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This Pamphlet Will Be Destroyed When It Has Served Its Purpose

BUREAU OF AERONAUTICS NAVY DEPARTMENT

Two Men on a .... RAFT

Recently an SOC-1, piloted by Lt. W. J. Tate Jr., crashed and sank after being catapulted from a cruiser. Tate and his rear seat man took to their rubber life raft and paddled for 67 hours before being picked up. The following first-hand account of the experience is from a report to the Bureau by Tate. Besides being an absorbing story, it is valuable for the several lessons it contains.

EDITOR

BY
LT. W. J. TATE JR.
SENIOR NAVAL AVIATOR
U. S. S. SALT LAKE CITY

At 2200 on Oct. 11 my radioman and I were catapulted from a cruiser at a point about nine miles off West Cape, Guadalcanal. It was a dark night, no visibility, no horizon. I had given my ground crew instructions in packing extra flares and didn't check on the stowage of flares in the plane before I took off. We had time only to get food and tactical data. However, my radioman, C. W. Morgan, later said the flares had been laid in lengthwise instead of athwartships as per instructions.

At any rate, very shortly after our take-off the flares fell out and, in falling, set the tail of the plane on fire. We never got more than 200 feet altitude. Within a few seconds the entire fuselage was afire. Morgan crawled out of his seat and up on the wing. I couldn't see the water, the horizon, or even the instrument board. I gunned the engine two or three times, trying to put the fire out, and then eased down toward the water with throttle and stick back and flaps still full down. The wind was from aft when we had been catapulted, so we had to try a landing in a cross wind.

We hit the water with the right wing down and didn't bounce. Morgan was thrown clear but he got a bad cut over one eye and a wrenched shoulder. I don't remember unbuckling my safety belt or climbing out of the cockpit onto the wing. The plane was still on fire, and when my head cleared I began to be afraid the gas tanks might explode, so I swam over to join Morgan. Together we swam about 200 feet from the plane. Then we took a pencil flashlight and tried to signal and hail the ship, but we didn't have any luck. Soon after I got into the water I took off my helmet and gloves and discarded them. Later on, when we began having trouble with the sun, I regretted this.

About seven minutes after the plane hit the water it turned over and the fire went out. We swam back. Morgan held onto the tail on account of his injuries and I swam forward and dove after the life raft. The compartment came open easily but it took at least 10 dives to get the raft out. I got out a two-gallon canteen full of water and passed it to Morgan, who had bought four of these canteens in a sporting goods store in Honolulu and put one in our plane.

There was gasoline all over the water. Diving, I got some in my eyes and on my hands and wrists and swallowed a little. It made me sick immediately. On one dive I caught my life jacket on the plane and ripped one side. The other half kept me up, with a little swimming. Before long other scratches on the jacket developed slow leaks and I threw it away.

The life raft, by good fortune, inflated perfectly and was very satisfactory all around. It was one of the old-style rafts, without a toggle. We paddled away from the plane, leaving it sinking slowly. In the hope of being spotted by planes from Henderson Field, I decided to go around the northwest end of Guadalcanal. We knew enemy troops were

all along the shore where we were and that it would be impossible to land and walk to Lunga. We paddled diagonally toward shore all night; at daylight we were about five miles off West Cape. For provisions we had five bottles of Horlick's malted milk tablets and and the two gallons of water. Both of these ingredients we had provided on our own iniative, Morgan having bought the canteen and I having got the malted milk tablets with my own money. We supplemented this rather monotonous diet by digging floating cocoanuts out of the water and drinking their milk and eating the meat. The milk was wonderfully refreshing but the meat always made us thirsty at once.

Around 2330 we heard and saw indistinctly a Naval engagement going on to the North. It appeared as though there were three groups of ships, with our ships in the middle and shooting both ways. The group dispersed and disappeared after a little while.

When daylight came we continued paddling toward the north. Morgan's injured eye and shoulder improved, The sun came up and it got good and hot. I put one handkerchief across my forehead and tied another just under my eyes to protect my face, and I tore up my underwear to protect my hands and wrists, which already had been burned by the gasoline. Waves kept slopping into the boat; we never were able to get completely dry. It had been extremely cold the night before. We had worn all of our clothes, of course, but we were still cold.

We tried several different ways of paddling and rowing the boat. The best way, we found, was for one man to row sitting on the after seat and facing forward. During the day nine of our planes flew over, six of them right over the boat at a height of about 400 feet. The pilots, evidently strafing Jap positions and looking for survivors of the sea battle, didn't see us. Later in the day we saw a destroyer and planes off to the north picking up survivors (which proved to be from the Duncan). All during the day and the second night we kept the boat some six miles off shore.

Next morning we found a Japanese belly tank floating. It was well made, of heavy aluminum. A little later we found a dugout with a hole in it. We patched the hole and tried towing the raft for about half an hour. We made better speed this way but the dugout was delicately balanced and most uncomfortable and we gave it up.

By afternoon we had got around the westerly tip of the island and a fresh wind sprang up. This eased the burden of paddling but it turned out to be a dubious blessing, for it pushed us within half a mile of shore and a Jap sniper promptly opened up on us. We went overboard in a second and started swimming the boat out of range. The Jappie shot 10 rounds at us, the closest missing by six feet or so, and then gave up. The swimming cooled us off so much that we felt a lot better. We paddled on away, noticing before we left that a number of Jap barges and power boats on the beaches appeared to

be badly damaged.

By sunset we were off Visale. We saw another rubber boat coming toward us from Savo Island. While we were wondering whether it was friend or enemy it unmistakably started chasing us, so we decamped, easily outdistancing it. For arms we had only a sheaf knife and five pen knives. I figured that the other boat was filled with Japs who were making one of their numerous trips to Savo after fruits and vegetables. During the course of our escape from this boatload of Japs one shot was fired at us from Visale.

Early on the third night we saw ships firing at Lunga and answering fire from shore. The wind was favorable, the sea calm, and there was a small but bright moon. At about 2200 we saw three ships, probably destroyers, pass just east of Savo Island headed southwest, and a few minutes later a destroyer coming from west of Savo loomed up headed straight for us. We held our breath, but right before she got to us she changed course and veered off. She passed so close, though, that we could hear the talking, and we were nearly swamped in the wake. The ship was a two-stacker, very sleek, with splinter sheilds around all her guns. She was doing 10 or 12 knots, but she made hardly any noise at all.

Not long after this we saw Lunga Beach being bombarded. (Later on we learned that a battleship was present). The fire moved up to the airfield and there was return fire from the beach. A large campfire and light obviously intended to give navigational positions were on the enemy beach before and during the firing but were extinguished as soon as the firing ceased. The Japs also used illuminating projectiles like rockets which gave a very good light for a short time. The ships fired briefly on Tulagi and then retired to the north.

The third day we continued paddling toward Lunga, feeling quite sick from the sun. All day long we observed planes from Henderson Field bombing the Jap positions. They seemed particularly anxious to knock out a gun, about a five incher, that appeared to be in a position in a swamp or a jungle. From time to time the gun seemed to move.

Our progress became difficult as the day went on; a southeast wind blew up and one os us had to bail while the other paddled. We finally turned to shore, and right in the nick of time! A Higgins boat spotted us and straightaway picked us up. We had, we found, covered about 50 miles in 67 hours.

T A T E ' S C O U R S E

FLIGHT STATISTICS

Let's Get Fuel Conscious! The following cases are summaries of recent crashes due to pilot-caused fuel failures.

Case 1. The pilot of an SO3C-1 landplane, while on a familiarization flight, exhausted all the gasoline from both the left and right tanks. When the engine cut out he failed to switch to the main tank which contained approximately 110 gallons of gasoline. He thereafter made a water landing, causing major damage to the airplane.

Case 2. After making several field carrier landings, the engine of an F4F-3 suddenly cut out on a take-off at an altitude of about 65 feet. The airplane was completely washed out when it crashed into trees during the subsecuent forced landing. Upon investigation it was found that the pilot had *not* been using fuel from the main tank as per instructions, but instead had been using the emergency tank which was dry at the time of the crash.

Case 3. After flying for approximately 25 minutes on an interception mission, a fighter pilot experienced engine failure in his F4F-4. Upon checking the instruments he found oil temperature and pressure normal, but fuel pressure was down to five pounds. He switched on the electric auxiliary pump, but still the fuel pressure did not rise. He made no effort to switch fuel tanks. A water landing was then made and after the airplane had been salvaged it was found that the fuel valve selector switch was on "emergency" and the emergency tank was empty. The main tank was full.

Case 4. While making dummy torpedo runs, the pilot of a TBF-1 ran one tank dry. Due to low altitude and confusion over the engine stoppage, he was unable to determine the cause of the failure in time to shift tanks before a water landing was necessary.

Case 5. An F2A-3 made a forced landing in a swamp after it had exhausted the supply of gasoline in its right tank. The pilot failed to switch to the left tank; he apparently had not the slightest conception of the state of his fuel supply.

With Comments by

GRAMPAW PETTIBONE

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Case 6. The pilot of a J2F-3 was on a familiarization flight. He made one circuit of the field and then came in for a touch-and-go landing. After climbing to approximately 200 feet, he switched the fuel selector to "main". In less than a minute after this the engine failed completely, necessitating an immediate forced landing. A subsequent inspection of the engine and accessories revealed no contributory cause for the failure. It was the opinion of the Trouble Board, however, that when the selector valve was switched from the auxiliary to main, the valve was not seated properly, thus shutting off the gasoline supply.

Case 7. Immediately after lowering his wheels in preparation for landing, the pilot of an F4F-4 noticed that his engine began to sputter and lose power. He switched the propeller control to manual, turned on the emergency fuel pump, and pushed the mixture control from automatic rich to full rich. None of these actions had any effect, however, so a wheels-up landing was made. After the airplane was recovered it was found that the main tank contained less than two quarts of gasoline; whereas, the emergency tank was full. Change #55 (siphon break) had not been made on this airplane because the parts were not available. The pilot stated later that since he had been in the air for less than an hour and a half on moderate maneuvers, he *assumed* that he had plenty of gas left and, being so busy trying to find the trouble elsewhere, did not even look at the fuel quantity gauge. He was apparently unaware of the possible syphoning action in the F4F main tank, although much has been said and written about this, prior to its correction by the above change.

Case 8. The pilot of an SBD-4 made a forced water landing after running out of fuel on his main tank. He had taken off on "main" and switched tanks three times during flight, but each time had failed to feel the customary click as he switched the selector. It was later determined that the fuel selector system had failed sometime prior to or immediately after take-off, thus allowing gasoline to be used from the main tank only, no matter which tank the selector indicated. The airplane was equipped with a small, red flag attached to the rod between the selector and the fuel valve, by means of which the fuel valve could have been shifted, if the failure had actually occurred above the flag. The pilot, however, was unaware of this safety installation and consequently made no attempt to use it.

Bureau Comment:- A review of the above accidents, all of which occurred during a period of approximately one month, indicates they were all due to carelessness, ignorance or negligence, combined with a considerable amount of poor judgment. Because of this and because of Grampaw Pettibone's high blood pressure, it was considered inadvisable for him to attempt comment on these accidents.

This type of accident is entirely too prevalent and should be among the easiest to stop completely because the cure is as simple as the cause. Pilots must never forget the fact that it takes gasoline to keep a gasoline engine running; pilots must become *fuel conscious.* Careful indoctrination will help; whenever a pilot is checked out in a new type of aircraft it should be made certain that he understands the fuel system. He should be made aware of any peculiarities of that particular system; had the pilots in cases six, seven and eight known of the fuel system peculiarities in their particular airplanes, they probably would not have crashed.

The frequency and seriousness of these accidents should convince all aviators of the dangers involved. The only way to keep from falling a victim of this type of pilot error is to study and understand the fuel system in each type of airplane before you attempt to fly it and to remain *fuel conscious* while in the air.

Your earnest attention is invited to the following list of precautions. Most fuel failure accidents occur from failure to observe one or more of these precautions:

This picture recently was received in the Bureau showing the rescue of two occupants of an airplane which went over the side of a carrier. The plane was hanging suspended and partially submerged. Two knotted lines were lowered to the pilot and his gunner, so they could climb aboard the ship.

Life lines should be kept available for such use and the suggestion is offered that a bowline be provided in the end of the line so that if the plane's occupants are injured, or do not have the strength to climb the line, they can secure themselves to the loop and be hauled aboard.

(a) Never run a gas tank completely dry, unless absolutely necessary.

(b) Never switch tanks at low altitude, if avoidable. If suction is lost, it sometimes requires a little time to regain suction on another tank; don't short-change yourself on altitude.

(c) Do not use the emergency tank, especially in F4F's, for low altitude flying, particularly practice landings. (See cases 2 and 3).

(d) If partial failure of fuel system is noticed in flight, take the precaution of returning immediately to base and getting the system checked. Don't unnecessarily risk yourself and your airplane. (See Case 8).

(e) Get in the habit of checking your gas before descending to low altitude: this check should consist of a visual reference to the gauges and selector valve setting, and a swift mental calculation as to gas consumption and flight time.

(f) When shifting tanks, be careful to center selector so that the valve will be properly seated; this can be done by feeling the click.

(g) When an engine sputters check fuel pressure and selector valve immediately.

(h) Know how much fuel there is in each tank before commencing a flight. Make a mental calculation of how long you can fly on each tank and keep a running check on your fuel gauges and gas consumption.

GET FUEL CONSCIOUS! HIROHITO LOVES TO HAVE YOU FLY ON AN EMPTY TANK!

The Lesser of Two Evils:- Case 1: Upon coming in for a practice landing in an NP-1 a student pilot landed on the right wheel and then swerved approximately 90° to the right of his landing course. He then applied full throttle and attempted to take off but struck a fence before becoming airborne. Upon impact with the fence the aircraft nosed over on its back.

It was the opinion of the trouble board that the student could have prevented major damage to the aircraft had he not attempted to take off after losing control of his airplane.

Case 2: The pilot of an F4F-4 allowed his airplane to swerve on take off and thereafter elected to maintain full power in an effort to get the airplane off the ground before reaching hazards at the side of the runway. The airplane crashed into a revetment and immediately burst into flames.

Grampaw Pettibone Says: I fully agree with the trouble board in Case 1 and think the opinion is equally applicable in Case 2. Had the F4F pilot chopped his throttle when he first noticed that he was losing control of his aircraft, he would be alive today. Many potential, minor-damage accidents are turned into major and fatal crashes when pilots, after getting into trouble on the ground, attempt to bull it through with full throttle. Definite rules cannot be laid down for this, except to point out that if you are in trouble on the ground, such as a groundloop, a swerve, a faulty engine, etc., it is usually better to cut the gun and accept possible minor damage, rather than to try to force a *doubtful* take-off which might lead to major damage or a fatal crash.

Taxi-Blindness:- The pilot of an OS2U-3, upon return from an instrument flight, taxied off the field and along the seaplane ramp, enroute to the hangar. The taxi-way was restricted by an airplane parked on the compass rose. The pilot, taxiing at a moderate speed, swung left to avoid this airplane, and in so doing collided with a small tractor parked on the left of the ramp. This accident resulted in major overhaul of both the engine and airplane.

Grampaw Pettibone says:- It would seem that the pilot should also have received an overhauling for his particular brilliance in this maneuver.

MEN VS. MACHINES--The spirited tug of war being carried on by this Navy ground crew will revive the cold engine of this "Kingfisher" scout plane in a jiffy. A canvas sleeve is slipped over the propeller tip, and the tug sends the "prop" spinning, so the plane can take off again on its mission of keeping the Atlantic sealanes free of enemy U-boats. (6)

Granted he didn't see the tractor, but that is just the point; his forward vision is so limited that he never had a chance to see it. Taxiing in restricted areas without a man on the wing is inexcusable. Even though a slight delay may be involved, someone can always be made available for this duty. In the present instance there was a full-grown safety pilot in the rear seat who would have made an excellent man on the wing.

Unbuckled Parachute Harness Results in Fatal Jump:- Recently, while engaged in camera gunnery practice, an F4F-4 entered an inverted spin at about 13,000 feet. At approximately 6,000 feet the pilot was seen to bail out and the parachute was seen to open. When the pilot in the accompanying airplane circled the descending parachute, however, the harness was empty.

A few minutes after the airplane had crashed into the water, the body

surfaced near the wreckage and was picked up by a trawler. After examining the body and in consideration of other evidence, it was the opinion that this pilot had taken off with his parachute leg straps unfastened and in his excitement had failed to fasten them before making the jump.

Grampaw Pettibone says:- Unfortunately this is the type of careless pilot error which can not be learned by experience. When you have to jump and something goes worng, you don't usually get a second chance. You can only learn this from the sad experience of others. Keep your parachute harness and safety belt buckled at all times during flight.

Premature Retraction of Wheels proves Fatal:- Just prior to becoming airborne during a normal take-off, the pilot of an SNB-1 retracted his landing gear. As the wheels began to come up the airplane dropped slightly, until the tips of both propellers struck the runway. The pilot immediately attempted to gain altitude, but was unsuccessful. The airplane hovered about three feet above the ground until it crashed into a metal fence at the end of the field, killing all occupants.

Bureau Comment: There have been several accidents recently resulting from the premature raising of landing gear during take-off. They have all been due 100% to pilot error. In the present instance the pilot made a further error in electing to continue the take-off after his propellers had struck the ground. Had he landed immediately, this accident would probably not have been so serious.

The propeller tips in this case were undoubtedly bent upon contact with the runway. A bent propeller usually loses so much efficiency as to preclude possibility of further flight. Also a bent propeller is so much out of balance that there is serious danger of "throwing" the propeller, and also the engine, due to vibration.

Creeping Throttle:- Shortly after a normal take-off, an F4F-3 airplane was observed in a series of semi-stalls. The motor was running smoothly, but it sounded as though the throttle was being slowly retarded. The pilot

Chow!. The girls eat "twice as much" as in civilian life. But they keep too busy to take on weight.

started to retract his wheels and began a shallow left turn, as if to get back into the field, when he fell off into a left spin.

The reporting officer was of the opinion that the loss of power was due to a creeping throttle, stating that the throttle on this model airplane will creep back very rapidly if the knurled friction knob does not have sufficient tension on it.

Bureau Comment:- When loss of power occurs, pilots should make an immediate check of the following instruments and controls: (a) Throttle, (b) Fuel Pressure, (c) Propeller, (d) Mixture Control, (e) Blower, and (f) Carburetor Air. If the pilot is alert and familiar with his cockpit, this check can be made in a few seconds and will often show that only a simple correction is necessary to insure perfect operation.

Granpaw Pettibone says:- One of the main differences in driving an automobile and flying an airplane is that when you have mechanical difficulties in an airplane you don't have time to pull over to the side of the road to think it over. Hence the old proverb, "Know thine airplane."

F4U-1 Spin:- While on his first hour of familiarization in an F4U-1, a pilot entered a spin at comparatively low altitude and was seen to crash after his aircraft had completed two revolutions. It was the opinion of the investigating board that while familiarizing himself with the handling characteristics of this airplane at reduced speeds, he inadvertently permitted his aircraft to enter a spin from which he was unable to recover.

Grampaw Pettibone says:- It is unbelievable that any Navy pilot would attempt to familiarize himself with the flight characteristics of a new plane at low altitude.

Bright Searchlights

Much depends upon your point of view, the British Vision Committee has discovered. The committee consists of distinguished eye specialists whose chief aim is to improve the vision of the R.A.F. pilots. The committee became concerned over increasing complaints from British pilots that the German searchlights were much brighter than those employed in England. Data was obtained on the candlepower of the lights used in both countries, and no appreciable discrepancies were found. Then they questioned German pilot prisoners about the searchlight situation. Invariably, the German pilots complained that the English lights were brighter.

D I D Y O U K N O W ?

Going Aboard a Carrier?

"What equipment do I need?", said an ensign detailed for temporary duty at sea. "I don't mean how many pairs of socks, or how many khakis. It's the extras I'm worried about. What would I need, for example, if the ship went down."?

It just so happens there are guys who know. They will say, from experience, that you need

1. A waterproof flashlight with blue lens.
2. A knife.
3. A whistle.
4. A waterproof money belt.
5. A compass.

It's true what you read in magazines. Ships are blacked out at night. You need the flashlight to find your battle station and it's nice to have it waterproofed if you're swimming around looking for wreckage to hang on to.

The knife is standard equipment. Not a pen knife, mind you, but a knife with a five inch blade that can saw ropes when you're trying to get a life raft overboard in a hurry. It can also be used to fend off sharks and spear eatable fish. If the ship doesn't sink, you need the knife to peel oranges during General Quarters.

The Navy disapproves of individual whistles or whistlers aboard ship but a whistle is a very handy thing to have when you're overboard. There was a very lonesome sailor of our acquaintance treading water somewhere off the African coast. He had an idea. He blew his whistle, loudly and continually. Presently a destroyer came by and asked if he wanted to be picked up. He allowed that he did.

A money belt is obviously of value if you have any money and still want to have it when you're rescued. It is handy to preserve your Social Security card, letters from your best gal and other valuables.

If, when you're paddling along in a rubber boat, and you just happen to remember that the Solomons are in a northeasterly direction, it is reassuring to know that you're making progress in the right direction. That is best accomplished by consulting the compass you should have.

Of course, you need other things, too, particularly a life belt. This will be provided on board. You have simply to blow it up at the propitious moment. Fresh water, rations and oars for the life rafts also are ready for emergency use.

Automatic Pilot Publications

Two new publications recently have been issued which give complete information on the proportional bank adapter and rudder control used in conjunction with the Mark 3 automatic pilot. Notice No. 35 of the Handbook of Aircraft Instruments, dated 7 December 1942, lists these publications as follows:

Chapter 4 - Instruction Manual for Automatic Pilot Proportional Bank Adapter.

IDS Report - Report No. IDS-32-42, on Mark 3 Rudder Control Unit.

Copies of these publications will be distributed automatically to all holders of the handbook. Additional copies may be secured upon request to the Aviation Supply Office, Naval Aircraft Factory, Philadelphia, distributing agency for the handbook. It is recommended that all personnel concerned with the installation, operation, or maintenance of the adaptor and control unit study these two publications with care.

If ever shot down Dilbert wouldn't be in very good condition for the the big swim

Rescue From a Raft

The skill of a naval aviator recently made possible the rescue of Colonel Max F. Schneider, an Army pilot who spent 72 hours adrift on a life raft without water and with little food. The colonel's rescuer, Lieutenant Murlin W. Alley, USNR, landed his Catalina flying boat alongside the raft, despite a heavy ground swell which made the maneuver extremely difficult. According to Colonel Schneider . . .

"I radioed my lead plane of my trouble and was advised to bail out. The other plane was helpless to aid me at sea, and it went on. I felt I would be able to nurse the plane along to the next stop, but the trouble kept getting worse and I was losing altitude quickly. I had hoped to be able to pancake in on some island, but I finally had to go down in the water and get into my raft.

"I had difficulty in getting aboard the raft. I presume I was more groggy than I suspected. I had to throw away my pistol and twist out of my parachute pack to lighten the burden enough to get aboard."

The radio call which led to the rescue, Colonel Schneider believes, came from a military transport plane which spotted the raft, flew low over it, but could not attempt a rescue because it was a land plane. The colonel was unable to get the plane's number, but added:

"I'm certainly grateful to the pilot. He dropped something in a 'Mae West.' I had tried to indicate that I was without water, so I presume the parcel contained water. It sank before I could reach it. I had read of persons dying of thirst and I confess I didn't relish the idea."

Lieutenant Alley was on routine patrol when his radioman, A. J. Nick, Aviation Radioman Third Class, USN, intercepted a message, telling the location of the raft. Lieutenant Alley and his crew set the plane down a short time later, took Colonel Schneider aboard and landed him at Great Exuma, The Bahamas.

Patterson Lauds Air-mindedness

In a recent address before the 1943 graduating class at West Point, Under Secretary of War Robert P. Patterson told the cadets there was no single invincible weapon "except that of the spirit" and that the sure force of victory was being built in the "invincible team of land, sea and air power."

"Our Army is the most air-minded in the world," Mr. Patterson said. "We have given every encouragement to the development of our air arm, but it is not enough that West Point merely fill a quota of flying officers. Every West Point man should feel at home in a plane, should be able to think clearly and rapidly while flying at great speed."

Combat Photo Unit Formed

In a program to obtain more complete photographic coverage of the war, the Navy has established a Combat Photographic Section, a co-operative activity of the Office of Public Relations and the Bureau of Aeronautics.

Ten officers at present are completing a special course of training for this work. They will take charge of units consisting of three enlisted men, two motion picture cameramen, and one still photographer. These groups, called Combat Photographic units, will be assigned throughout the world to current or potential theaters of war. Their duty will be to supplement present Navy and civilian photographic coverage of combat operations. After the films have been studied by the interested bureaus of the Navy Department, all material compatible with security will be released to the public through the Office of Public Relations.

In a military organization, photographs showing actual combat are second in importance only to reconnaissance pictures. Both stills and movies are

used by staff officers to study offensive and defensive combat tactics. They also are used by various technical bureas in assessing the performance of and damage to our own and enemy equipment. These pictures also will aid in training Naval personnel and will give the public valuable information on the war.

That the Naval photographer's job is often dangerous is illustrated by a current news-reel showing an official Navy picture of a Japanese dive-bombing attack on a U.S. aircraft carrier. The film shows two bomb hits on the carrier's deck. One of the Navy photographers making the picture was killed, but his comrade carried on under fire and completed the photographic task.

How a Jap Identifies a Jap

Notes on how Japanese ground forces are instructed in identifying their own aircraft are disclosed in documents captured from the enemy in Guadalcanal. One feature pointed out, which is not generally included in American instruction on identifying enemy planes, is the white strip on the fuselage near the tail.

Translation of the portion of the document on plane identification follows:

"Besides the red disc on the wings there is a white strip near the tail end of the fuselage about 20 cm. in width.

"The signs for identification of friendly (still quoting the captured document) planes to friendly ground troops are as follows:

"Daytime: In case of a single airplane, flutter wings left to right. When planes are in formation the last plane will flutter wings left and right at regular intervals.

"Night time: When co-operating with ground forces it is customary for the plane to circle above ground forces a few times.

"It is essential to turn the wing and tail light on and off at regular intervals.

"When planes, other than fighter planes are approaching friendly ground forces, one star rocket will be fired."

Words For All Of Us

Lieut. Col. Evans F. Carlson spoke over the graves of members of his unit who fell on Guadalcanal between Nov. 4 and Dec. 4, 1942:

> "It is not given us to know the process by which certain of us are chosen for sacrifice while others remain. . . As I ponder the names of those we honor, it seems to me as if the most worthy among us are selected for separation in this way . . . These comrades of ours have given convincing proof of their determination, their courage and their sincerity. They also loved life. Only yesterday their voices were heard among us as they joined in our songs, rejoiced over letters from home or rang out with lusty exuberance as they participated in contests of sport. But when the time came to face the enemy they did not flinch or hold back.
>
> "What of the future for those of us who remain? Our course is clear. It is for us at this moment, with the memory of the sacrifices of our brothers still fresh, to dedicate again our hearts, our minds, and our bodies to the greater task that lies ahead. . . . We must go further and dedicate ourselves also to the monumental task of assuring that the peace which follows this holocaust will be a just and equitable and conclusive peace. And beyond that lies the mission of making certain that the social order which we bequeath to our sons and daughters is truly based on the four freedoms for which these men died. Any resolutions less than this will spell betrayal of the faith which these staunch comrades reposed in us."

Urge Use of V-Mail

Have the folks at home been letting you down? Perhaps the days and weeks are stretching into months between those once-faithful messages from the family. . . . .And the girl friend promised to be true, but where are those letters to prove it?

You can be certain that the folks haven't forgotten about you; the chances are that the girl friend writes just as often as she ever did. Here's the rub:

Because of war demands and lack of transportation, prompt delivery of foreign station mail is becoming more difficult. In November, only 15 per cent was transported by air.

Solution? . . . . .V-Mail! Use of V-Mail service means that personal mail can be transported by air instead of waiting for surface ships. This World War II innovation cuts down the carrying weight about 98 per cent for overseas mail, thus relieving the heavy burden now carried by our ships, trains, and planes. It may be sent anywhere free by men in the armed forces and for the usual three-cent stamp by civilians. Forms may be bought at any good stationery store or obtained at no cost through Government post offices. It's as simple as all that!

Many people seem to question the use of V-Mail to be sent to stations not equipped to handle micro-film. However, in this case, the original letter is sent, still providing a 40 per cent saving over regular mail. The Navy is planning to establish 75 V-Mail stations during the present year.

Write your friends a V-Letter, urging them to use V-Mail. If you haven't tried it before, you will be amazed at how quickly an answer comes back to you. Any effort to help streamline the mail service will reap benefits for all concerned.

Remember, V-Mail has first priority after official correspondence for overseas destinations. It will be forwarded by the first available air transportation. Help promote V-Mail and those letters from home soon will be speeding your way.

"Airpower - Key to Victory" - MacArthur

Gen. Douglas MacArthur recently declared the ultimate defeat of the enemy in the Pacific involves "the continuous, calculated application of air power."

"Air forces and ground forces were welded together in Papua," spoke MacArthur on the conclusion of the Papuan campaign. "When in sufficient strength with proper naval support, their indissoluble union points the way to victory through new and broadened strategic and tactical conceptions."

"The offensive and defensive power of the air and the adaptability, range, and capacity of its transport in an effective combination with ground forces represent tactical and strategical elements of a broadened conception of warfare. This combination permits the application of offensive power in swift, massive strokes rather than the dilatory and costly island-to-island advance that some have assumed to be necessary in a theater where the enemy's far flung strongholds are dispersed throughout a vast expanse of archipelagoes.

"The outstanding military lesson of this campaign was the continuous, calculated application of air power inherent in the potentialities of every component of the air forces employed in the most intimate tactical and logistical union with ground troops. . . . . A new form of campaign was tested which points the way to the ultimate defeat of the enemy in the Pacific.

Sink or Swim

Being able to swim well has saved the life of many a sailor. Conversely, not being able to swim well has cost many a sailor his life.

That fact was underlined by survivors of the carrier WASP, which was sunk in action last summer by Japanese torpedoes.

"I saw men die because they could not swim well enough to carry themselves out of danger," reported the chief specialist in charge of the physical fitness program aboard the carrier.

As the result of his experience in physical training, and more specifically, as the result of what he saw when the huge flat top went down, the chief recommends the breast stroke as the most practical for sailors to use in abandoning ship.

"The breast stroke," he pointed out, "keeps the swimmer's head, eyes, and mouth out of water. It gives him a chance to see his way about. A person is looking for a raft, a pillow, a mattress, or anything to hang on to. He can see to avoid floating debris, and to grab on to something that will help. The stroke also prevents oil getting into the swimmers mouth, if the water is covered with it."

The chief also pointed out the breast stroke is easy to master and is a restful, powerful one to use.

Aerographers at Guadalcanal

Considerable excitement was caused one night at Guadalcanal by a "strange light" above the island -- until a Marine Corps aerographer dispelled the mystery. The light proved to be the reflection of a beam focused on a "ceiling" balloon.

"It is our job," said the aerographer, "to send up a pilot balloon daily, come hell or high water. That is how we determine wind velocity and ceiling. So the next time you see one

of those balloons -- don't start shooting at it."

Field equipment for aerographers is practically identical with that of weather bureaus in the States, except for variations to fit the needs of some unusual locale. Complete meteorological records are kept for aerographers in the Solomons, and weather reports are transmitted to Fleet and Shore stations throughout the South Pacific. This information is vital for navigators and artillery units.

Aerographers' duties may sound uneventful, but in Guadalcanal men worked constantly under bombing and shelling by the Japs. During the last three months, the aerographers in the Solomons have been bombed out of their stations several times -- fortunately without casualties. One of their particular hates is the Japanese snipers who take perverse delight in shooting down pilot balloons.

Amphibious Glider Tested

With trial flights successfully completed, the Navy-developed amphibious glider is receiving nationwide publicity as the first such glider ever built. It was developed in the aircraft factory of the Philadelphia Navy Yard, and the trials were conducted in the Delaware River.

The new glider is built of moulded plywood and other nonstrategic material, and lends itself to mass production, according to Commander Ralph S. Barnaby, assistant chief engineer of the aircraft factory, under whose immediate direction the boat was built. Commander Barnaby piloted the glider in the tests.

"They can be used for troop transport or cargo carriers," Commander Barnaby pointed out. "I believe I can pronounce our glider a complete success. The uses of such craft are multiple and the nature of the war which we are fighting makes them an extremely useful glider type."

The glider has a wing-spread of 72 feet and can transport twelve men and their equipment. Two loaded gliders can be towed by one airplane.

Mistaken Identity

"The first fox hole we came to," related Webb, "we both dived in, out of wind but pleased with our new position.

"Then this other guy got his wind back and started talking to me. That was his mistake. He was talking Japanese! So I grunted a couple of times, slipped the pin out of a grenade and tucked the live pineapple between this boy's pack and his shoulders. Then I got the hell out of there."

This is what happened to one guy who talked too much. The experience is related by Private Woodrow Webb, Marine Corps, who was on duty in the Solomons. It began when a Japanese mortar found the exact range and deflection of a machine gun nest which Private Webb was operating one night.

Knowing something about tactics, Private Webb, at once began a strategic retreat as fast as he could run to a previously prepared position. Along the path, he found himself sprinting on the heels of another man who was executing a similar maneuver.

Designation of Auxiliary Power Plants

The Bureau program for auxiliary power plants at present includes three general horsepower classes, 15HP, 40HP, and 70HP. Units of the first two classes are in service

while 70HP experimental engines are being developed.

The 15HP engines now in service are the Lawrance model 30C-1 and 30C-2, both designated Navy type APP-1, and the Lawrance model 30D Navy type APP-1A. Both of these engines are 2 cylinder opposed engines rated at sea level at 5 KW with emergency overload of 7½ KW. The APP-1 rotates counter-clockwise and the APP-1A clockwise when viewed from the generator drive end. The former is a "packaged unit" using a special generator whereas the latter is intended for use with practically any 5 KW standard main engine generator. In addition to the foregoing, the Eclipse manufactured NEP-1A and -2 units, which is the Navy designation, are being used in the older model patrol planes and the current PBY-5A series. They are single cylinder, two cycle engines.

The 40HP class at this time is represented by but one unit, the Lawrance 75B, Navy type APP-2A, which is a five cylinder radial engine. The APP-2A is rated at 8 KW, 28.5 volts D.C. from sea level to 20,000 feet altitude. This is also a "packaged unit".

Provision is being made in both the 40 and 70HP classes to supply engines with dual generators of 28.5 and 120 volts D.C.

For the sake of uniformity it is suggested that the Navy designation, APP-1 etc. be used in any correspondence originating in the various activities concerned with auxiliary power plants.

Relation of Air Speeds and Engine Cooling

With the advent of modern highly supercharged engines placed in closely cowled installations, the problem of proper engine cooling has become considerably more acute than was the case with sea-level engines or with installations where large cooling drag could be tolerated. Engine cooling is dependent on the mass of cooling air flow across the engine. Since the flow of air is mostly dependent on the speed of the airplane through the air, ground or water operation becomes critical when high powers are used. For this reason, particular care should be exercised to avoid exceeding engine temperature limits during warm-up and taxiing.

Due to the fact that the curve of rate of climb against air speed is quite flat near the maximum for the normal airplane, there is a considerable range of air speeds which may be used in a climb without seriously affecting the rate of climb. The curve of maximum head temperatures against air speed, on the other hand, is quite steep, so that a comparatively small reduction in air speed is likely to cause a considerable increase in maximum engine temperatures. While the bureau has always heretofore demanded satisfactory cooling at the best climbing speed of the airplane, this can be no guarantee that the cooling will be satisfactory at lower speeds. In view of this, it can be seen that airplanes having highly supercharged engines should habitually be climbed at air speeds somewhat above the best climbing air speed, and never at speeds below the best climbing speed, in order to avoid excessive overheating of the engines.

Flapped engine cowls are normally designed to give minimum cooling drag at maximum speed when closed, and adequate cooling on the ground when opened. The full amount of flap opening available is not required for cooling in the air, and opening the flaps to the full 35° to 40° in in the air results in considerably more drag and air disturbance with practically no increase, and a possible decrease, in cooling over that obtainable with 15°-20° of flap opening.

Wheels

When you were tiny, Oh! dear heart,
I took you riding in your cart.
And I was proud as I could be
To have you out where folks could see
My son. On four strong wheels you went,
My little child, by heaven sent.

So many wheels you've known since then;
A kiddie car you rode, and then
A wagon; and a two-wheeled bike
To take you and your pack on hike.
Then came the day, not back too far
You got a license for the car.

And when the fog as thick as down
Had settled deep all over town,
I listened for you through the night
Till I heard wheels and saw a light
In the garage, but for your sake,
You never once found me awake.

So now your wheels have found them wings,
And fuselage and guns and things
That go to make an airplane,
To make all people free again.
And you fly high o'er waters deep,
And in the sky your vigil keep.

And if sometime you fly too high,
Or dive too deep, I shall not cry.
I'll know that somewhere in the blue
You looked at God as you flew through;
You dipped your wing to another shore
And your wheels rest on Heaven's floor.

-- By Margaret Osborne Ludwig

(This poem, sent to a 14th Battalion cadet at Chapel Hill by a friend, expresses well the feeling of Navy mothers for their sons in the air service. The author herself has two sons in naval aviation.)

AIR BASE GROUP 2, MARINE CORPS, SAN DIEGO

Acting upon recommendations of personnel unfortunate enough to have spent part of their sea duty in rubber boats, ABG-2's machine shop here has improvised a piece of equipment worthy of mention. The oar handle already in all rubber life boats has been made to do triple duty. A bushing is pinned into place in the handle of the oar, then drilled and tapped in such a manner that an improvised spear and dip net can be screwed into the bushing. Fifty sets of this equipment have been made with the hope that it won't be necessary to use them, but with the conviction that some aircraft crew will be able to supplement their diet at some future date.

BUREAU COMMENT - A quantity of fish spears sufficient to equip all life rafts in service and under procurement now is being purchased. This spear is provided with an attachment on one end that can be used with the life raft oar. When not in use, the spear will be stowed in one of the sections of the oar.

It is expected these spears will be available in approximately 60 days and will be forwarded to supply points to apply against requisitions from dependent activities.

Naval Operating Base - Bermuda

A pilot attached to one of the squadrons at this station recently discovered a new way to fish while on bombing practice. Immediately after he had dropped his load, he saw something leap from the water. Flying low to investigate, he was amazed to see a large tuna floating on the surface. He knew that his fellow officers would never believe him if he told them about the big one that got away, so he decided to bring the evidence home for dinner. Landing was his big worry, but the crashboat solved the problem when its coxswain, thinking the flier was in trouble, came to the rescue and hauled in the fish.

Naval Air Transportation Service has already been heartily endorsed by personnel in Bermuda who have seen the importance of getting needed supplies and equipment from the States as quickly as possille. The approval was still stronger when word came that, if space permitted, passengers would be carried, thus making the possibility of leave greater. But the best news so far was that mail will be carried whenever possible. Mail from home is the greatest morale builder in the service today; for the price of an airmail stamp, those at home can change a sailor's day from one of depression to one of happiness. The arrival of NATS is now looked forward to as eagerly as the arrival of the Clipper.

USS Richmond

The following report was submitted by the Senior Aviator aboard the USS Richmond:

"During a recent forced landing at sea, several observations were made which may be of interest to other cruiser and battleship units.

"There was a strength 4-5 sea running, 18-23 knots of wind, and we had the drogue specified for SOC's rigged.

"The roll was large, frequently 30^{o} or more, and the wingtip floats took such a pounding that the dry life of the cockpit was definitely limited. We broke one wingtip float strut landing, and in an hour and a half the other three struts were gone. We got the float lashed on with the antenna wire, but it is hard to say how long it would have lasted.

"In view of this situation, I was glad we had a rubber boat, although the Bureau says "no" for a seaplane. I also had a sheath knife that would have been useful on a nearby uninhabited island. The drogue wasn't sufficiently large enough to overcome the yaw and resultant damaging roll. The answer may be auxiliary wingtip drogues or a larger main one. At any rate, a long line on the drogue is a definite help to its efficiency and in case of necessity can be used for a lashing.

"During a recent search for a plane on the water, the area of its possible positions was greatly increased in one or two days because we had nothing to go by in estimating its drift. Under the conditions described above, ours was close to three knots. Is there any data available on the drift of boats and planes of different sizes under different sea and wind conditions?"

Torpedo Squadron Ten

In reference to a News Letter definition of "ditching" as "landing a plane in water," and a request for information on any "ditchings" which have been experienced, this squadron submits the following report:

In less than 48 hours from Oct. 25, 1942, to Oct. 27, 1942, Torpedo Ten "ditched" 10 TBF-1 airplanes. Landings were made with wheels up and down, with flaps up and down, with torpedo and without torpedo, with bombs and without bombs, up, downwind and crosswind, with planes damaged by gunfire and with planes undamaged. Crew members were sometimes in the second seat, sometimes in the tunnel and always in the turret. Landings were made at night and in the daytime. No pilots were injured or lost, but one gunner, who could not get out of the turret was lost. No trouble was experienced in getting out the life rafts. Some pilots and crews were bounced around a little in landing, while others came down quite easily. One pilot had idadvertently undone his safety belt just before landing, but suffered no injury. The planes remained afloat for periods ranging from 30 seconds to two minutes.

In spite of the success of these involuntary experiments, the pilots of Torpedo Ten still feel that the TBF-1 is better adapted to carrier or field landings than to water landings. A minority is of the opinion that the planes should be equipped with pontoons or floats, but this minority is composed of those who have found it necessary to "ditch" their planes more than once. It is felt that the judgement of the latter has become warped by dampness.

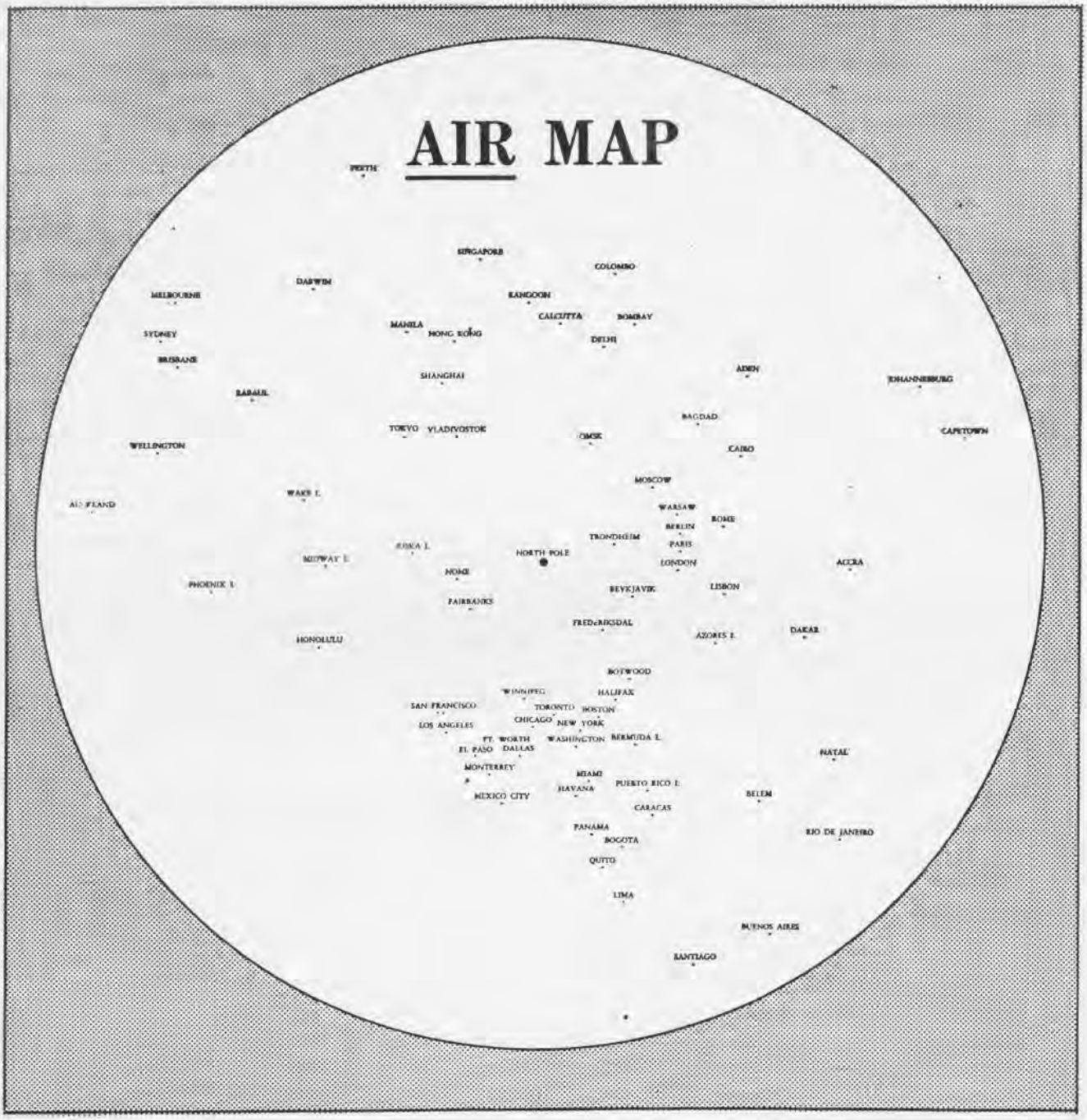
Bureau Comment: --The entire subject of "dunking" which is considered an Americanized version of the English expression "ditching" is thoroughly discussed in the booklet, "Dunking Sense," which will be issued in the near future. The excellent result obtained by the dunkers in Torpedo Ten is commendable.

CLOSING DATES
for next issues of
News Letter

FEB. 19th for MAR. 1st issue

MAR. 5th for MAR. 15th issue

Illustrations, including photographs and drawings, should be sent with copy when they improve or contribute to better understanding of text.



There are no surface barriers such as oceans, deserts and mountain ranges on this map. The airplane has eliminated them. The world has become smaller and no place is totally inaccessible by plane today. The war has proved that.

The air is much larger than all waters and lands combined. It is borderless and universal. In the world of the future all peoples will become closer neighbors and they will have a more direct influence upon each other. This polar projection map shows the postwar air-world from an air transportation standpoint.

[Map courtesy American Airlines]

Fleet Air Wing 4
Patrol Squadron 42

This patrol squadron is interested in a twin-mount .30 caliber continuous feed installation recently reported being used in SBD type aircraft. Much thought and effort has been devoted by personnel of this squadron toward continuous feed for all guns in PBY-5A's. A continuous feed magazine has been developed for installation in the bow turret. This is now undergoing flight tests. However, no means has as yet been devised for doubling the guns in this station in conjunction with continuous feed magazines. Lack of facilities and equipment is the only thing that is preventing necessity from mothering the needed inventions.

Through the "grapevine" it is learned that the British successfully developed methods long ago for doubling the guns in Catalinas and providing means of continuous feed for them. If this is true, squadrons that have had to use PBY's as dive bombers, beating off fighters by using single gun installations, without adequate ammunition immediately available, have deserved more information and help on this important innovation.

When it was found that SBD's successfully could use twin mounts continuous feed, it seems logical that an interlocking system of exchanging information would have immediately brought this to the attention of others, at the source, interested in types of multiplace planes actually being exposed to attack by enemy aircraft. An officer recently detached from this squadron indicates that great willingness is apparent at the "feed box" to do the things that are believed to be needed by units actually doing the fighting, but that much effort is being lost because of a lack of information on actual needs. Patrol Squadron Forty-Two has felt that this was the case right along, and has occasionally tried to keep its responsibility to the News Letter by sending in a contribution. Under our present set up it is the duty of the "good ole HedRon" to write R.U.D.M.'s while we "lick 'em" but we guarantee that no "desk" will again suffer from lack of knowledge of Patrol Squadron Forty-Two "long range" needs of an exceptional nature.

Last spring this squadron attempted to get suitable windshield wipers installed for the purpose of giving them a real service test in the summer fog and drizzle, so that complete reliability could be established before winter. The manufacturer supplied a 12-volt motor for a 24-volt electrical system, thus bringing about an unfortunate delay which is going to deprive us of this much needed item when we need it most, unless urgent steps are taken to run an accelerated test and all interested parties push this project to a maximum. Comment as to what can be expected in this connection is requested.

For months we've been reading about training devices, but as yet very little has been seen of them. It is hoped that someone is deciding that certain types of units require certain types of devices and is sending them out without special request, therefore. Where we are now operating, some interesting developments are going on wherein large air bases are establishing smaller ones in the same general area called Naval Air Facilities. A Link Trainer at each of these Naval Air Facilities Bases would be the most welcome training device that Patrol Squadron Forty-two could wish for.

BUREAU COMMENTS

In connection with the squadrons request for Link Instrument Trainers at outlying fields, shipment could be made from the contractor's plant starting in April. If equipment is urgently needed prior to that date a change in the current allocation list could be made. In any event, upon receipt of the request stating the number of trainers desired together with the location of activities to which the trainers are to be forwarded, immediate action will be taken.

This Bureau is interested in the development of the continuous feed for the single bow gun in the PBY-5's. It is hoped that information on this magazine will be submitted to this bureau just as soon as the installations referred to have been completed.

The Aircraft Armament Unit has completed the development of a twin gun installation for the bow enclosure in PBY-5 type airplanes which provides continuous feed for each gun of 350 rounds with extra magazines totaling 1050 rounds for each gun. This installation, however, involves an increase in weight which militates against the use of such an installation as a general rule. This bureau has therefore decided to have this change incorporated only in PBY-5's operating in combat zones. Parts are being manufactured by the Naval Air Stations at San Diego and Norfolk and will be allocated when completed as necessary.

A continuous feed system for the side waist guns is in the process of delivery at the present time. It had been hoped that these units could be available to the Service during the month of November but difficulties in the procurement of material had delayed deliveries to such an extent that demands for production airplanes are barely being met. It is believed that the situation is clearing at the present time and that by the time this News Letter is issued to the Service deliveries of these continuous feed systems to various Naval Air Stations for issue to the Service will be well under way.

The Bureau of Aeronautics is interested in the performance of windshield wipers on naval aircraft and will greatly appreciate receiving detailed reports regarding any defects in this equipment. It is understood from the manufacturer that the motors provided with the wipers delivered to Patrol Squadron Forty Two, are of the 24 volt variety but have the improper nameplate. Immediate action has been taken to have the defects in the wipers in service corrected in the near future.

MCAS - St. Thomas, Virgin Islands

This station has completed plans for the training of personnel to be assigned squadrons at this field. Plans for a training school for free gunners have been made, with facilities for the 3A-2 trainer, a motion picture training room, a lecture hall, a workshop and various mechanical training devices.

Pilots attached to squadrons at this station are receiving a complete Link trainer course, fixed-gunnery training (both synthetic and actual firing) and recognition training by use of cards and models.

The GLORY OF IT ALL!

By Dracula Fitzkidney, Aerog.2c, USN

You've seen us in the Bar Rooms
and almost everywhere
But we're seldom ever heard about
cause no one seems to care.
Weather is a tiresome job
that certainly must be done,
but it's Hell, let me tell you,
when the storms begin to come.

You start to file your weather
when the rain begins to fall,
you change it to a special
then, there ain't no rain at all.
The forecaster is a' yellin'
"Where the hell'd you put the map?
And all the time it's practically
a laying in his lap.

The teletype is garbling bad,
the code won't break at all
and you're constantly reminded
by a notice on the wall —
That he who fails to do his job
before he goes to bed,
will sweat on extra duty
till he wishes he were dead.

When I think of how I left my home,
my bed, and yes, my wife,
to wet nurse a grouchy forecaster
for the rest of my natural life,
I long to drown my troubles in
cool draughts of gin and beer
But the Lieutenant shakes his finger,
Says "none of that stuff over here".

For twenty four hours every day
and seven days a week,
this thing goes on indefinitely
til you're much to tired to speak.
So now I've told you 'bout the life
of a poor observer man,
and if you should run across one
just help him all you can.

AEROLOGY · PATROL WING TWO

February

Curtiss unhooking his hydroplane after being hoisted

1911

THE HYDROPLANE

Thirty-two years ago this month, an event of great importance to naval aviation took place in San Diego Bay. Inventor Glenn Curtiss, who before experimenting in aeronautics had built motors for bicycles, constructed a pontoon attachment on an airplane. The device was perfected with the aid of Lieutenant Ellyson, USN.

On February 17, Curtiss brought the hydroplane down on water and taxied alongside the *U.S.S. Pennsylvania*. The plane was hoisted aboard by a boat crane. It was then let down on the water again and flown back to North Island.

The episode took place a month after Eugene Ely landed on the improvised carrier deck of the same ship, in San Francisco harbor. It followed by three months Ely's stunt in taking off the *U.S.S. Birmingham* at Hampton Roads, Va. Thus, in a very short time, it was proved conclusively that both landplanes and seaplanes could be used aboard naval vessels.

board the deck of the *Pennsylvania*

Today. A plane is hoisted on catapult car

Kite Target

A boy's kite is about to be used for a man's work. More specifically, a kite has been developed to serve as an air target for gunnery practice. The kite is of the 2-stick Eddy type, diamond shape and tailless, painted to resemble a Japanese Zero. The height and span are approximately five feet. It can be maneuvered in flight over a horizontal arc of about 60 degrees and controlled for altitude by means of a swivel bridle and two "reins".

The kite is adapted to use on the ground in a natural wind or from the rear of a moving vehicle or the aft deck of a vessel underway. The gunner is stationed near the kite operator and his range depends on the length of the line. Ability to maneuver the kite provides practice in the "lead" principle so important in gunnery.

Cost of the kite for mass production is about $2. According to the Special Devices Section, which developed the kite, undamaged parts can be salvaged after it has been shot down and assembled into other kites. All units are standardized. The kite has been tested under fire at the Aviation Training Gunnery Unit at NAS Norfolk and reported eminently satisfactory.

A Tip From the Fog

Expertness in navigation, aerology, and instrument flying are primary needs of naval fliers operating in the Alaska area. This information is the result of sifting the experience of numerous pilots who have flown through the North Pacific fog.

So specialized is the flying in this area that a system of special training for Pensacola and Corpus Christi graduates has been worked out by Patrol Wing 6. The training includes providing the newly arrived pilots with third-pilot assignments for a short period so they can see, first hand, the absolute necessity in becoming expert in instrument flying, aerology and navigation. Then they get a tour of special training in these subjects in Seattle, before they finally are ready for active duty in the fog-ridden area.

The necessity for expertness in these branches of flying is reiterated in practically all the communications from this area that come to the bureau.

Course Trains Women Mechanics

Women mechanics soon will be a familiar sight at NAS Lakehurst. Two groups totaling 46 female learners enrolled for training during the last two weeks. The women will be trained at Philadelphia and upon completion of the course will return to Lakehurst where they will be assigned work similar to that done by men mechanics.

The course has a three-fold purpose: to augment the staff of mechanics at the station, to compensate for the loss of men called into service and to accelerate the lighter-than-air program at Lakehurst.

The women, enrolled as mechanic learners, undergo an intensive program covering blimp overhaul and maintenance, and engine adjustment and repair. Actual participation in the varied duties of a mechanic will give the women a first-hand knowledge of their subject. They will be called upon for such tasks as patching and painting blimp fabric, adjusting engines, and metal work.

Iowa Pre-flight

It may cost the Navy $27,000 to train each of its fighting fliers, but it also can make them work it out at the prevailing rate for manual labor. The aviation cadets at the Iowa City Pre-Flight School feel that they are writing off a part of their expense. The approximate market

value of the manual labor which is compulsory for all Pre-Flight cadets otals about $1,000. This physical training activity is in addition to their instruction and training in sports such as football, basketball, and boxing.

Manual labor is set up in the Pre-Flight program for its definite contributions to physical condition and for its training in the use of manual tools--picks, axes, shovels, sledges--which might be demanded in a future emergency.

At the same time, these labor details have made their mark on the Iowa School's physical plant. Cadets have built the famed obstacle course, cleared two playing fields, and will fill in two more. They have cleared lawn areas for sodding, built walks, and all this in addition to the routine detail of keeping the base ship-shape; raking leaves; shoveling and clearing snow; uncrating, moving, and cleaning equipment.

In the future, cadets will be introduced to the construction of fox holes, entrenchments, barbed wire entanglements, camouflage, and gun emplacements.

Lakehurst, N. J.

Class 70 of the Lakehurst Parachute Material School is waiting for the second jump that will mean graduation and the awarding of rates for the 37 students. In their strenuous 16-week course to qualify as riggers, the men already have made one jump. Number 2, which has been delayed by inclement weather, will be made in accordance with the recent ruling requiring two jumps for completion of the course. Previously one parachute jump was sufficient.

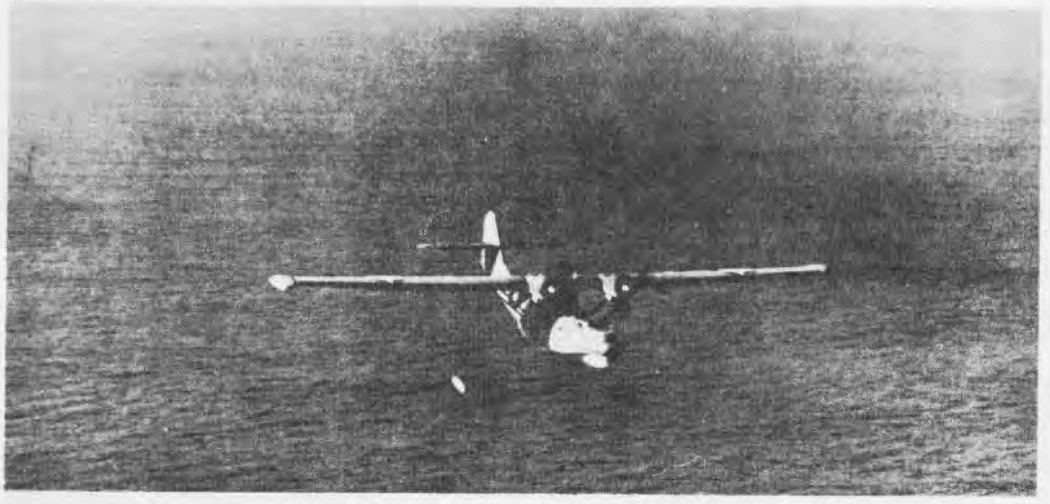
Upon graduation, the men will be awarded third-class parachute rigger's ratings. Their knowledge will include not only the proper procedure for the rigging and up-keep of parachutes but also the correct methods to be employed in the maintenance of aviation life-saving equipment and flight clothing.

The initial jumps by the class were made from a station airship, the instructors bailing out with their men.

Silhouettes

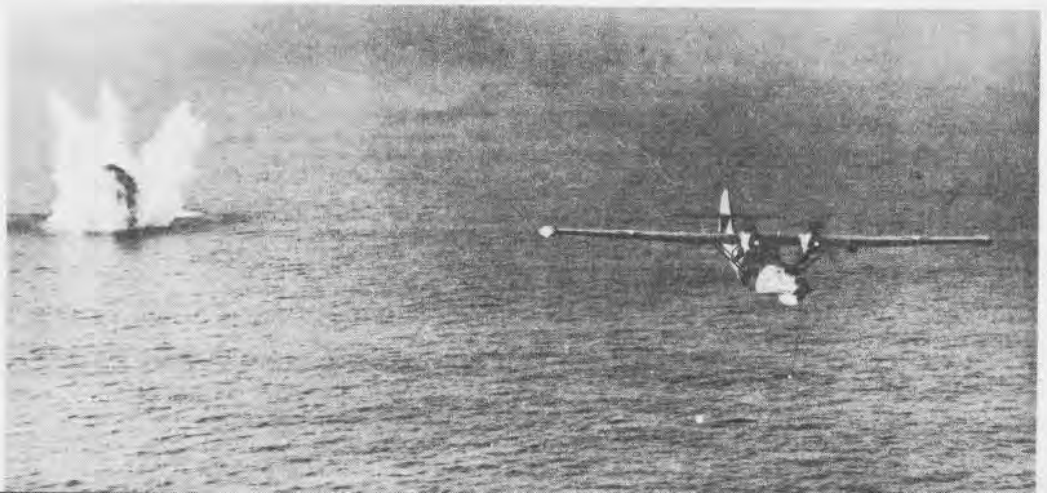
Deep sea fishing

PBY-5a's are doing plenty of fishing these days--- not to catch but to sink---Axis underseas raiders. Depth charges are ready for release.



Target spotted! Only a white streak of foam on the surface traced by an enemy periscope. Tell-tale evidence, so boys let go with a depth charge.

"There she blows." A triple-pronged jet of spray reaches skyward. A terrific explosion shakes the sea, its detonation deadly. Tally another score for Uncle Sam.



North Carolina Pre-flight

Killing three birds with one shovel, the Chapel Hill Pre-Flight School cadets will plant and cultivate a Victory Garden this spring, as part of their training at the North Carolina station.

It was pointed out by Commander John P. Graff, commanding officer of the school, that tilling the soil was one of the best muscle building and body conditioning exercises known to man; that in working the garden the cadets would learn the rudiments of a valuable occupation;and that the fruits of the garden will add to the nation's food supply.

The fourteen-acre tract which the cadets will cultivate was loaned to the Navy by Dr. William C. Coker, of the University of North Carolina faculty. The activity will be under the direction of Lieutenant Commander Harvey J. Harman, U.S.N.R., director of athletics. Ensign Warren H. Chivers, U.S.N.R., head of Labor Engineering at the school will direct the work.

Pensacola

The naval school of photography at Pensacola Air Station has increased its output of trained photographers by enlarging its plant to accommodate 400 additional students. The new building which houses the additional classrooms is a brick addition to the old photography building.

Intensified training includes practical assignments for students during their second month of training. The student works under stop-watch timing, and is required to photograph an object, print and deliver the wet print within 15 minutes. Some of the faster workers have cut the time to 12 minutes.

"Here is a 'ready camera'," the instructor will tell a student. "You have priority on dark room No. 3. Step outside and get a picture of the first parked automobile you see, and put a wet print of it on this desk within 15 minutes." The print must be clear, and must fulfil the requirements of a useable military print, or the student is required to keep repeating the assignment until he delivers such a print. Speed and precision are soon routine.

A recently invented training device which provides the student with synthetic aerial practice has shortened by hours the time needed to learn aerial mapping technique. Students are required to take a four-hour check in this machine before they attempt actual aerial work.

Pensacola's first auxiliary air base is now an Auxiliary Air Station. Corry Field, commissioned as a base in December, 1934, became the third auxiliary air station of the Naval Air Training Center last month when Commander John F. Moloney, U.S.N. (ret.) assumed command.

Bronson and Barin fields recently became auxiliary bases, leaving only two auxiliary bases to become separate commands.

The new station will house squadron VN[illegible]8, hhe instructors school, and VN[illegible]8C, a transport unit.

Five Piper Cub ambulance planes recently have been places in operation here. The additional service will facilitate the movement of patients and bring medical aid to scenes of accidents with greater speed. The ambulances will operate from the main station and auxiliary base fields.

Minneapolis

The base has experienced considerable difficulty in the first winter operation of N2S trainers. The usual winter equipment was found to be insufficient as the oil breather lines froze at all temperatures below freezing. The breather line to the tank was lagged and the breather line running down the left landing gear strut was re-routed to come aft of No. 5 cylinder, which eliminated that trouble (covered by R.U.D.M.). The later planes have a neoprene covered brake hose in place of the former

rubber covered hose. The neoprene does not stand up in cold temperatures (covered by R.U.D.M.). Due to the exhaust collector ring being in back of the cylinders, the R-670 engine was found to run much cooler than the R-760. One plane was rigged for test purposes, a cone being placed over the front of the motor extending out to the heads of the cylinders. This was found to raise the cylinder head temperature about 50 to 70 degrees. Without the cone, the temperature was 50 to 70 degrees, and with the cone ran 100 to 120 degrees with consequent less danger of motor failure after glides. Lagging of oil tanks raised the oil temperature 20 to 25 degrees.

Unavailability of parts and miscellaneous repairs have laid up about 20% of our trainers, and with an additional 10% out for checks, only about 70% of our aircraft have been in operating condition during this period.

During the recent cold wave, a frozen nose and cheek was the uniform of the day for students until face masks were procured locally. This base heartily agrees on the new gosport speaking tube developed at the Glenview base to help eliminate the face mask. It was used here last year with good results.

A paste preparation to prevent "steam" and frost from collecting on the eyepieces of goggles has been used effectively here. A small quantity of the paste is applied to the inner surface of each eyepiece and spread over the entire lens area with the tips of the fingers. The lens is then polished by rubbing lightly in a circular motion with a dry cloth. One application of the paste is effective for a period of about two weeks. The paste is manufactured by the Mine Safety Appliance Company of Pittsburgh, Pennsylvania, and is the same as used for the gas mask lenses.

Bureau Comment: A service bulletin will be issued to correct the engine breather line difficulty. VN-Design would like details of the speaking tube mentioned.

Epitath

(Recognition Department)

Here lies Lieutenant Hayseed Hendley. Last words: "I thought the plane was friendly."

17-Year Olds Now Eligible

Young men of 17 who are graduates of high or secondary schools, or who are currently enrolled as seniors now are eligible for enlistment in the Naval Reserve, if qualified, as candidates for flight training.

Following the Navy's long standing practice of enlisting 17-year-olds with consent of parents, the service will enlist selected applicants as apprentice seamen, V-5 classification, U.S.N.R. When they become 18 years old and have graduated from high or secondary schools they will be eligible for transfer to

the Aviation Cadet program and assignment to active duty.

A limited number of cadets will be accepted monthly. They must have scholastic standing in the upper half of the graduating class, must be physically and psychologically qualified for flight training, and must be recommended by the principal of their school.

The physical examination of cadets will be identical with that given to Naval Aviation cadets, except that weight down to 115 pounds will be acceptable provided weight is in proportion to height.

Candidates will be interviewed and examined by the Naval Aviation Cadet Selection Boards. Final selection will be based upon potential officer qualifications and aptitude for flight training.

Training Films

Swim and Live

War over the water calls for workable skills in swimming and life saving. At the Navy's Pre-flight Schools, future flying officers are given the "know how" they need to get away from a sinking ship...to sustain themselves in the water until picked up...and to lend an assisting hand to those in need of help.

The swimming experts of the Naval Academy have supervised the production of two training motion pictures that are being used to supplement in-the-water instruction: MN 1319a Basic Techniques of Open Water Swimming, and MN 1319b Elementary Tactics of Life-Saving.

The swimming film is divided into three parts, runs about forty-five minutes, and includes dry land exercises to develop proper breathing and leg and arm movements.

Effective self-preservation under wartime conditions -- rather than the perfection of form and technique --- is the end purpose. The life saving picture also makes use of dry land exercises, under-water shots and surface shots to explain and demonstrate approaches, carries, blocks and parries. Both films are now available for distribution.

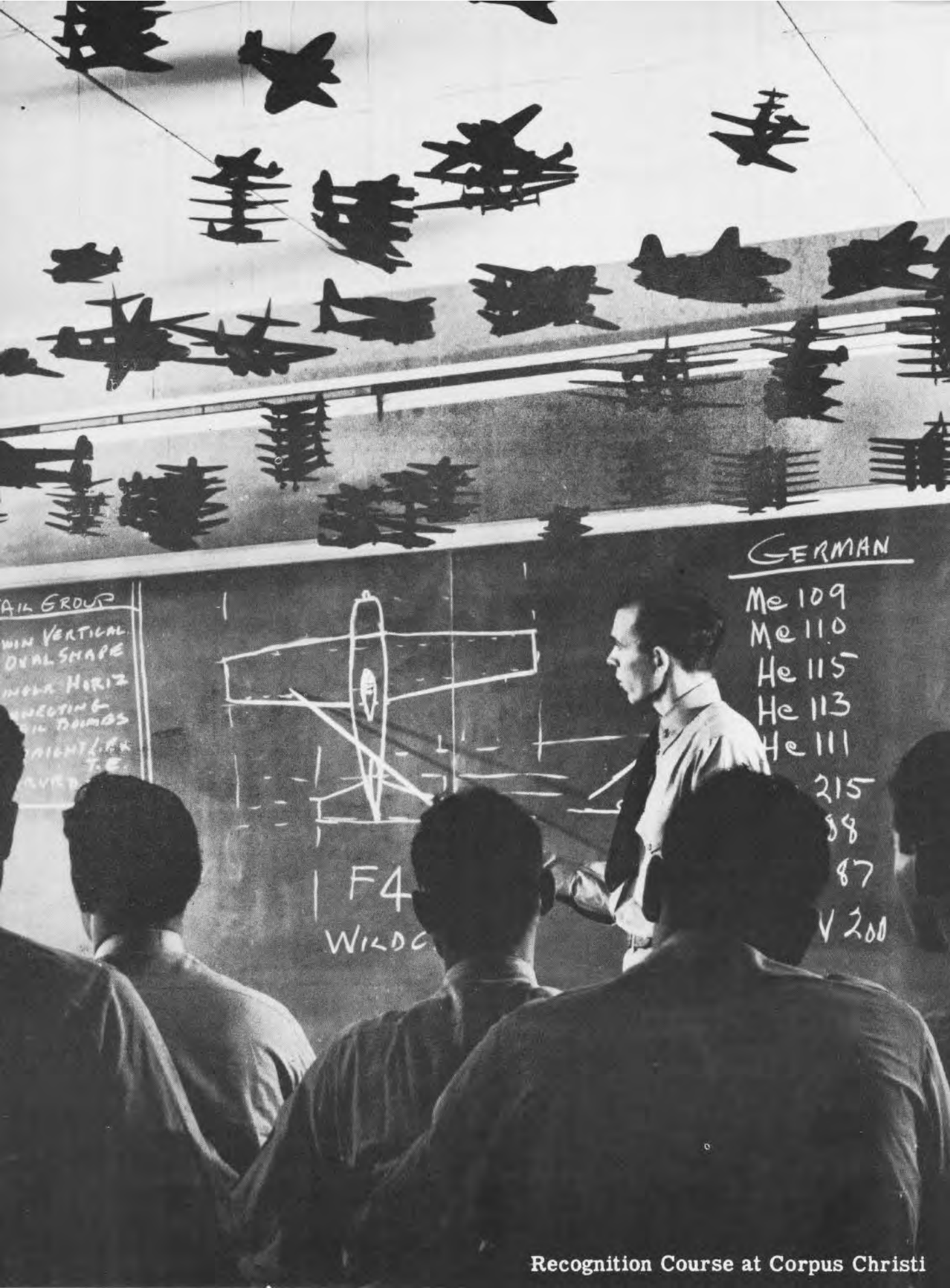
Hit 'Em Where It Hurts

It's no easy job to get young Americans to forget sportsmanship and "fight dirty", but you can't give a Jap an even break and expect to keep healthy. That's why hand-to-hand combat has become an important part of the Navy's Pre-Flight training. Navy Training Film, MN-27 "Hand to Hand Combat," is designed to speed the teaching of simple yet effective rough-and-tumble fighting. Jui jitsu, wrestling, boxing, savate, fencing, and football tactics are used along with adequate fouls. Slow motion shows how to cut a big man down to your own size. Or, if he is one of those little so-and-so's, how to slice him up with a knife or dagger.... throttle, garrotte, or beat his brains out with a club....or kill him with the business or butt end of your pistol. Nearly an hour in length, this Navy training film also shows you what to do, and how to do it, when the other fellow is armed and you aren't.

"Hand to Hand Combat" was made under the supervision of naval officers at our Pre-Flight Schools who are making a grim and serious business of this sort of thing. It is the best audio-visual aid we know for the liquidating of insidious little men, "the master race" and Mussolini's "Invincibles".

PICTURES, TOO?

Yes, send 'em along to tone up copy material you'd like to have glanced at for publication in NEWS LETTER.



Recognition Course at Corpus Christi

Norman, Okla.

The Norman tower is now in operation on a frequency of 288 KC and at present is monitoring 3105 KC. In the near future it will monitor 4495 and 6210 KC. This station operates on 15 watts power, 100% modulation with normal coverage of a 25-mile area. However, good reception has been recorded from so far as 75 miles.

Many essential parts for the transmitter were not available, and it was necessary to construct a composite transmitter from parts of an old high-frequency transmitter.

Two seamen are expected to return soon from Fort Robinson, Neb., with eight sentry dogs. The men were sent to the special school for dog handling several weeks ago, and will be in charge of the canine sentries upon their return.

Jacksonville

Recent news items in the Bureau News letter regarding ground loops, and Bureau's comments thereon and the recent discussion of how to prevent ground loops contained in the Bureau News Letter of December 1, 1942, have been noted with interest at this station. Misuse of controls in controlling landing run-outs and in taxiing has become prevalent in the Navy. Much of this is believed to have resulted from emphasis in recent years upon use of the rudder in order to save rubber tires and braking surfaces and from not teaching the student to use his brakes properly in primary planes.

The importance of the rudder in preventing a ground loop has been greatly over-emphasized. It has never been known in the history of this station for a ground loop to start immediately on landing. Experience has clearly demonstrated that the only way to prevent ground loops is THE PROPER USE OF BRAKES. During a landing the rudder is functional only immediately after the wheels have touched the ground. The brakes, on the other hand, are functional during the total run out of the plane, from the first touch of the wheels to the end of the run. For this reason, it is felt that the proper teaching procedure would be to ease the feet up on the rudder pedals until the pedal is in the arch of the foot and the toes are on the brakes immediately after straightening out in the glide to the landing.

If this is done, required braking may be applied the instant the plane starts to swerve from its heading. Tests have shown that an airplane may be landed with brakes "on" and still have no tendency to nose up until 20% of the run has been completed. Naturally, such procedure should be discouraged when making landings aboard a carrier. The precedence given in the BuAero News Letter of December 1, 1942, should be changed from "throttle", "rudder", and "brakes" to "brakes", "brakes", and more "brakes" properly applied.

BUREAU COMMENT - To use or not to use the brakes during a landing has gone on ever since the day brakes first appeared on aircraft, and it continues. There are many of us who no longer ago than 1929 argued strenuously against the adoption of brakes for the very reason that they would "freeze" during a landing with a resulting crash ---- and that did happen at the beginning. But, who of us today would be willing to give up brakes?

It is probable that no two pilots use the identical procedure whether it be in flight or in the use of brakes. Both pilots may be the best with never a ground loop entered in their log. One may use brakes while the other may rarely use brakes during the landing run. This doesn't prove that both are correct nor that both are wrong. It merely proves that in their landings they keep their eyes ahead and take whatever action is required to keep their plane running in a straight line until they have slowed down to a controlled taxi speed.

Before the advent of runways, it nearly always was possible for the pilot to land exactly into the wind with the probability that, if he were

careful, he would not groundloop. Now, however, conditions are such that it is desirable and generally necessary that runways be used. As a consequence, crosswinds frequently must be accepted with the increased possibility of groundloops. The answer appears obvious. Students must be taught to land in a straight line. To do this they must remain alert with their eyes sufficiently far ahead of the plane to permit them to anticipate a ground loop.

If such a thing begins to indicate itself, they must take appropriate action to stop the incipient groundloop. Assuming that the tail wheel is locked, a burst of gun may be of assistance and certainly the brakes will help. It isn't to be expected that the pilot will use his brakes to an extent that they wear thin, nor that he will turn the plane over on its back. But, the use of brakes, when they are necessary, is more desirable than a plane in need of overhaul.

San Pedro

Men of this station are making a thorough check on their gas masks these days. An inspection of this vital piece of equipment will be held soon. The possessor of a mask must show that it bears the proper identification tag and that he is keeping it in good condition. Officers and men will be required to pass through a gas-filled chamber to test their masks to determine if they are in good repair and fit for use

Anacostia

Plans for the future include developing another outlying field and further decentralization of operational auxiliary services. Recently added to the Hyde Field installations are a Link trainer room, radio classroom, cadet ready-room, ship's service canteen, sick bay, enlarged bunkroom, additional hangar facilities, and several wells. Schedules are continuously being revamped to provide a maximum number of hops as long as daylight lasts.

Prompt disciplinary action has been taken in the case of a local Dilbert who just couldn't resist the temptation to "flat-hat" over his own home in an early stage of his training. Spinning out of a climbing turn, he crashed between two houses 70 feet apart. Result: Plane-completely wrecked; Dilbert, several bruises. An enlarged picture of the wreckage has been placed in all cadet ready-rooms as a measure of persuasiveness.

Dallas

"Put it on the jig" has become the favorite expression of the Assembly and Repair Department. The fuselage alignment jig has proved invaluable. To date five fuselages have been returned to service that formerly could not have been repaired by this activity. The jig not only holds the fuselage firmly, while faulty members are replaced, but also indicates any parts that are out of line.

It is designed to take the covered fuselage in order that repairs can be carried on safely without removing the fabric. This jig was developed and designed by station personnel. The aileron jig has more than doubled the output of ailerons. It serves as a holding fixture as well as an aligning jig. Two men can complete the metal work on a damaged N2S aileron in approximately five hours. With five jigs during one week in December, 64 N2S ailerons were repaired. Detailed drawings of the above jigs will be furnished anyone interested.

Elizabeth City

A visual education program for enlisted personnel and reserve officers has been launched here. The station's new 16 mm. sound motion picture equipment has been put into operation for showing films from the Navy library. The training series was opened with "Prelude to War."

Jacksonville

Prolonged lectures on the use of the torpedo director are now a thing of the past in the VTB section of VN16. A link trainer equipped with the instrument just forward of the hood now is used. A ship model superimposed on a compass-rose is placed on a high table and the student is given its heading and speed and then completes the problem with the director. Although not working under the exact conditions of a dummy run or actual torpedo attack, this particular innovation has proved extremely practical and a great time saver as far as instruction is concerned.

All efforts are being bent toward completing training in the Intermediate specialized Carrier Squadron, VN16, by February 28, 1943. The Squadron averages between 850 and 900 flying hours during daylight hours daily and at this rate, with the grace of good weather, it is believed there will be no more flying cadets at NAS, Jacksonville, by March 1, 1943.

Memphis

The blood plasma bank is no longer a dream. We now have an available supply to meet any emergency. Reports from all areas of fighting activities stress the great role that plasma is playing in saving lives among wounded and burned personnel. An adequate supply is kept at this station, and a large supply in the frozen state at the Methodist Hospital in Memphis. Officers and men have donated their blood generously and we still have a large list of volunteers. It is our purpose to build up a reserve not only for our own needs, but also to send a large number of units of plasma to some foreign station or fighting ship.

An interesting exercise recently was staged to give a practical demonstration of the asbestos suit under fire. First, a hot bonfire was built. Then, with the crash truck crew on hand, several members donned asbestos suits and walked into the flames, remaining there for a period of five to seven seconds at a time. With suits in good condition, there was adequate protection from the heat. However, one suit had worn thin, particularly at the heels, and as a result one man was slightly burned. A regular check of suits is essential for safety.

The gunnery department is busy attempting to design a moving target frame to use in deflector training. The object is to develop a moving target which will give aviation cadets deflector training with .30 caliber rifles. If any one has any suggestions, officers of the department will be glad to receive them.

Paris Island (MCAS)

All hands are anxiously awaiting the start of operations at this operational training base. Thus far, operation of two utility SNJ's has been the extent of activity. Presentation of a Navy Cross was made to Lieut. Turner F. Caldwell, Jr. at ceremonies on Jan. 9. Two days later a Gold Star in lieu of a Navy Cross arrived for him and another presentation ceremony was held.

Vero Beach, Florida

Expansion of the Ordnance Department has necessitated moving of synthetic training devices to separate quarters. Regular classes now are being held in gunnery and ship and plane recognition. A recognition device has been installed in the hangar to give men a chance for identifying planes at all times.

EAGLE MOUNTAIN LAKE

This station is receiving valuable assistance from the Civil Aeronautics Administration in training control tower operators. Four Marines of this station are attending a six weeks' course in Fort Worth, which started about two weeks ago. The course of training includes the use of a miniature airport and model airplanes to simulate actual control of aircraft.

Atlanta

We have heard of "Bats in the Belfry", but never before have we heard of "Rats in the Brake-Drum." It would seem that the state of affairs had gotten in a pretty sad condition when a rat causes an excellent plane like an F4F4 to ground loop all over the place. That is just what happened to an F4F4 on its way west from the factory. The pilot of this plane was not a member of the fairer sex and did not allow the accident to happen due to fright caused by the sight of the little pest. After making a normal landing, the plane ground looped to the left as a result of the right brake failing to hold properly. Upon examination, it was found that the little rodent had exexercised "Squatters' rights" in the right wheel, obviously above the Mason and Dixon line, and had worked himself between the brake lining and drum. When the pilot applied this brake, the body of the rat served as a good lubricant between the lining and drum, leaving its eyes bulging out one side and its tail dangling forlornly from the other. This happened to be the *end* of the rat and also the end of *this tale*.

Incident at Sea

O V E R H E A R D

One Itty-bitty Slug

How an ordnanceman and free gunner earned the thanks of Hirohito by putting a TBF out of action is told in a recent report from a West Coast station.

Probably no medals will be forwarded from Tokyo, due to the fact that they failed to kill or wound a radioman in the radio compartment of the TBF.

It was the old, old story of the "unloaded" gun. The gunner was told to check the turret and swing the gun on a TBF parked on the line. He trained the gun on another TBF directly aft and touched the trigger. Here is what the single .50 calibre slug did:

"Passed through the lower starboard cowl flap, the lower starboard side of the engine mount fairing and the starboard bomb bay door hinge arm. The channel of the outboard bomb bay door was also damaged at this point.

"Then passed through the rear stanchion on the underside of the main fuel tank, where the jacket was stripped from the bullet. Pieces of the jacket dented the web of the box member at station #95, then punctured an electric conduit and the channel in the lower left hand corner of the after end of the bomb bay. The bomber's bulkhead was also punctured by the jacket.

"The bullet broke the end off the fuel vent tube at station #70 and passed through the stanchion at station #90, both webs of the box member at station #95, and the bulkhead of the radio compartment at station #105. There it broke two hydraulic tubes and a radio cable, being finally stopped by the radio receiver."

It is fine that this second of carelessness did not kill the man working in the radio compartment, but it cost plenty of man-hours of labor for repairs to the TBF.

And anyway, that bullet was meant for the Axis!

Flight Medicine

Research in flight medicine is being furthered on both sides of the Atlantic through employment of the Link Trainer. Medical officers point out that actual flight conditions can be simulated in the trainers, and controlled experiments in fatigue, effects of stimulants on pilots, and other subjects of scientific interest can be carried on. Such experiments can hardly be controlled in actual flight.

Semaphore Gone Native

Any navy man, whether he serves on the deck or in the air, should be an expert on reading signals. An aviator forced down in a strange land frequently finds his way to his own lines by being able to handle himself in a friendly manner among the natives. For this reason, the following description of a code discovered among the Hindu residents of the various islands of the West Indies:

"A red pennant with a fringe of white (flying from a bamboo pole in front of the Hindu's home) means that the family has a virgin daughter of marriageable age. The white signifies chastity.

"Sometimes you may see a red pennant without the white fringe and you can imagine what that means. Occasionally the red pennant minus the white fringe flies with a smaller red, white trimmed flag underneath it. That means the family has a non-virgin daughter of marriagable age with a daughter born out of wedlock. If the smaller flag is white, it means that she has an illegitimate baby boy.

"An orange flag flying before one of these Hindu homes means that the head of the house is willing to swap a daughter or two for a son. A purplish colored pennant is practically

an SOS. It means that the old man wants to get rid of some of his daughters for cold, hard cash."

That, according to *Yank*, the Army weekly, is exactly what these signals mean, and there's no use trying to read any other meaning into them.

Yank also says the Army is getting set to issue khaki underwear to combat troops. The color will be used not only on the summer cotton shorts, but on the heavy long-handled woolies. *Reason:* white linens waving from the washline make for bad camouflage, and can be spotted miles away from the air.

Jap Fighters

An interesting comment on the quality of some of the Jap pilots being met by our own men in the Solomons comes from a Marine dive bomber just returned. He and another Marine flyer - both flying SBD-3's - were jumped by 22 Jap Zeros and practically gave themselves up.

"If those Japs had been American fighters," this Marine says, "we wouldn't have lasted five minutes. But these fellows were no good. I'm not telling you how good the other Marine and I were - I'm telling you these Japs made every mistake in the book. My rear gunner got two, the other pilot got two and the other gunner got two. I got one. I also got about 163 bullet holes in my plane and four wounds in my left leg.

"Out there, we've discussed the difference between these Japs and the ones we met at Midway. The carrier fighters were, frankly, swell flyers; they knew what they were doing and they really laid it on. Maybe these fellows in the Solomons, being land based, are Jap Army flyers, and their Navy got the cream. But whatever they are - they're lousy tacticians.

"If they weren't - I wouldn't be here now."

Editorial Comment: Let's play no favorites . . . . assume they *all* are good!

Do Drop In!

In a recent issue of the Chicago Tribune, appeared a letter signed "North Shore". In that letter the unidentified writer made a bitter complaint about low flying activities of "single motored airplanes swooping over North Shore villages 150 to 300 feet up." Mrs. Ruth Engel, whose home near Palatine, Illinois, is "painted cream color", wrote the Tribune an answer. She understands why some low flying is essential in the training of future Navy pilots and that the job being done at Glenview is potentially more important than occasional annoyance or bother to some civilians. She sent a copy of her letter to the commanding officer and it was printed in the *Exhaust*, station weekly, with the following comment:

"Cadets who read this will of course realize that Mrs. Engel's invitation to 'knock off a few bricks from the chimney or roll their wheels along the roof' must not be taken literally, and that prescribed regulations regarding low flying must be strictly adhered at all times. They will appreciate, however, the friendly spirit of her letter." The letter follows:

The Chicago Tribune
Voice of the People Column
Chicago, Illinois

In answer to the party that signs themselves NORTH SHORE in your column, THE VOICE OF THE PEOPLE, in regards to allowing planes to fly so low over the houses along the GOLD COAST, please allow me to register a complaint of these planes also.

I am a housewife living in a small three room house situated about two blocks from an auxiliary landing field known as Buffalo Grove Field, where these pilots practice landings during the day, particularly when the wind blows from the south. These planes fly over our home about 150 feet high, (my guess of course) and I want to say this to the Commander and the student pilots

at Glenview, that this is too high to suit me. If in their training it will help them, they are welcome to see if they can knock a few bricks off our chimney or roll their wheels along the roof if they so desire, of course with utmost safety to themselves. As you see, I have come to realize what an excellent symphony the roar of motors is becoming as they grow in numbers over my home each day. And these, mind you, are our own planes and our own pilots, who without a second thought would chase a ZERO or MESSERSCHMITT away from my home to protect it, even at the cost of their own lives if necessary -- and no questions asked afterward.

These young men who pilot our planes were once owned by a good father and mother, who unselfishly have given them to selfish people such as this NORTH SHORE resident, who even wants to deny them the air over their so called homes because they might hurt a roof or so. It might be in good order now to direct such letters as they write to the Japs or the Nazi countries, who might honor such a request; who in that respect honor all requests as scraps of paper.

So my complaint, to the Commander at Glenview is to suggest that he pull all the planes from the North Shore and fly them from Buffalo Grove auxiliary landing field, over my house, even if the wind don't blow from the south. And if they land and want to stop in for a good cup of scarce coffee and a sandwich they are welcome. If any of our neighbors ever complain of the noise and danger from these planes, insults from me will be in good order. For purposes of identification our home is painted cream color.

Yours truly
/s/ MRS. Ruth Engel
P.O. Box 236, RFD #1
Palatine, Illinois

Marine Gunners' Opinion

Views on the war that find practically an ALNAV note of sympathetic understanding are recorded in the recently published "Torpedo Junction", by Robert J. Casey as the result of his trips aboard a cruiser in the Midway and Solomon actions.

Mr. Casey is a veteran artilleryman of the First World War, and has not lost interest in the major caliber guns. He was discussing artillery fire with a Marine gunnery sergeant who commanded an anti-aircraft battery aboard the cruiser.

"The trouble with this war is," the Marine gunner said, "there is too much blankety-blank high school algebra and not enough peeping through sights."

WAVES

No, this isn't Hollywood. . . .It's still the Navy! First it's dames; now it's slacks. And there seems to be no doubt about it. . . .Both are here to stay!

Latest dope on WAVE uniforms, and no easy job is the one of keeping up with constant innovations in the gear of our sisters in Navy blue, reveals that slacks may be worn with the matching uniform jacket (wool for winter, cotton gabardine for summer). However, this is to be only when the type of work being done by Women Reservists actually demands that trousers be worn, and in addition they will be subject to the approval of the commanding officer.

Other new articles of uniform for WAVES include an aviation coverall and working smock. These, like the tailored slacks, are to be worn only when they are performing duties which if handled by male personnel would call for dungarees.

Bon voyage, boys, the girls are ready to take over!

Lone Pilot Captures Airport

Imagine the embarrassment of Lieut. B.H.C. Nation, R.N.!

Singlehanded, he captured an important North African airport. Then he had it on his hands until ground forces could arrive and take over.

Flying an American-built plane on relief patrol assignment during the early days of the United Nations' invasion of North Africa, the British Fleet Air Arm officer saw crowds standing on the hostile Blida field, all waving white handkerchiefs.

The anti-aircraft fire had stopped, so Lt. Nation landed and was handed this astounding note by a French general:

"Blida aerodrome is placed at the disposal of the Allied Armies."

NO TOOTHPASTE TUBES REQUIRED

A pilot of a carrier-based plane was forced to bail out during the North African invasion. He was arrested promptly and slapped into the bastille during the conflict. The jail was just a block from the harbor, where all the action was taking place, and every explosion rocked his cell. That bothered the pilot not at all. He had other troubles. Banging on the cell door, he finally got the jailer. "I demand my international rights", he said. "I want a tube of toothpaste".

And he got it. Apparently, in Africa, you don't have to turn in an emptv.

Navy personnel--civilian and military--invested a total of $104,390,245.25 in war savings bonds in 1942.

Topping off the year with $18,806,137.50 in December, the Navy carried its total of savings bond purchases since the start of the campaign in September, 1941, to $107,274,976.50.

On the basis of the efficiency index, Washington led all the Navy Yards, with Norfolk a close second; the Fourteenth Naval District was first while the Eighth was second among the districts; Corpus Christi was first among the air stations, with Pensacola a short distance behind.

The following tabulation shows the standing of Naval Air Stations, based on the efficiency index:

	DECEMBER SALES "E" BONDS	PER CENT EMPLOYEES ON PAYROLL PLAN	PER CENT ELIGIBLE PAYROLL PART	EFFICIENCY INDEX-DEC.
Corpus Christi	261,393.75	90.1	23.2	166.1
Pensacola	283,106.25	79.2	22.4	156.0
San Diego	190,526.25	95.8	16.1	133.7
Jacksonville	134,475.00	84.2	16.4	128.8
Quonset Point	80,100.00	92.3	13.6	119.3
Norfolk	137,906.25	75.3	15.0	116.8
Alameda	119,100.00	83.2	12.9	110.7

TECHNICALLY SPEAKING

If You Gotta Go . . . The Hydraulic System Works

Our British contemporaries recently commended the ingenuity of a Coastal Command pilot who used two pints of coffee to replace deficient fluid in the hydraulic system in order to pump up enough pressure to get his wheels down and land.

This inventiveness has since been topped by another Coastal Command pilot, now designated as captain of the head. Near his base at Gibralter, he found himself unable to lower wheels and flaps due to loss of oil pressure. His unblushing report follows:

"No pressure could be built up by the manual pump. The Captain investigated the trouble and found an oil leak on the floor. The measuring stick of the Servo pump read zero. He then ordered the crew to urinate in their thermos flasks, and these were poured into the oil sump. Pressure at once built up, with the use of the hand pump, to 90 lbs. and the undercarriage was successfully lowered and locked."

BUREAU COMMENT: The engineering branch of the Material Division says it's feasible, but flush thoroughly afterwards. Engine oil is preferable, if available.

Six Blade Propeller

Aeroproducts Division of General Motors recently has completed a new dual rotation propeller, which it says is the first to be built as a self-contained unit with its own hydraulic system. The prop is equipped with hollow ribbed-steel blades and is of automatic constant speed with controllable pitch design. It consists of two three-bladed, entirely self-contained units, turning in opposite directions.

TIRE TREAD FOR ICE

For American war planes in icebound territory, the Firestone Tire and Rubber Company has produced an entirely new type of airplane tire tread known as "Polar Grip." This tire has a soft crepe rubber tread that gives a more positive grip on snow and ice than the conventional airplane tire. The many flexible, finger-like projections of the soft tread grip firmly on snow and ice providing a firm, sure braking action and a resistance to side skidding.

Droppable Life Raft

The following data, on releasing a (Type D) Droppable Life Raft from an airplane in flight, has been received from the service:

From a PBY type plane, the technique for dropping *uninflated* is as follows:

Locate survivors accurately and drop smoke light for reference.

On the next pass fly directly upwind, keeping altitude and speed as low as possible, and throw raft downward from the tunnel hatch.

For dropping *inflated:*

Locate survivors accurately and drop smoke light for reference. Attach a strong line from the raft inflation handle to the plane. On the next pass, fly directly upwind, maintaining about 200-300 foot altitude and slow speed, and when approximately 100 yards *past* the survivors, throw out the raft.

For dropping from an OS2U type plane, the following method requires stowage of the raft in a pan aft of the radioman's seat. This necessitates removal of the free gun. The raft inflation handle should face forward with one end of a 25-foot length of strong line attached to the handle and the other end to the gunner's scarf ring. This line is the static ripcord, and the slack should be flaked through the carrying case handles of the raft:

On approaching survivors, keep altitude and speed as low as possible and in a position slightly upwind

from the desired landing spot. Drop raft over the side when plane is in proper position and designated dropping area is in view. In dropping the raft, the forward part of the after sliding hatch is opened and the gunner's seat swiveled 90° to the left. From this position, the raft is readily accessible. Release raft, securing straps and grasping carrying case handle with left hand and forward end of case with right hand. Remove from pan and hold over port side of plane, keeping inflation handle up and drop the raft. The static ripcord opens the CO_2 valve, and the raft inflates while dropping.

BUREAU COMMENT – An SOC and SON bulletin has been prepared clarifying the wording of the original change, regarding the use of life rafts when these planes are used as seaplanes. The Bureau has no objections to seaplanes carrying life rafts. It has pointed out on occasions, however, that the weight of the raft should be considered when determining the loading condition of the plane. No information is available regarding the rate of drift. It will vary greatly under the various conditions encountered and it is probable that an estimate of drift will have to be made on the spot, taking into consideration the condition and type of plane, strength of wind, sea condition, as well as a knowledge of the current in the area involved.

Stock them?

An experimental quantity of life-raft and life-jacket signalling lights in accordance with Navy Aero Spec. M-567 are being procured for issuance to service activities. It is expected that these lights will be available in approximately six weeks. Activities interested in using this device should obtain the lights by requisition from the nearest supply point.

The signalling light is similar to that being used by the Merchant Marine, and employs a small dry-cell battery for furnishing illumination. A clasp is provided on the light case for attachment to the life jacket, and a cotton lanyard also is attached to prevent loss. A keying button is on the bottom of the case, so that the light can be used for signalling in Morse code. Instructions for operating the keying button are stencilled on the case.

The Bureau will appreciate receiving comments as to whether this device be stocked as a standard item.

Instrument Publications

The Aviation Supply Officer, Naval Aircraft Factory, Philadelphia, has been authorized to distribute to the service all maintenance and overhaul publications for Federal Standard Stock Catalog Class 88 instruments. Requests for installations, operation and maintenance instructions, parts and price lists, and overhaul instructions should therefore be forwarded direct to the Aviation Supply Officer, Naval Aircraft Factory. The Aviation Supply Officer is also responsible for the distribution of the Handbook of Aircraft Instruments and requests for that publication should be directed to him.

Exhaust Collector Clamps

Several RUDM's have been received recently concerning failures of exhaust collector clamps and attachments, with recommendations that these parts be redesigned or strengthened.

Instructions generally state that a certain amount of slack should be left when assembling the exhaust

system to allow for expansion. Unless this is done, failures of fittings are apt to occur. When this type of trouble is encountered, it is suggested that this point be checked.

In the cases of collectors attached to the engine cylinders by means of a flanged connection, it is recommended that the stud nuts be tightened evenly and with equal torque to prevent misalignment. Individual stacks may be installed without gaskets if the exhaust stack flanges are ground to a true surface. The elimination of gaskets generally tends to mininize stud failures and exhaust gas leakage.

Two-bladed Main Rotor Installed on Helicopter

Seeking further simplification of the Vought-Sikorsky VS-300 experimental helicopter, engineers recently designed and installed a two-bladed main rotor to replace the three-bladed unit previously in use. It was found that the two-bladed rotor, during its temporary installation, brought about a simplification of structure, control, and storage. By stopping the rotor fore and aft over the ship, the VS-300 helicopter can be stored in a long narrow space without folding up the main rotor blades.

Flight tests proved that the substitution of the two-bladed main rotor involved no sacrifice of the helicopter's previously-demonstrated excellence of control and stability characteristics.

Faded Dial Markings

Reports have been received regarding the difficulty of reading the fluorescent markings on instrument dials at night. Some instruments now in service are marked with luminescent materials which darken under certain atmospheric conditions and fail to respond to ultraviolet light. Steps have been taken to eliminate this trouble in new production instruments.

It is recommended that instruments whose markings fail to respond to ultraviolet light be replaced by satisfactory instruments from stock. The defective instruments removed should be forwarded to the nearest major overhaul shop for refinishing of the dials and pointers.

Don't Get Tangled Up

(Advice issued by AAF which might well be heeded by Navy airmen)

Whenever articles such as microphones, flashlights, oxygen mouthpieces, etc., are dropped in a cockpit there is an immediate danger of jammed controls. All personnel using microphones, head sets, oxygen tubes, or other accessories in aircraft are cautioned to make sure that they are replaced and securely seated in the carrying hooks or other receptacles provided. In the case of articles such as hand microphones, the extra length of wire will be taped to a convenient part of the airplane in a manner that will prevent their tangling with any part of the controls if they are dropped.

Gun Heating Fighter Type Aircraft

The policy of this bureau is to have provisions for heating the guns in all Models of VF type airplanes. This is in accordance with standardization requirements which have been established jointly between the Army, Navy, and British.

Operating experience has indicated that gun heating is not required in certain theaters of operation when guns are maintained in an absolutely clean condition. Tests have shown that guns will fire under cold conditions when kept completely free from oil. This requires very strict maintenance to prevent corrosion throughout the gun. Conversely it has been determined that heating of the guns permits operation under conditions of less strict maintenance and improves the cyclic rate where oil may be present at cold temperatures.

Enumerated below are the gun heating provisions provided in current fighter types:

Model F4F-3, -3A, -4, and -4B Airplanes
Ducted heating of the gun compartments with hot air taken from the engine exhaust manifold. The equipment is supplied separately by the contractor for each airplane to be installed by the service as required. The gun compartment is insulated.

Model FM-1 Airplane
Same as for the Model F4F series.

Model F4U-1, F3A-1, and FG-1
Heating of the gun compartments by means of individual combustion heaters. The fuel air mixture for the heaters is taken from the high pressure side of the engine blower. The equipment is supplied separately by the contractor for each airplane to be installed by the service as required.

Model F6F-3 Airplanes
Heating of each gun receiver by individual contact electrical heaters. The power is taken directly from the generator and the heaters function unless disconnected at the gun compartment connection. The wiring provisions and heater units are installed in all airplanes by the contractor prior to delivery.

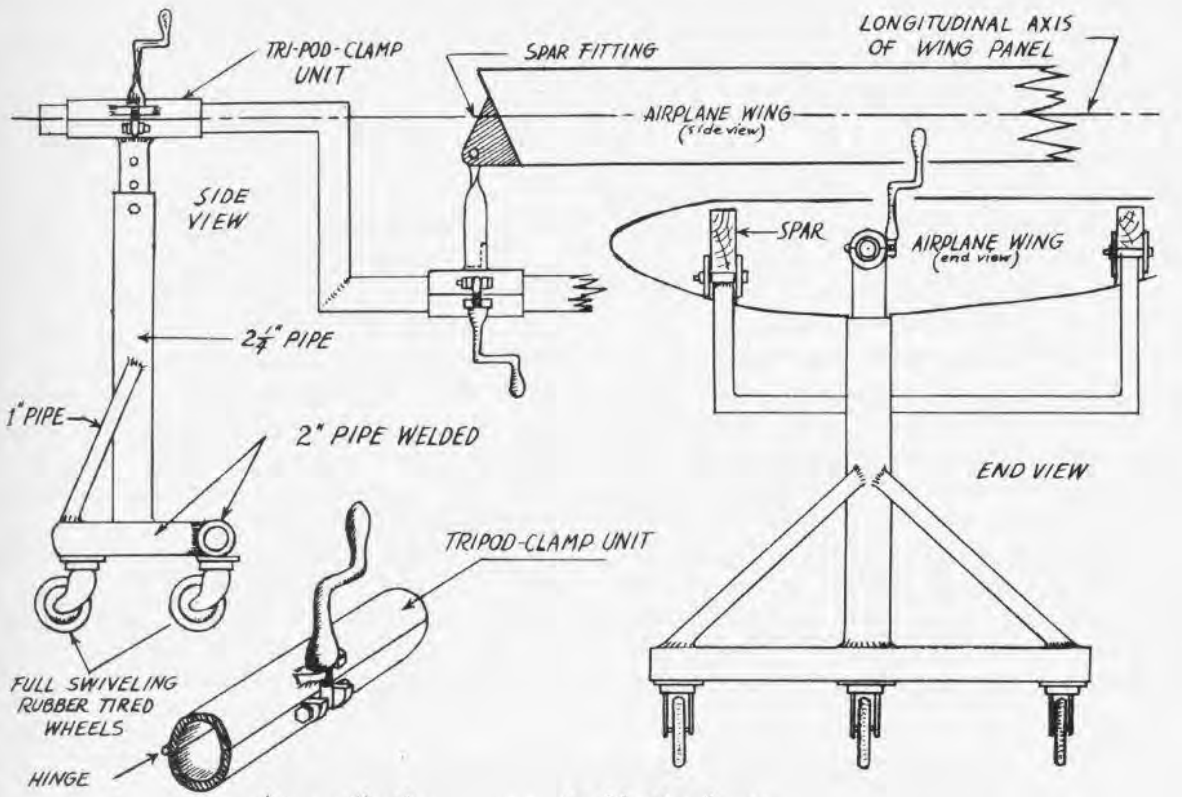
It is anticipated that in the future the heater units, both combustion type and electrical, will be procured in limited quantities rather than for all airplanes of a contract. They then will be placed in stock at designated supply bases for issue to operating units as required.

Minneapolis

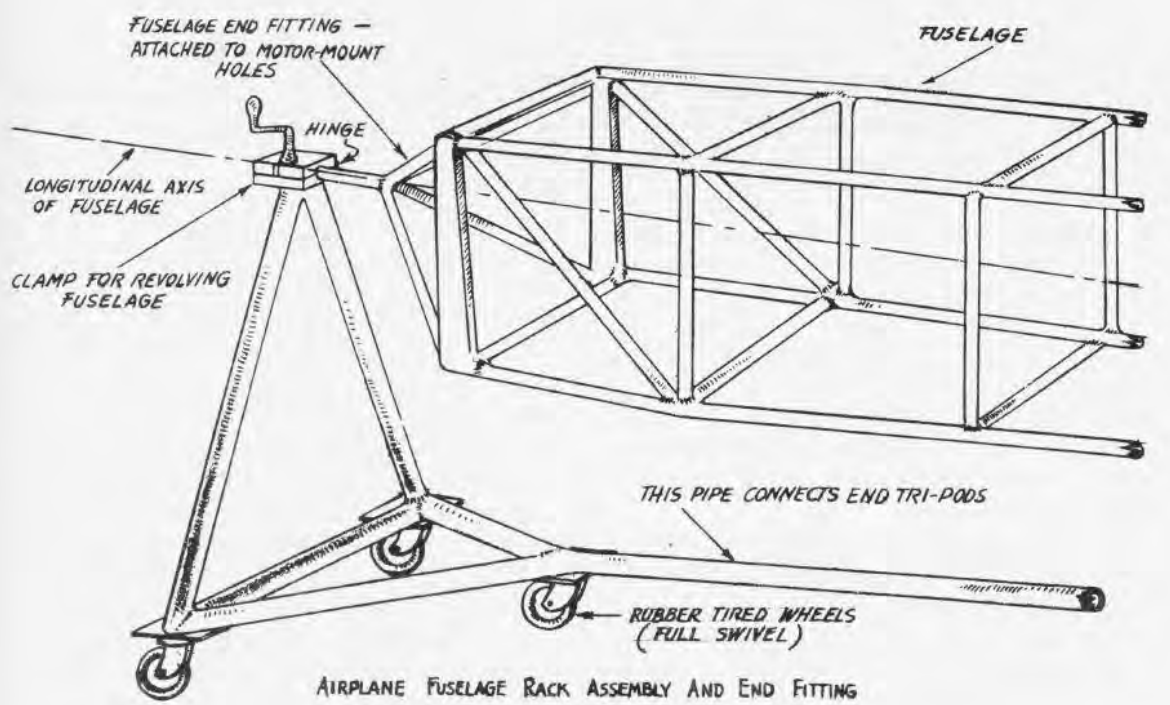
The A. & R. department at NAS Minneapolis has devised a set of racks to speed up fabric covering and doping procedure. These racks are used to suspend wings, fuselages, and ailerons so a unit may be worked on from all sides by revolving it around the longitudinal axis from which it is suspended. Separate racks are used for the fuselage and wings. The wing rack also can handle ailerons and later will be used for elevators, rudders, stabilizers, and vertical fins.

The fuselage rack consists of two, three-wheeled tripods joined at the base by a heavy pipe. Each tripod has a special fitting from which to attach either the tail end to the tail assembly bracket, or the nose end to the engine mount bolts, thus suspending the fuselage at each end of its longitudinal axis. The fuselage together with the nose and tail fittings is allowed to revolve in a 360 degree movement, thereby allowing men to work on the unit on the top, bottom or sides without the use of ladders or stools, merely by revolving the assembly around its axis.

The wheel-casters which make the whole assembly portable are rubber-tired to eliminate the danger of



AIRPLANE WING RACK MBLY AND WING BAR CLAMPS



AIRPLANE FUSELAGE RACK ASSEMBLY AND END FITTING

sparks in the dope room. Racks for wings and ailerons is similar to the fuselage rack except for the method of mounting. This is done by fitting the wing with a bar attached to the strut fittings and also one attached to the spar fittings at the inboard end of the wing. These bars are mounted on the longitudinal axis bar of the rack so as to allow the wing to revolve in the same manner as the fuselage.

The ailerons are mounted on the same type of rack with the exception of the fittings for attachment. In each set-up the fuselage, wing or aileron may be worked on one side and immediately turned over before it is dry and worked on the opposite side thereby eliminating the necessity of waiting for one side to dry before doping the other side. It has been found that a saving of at least 30% in time may be made by the use of these devices. The accompanying drawings will furtber explain the construction and operation of the racks.

Power Plant Design

Supplies of air craft engine lubricating oil may become critical due to the great expansion in aircraft activities planned. The BuAer Manual, paragraph 14:506, and Technical Order No. 24-41 encourage the use of grade 1100 for all engines if limiting oil-in temperature is not *consistently* exceeded and also provided a heavier oil is not required on account of scavenging troubles. It is desired to re-emphasize the importance of the use of grade 1100 oil instead of grade 1120 oil since this increases the total availability of aircraft engine lubricating oil.

FALLING BOMBS WORRY YOU?

Would you like to know how to dodge a bomb? This is a method reported by Capt. Reade Tilley of the Army Air Force who returned recently from Malta:

"You hold up a pencil on a straight stick. If you sight along the pencil at the falling bomb, and hold the sight, the path of the bomb can be checked.

"If you see the bomb again, drifting off to either side of the pencil or over the top, then you can relax. That bomb will miss you, falling to the side or behind.

"But if you don't see the bomb after a little bit, if the pencil masks it off, the bomb is falling in line with you. It may hit in front of you. And it may smack the very place where you are standing. Anyway, it's a good idea to go away then sort of quick."

PERU, INDIANA

A course indicator is now being installed on the operation tower, which will indicate by a varied sequence of lights, the one of eight different courses to be used for landing. The equipment has been needed for some time and completion of this installation will greatly benefit our flying personnel.

A job survey of each department has been recently completed by the personnel department. The purpose of the survey was to determine the exact duties of all personnel and, if necessary, to make changes and rearrange work programs so the services of each man will be utilized most efficiently. It also provided information to determine whether additional personnel is needed in particular jobs that are now being handled by others as collateral duties.

The Herrengremlins

By Flight-Lieutenant F. Ogilvy

YOU can boast of your Englischer Gremlins,
You can lie in Walt Disney's ear,
But the true-blue, original Gremlins
Were suckled on Munich beer.
We cut our first teeth on the Spaniards,
We cocked our first snook by the Rhine,
And we came to our glorious manhood
On the 3rd of the 9th, '39.

We're the National-Socialist Gremlins
Of North European blood
Which has grown progressively Aryan
Since not long after the Flood.
Tall, dolichocephalic Blondies,
Blue-eyed without ever a trace
Of Alpine, Eurasiatic
Or Mediterranean race.

While ethnologically Gremlins
Should conform to the rules as above,
Yet rules must be proved by exceptions—
Even Herrenvolk can't resist Love.
And who better to prove the exceptions,
Who fitter to set the style
Than the Rulers who made up the Rules? Boys,
Meet the Quinquumvirate! Heil!

I'm the Four-flushing Fuehrer Gremlin
Whom the Fates and the Furies perplex,
Vegetarian chewer of carpets,
Teetotal eschewer of sex.
It was I drew the blood-bath of millions,
It was I built the Swastika cross
For humanity's last crucifixion,
I'm the bloodiest. Boys, I'm the Boss!

I'm the gluttonous Goering Gremlin
Of gawdy, gargantuan girth,
I'm plastered with hundreds more medals
Than any one else on earth.

I've got Wings but I'm nobody's angel;
Rabbi, Archbishop and Pope
All agree on one thing, in their loathing
Of Slap Happy Herman, the Dope.

I'm the garrulous Goebbels Gremlin,
The Third Reich's dirtiest tongue,
A flap-eared, club-footed hunchback,
The lustiest liar unhung.
I'm the pimp to the plots of the Party,
I brandish the bludgeon of blitz
Or prattle of peace and appeasement—
Who cares if it's true, if it fits.

I'm the hypocrite Himmler Gremlin,
Still a schoolmaster, bland, benign,
With some lovely estates in the country—
Dachau's a favourite of mine.
There I educate wrong-minded persons
Such as Communists, Jews and Poles.
It hurts *me* more than *them* what I have to
Do for the good of their souls.

I'm the rubber-stamp Ribbentrop Gremlin,
On the shelf till hostilities cease
When I hope to be photographed signing
More Pacts of Perpetual Peace.
Meanwhile lest the Party go thirsty,
My fortunes I further entrench
Black-marketing champagne I purchase
With Indemnity Francs from the French.

Envoi

We're the National-Socialist Gremlins,
The Apostles of Orders New,
Which means everything nice for the Nazis
And everything nasty for you!

—*ROYAL AIR FORCE JOURNAL*

AIR WARFARE DIARY

Jan. 20-21 U. S. aircraft carried out several harassing night attacks on Ballale Island off the northeast coast of Shortland Island. Results were not observed. A Japanese plane dropped several bombs on Espiritu Santo, 535 nautical miles southeast of Guadalcanal airfield. There were no casualties to personnel and our installations were not damaged.

Jan. 22 During the morning a FLYING FORTRESS bombed Japanese positions at Rekata Bay and started several fires. Single enemy planes again dropped bombs in the vicinity of the airfield at Guadalcanal. Minor damage to installations was reported and three men were killed and one wounded. Anti-aircraft fire shot down one enemy plane. U. S. positions on Espiritu Santo Island were bombed the nights of the 22nd and 23rd. Details were not reported.

Jan. 23 The following attack missions were accomplished against Japanese installations at Munda: A CATALINA, on early morning patrol, bombed the enemy-held area. A large explosion resulted, indicating hits on an ammunition dump. At noon a force of MARAUDERS with WILDCAT and AIRACOBRA escort attacked and silenced enemy anti-aircraft batteries. Early afternoon attacks by FLYING FORTRESSES, with LIGHTNING escort, resulted in a number of enemy fires. During the evening, MARAUDERS, with AIRACOBRA escort, carried out a fourth attack. U. S. aircraft bombed and damaged a large Japanese destroyer and a cargo ship in the Shortland Island area.

Jan. 24 Enemy planes raided U. S. positions on Guadalcanal during the nights of Jan. 23rd and 24th.

U. S. air and surface forces bombarded enemy positions on Kolumbangara Island (190 nautical miles northwest of Guadalcanal airfield) in the New Georgia group. The operations were successfully completed and fires from explosions of fuel and ammunition dumps indicated that the area was completely burned out.

Jan. 25 U. S. aircraft intercepted and attacked a large force of Japanese dive bombers, twin-engine bombers and fighters, which was headed for Guadalcanal. Result: four Japanese ZEROS were shot down; enemy planes were driven off and no bombs were dropped on U. S. positions; no U. S. planes lost.

Two units of U. S. ground forces joined at Kokumbona on Guadalcanal after one unit had entered the village from along the beach to the east and the other had encircled a strong enemy pocket and entered Kokumbona from the south. The maneuver resulted in giving U. S. forces unrestricted use of Kokumbona and the beach to the east. Two hundred ninety-three Japs were killed and five prisoners were taken during the operation.

In the Pacific area, U. S. aircraft were attacked by eight Jap ZEROS during a reconnaissance mission over Wake Island. Two ZEROS are believed to have been destroyed. All U. S. planes returned.

Jan. 26 At dusk a formation of FLYING FORTRESSES heavily bombed the Jap airfield on Ballale Island and started fires in the revetments. Weak anti-aircraft fire was encountered.

Jan. 27 During the morning, enemy dive and high-level bombers, escorted by fighters, approached Guadalcanal. U. S. fighters engaged the enemy planes and prevented any bombs being dropped. Incomplete reports indicated that nine ZEROS were destroyed and six others probably destroyed. Four U. S. planes are missing.

A force of MARAUDERS, with AIRACOBRA escort, bombed enemy installations on Kolombangara Island starting a large fire. All our

planes returned.

During the evening, a force of DAUNTLESS and AVENGERS with WILDCAT escort attacked an enemy destroyer and a cargo ship in the Vella Gulf. Two direct hits were scored on the cargo ship which was left sinking. Smoke was observed from the destroyer as a result of close bombing.

Jan. 28 Jap ships 15 miles northeast of Kolombangara Island were the target of an afternoon attack by a force of DAUNTLESS and AVENGERS with LIGHTNING escort. Torpedo and bomb hits left a cargo ship and tanker dead in the water. One of the four ZEROS which intercepted was shot down. All our ships returned.

U. S. ships operating to the westward of our positions in the Aleutian Islands were attacked by two float-type Jap planes but no damage was suffered.

Results were not reported on the bombing of Kahili in the Shortland area by a force of FLYING FORTRESSES.

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