meal. These, of course, eliminate dishes. Each casserole has a capacity of two pounds of meat or 31/2 pounds of vegetables.

Four one-quart canteens for coffee are included.

Until now, cooking or eating at altitudes above 10,000 feet has been found impractical because of the bulky equipment flyers must wear at such heights. Since planes are now flying at higher and higher altitudes, however, equipment experts are eyeing the future. Meals will be cooked on the ground before flight, kept at eating temperature during flight and consumed when the plane is flying sufficiently low to allow removal of oxygen equipment. That's why you'll hear more about food warming units such as those just described. - Lieut. A. D. Stout, Jr.

One Man Show

Alex Smith is a former auto mechanic with a mind as nimble as a startled gazelle. His job at Warner Robins Army Air Depot in Georgia is to make tools that will save time, money and materiel. When Smith works on a project the ideas leap out like popcorn in a hot skillet. When he has finished he has a new tool that will do the work better and quicker than it was ever done before.

Smith worked in engine installation until he began pulling so many time and materiel-saving gadgets out of his hat he was given the "Award of Merit" by Maj. Gen. Walter H. Frank, commanding general of the Air Service Command. After this recognition, he was assigned to a new one-man department for tool development. On his own, Smith rolled up his sleeves and developed a gadget that removes the most stubborn screw from aircraft wings without damage to the screw or plane. With this gadget one man now does the work which previously required a gang.

Another invention, an engine hoist sling, is considered so valuable that a model was flown overseas to be copied and used at advanced airbases. With this sling and a hoist, one man can remove an engine from its crate and have it in position for mounting in an aircraft in a few minutes, an operation that previously called for three hoists and a crew of four men working an hour or more. The device also speeds up and simplifies the work of pulling an engine for repair.

Smith is now working on a gadget light and small enough to be carried as standard equipment on a medium bomber, yet strong enough to pull an engine for on-the-spot repairs. The advantage of such a device is obvious in the event of forced landings due to engine failure. If such a landing were made in enemy territory the device could mean the difference between life and death for the crew and result in saving a half million dollars worth of aircraft.

Among the Smith creations is a device which makes child's play of what formerly was a four-man job, an implement for mounting or dismounting a 300-pound landing gear wheel. Naturally, he has invented dozens of trick wrenches that reach around corners and into hidden places and there seems to be an unlimited supply of time-saving gadgets yet to come. Many of Smith's creations are patented and the patents turned over to the United States. Smith says he's having fun. That's enough for him. - Hq, Warner Robins ASC, Ga. A

* Gallery of Fighters *



Maj. Jack Oberhansly, Utah



Maj. Jack C. Price, Colorado



Col. Arman Peterson, Arizona



Capt. John D. Irvin, Calif.



Lt. Col. E. P. Roberts, Wash.



Lt. Col. J. J. Stone, Jr., N. J.

By Maj. Charles D. Frazer

BACK of the bar hang many vivid drawings—the personal plane insignia of the P-47 pilots.

There are such names as Spokane Chief, El Jeepo, Iron Ass and Feather Merchant.

On the other three walls are several photographs. One is striking. A tall, snub-nosed pilot is standing close to the leading edge of his Thunderbolt's wing. Both he and the fifties protruding from that wing look businesslike. And men who have flown with him will tell you that Charlie London is very businesslike.

This bar, with its battery of sixpence and shilling slot machines, is in the officers' mess of an 8th Air Force fighter group.

Except for a group made up of former RAF flyers, this is the oldest U. S. fighter outfit in the United Kingdom and the base from which it operates—a permanent station borrowed from the British—is very comfortable. A squash court is among the comforts.

Capt. Charles London, who is now back in the States on assignment, was the first American P-47 ace in the European theatre. He used to be a life guard and he looks it. Six feet one, 180 pounds. A big man for a fighter pilot, but his squadron mates say he's just about the perfect

London's fighting technique basically is this: he rides in on the German, gets so close he can't miss, then presses the black button that unlimbers the eight fifties in his wings. His combat films always show pieces of German plane flying all over the It's not quite that simple, naturally. London believes that in combat position is everything. He always manages to position himself and the other planes of his four-ship flight so they all get a good chance for a bounce.

"I don't believe any of the Germans I've shot down ever saw me coming," he has remarked.

London has flown more than seventy missions across the Channel. He is credited with five destroyed—two FW-190s and three ME-109s—one FW probably destroyed, and two other planes damaged.

Rarely has he got into much trouble himself, but London admits he's been tricked. He tells about the day the group was on a sweep—trying to lure some Germans up into a fight. An FW was seen far below—seemingly lazy and all alone. London took his flight down.

"I still don't know where they came from," he says, "but suddenly there were twelve or fifteen Jerries around us.

"The thing that saved us was our system of sending down one flight after the other—for assurance. Cooper, my roommate, could hear us yelling that there were a lot of them and he got his flight down fast. The Germans scattered like a school of minnows when you toss a rock into the water."

Two FWs had got on London's tail, however, and they gave him a merry time of it while he dove away, beating on the throttle, and executing the military maneuver known as getting the hell out of there. "That was the day I discovered there's no such thing as a fearless man," says London.

This rangy, hard-eyed flyer—like his roommate, Capt. James Cooper, a veteran of some eighty missions, and every other pilot of the group—has no illusions about fighting the German.

They do not respect Nazi pilots, particularly. They know that a German doesn't like an even battle. Nazis want everything in their favor—to outnumber you, to be above you and, if possible, to have the sun in your eyes.

Nevertheless, the enemy has good planes, good anti-aircraft, many good flyers. And, as Maj. Gen. William E. Kepner, 8th Air Force Fighter Command chief, points out, the men of the Luft-

Pilots of this veteran P-47 Fighter Group specialize in bringing their 'big friends' home from missions over Europe.

waffe will attack vigorously when they think it will pay big dividends. To meet opposition of this kind, you have to be just a little better.

London, for example, takes an extreme interest in his guns. He was once a squadron armament officer and knows his stuff. He is careful, too, about the things that add to the speed of his ship.

"That's what has the Germans worried —our speed and our firepower," observes Lieut. Col. James J. Stone, Jr., commanding officer.

"Diving away is the ace in the hole for a fighter pilot. Once the Focke-Wulf could break combat and get away in a high-speed dive. But the P-47 can outdive the FW and since, like all American planes, it is extremely well-built, will hold together while catching him in the dive.

"What's more, a one-second burst from those eight fifties will down any fighter made. Our 47s have been in combat since April, 1943. Since that time we've made a believer out of many a German pilot. We worry them and that alone is a big part of our job."

Stone is thirty years old, a slender blond man with a wind-reddened face, who has been flying about four years. Before the war he was a research technician. Genial, pleasant, well-liked, the Colonel nevertheless can look at you in a dispassionate way. His record: two destroyed, one probable.

Stone constantly drives home to his men that their primary mission is to take the bombers there and back. "Get a Jerry if you can but don't go too far from the bombers to do it."

He and other flyers of his group have a strong feeling for the bombardment crews.

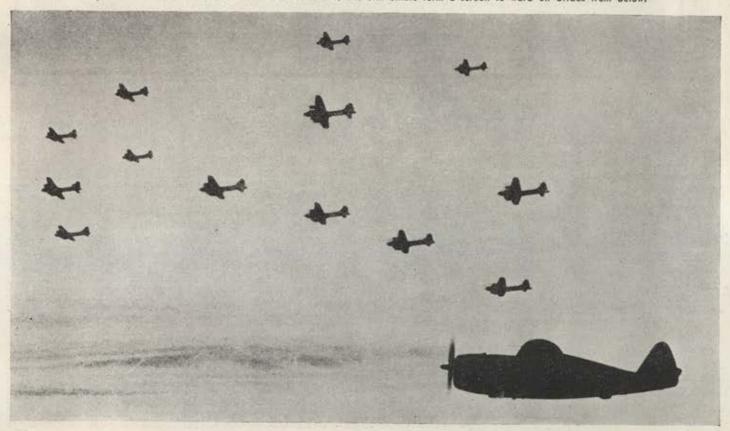
One shakes his head sympathetically, saying: "The boys in those Forts sure have it rough." Another comments, "At first, I thought of it rather as a game of chasing planes. But on one of our early escort missions I saw a Fort catch fire and start spinning down, with all those bastards ganging up on it. From then on, you're after Germans—not just a plane up there with black crosses."

So that's how it is. Flying in close, well-trained formations themselves, these fighter pilots "S" back and forth above the heavy bombers—into the target, over the target, home from the target.

Never do they stray too far right or left, never do they attack German fighters just for the sake of attacking. They know the Nazi trick of lying off to one side of a formation, hoping to suck the fighters out while some of their companions go in to hit the bombers.

Lieut, Col. Eugene Roberts' picture has

Like a shepherd dog protecting its flock, a Thunderbolt fighter escorts the big bombers in strikes over enemy territory. Other P-47s umbrella the Fortresses from above, and still others form a screen to ward off attack from below.





Capt. Charles P. London, Calif.

a prominent place on the wall of that bar, for he is one of the highest scorers of AAF fighter pilots in the European theatre. Nine destroyed. And a lot more well scarred. One day last summer he destroyed three in one scramble.

He is air executive officer of the group. When it goes out in two divisions, he usually leads one while Colonel Stone leads the other.

Roberts never talks about his score but he does talk about his airplane, insisting it's the best in the group.

The history of his Spokane Chief is impressive. In nearly 200 hours flying time the plane has never had to return for any mechanical reason whatever.

Colonel Roberts credits this record to his crew chief, Tech. Sgt. Negley Sapper. Sapper, he says, works like a mule skinner, waxing, polishing, overhauling the ship every 25 hours, keeping it in perfect shape. Assisting the crew chief are Sgt. James Darrell and the armament sergeant, Russell Brooks.

These men, on the other hand, say that Roberts has had a lot to do with the maintenance record. "He takes awfully good care of her and always observes the taxi and warm-up rules."

Then they emphasize that the Spokane Chief has never been even scratched in combat, by either flak or bullets. They speak possessively about it as "their" ship, for pilots and crewmen are a team and on the side of every P-47—right under the name of the man who flies it—are the names of the men who keep it up there.

At this base there are pilots with seventy, eighty, ninety or more missions in their log-books.

There is, for instance, Maj. Jesse Davis, a squadron commander, who has destroyed two Germans. Maj. Jake Oberhansly, another squadron commander, with two; Capt. Jack Irvin, with four; Lieut. Pete Pompetti, who used to be an enlisted man, with four; Maj. Jack Price, a squadron commander, who has three; Lieut. Col. Harry Dayhuff, now assigned to Headquarters, Fighter Command, with two; and so on and on.

The group has its rough times. Originally, back in the States, it was a P-38 outfit and it arrived in England in December, 1942. Just as it was about ready to go into action, there was an urgent call for planes and pilots in Africa.

So the group lost its ships and all its flyers below flight leader. The remaining handful of men reformed the group, trained in brand-new P-47s and eventually, in April, 1943, became operational.

In mid-summer, within a single month of bitter fighting, the group was to lose two commanding officers. The second was Lieut. Col. Melvin McNickle, now a prisoner of war.

The first had been Col. Arman Peterson.

Capt. James M. Cooper, Calif.



Stone and Roberts and the rest like to talk about Pete. They tell countless stories about the difficulties they had getting organized. Colonel Peterson was a CO who went all out for his men. When he walked into the briefing room, or into a hangar, or down the flying line, he was the Colonel and everybody knew it and smartened up. But when he was off-duty he was just Pete, friendly, casual, a good companion.

Sometimes he was called Eager Pete, for that's the way he flew. He always wanted to be in the heat of the action and was always guiding and coaching his flyers.

ONE day, as his 47s reached the enemy coast across the lower North Sea, Colonel Peterson sighted a flock of Focke-Wulfs and the radio rang with his eager voice.

"I am making a 90-degree turn and going down." A pause, then: "They're Huns, lads! Give them hell! Here we go! Tallyho!"

Peterson's plane roared through the FW formation, scattered the Germans, then zoomed up again. The sky became wild with planes. Colonel Peterson regained altitude and was seen to dive again. He could still be heard saying clearly, "OK, lads. Stay in pairs now."

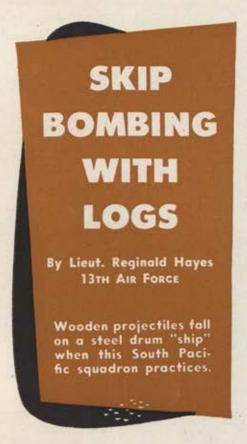
But what happened after that nobody knows. Pete has been missing in action since that minute.

As the pilots straggled back to the field they couldn't believe Pete was missing. They took their ships off again, looking, hunting, searching, until there were only cupfuls of gas left in their tanks.

Nowadays, when a mission is on, it is quite a sight to see these fighters take off. The field has no runways, just a broad and level stretch of green sod. Flights of four of the barrel-chested Thunderbolts roar across the field in echelon, rise and fly full circle until they're in perfect formation. Eighty ships may take off in less than five minutes. Then they streak away to the east to keep a date with their "big friends."

Maj. Jesse C. Davis, Wis.





WHEN a bombardment squadron showed up at New Caledonia after a stretch of combat at Guadalcanal, the CO, Col. Harry E. Wilson, found he had problems on his hands.

Six combat crews were scheduled to return to the States and their replacements had to be trained in highly developed techniques of warfare in the Pacific. There was a shortage of practice bombs, and the only target available for skip bombing was an old hulk ninety miles away. It was impossible when practicebombing the shipwreck for flight leaders

to tell how they were doing.

The problems of what to bomb and what to bomb with were solved by a little ingenuity on the part of the officers and men of the squadron. Master Sgt. Carl E. Siebert, of the armament section, cut some rough Gaiac tree logs which were approximately the same size and weight as the 100-pound bombs. He drove in two six-inch spikes for hangers, and later added rough wooden fins when it was found the logs tumbled without them.

A number of comparison tests were made and it was found that in masthead bombing the logs followed about the same trajectory and angles as the actual bombs.

The improvisation conserves the use of expensive ordnance material, saves shipping space and, too, the supply of Gaiac logs is plentiful. One problem solved.

Lieutenant Hinkel hit on the idea for the target. He put fifty salvage steel drums about 250 yards off shore, filled them with water, and arranged them in a pattern to look like the outline of a 250foot long ship. The drums were placed in tiers at bow, stern and center, with flags hung on wire the entire length to give height and indicate superstructure.

An observation post for a controlling officer was placed on shore, where he can observe the bombing runs and give his comments to the planes through direct radio communication. Things work out beautifully; the crews get their bombing training and instructions from an experienced officer who can see every move their planes make. Officers of this squadron believe training time has been cut fifty percent.

The only men who have any complaint are armament section men who wade out at low tide to make repairs on the "ship," and who paddle around in rafts recovering floating logs which did not disintegrate on impact. They also cut the logs. A

Member of a bombardment squadron looks over a 100-pound bomb and the wooden one his squadron uses in practice.



The control officer takes things comfortably while he gives radio instructions to crews making bombing runs off shore.





The target is a bunch of salvaged oil drums laid out in the outline of a ship. The flags indicate height and the superstructure.



A B-25 makes a run on the target. The control officer on shore can see how the pilot is doing, and give him suggestions.





An actual 100-pound practice bomb and a log counterpart. The logs take about the same trajectory as a bomb, and are used frequently.



The "bombs" hit at about the right spot for proper skip bombing.



-44 .. 4 .. 44 . 44 . 4.

CROSS COUNTRY

(Continued from Page 5)

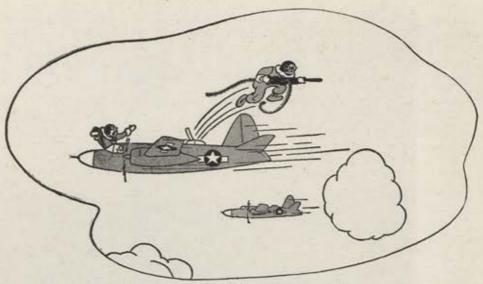
of The Pacific Tramp. The mystery of the hurled overalls has come to contain magic words which help to bring them back. It worked once when they came back on two engines, but that was just a preliminary round with trouble. Another time the entire cargo of live bombs fell into the closed bomb bay and the men broke into their battle song as they passed the bombs out the wait windows and tossed them into the green chowder below.

On these occasions, however, they never got quite the sweet harmony they achieved the day Jap guns shot their rudder controls away, severed the gas line, knocked out the hydraulic controls and jammed the bomb bay doors.

They were flying a mission over Tarawa just before the invasion started and Col. C. F. Hegy had brought the Tramp down to 1,000 feet so the gunners could strafe as the bombardier pinpointed his objective. Three bombs were away and all guns were firing when heavy machine gun slugs came pouring through the bomb bay doors, cutting the gas line. The pilot ordered all gunners to cease firing, due to danger of setting the aircraft ablaze, and the bombardier released the remaining bombs in one salvo on the target. When the pilot found his rudder controls also gone he maneuvered the plane away from the island with the engines.

Capt. Oliver Franklin, bombardier, hurried aft, plugged the line with his hand and found gasoline already more than inch deep in the after quarter. Fortunately there was no fighter opposition since it took twenty minutes to reach the inaccessible valve and turn it off, and by that time everyone was drenched and half blinded with gas. Meanwhile the pilot had jockeyed the plane on the homeward course and put it on automatic control.

For two hours and a half the crew worked in relays on the nine-inch catwalk which had become slippery with hydraulic fluid, over the open bomb bay doors and without parachutes-all the while raising the doleful question as to who had been so inconsiderate of Mrs. Murphy's chowder. The aluminum tubing used in the bombardier's hot air heater was found to be the right size for the hydraulic lines and a section was ripped out and used to by-pass the break. The real work was on the control cables, however. Using twenty strands of light brass safety wire Sergeant Herbert, engineer and top turret gunner, manufactured his own cables and others of the crew stretched the broken ends into position where they could be spliced. When the job was complete Colonel Hegy tried the controls. They worked, leaving the crew nothing more to worry them until the landing. When they reached their field the flaps would not let down, but they



"Hey, wait a minute, Jenks—they'll come closer!"
—J. T. RAWLS & SGT. P. J. KAATZ

cranked down the landing gear, saving the one remaining push on the hydraulics for the landing.

The pilot ordered everyone into the tail, to make as much drag as possible, and they came in slowly to take advantage of every inch of runway. As the wheels touched earth, the crash crew heard voices raised in a howling hymn of thanks, but the words were those of Mrs. Murphy's chowder. Near the end of the runway the pilot applied the brakes and the big wheels dug into the gravel-like coral. They had sung the Tramp home again.

WHEN IN ROME?

A lot of people are doing things in this war they never did before. Take for instance a certain six-foot, four-inch native in Central Africa. A few years ago he attended to the solemn affairs of his little village and watched the seasons of rain and drought come and go. He took witch doctors for granted, and the witch doctors regarded him in the same way. Now the big native wears a long, straight, pink nightgown, slit to the knees on both sides, and stands on the wing of a C-47. washing the windows. When the nightgown gets in his way he pulls it up and ties it about his waist, revealing a pair of GI shorts. He frequently nods his head at the crew chief. His new speech is "OK. OK. OK."

ORDER OF DAEDALIANS

Officers and civilians who served as pilots in the World War and won their wings prior to November 11, 1918, are eligible for membership in the Order of Daedalians, an organization designed to perpetuate fraternalism founded during the war. Col. Charles H. Dowman, wing commander of the order, writes in to say that the organization hopes to enroll all former World War flyers who have been recommissioned and assigned to other branches of the service. His office is in

Room 4C261, Pentagon, Washington, D. C. The order was founded at Maxwell Field, Ala., in 1933 with the late Brig. Gen. Harold H. George as first wing commander. It is named for Daedalus, a character in mythology, said to have been the first man to fly.

VINGED WICTORY . . .

Last month we published a story called "She Wears A Pair of Silver Wings," written by Charlotte Knight, in which the writer told of the work being done by our Women's Airforce Service Pilots. All went very well down to the bottom of the first column where the story suddenly lapsed into a strange argle-bargle, due to an error in making a correction in the type forms. This mix-up made the story speak rather incoherently of WASPs don-ning "a distinctive PT fuselage," and made some mention of "violet ack-ack" and "violent ack-vember," whatever that is. Naturally we felt very sad about the mistake and went through the proper purification process, that is, a sergeant caught hell. Come to think of it, Ackvember doesn't sound bad. It would be a perfect month to meet a WASP with a distinctive fuselage.

WIDOW

Due to the war we have begun to see the black widow spider in a softer light. The instrument repair department of the Sacramento Air Service Command, McClellan Field, reports that it has enlisted the services of a black widow named Agnes to buzz off a quota of web to be used in testing the accuracy of gun sights, transits and artificial horizon mechanisms. Agnes lives in a plexiglas drift meter cover and consumes a ration of such live flies as can be overtaken by aircraft instrument mechanics.

We are told that Agnes is able, due to some wonderful endowment, to spin a double web with as little effort as the ordinary spider whips out the one-strand. For this reason we readjust our opinion of the black widow. Until now, we had known only their less noble traits of darting out and attacking humankind from loose boards of out-buildings, or nipping flower gardeners high on the thigh.

PARACHUTES: LOST AND FOUND

Lost:

No. 41-9016, type S-1; return to Base Operations Officer, Kindley Field, Bermuda

Nos. 37-8496, 42-28363, 42-1039224, all type S-1; return to Sub-Depot Supply Officer, 78th Sub-Depot, Selman Field, Monroe, La.

Nos. 42-279570, 42-459282, 42-448796, 42-745947, return to Lieutenant Wattman, Air Corps, Sheppard Field, Texas.

No. 40-1326, seat type S-1; return to Capt. E. J. Tetiva, 595th Bomb. Sqdn., Drew Field, Fla.

Nos. 42-715282, 42-369925, 42-151075; return to Parachute Department, Kingman Army Air Field, Kingman, Ariz.

No. 42-207092; return to 307th Ferry Squadron, Gore Field, Great Falls, Mont.

Nos. 42-646096, 42-227046, 42-465963, 42-6328 parachutes reported shipped from Keesler Field, Miss., to Boca Raton Field, Fla., have not arrived. Nos. 209983, 646333, 42-736693 missing; return to Boca Raton Field, Fla.

Nos. 42-267529, 42-200474, both S-1 seat type; return to Base Operations, AAFPS (Adv-2 Eng), Fort Sumner, N. M.

SUB-DEPOTS

Commanding generals of continental air forces and commands have been given command jurisdiction over sub-depots. This function formerly was exercised by the commanding general, Air Service Command.

This transfer of command, which became effective January 1, includes the transfer of all personnel, facilities, equipment and supplies assigned to such installations. The Air Service Command retains duties of technical supervision.

TAKE IT OFF

War paint will be removed from almost all aircraft of the AAF, the War Department has announced. Removal of the greenish-grey cover will give Army planes additional speed and substantially reduce their weight, it was pointed out. This action was taken upon recommendations of combat commanders, and while specialized planes overseas will retain their camouflage, practically all aircraft will come off the assembly lines a metal color. Camouflage will be retained where tactical considerations require it in combat zones. The AAF estimates that removal of camouflage will give a slight increase in top speed and reduce the weight of fighter

types by fifteen to twenty pounds. Heavy bombardment planes will be lightened from seventy to eighty pounds.

EAGER BULLDOZER

Stock piles, as every airman knows, are damaged planes whose parts are removed to repair active aircraft. In combat areas the damaged planes take on an importance that is second only to the ones in flying condition. For that reason a touch of tragi-comedy creeps into a report we have from the Southwest Pacific. It all began when the general, making an inspection, gave an order to tidy up the stock pile and make things nice and orderly. An especially eager beaver misinterpreted the order and assumed that the general wanted the stock pile put in one neat bundle. Before anyone could stop him he took a bulldozer and herded the damaged planes into a huge pile twenty feet high. He cleared the area in a very military manner but, needless to add, pulverized thousands of dollars worth of equipment.

VERSATILE

Master Sgt. Russell E. Mackey, 33-yearold Montana farmer, is a qualified pilot, bombardier, gunner and engineer. He is also said to be the only enlisted fourengined bomber pilot in the AAF, having been checked out in both B-17 and B-24, despite the fact that he never attended an Army flying school. Last time

we heard of the sergeant he had completed a tour in the Southwest Pacific and was back home flying a tow target plane at the Rapid City (S. D.) Air Base.

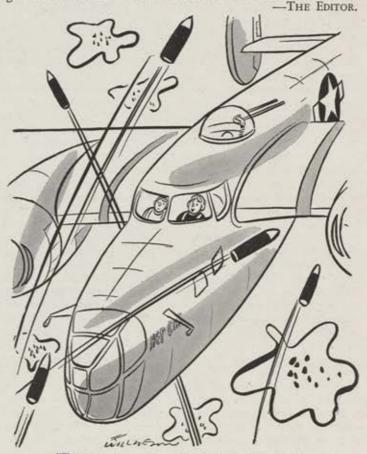
Mackey was a member of the 19th Bombardment Group, and his ship, Lazy Daisy Mae, was one of the three B-17s which took off from Australia one afternoon and headed toward the Philippine Islands to pick up General Douglas MacArthur, his staff and family. On that trip each Fortress was overloaded with blood plasma and medical supplies for the wounded on Bataan and Mindanao. Prior to that Sergeant Mackey

was one of the crew which flew B-17s into Hawaii during the Pearl Harbor attack, and previous service in the islands enabled him to direct his pilot away from blasted Hickam Field to an obscure strip near Halewa beach.

In eleven years Sergeant Mackey has piled up 14,000 pilot hours and his copilots have been flyers of every commissioned rank up to colonel. Concerning his one-man crew status, a fellow Montanan in Mackey's squadron had the clearest explanation. "You take an old farm boy like Mackey," he said. "If he's got a big ranch he must be a specialist in every trade. If that same guy goes into aviation, he treats it like a big farm. He wants to know every acre of it."

THROUGH CHANNELS

Officers of the First Motion Picture Detachment, AAF, were sitting in the projection room in New York, viewing several reels of film which had just arrived from one of their combat camera units in India. Each scene was prefaced on the screen by a few frames which gave the scene number, subject, cameraman's name and other salient details of the picture. A couple of scenes had been shown when the commanding officer and his staff sat bolt upright and stroked their chins. A photographer's name had just been shown and then, shimmering before their eyes was a long take demanding: HOW ABOUT MY PROMOTION!



"This reminds me of my boseball umpiring days!"
—FRITZ WILKINSON

HOW IT BLASTS JAP SHIPPING

(Continued from Page 14)

bomb-strafing runs, resembled a small bathtub jammed with toy ships. Only these weren't toys.

They were desperately maneuvering heavy cruisers, light cruisers and destroyers; they were four and six and ten thousand-ton merchantmen; they were innumerable coastal vessels.

Over the township, a thick-smoke arose to cover effectively the flak-positions while specks which we knew to be our lead B-25s roved in and out of the smoke.

As one, Henebry's lead ships opened fire, selecting their bombing targets with the speed so essential to successful attack bombardment.

Henebry himself dove down on a 5,000-ton freighter-transport, dropped a bomb directly down the hatch which we could see explode; Ellis, flying so low his B-25 looked like a speedboat, roared against a 4,000-tonner, silencing ack-ack posts on the vessel with triphammer blows from his .50 caliber guns.

Up and over he pulled, skipping his

Up and over he pulled, skipping his thousand-pounder into the merchantman's vulnerable side. He crossed the bows of a Jap heavy cruiser, ignoring salvos from the warship's eight-inch guns, and launched a second run on a two-stack 8,000-ton transport.

Again success was his—direct hit through the forward hold. (The tall cameraman reported seeing the vessel break in half and begin sinking rapidly.)

WE were out of the harbor now, soaring over lava-pockmarked earth that blankets the mountains on the southeast shore of Rabaul.

Behind us, cruisers continued to hurl salvos in all directions; Mother and Daughter volcanoes were still heatedly, but vainly, attempting to repulse the final attackers; flak positions around Vunakanau made a curtain of anti-aircraft lead in front of us.

We thought it over then—but it wasn't. Ten Zeros intercepted our lagging Mitchell and made continuous passes for 25 minutes; other Nip fighters harassed the bulk of our leading force until P-38s, relieved from fighting over the harbor itself, hastened to break the momentary grip the Jap had over us.

Air combats were waged from the time we made our escape from the harbor until the last Nip despaired well south of Wide Bay and wearily circled to return home. From the Lightnings and from the effective fire of the Mitchell upper turrets, he sustained a thorough drubbing.

It would not be correct to say we flew home; we limped home. Every airplane in the Mitchell attacking formations, with the exception of two, returned with gaping wounds. Major Henebry staggered 200 miles on one faltering engine, indicating a bare 110 miles an hour, before he finally crash-landed in eighty fathoms of water off Kiriwina Island. The entire crew was rescued by naval patrol boats.

His life raft shot out by anti-aircraft fire, Lieut. Jack Saunders flew 450 miles with the raft wrapped around his ailerons and tail—neither were recognizable as such when they were inspected that night.

such when they were inspected that night.

His left engine blasted by Jap flak fire,
Lieut. Benjamin Burgess feathered his
prop as he sped at waterline level on his
first run, continued the attack, sinking a
Japanese destroyer, and wobbled home
again on the lone engine.

And there was young Flight Officer Jack Harrington, making his initial mis-

sion as a first pilot.

Not only did Harrington score a direct hit with a 1,000-pound bomb on the biggest cruiser in the Harbor, but he brought his flak-shattered B-25 home safely.

As he circled to land, his hydraulic system failed and his right engine went out. Harrington landed that plane on two wheels and one engine—and he and his crew walked away from it unscathed.

But the hero of the day, in the eyes of the pilots themselves, was the late Maj. Raymond Wilkins, who lost his life in the attack.

Sweeping down the slopes, with Simpson Harbor before him, Wilkins' right wing was almost severed in half by a powerful burst from the heavy cruisers.

If he had turned from the target then, he had a better than even chance of making his way home or at least crashing in neutral or friendly territory.

But if he had turned, he knew, his whole squadron's attack would be disrupted. Wilkins chose to complete his last run.

Fighting controls all the way, he engaged a Nipponese destroyer leader, scoring a direct hit on it that spelled doom for the war vessel.

Then, barely retaining his grip on his mortally injured Mitchell, Wilkins raced on to level a waterline hit on a mediumsized freighter-transport.

He climbed up across that target, too
—but then flipped over on his back and
crashed into Simpson Harbor.

THE results of his sacrifice, the results of the sacrifices of three other B-25 bomber crews and ten P-38 pilots, the results of the effort and the skill of those who went and who came back are already air power history.

air power history:
47,000 tons of merchant shipping destroyed.

3 destroyers sunk.

1 heavy cruiser badly damaged.

53,000 tons of merchant shipping damaged.

1 heavy cruiser damaged.

2 destroyers damaged.

68 Enemy fighters destroyed in combat.

13 Enemy aircraft destroyed on the ground.

23 airplanes probably destroyed in combat.

American airmen had brilliantly fulfilled General Whitehead's earlier assertion that "assault, mast-high and tree-top attack bombardment are the keys to decisive results in aerial warfare."

They fulfilled General MacArthur's prediction that the "strategic potentialities of air warfare are only beginning to be realized."

They fulfilled General Kenney's yearold-pledge that Rabaul shipping would suffer a fate similar to, if not worse than, that sustained by Pearl Harbor on December 7, 1941.

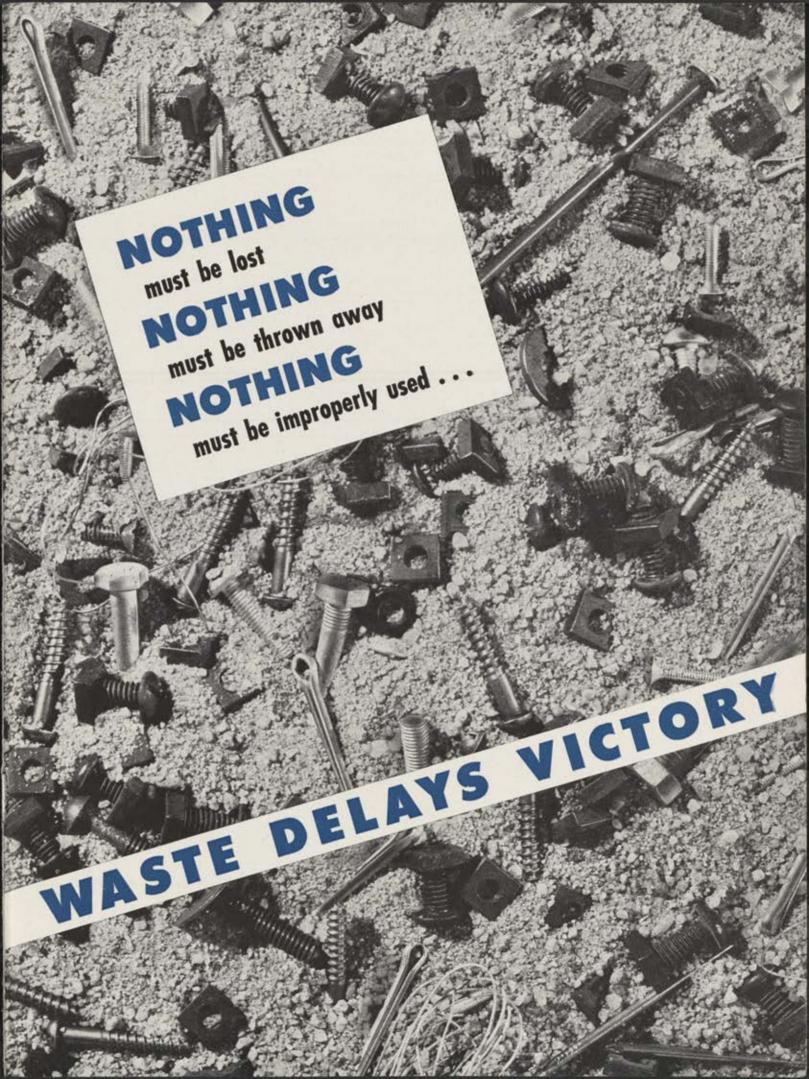
ber 7, 1941.

All this was accomplished by that handful of men—not more than 500 in

Rabaul was not the first, nor will it be the last, great victory recorded by American attack air power in the Pacific. But it was the mightiest blow ever dealt one of the enemy's most powerful bases.

MISTAKES IN 'ON THE LINE' PICTURE ON PAGE 44

- 1. It's not being done this year or any other year—taking connections off spark plugs with a pair of pliers. It's a sure way to crush connections. Reference: TO 03-5E-1.
- 2. Accessory bracket should not have been left on. Remove it to be put on the new engine installed in the airplane.
- 3. Oh, oh, there is no covering on the prop shaft. Men, this is a must! The shaft will rust or be damaged if a tool drops on it. Wrap the shaft in paper, conforming to Spec. No. AN-P-12, Grade A, or protect by plastic cylinder and place thread protector cap over the end of the prop shaft. Take a look at TO 02-1-35.
- 4. Somebody left the governor cap off. That nasty saboteur, dirt, will get in and cause unseen damage. Reference: TO 02-1-14.
- 5. Look at that! The carburetor is not only on the floor where it doesn't belong, exposed to dirt and damage, but it's also in for a beating if the engine stand moves. At this stage the carburetor should have been completely sealed in moisture proof envelope with 2 one-half pound bags of silica gel, conforming to AAF Spec. 17018. Also the sad looking gasket should have been discarded. Don't leave useless unserviceable parts on mechanical units. Look carefully at TO 02-1-1.
- 6. Of all prize boners, removing safety wire with a screwdriver takes the kewpie doll. Instead of trying to break wire by means of leverage, with likely damage to the surrounding surface, cut the wire and remove with pliers. Reference: Common sense.
- 7. Handy Andy up there must have picked up the first tool he saw, because who else ever heard of tightening rocker arm box covers with a crescent wrench? Adding insult to injury you're using the wrench backwards, bud. You'll burr the nut and injure your hand on that job.



WHEN ENEMY FIGHTERS ATTACK...

THE SUCCESS
OF THE MISSION
AND THE LIVES OF
THE CREW DEPEND
ON YOUR GUNNERY!