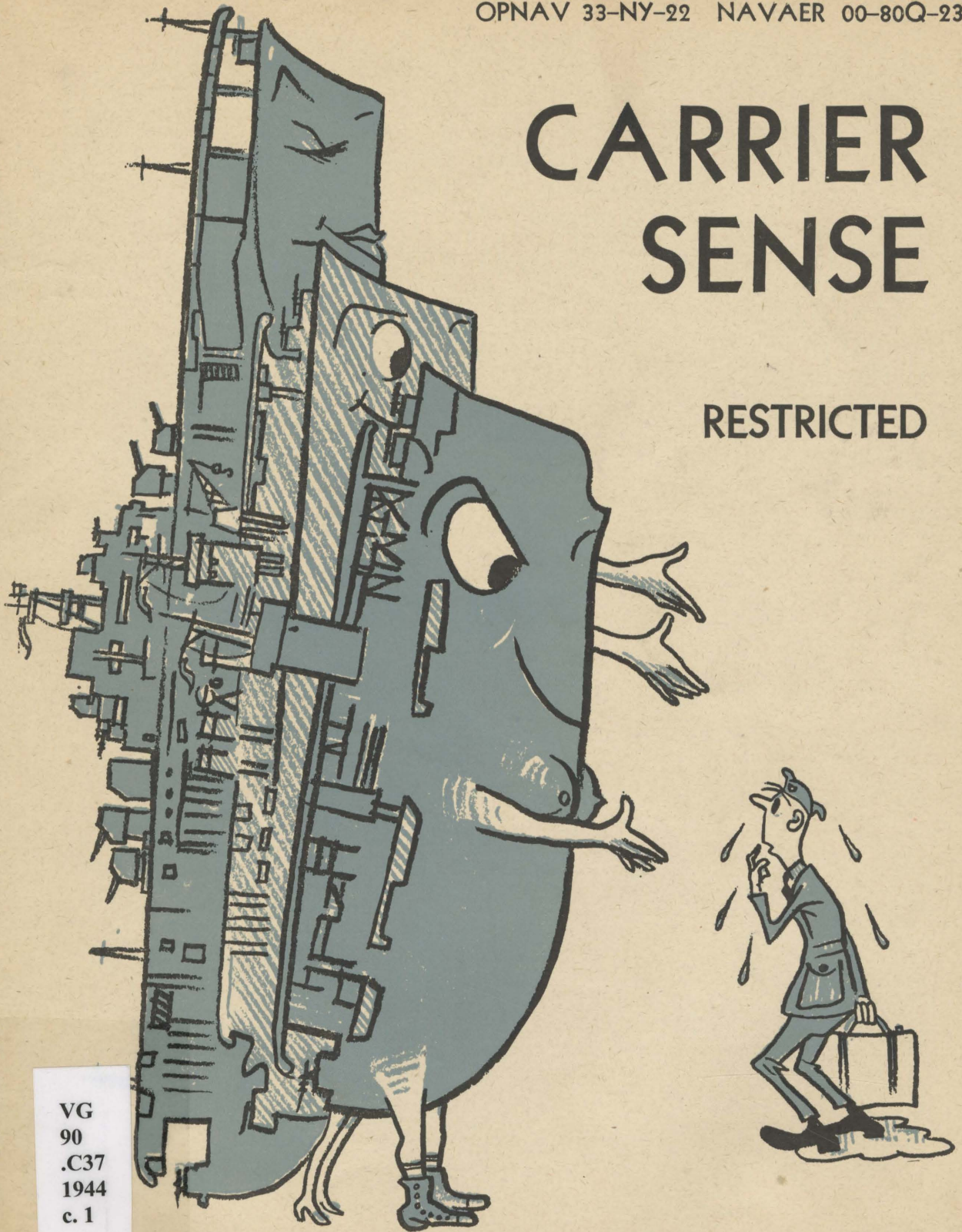


CARRIER SENSE

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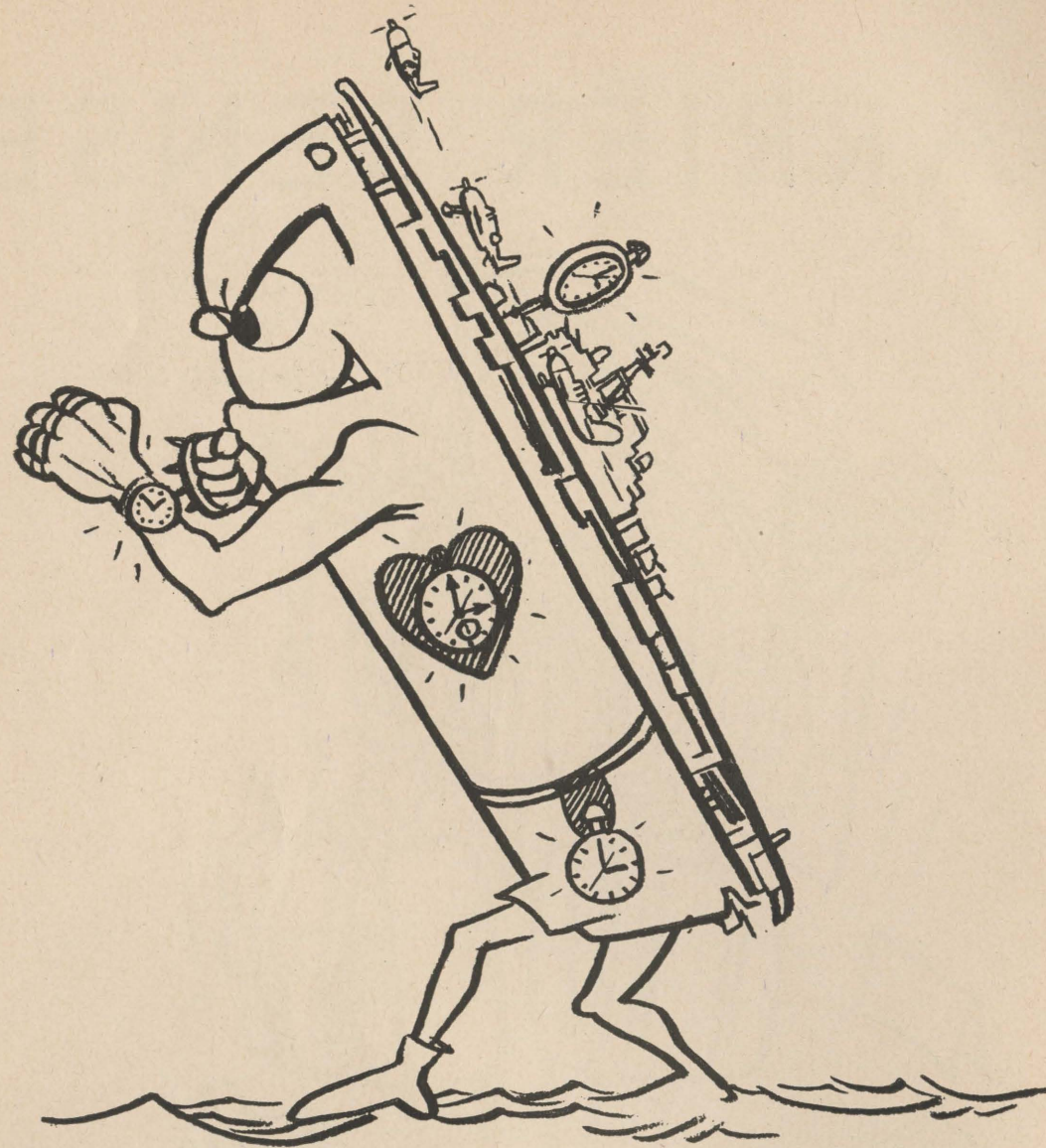


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CARRIER SENSE

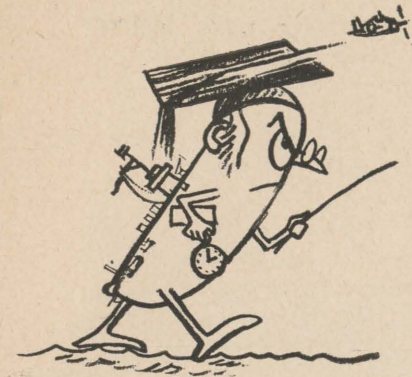


AVIATION TRAINING DIVISION • OFFICE OF THE CHIEF
OF NAVAL OPERATIONS • U. S. NAVY • ISSUED OCT. 1944



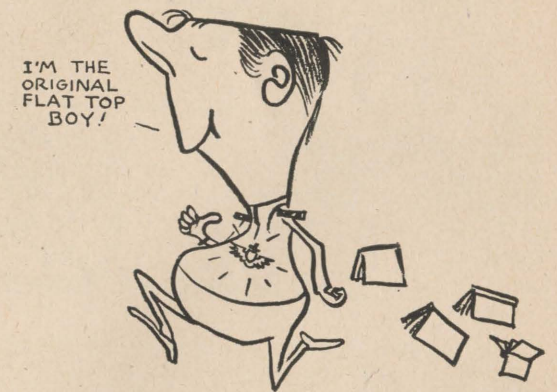
CARRIER SENSE

This pamphlet is not intended in any way to modify, replace, or otherwise affect the carefully worked out doctrine laid down in USF publications. It is intended to give you a few tips on some of the fine points of operations under USF doctrine. All these tips come from veterans of successful carrier operations. Some of the details will be different on some carriers.



CARRIER SENSE

If you are going to fly from a carrier the first thing to get firmly planted in your mind is the idea that your days of study are going to continue as long as you fly for the Navy. They don't end when your Navy Wings are pinned on, or when you finish Operational Training, or ever.

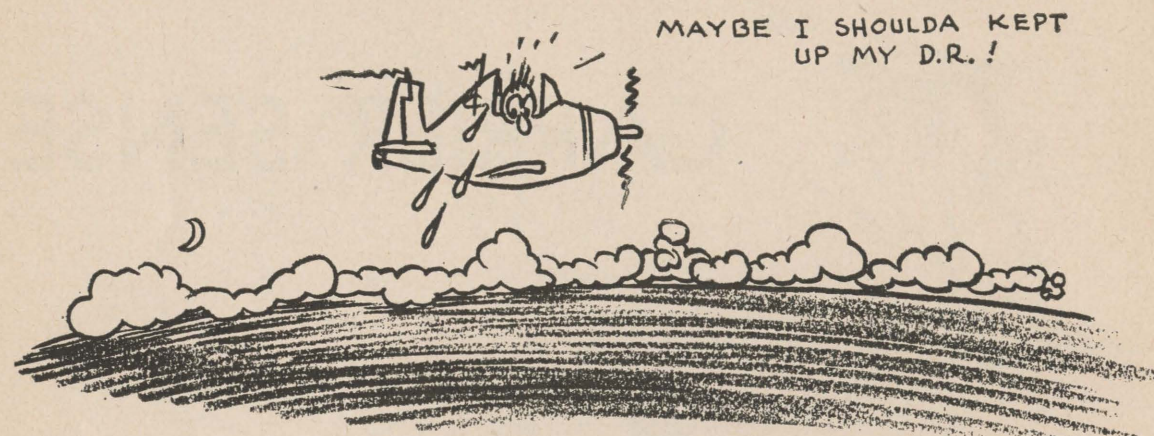


No more reading! No more books!
No more nasty teacher's looks!
I got wings that flap alone
And ears glued on to solid bone!

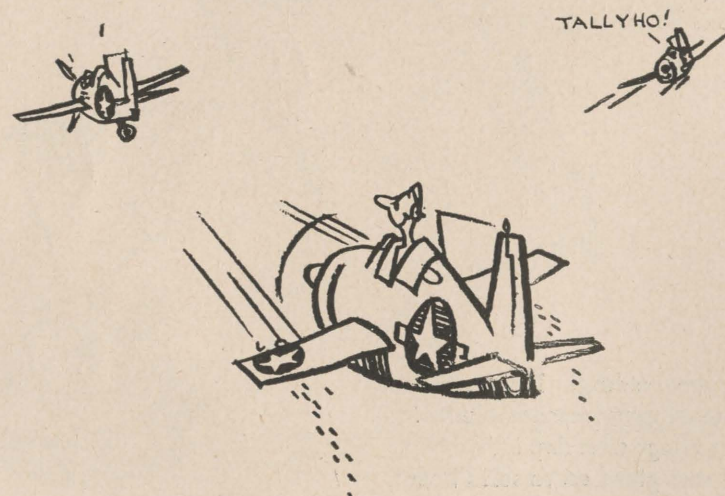
You may be a bit put out, when you report to your squadron, to find that ground training still is going to be necessary. Remember the veterans are glad to get all the knowledge they can about flying. That is why they are veterans.

You'll need two things particularly when you get aboard a carrier that you can never study quite enough. They are **navigation**, and **recognition and identification**

procedure. **you**, of course, probably know all about them. But there is an uncomfortable number of fellows in the fleet still getting lost and shooting up PBY's,



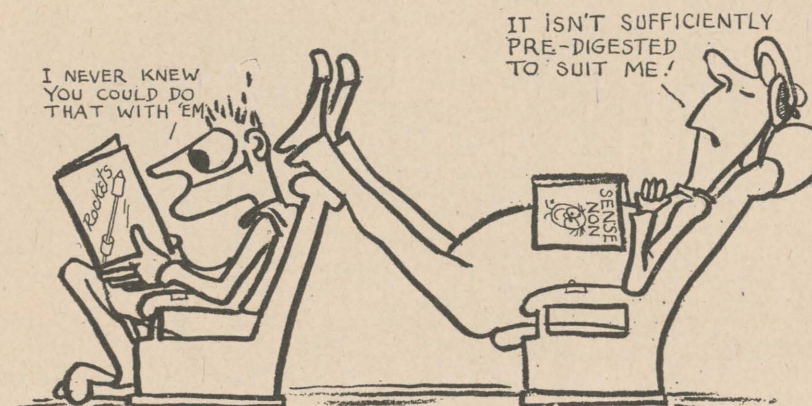
rescue submarines, the Captain's gig, and even planes from their own carriers. They



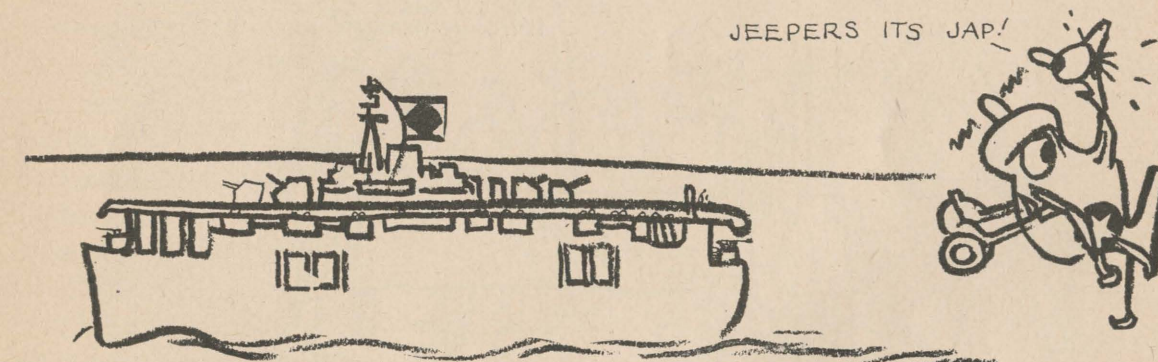
are, incidentally, those who came to their squadrons Knowing-All-There-is-to-Know-About-Navigation-and-Recognition-and-Identification.

In Operational Training and as the squadron trains together you can also start getting to know publications which will keep you posted about many things you need to know to keep up with this fast-moving war. ComAirPac and ComAirLant

publications, the Naval Aviation News, Naval Aviation Confidential Bulletin, Recognition Journal, the O. N. I. Weekly, the "Sense" pamphlets, the various technical orders and notes are among the many publications you must **keep studying**.



Blinker code is one of the things you **must know**, and you can't know it without lots of practice. It may be used for urgent ship-to-plane communication, and inci-



dentally is good from life raft to plane or ship where nothing else will work. You also should know the alphabet flags, and the hand signals used by pilots for inter-plane communication.

CARRIER LIFE

Life on a carrier will vary from ship to ship of the same size, and particularly between the large and small carriers, but in general certain rules hold true. As a junior officer you probably



will live in the bunk room, which may be pretty crowded. You know about ship-



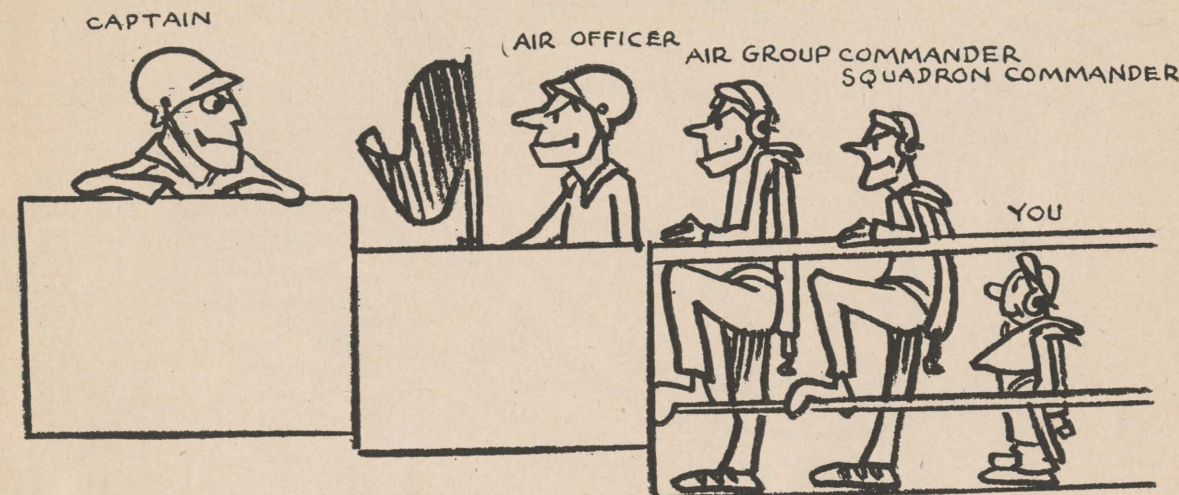
board etiquette, and will be expected to observe it in accordance with the desires



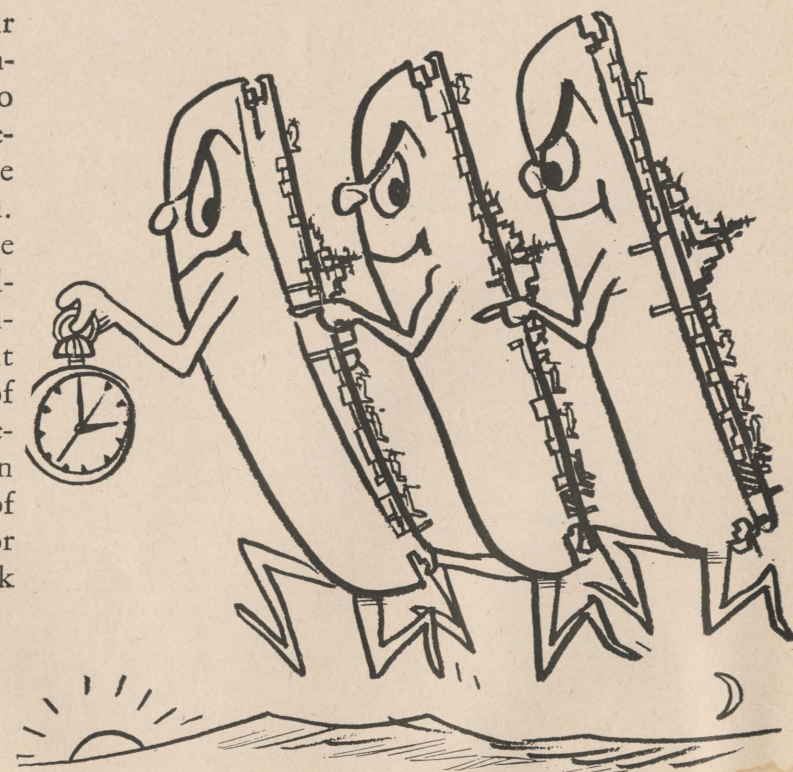
of the Captain. As a member of the Air Group, you will be directly in contact with

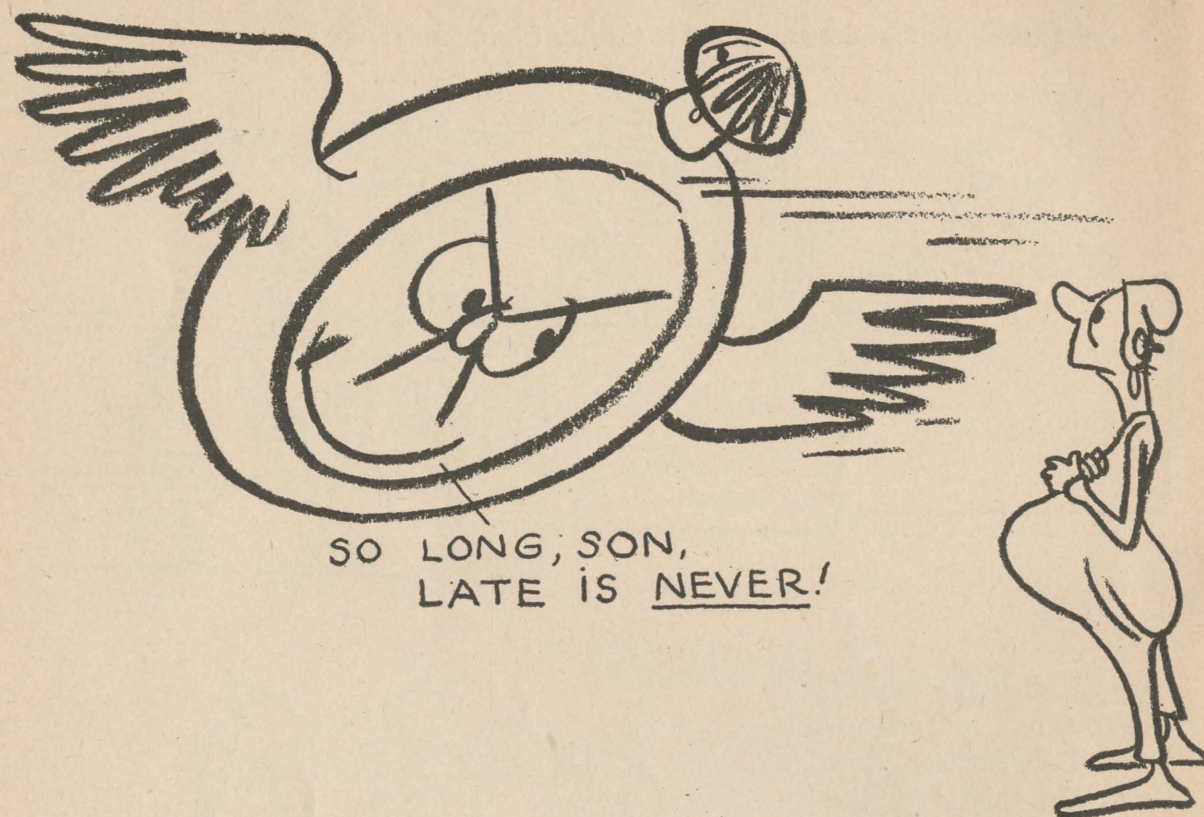


the Squadron Commander and the Air Group Commander, as your superior officers,



but remember that the Air Group Commander is under the Air Officer, who heads the ship's Air Department, and that all are under the ship's Captain. Remember, too, that the Ship's Company are hard-working people who contribute a terrific amount to the success or failure of the Air Group. Best results are obtained when all hands, regardless of their duties or stations or differences in rank, work smoothly together.

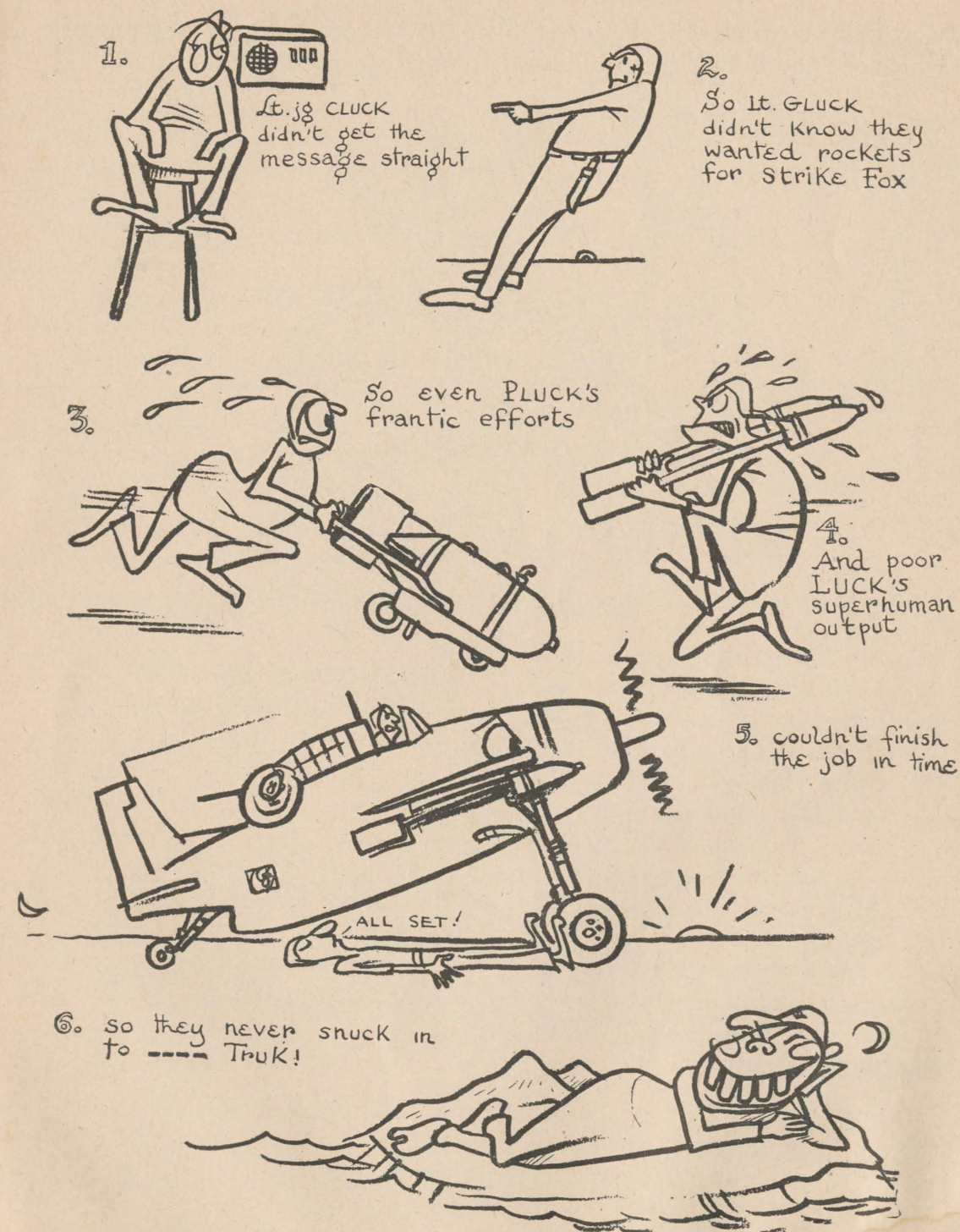
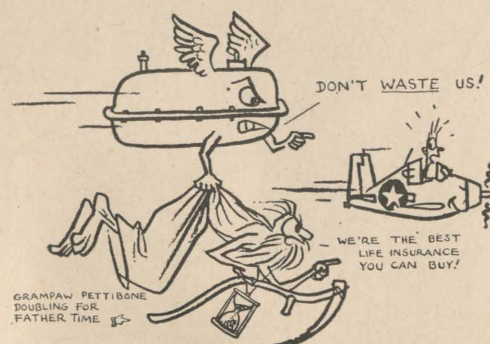




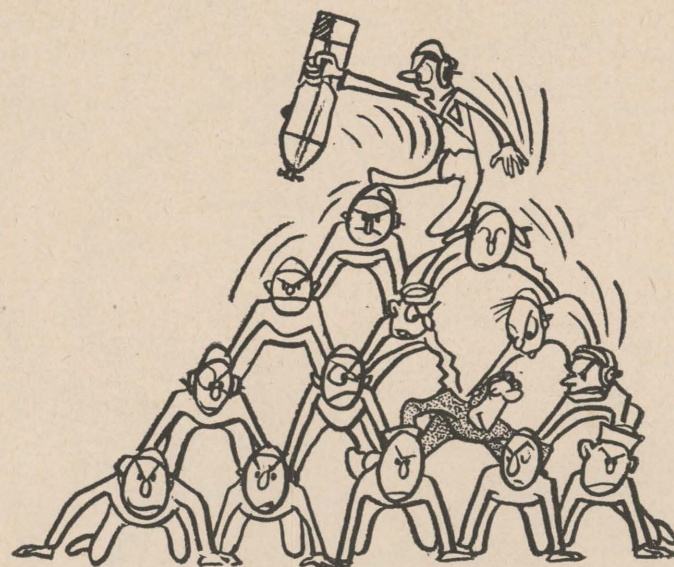
TIMING AND TEAMWORK

The effectiveness of any carrier and any task force is measured directly in terms of split-second **timing and teamwork**. There are hundreds of individuals on the carrier **team**. Any of them can waste the time of the entire **team** by failure to work smoothly with the rest of the **team**. Only a very few individual failures can **total up to enough**

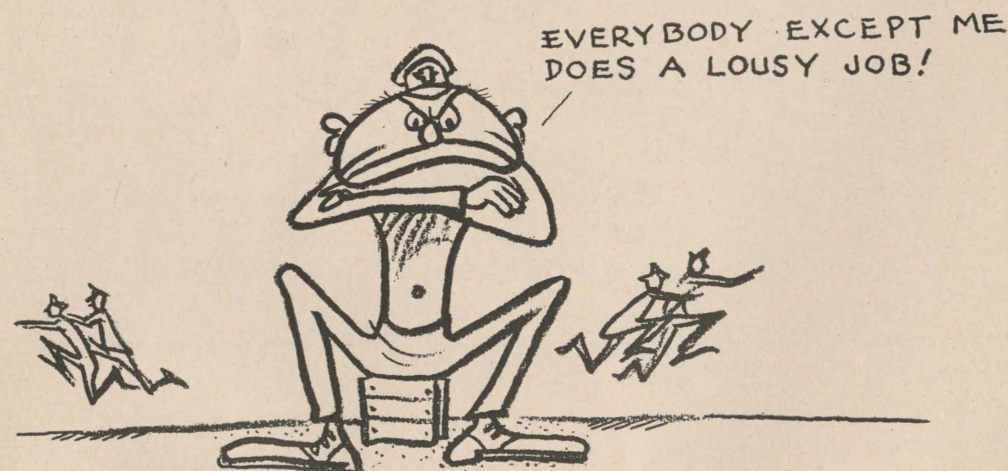
to make it necessary to call off an entire strike. or they may slow up landing operations just enough for a pilot or a section to be gobbled up by a weather squall. Remember, too, that in the air, fuel is time. Time to accomplish your mission and get back. Time to help another pilot if he's forced down.



More than any other thing you can think of, carrier operation is a **team** proposition in which one poorly-functioning unit can destroy the work of all the others. If you



don't find it in you to work smoothly with others, better ask for duty at a one-man naval air station!



SQUADRON DUTIES

As a junior officer in a squadron, you may draw any one of several permanent duties with the squadron, in addition to your job as a flyer. You may be put in charge of life rafts or other emergency equipment, for example, or be an assistant to one of the older squadron executives. There simply is not room for enough

people on a carrier to make it possible for you to have nothing to do but sleep, read, and fly, however desirable that might seem—to you. Furthermore, it wouldn't even be desirable. The best flyer is the man who knows something of what it takes to run a ship and a squadron, and to keep planes in the air. You'll also be a lot happier if you keep busy.

The most important assignment a junior officer will get is that of Squadron Duty Officer. This officer runs the squadron for the Squadron Commander. While on duty, he gets his instructions from the Squadron Commander, Executive Officer, and Flight Officer, but has actual responsibility for running the squadron. His job includes:

1. Keeping track of the status of all planes, so as to inform the Air Officer, Squadron Commander, Executive Officer, and Flight Officer.
2. Notifying squadron members of scheduled flights.



3. Seeing that names of members of each flight, listed by planes, get up to Air Plot before the take-off and that the list is corrected if necessary after the take-off. The duty officer checks all flight schedules, and informs Air Plot of any changes.

4. Seeing that the routine work of the squadron is carried on. While the Air Department is in charge of the general upkeep of the planes, the duty officer must keep informed of work to be done, and "pass the word" to the Air Department personnel involved.

5. Acting as direct representative of the Squadron Commander during the latter's absence.



NOW ABOUT CARRIER OPERATIONS:

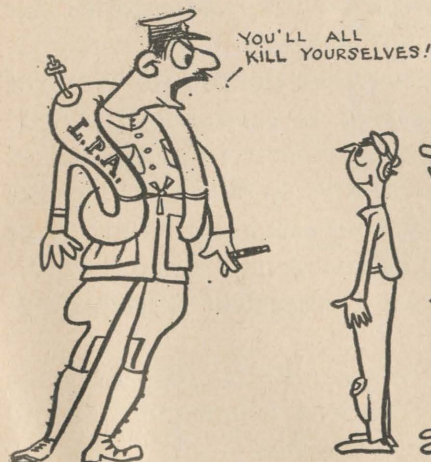
Some pilots reporting for duty in the fleet have a bad mental attitude toward carrier flying. They join combat squadrons with the attitude of the new boy who has by some unlucky chance moved in next door to the town bully. They think flying from a carrier is pretty tough.



The fact is that flying from carriers is something that is being done every day as a matter of routine by hundreds of average graduates of Pensacola and Corpus Christi.



In the early days of carrier flying, men who had qualified on the old Langley thought they were "something special." They formed a Langley Pilots Association—a group of the élite among flyers—the ones who could fly from a carrier. Then the Navy decided to qualify every pilot in the fleet for carriers.

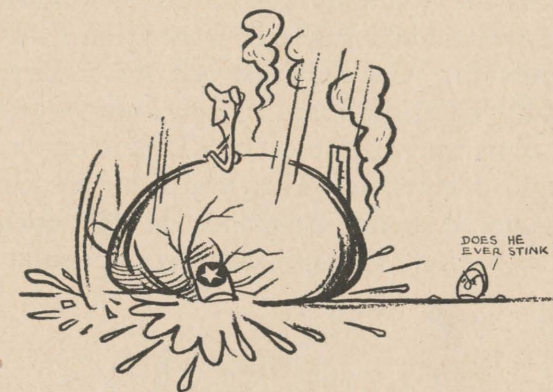


"We members of the Langley Pilots Association thought it couldn't be done," commented a veteran Navy flyer. "But it was done, and before long was looked on as routine for any Navy flyer."

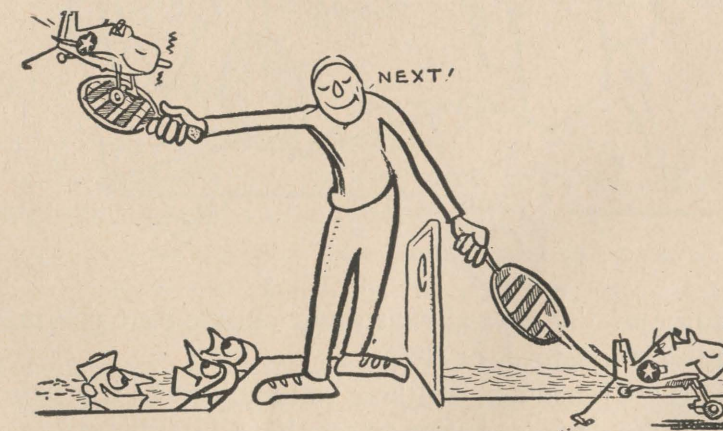
To some new pilots landing on a big carrier seems easy, but the prospect of going aboard a small one results in at least a mild case of jitters. There is also the flyer who keeps his wits sharp when landing on a small carrier and gets aboard with the greatest of ease, but thinks he can relax and take it easy in going aboard one of the big jobs.

Another troublesome character is the man who has to land on some carrier other than his own and thinks his role of "visiting pilot" entitles him to relax on air discipline and barge in for a landing without paying attention to the Landing Signal Officer. Disregard of a wave-off by pilots in this class has caused at least two recent accidents, in one of which two men on the flight deck were killed.

Like a bad egg, a bad landing is bad **any place**. Good landing procedure will get you aboard any carrier—just follow the correct formula, which you've practiced



hundreds of times, and watch the Landing Signal Officer. That will get you in, on any carrier.

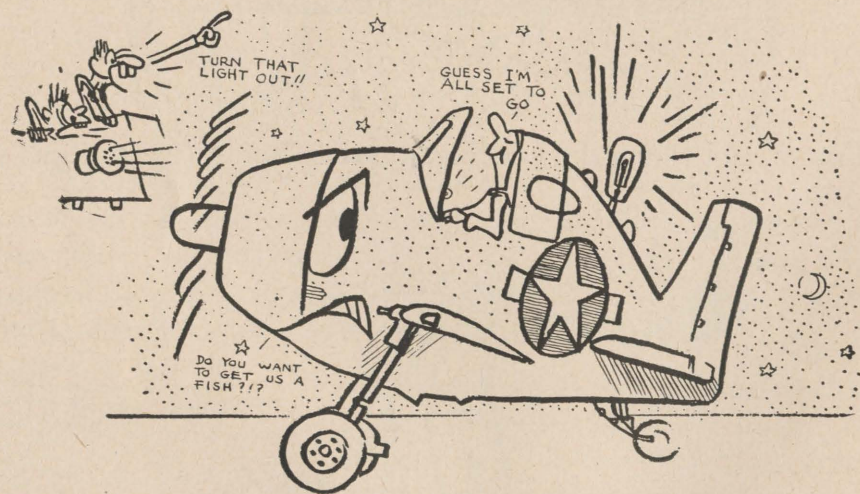


The key to an efficient, happy and long life as a carrier pilot is anticipation of what is to come. It isn't a matter of keeping one jump **ahead** of what is to come. Being too far ahead may be just as disastrous as being too far behind. Just think ahead and do whatever you can, at the right time, to speed up operations without jamming them up. "Speed without haste" is another way of saying it.

GLAD TO HAVE YOU ABOARD!

Let's assume that you are aboard ship, and that you know the way to the ready room and what to do when "Pilot's Man Your Planes" is given. Or do you? It isn't a matter of dashing for the flight deck and scrambling aboard the first plane you see. It may be dark and you might bump your head! Or you might find yourself in a TBF instead of the old familiar Hellcat! Furthermore, the Squadron Commander and the other pilots **won't like it**. No!

Before you leave the ready room you must have, on your chart board or knee pad and in your head, all the specific and general information necessary for successful accomplishment of your mission. Get the dope—all of it. Be master of the situation at all times. Check the spotting board so you know which plane you are to fly, and exactly where it is spotted on the deck. This is important any time, and is an absolute must for night operations. Then you'll have no light of any kind to permit you to stroll around until you find **the plane**. In night operations, **don't turn on any lights**. It's an even more effective way of becoming unpopular than keeping your



cap on in the wardroom. There's always a fair chance that you may get yourself and your ship bombed, torpedoed, or strafed as a result.

If night operations are scheduled or likely to occur, make it a habit to check the cockpit of your plane **the afternoon before** to see that all lights are working and turned **off** and that the plane is ready for flight.

Speaking of night operations—does any one need to be told that the man who can reach all the controls in the dark has an advantage—whether we're talking about automobiles or airplanes? You ought to be able to sit in your cockpit with your eyes shut and locate, instantly, any control of any kind you may need to use. If

you can't, practice until you **can**. This skill not only is essential for night operations, but may save your life in **day** operations. You may be blinded temporarily by an oil leak or from some other cause; or come in late from an operation with your cockpit lights shot out.

And while we're on the subject of "knowing your equipment," harken to the sad story of the carrier "pilot" who didn't know that his engine would keep right on running even if the generator wasn't working. When his generator went out, he signaled the ship for an emergency landing. The planes were respotted, the ship swung into the wind, and the flyer came aboard. The Air Officer was more than mildly annoyed when he learned that the pilot had wasted the time of several hundred men, lots of valuable fuel oil, and exposed the carrier unnecessarily. Our friend learned about generators the hard way all right—hard on the entire ship.



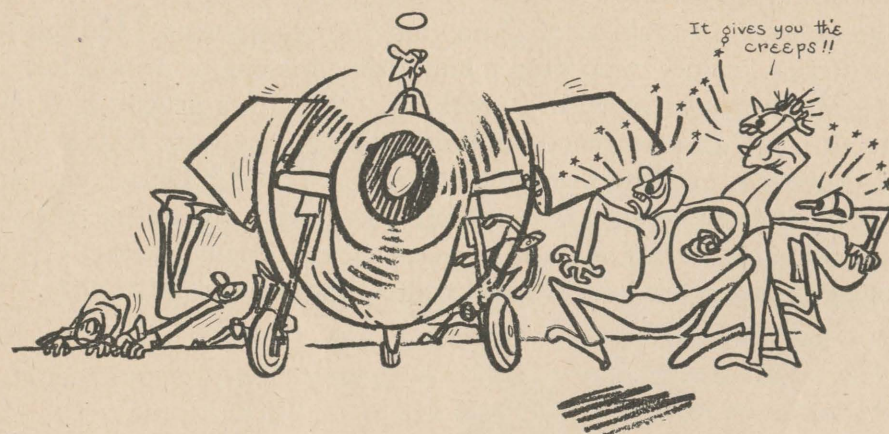
GETTING READY TO TAKE OFF

When you get in your plane, start checking.

Don't start your engine before the command is given. Then be able to do it quickly and efficiently, without running down the battery.

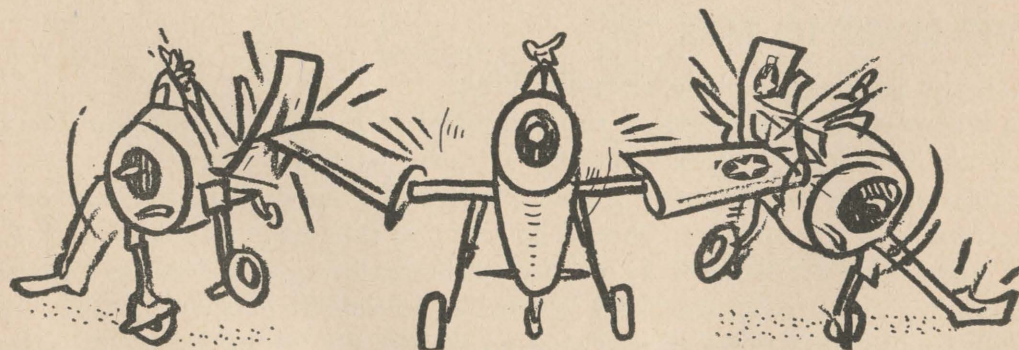
Pretty soon you will be moving your plane down the deck to the take-off spot. By the time you get there you should be ready to take off. Simple, isn't it? But carrier operations are delayed by precious minutes every day because Dilbert the Dope hasn't gone through the checkoff list by the time he gets to the take-off spot. **So before time to move to the take-off spot go through the list**, all of it. Check your magnetos, but not at full throttle. Look behind you first to make sure you don't blow someone into a propeller. If you've been through the list and are satisfied the plugs are not fouled up, give the plane captain the "up" signal. That means you're ready, and the plane director (taxi signalman) can take over. Don't keep the plane at full throttle while you're waiting for the take-off. If you use full

throttle before your wings are spread, the fairing may be ruined. After your wings are spread, it is still inconsiderate of the enlisted men who have to work in your prop blast. They may be blown back into some one else's prop if the deck is the



least bit slippery. Furthermore, your plane may jump the chocks. Of course you must test your engine, and the necessary r. p. m. will vary with the type.

As the plane director takes over, keep on using your head to save those precious seconds which may mean the difference between getting airborne and being knocked off like a sitting duck in Hirohito's shooting gallery. Follow the signalman's directions. If you don't understand a signal, stop until it is clarified. Spread your wings at the signal—**not before**, or you may ruin three planes, yours and those parked



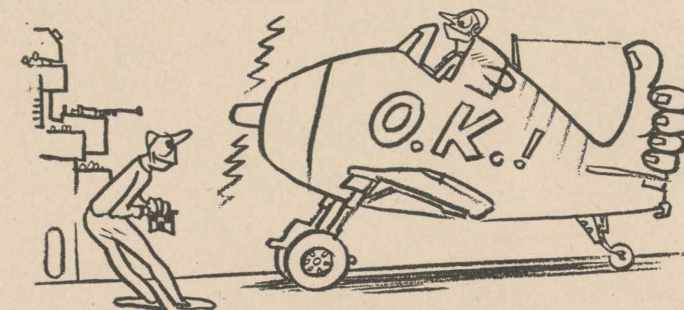
on each side. **Lock** the wings down. Put your flaps down when the signal is given. (Dilbert got reprimanded for being slow about this, so next time he put the flaps down just before he spread the wings!)

Keep the tail wheel locked **until the first turn signal is given**. This will keep the tail of your plane from swinging into the next one, and smashing both.

As you come down the deck to the take-off spot, remember *not* to use too much throttle, especially on a slippery deck.



When you come to the take-off spot you are considered ready to take off. Some ships require that you make an affirmative signal (thumb up or nodded head) to the Fly One Officer before launching, but others consider that this is time-wasting and proceed with launching unless a negative (thumb down) signal is given. You **should**



be ready, but if you do discover any defect in your plane or in the way the engine is running, don't hesitate to indicate "not ready." But decide quickly—don't hold up the whole flight while you weigh the pros and cons.

As you take off, favor the right side of the deck a little. This enables the slipstream to clear the deck more easily, and also makes the turn to the right after take-off easier. The turn to the right after take-off is normally considered better than the turn to the left, because it makes a spin less likely, since it counteracts the effect of torque.

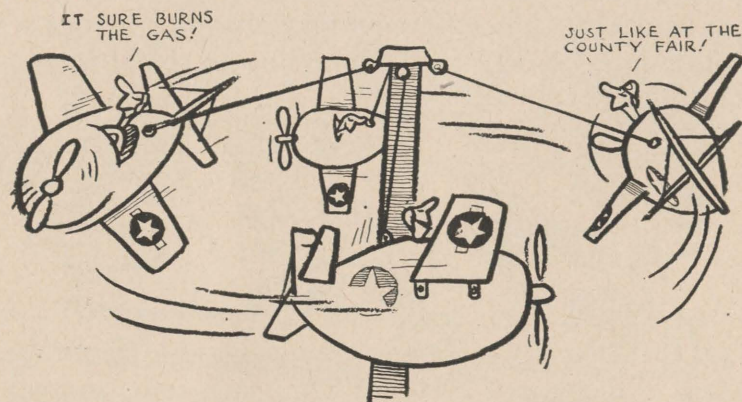
Don't overdo the business of "favoring the right side of the deck." Dilbert was so intent on it that he crabbed across the deck and just cleared the starboard gun mounts. It caused quite a sensation on the ship, and Dilbert loves to think of it as he manages the laundry at Enifuel tank N. A. S.

The turn after take-off is important because, properly executed, it speeds up launching markedly. It's not necessary to whip the plane into a turn, but **do** make it definite.

Just before take-off, set the directional gyro on zero to line up with the heading of the ship. Then, after your right turn after take-off, come back to zero. This will line you up quickly with the course of the ship, keep everyone lined up, and in night work act as a valuable precaution against your having to ask the corner policeman the way to the rendezvous point.

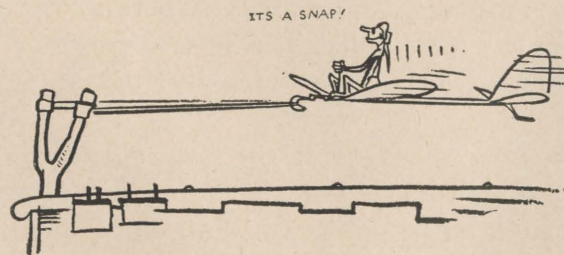
For the rendezvous, you will first go down the right hand side, parallel to the ship's course, and then turn back to the left or in the direction prescribed for the rendezvous. Expedite the join-up on the return leg. Keep in column and don't "buzz the water." Be in position so you can see the man ahead of you, and the ones behind can see you.

A common fault of inexperienced pilots is to turn too late for the join-up and start tail-chasing and straggling. If everyone joins up promptly, the sections, squadrons and group can **get going, perform their mission, and get back.**



ABOUT CATAPULTING

The catapult is a long-tested and dependable means of getting your plane into the air with plenty of flying speed, provided you co-operate and remember to **fly the plane** after it is in the air.



There are no hidden mysteries about catapulting. The rules and signals are probably fairly clear in your mind. Follow them and remember to give the ready signal. On one historic occasion aboard the U. S. S. Caterwaul, a pilot sat for five minutes, all set for catapulting and with his eyes glued straight ahead, wondering why nothing happened. All this time there was frantic wig-wagging from the deck, trying to call his attention to the fact he hadn't signaled "ready."



This Caterwaul pilot had one fundamental principle down thoroughly, however. That is to "stay put" if you aren't catapulted immediately after the signal is given. Don't relax and start looking around, until you get a definite signal. Remain in position and keep the engine revved up.

Most accidents in catapulting arise from failure to observe a few simple rules:



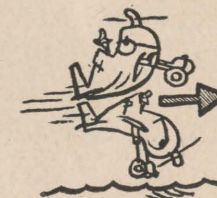
1. Keep your head against the rest provided for that purpose, so you won't have it snapped back and yourself knocked dizzy when you're catapulted. If you keep your head braced, there's no appreciable sensation.

2. Be sure there is no loose gear in the plane. "He was a casualty as the result of being knocked cold by his own chart board" doesn't make good reading.



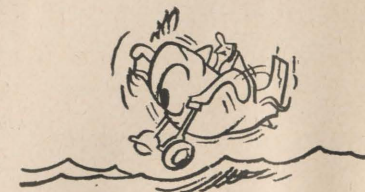
3. Be sure your hand isn't in position to pull out the throttle and cut down your engine speed involuntarily, in the acceleration of catapulting.

4. Beware of pulling the nose up sharply after catapulting. You should not lose altitude, but must not try to gain it too quickly.



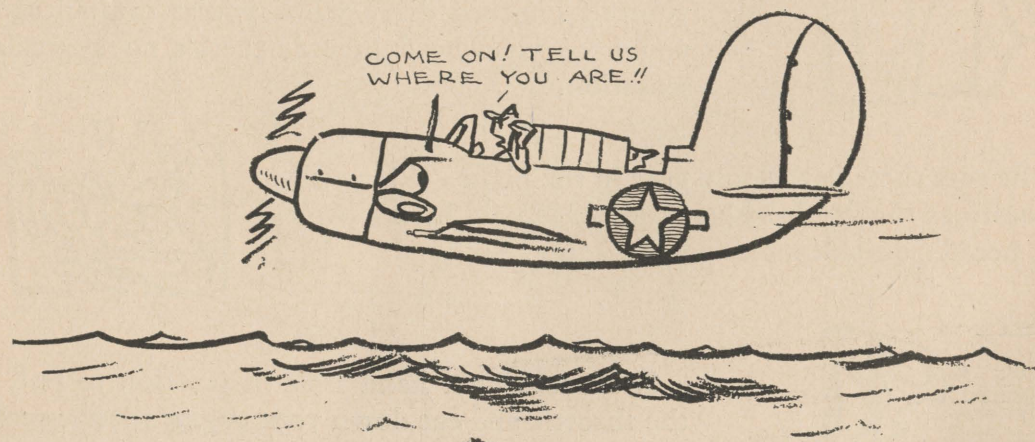
5. Know the **correct** signals and **use them**. Don't try to invent a code all your own.

6. "Keep up thy flying speed" is the first motto of catapulting—and all flying.



ABOUT YOUR ZB

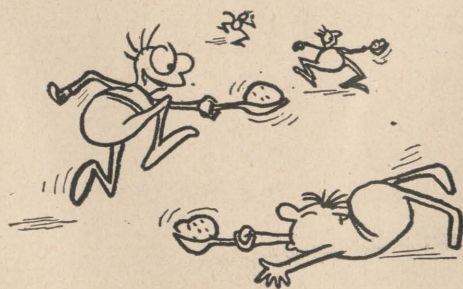
Before take-off, turn on your ZB and make sure it is working properly. When you are airborne, check it again, then turn your volume down. Since ZB reception differs as between types, you must know this equipment to be sure it is working properly. Once you are sure and have it turned down, **don't fiddle with it any more until you are ready to use it, coming home.** It will then be tuned in and ready to go. You can pick up the ship a long distance away **if you have sufficient altitude.** Even if



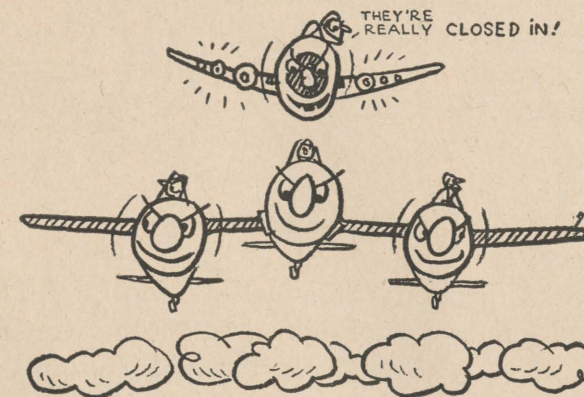
the ship has found it necessary to change course and Point Option is nothing but an empty stretch of ocean, you can get home with the ZB. When you're a long way out, you'll hear the signal only once every 30 seconds or so. **Don't** start fiddling with it, after 10 seconds of nothing.

YOU'RE OFF ON YOUR MISSION

On your way, a close formation is **imperative.** The best defense is "you help me and I'll help you" and you can't do it that way if the formation resembles a Sunday School picnic during the potato race. Furthermore, if you're a torpedo or bomber



pilot and have some fighters assigned to cover you, they can't possibly perform their mission if your flight is scattered all over the sky. If you like to have those guys with all the guns along looking after you, give them a chance to stay with you—keep closed in. Stay out of clouds. You can have either fighter cover or cloud cover, but not both.



One way you can anticipate coming situations and meet them smoothly is to **know where you are at all times.** You **must** note your track on your knee pad or chart board during a strike.

On patrol, if your track is plotted and you sight an enemy sub, you can flash the position back as you go in for the attack. Otherwise, of course, you'll have to attack first and leave until later the job of figuring out your position—and many valuable minutes will have been lost in getting help on the way. Also, if you know your position at all times, you can tip the rescue boys off to your location



quickly if you get in trouble. Or you can give an exact report on where one of your friends landed on the water, so Dumbo can bring him home.

NOW YOU'RE NEAR THE TARGET

Check with yourself, and with the crewman if you are a bomber or torpedo pilot, to see whether or not you're really ready to go in and blast your objective. Are you set to release your bomb or torpedo load? Are they properly armed? Are your guns ready to fire?

When you are asked: "What did you do in the war, Grandpa?" are you going to have to say:

"Well, children, I went through V-5 and V-12 and Flight Prep and Pre-flight and Primary Flight, and Intermediate Flight, and got my wings. And then I went through Operational Training, and then I trained with my squadron for several months.

"By this time, grandchildren, I had a \$27,000 education in flying, and they gave me several thousand dollars' worth of airplane, and then I went out into the Pacific with my squadron, aboard a seventy-five million dollar aircraft carrier.

"We sailed west into the Pacific with a couple of billion dollars or so of ships, and we got right close to the Japs without their spotting us, and we caught some big units of the Jap fleet sitting like ducks in a harbor.

"And, children, I went out with the rest of my squadron, carrying my ton of torpedo, and with fighters chasing off the Jap planes."

"Yes, Grandpa?"

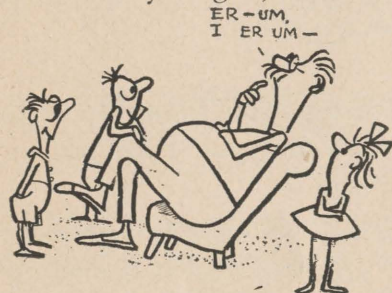
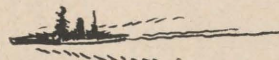
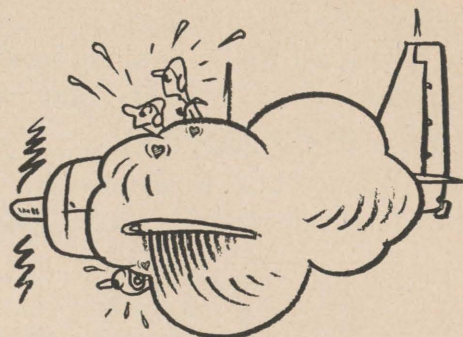
"So I got right in on a big battleship and let her have it squarely in the side with my torpedo. Gee, it was wonderful, grandchildren. Here was the climax of all my months and years of training and preparation."

"And what happened then, Grandpa?"

"For asking that, Egbert, you get a spanking. **Nothing** happened then, because I had forgotten to arm the torpedo. Someone else sank the battleship!"

ABOUT RADIO DISCIPLINE—KEEP IT

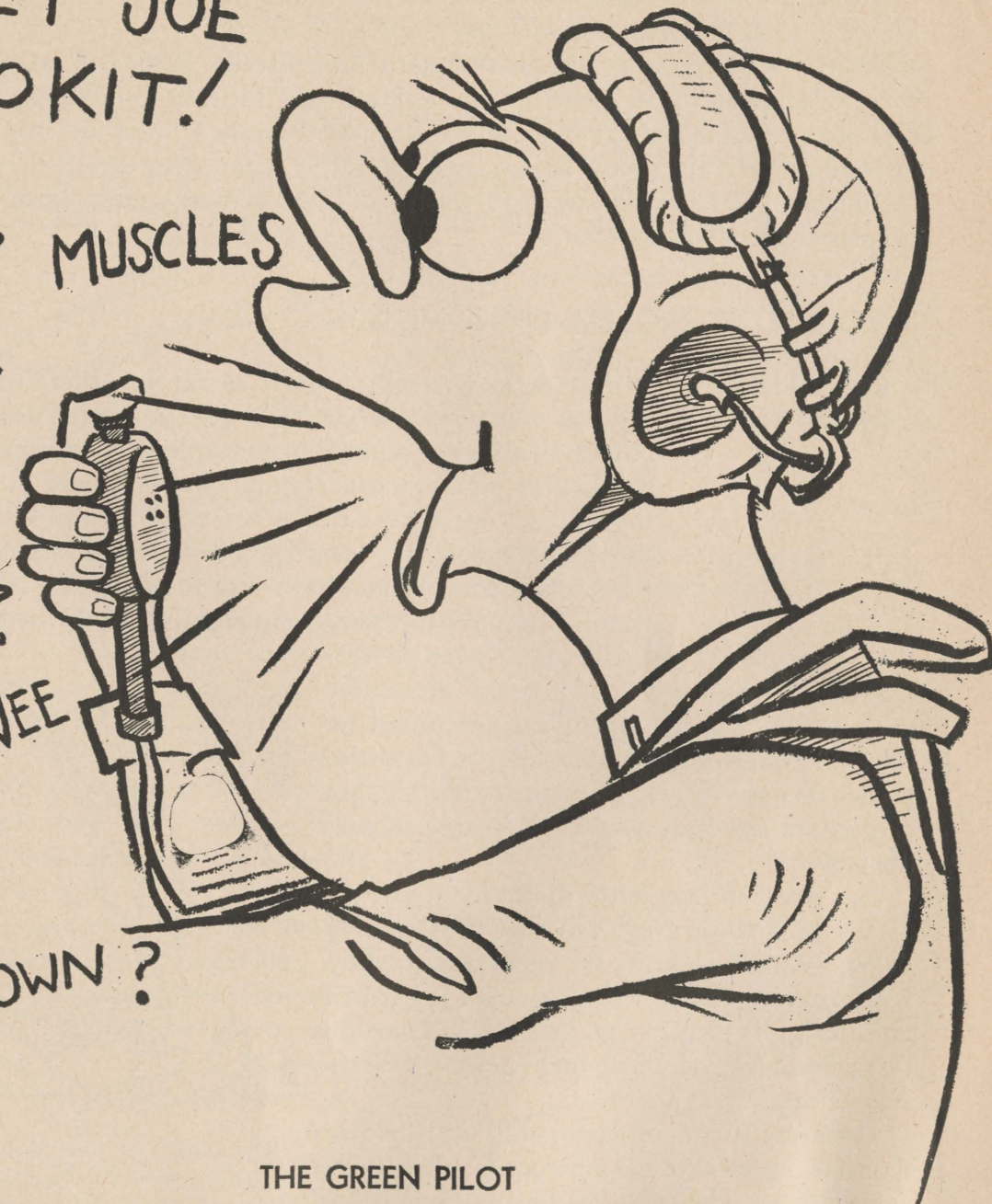
If the orders say to keep still on a particular mission, that means **keep still!** Success of the whole mission may be risked if you open up—as it was in the big raid



HEY JOE
LOOKIT!

HEY MUSCLES
HOW
MANY
DID
YOU
GET?

HEY PEEWEE
IS MY
HOOK
DOWN?



THE GREEN PILOT

You can spot him every time—his radio discipline is so bad!

on Bong Bong when Dilbert got lost behind a rainstorm less than 20 miles from his carrier and used his radio to ask which way home (instead of using his head and his ZB), so that the carrier was lost along with Dilbert.

But the worst radio menace is the guy who insists on jabbering on the radio instead of keeping it clear for the handling of vital military information. The success of one recent combat mission was reduced because Dilbert and his pal Egbert insisted on tallying their "flamer" scores on the channel on which the Air Group Commander was issuing attack instructions. The airborne radio is an instrument of **command**, not convenience.

IF YOU GET IN TROUBLE ON A MISSION

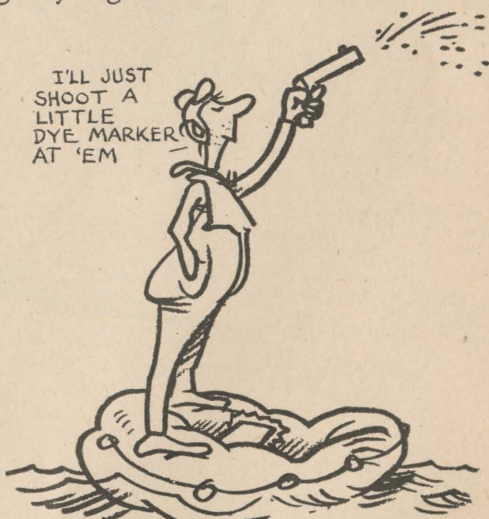
Remember that you must help yourself, as well as expect others to help you. Above all stay calm and use your head. If you're excited you can't use your radio properly (if its use is possible under the circumstances) and the chances are you may lose essential survival gear in going into the water. Among the things you can do if you keep calm are: show emergency IFF, let other pilots know as much of your trouble and plans as you have time for and radio silence orders permit. (Know the emergency signals laid down in USF 74.)



Keep your gear together if you have to go into the water, and **use** it. If you go into water without a life raft, your dye marker will be the best means of marking your spot for rescue planes or destroyers. Three or four packages of dye are the least you should carry **on your life jacket**.

Use dye marker with discretion. By all means use it if you are in a formation of friendly ships. A man on a life raft can be spotted by a destroyer, but one without a raft is hard to find unless he uses dye marker. **Don't** use the dye after dark, or when there are no friendly vessels or aircraft about.

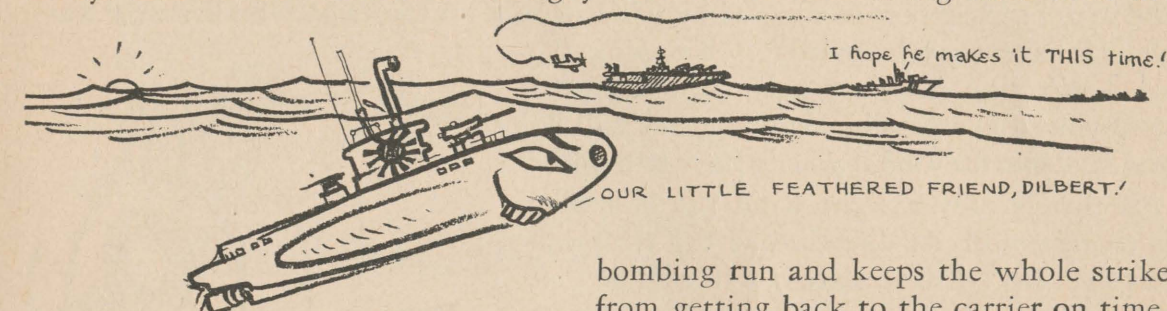
The same is true of flares: only use them in daytime in an extreme emergency, save them for the time when the chances of their being seen are best.



Old Dilbert isn't very bright
So spreads out lots of dye at night.
And also we regret to say,
He shoots the tracer works by day!

If another pilot is in trouble, **you** can show emergency IFF to mark his spot, ward off enemy planes bent on strafing him, note his exact location for rescue purposes and, if the situation permits, circle him until help or a relief comes.

One more note on **trouble**: one of the big sources of it is the "flash" pilot who is always late for the rendezvous—the guy who has to make a big show after his



bombing run and keeps the whole strike from getting back to the carrier on time. He's a big hero to a one-man public (himself), but the rest of the squadron could get along nicely without him—and probably **will**.

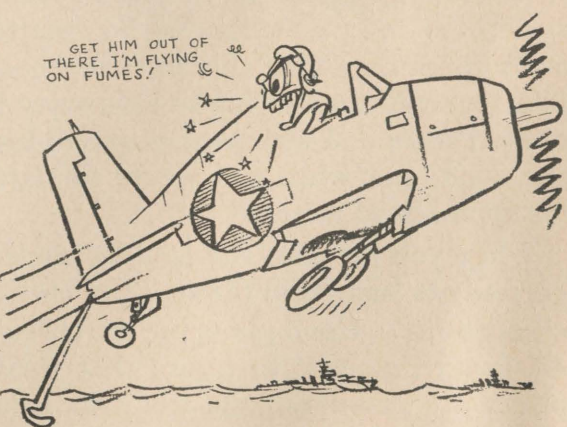
GETTING ABOARD THE CARRIER

Not only your plane and others from your carrier may depend on your skill and intelligence in getting back to the carrier and **getting aboard** promptly, but a **good share of the Navy may have to turn around and wait if you:**

- (a) are too short or too long on your interval in the landing circle,
- (b) fail to obey the Landing Signal Officer and thus get an unnecessary wave-off because of a poor approach,
- (c) are slow in getting out of the gear after you get aboard.

One man's ineptitude may cause several planes to be delayed, so:

When you get back and get a "Prep Charlie" from the carrier, acknowledge the signal by rocking your wings. Get into the breakup circle and then into the landing circle as quickly as humanly possible. The Captain is not going to turn the ship into the wind until someone is ready to come aboard. If **you** are ready to land aboard as soon as the next flight has taken off, the Captain has a choice of taking you on immediately, (thus saving a second turn into the wind) or of waiting. Give him that option.



Form the landing circle **upwind**. Don't just circle ahead of the ship like a lost chicken looking for its nest. Remember that the ship has to turn into the wind to land you aboard; and be there ready to land when she turns. That saves time and fuel. If you don't know how to tell the direction of the wind—better learn. All pilots of observation planes know how to tell direction of the wind by the way the white caps appear to run and by wind streaks. Every man who flies over water should have that knowledge. Knowing the wind direction may not only save time and keep you from a possible dunking, but will let you land **into the wind** if you do have to dunk.

If there's only a light wind the best plan is to remember its direction at the time you left the ship. Chances are it will still be that way when you return. Keep your compass pointer set on the bearing of the surface wind.

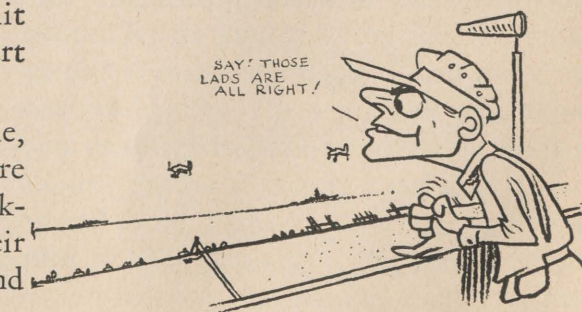
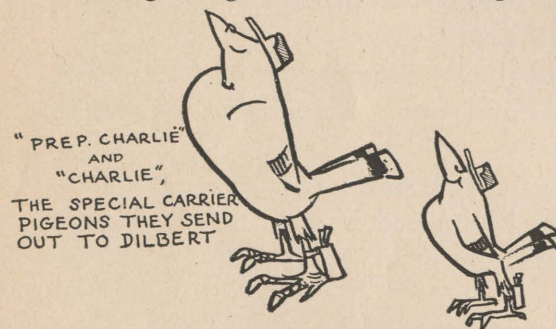
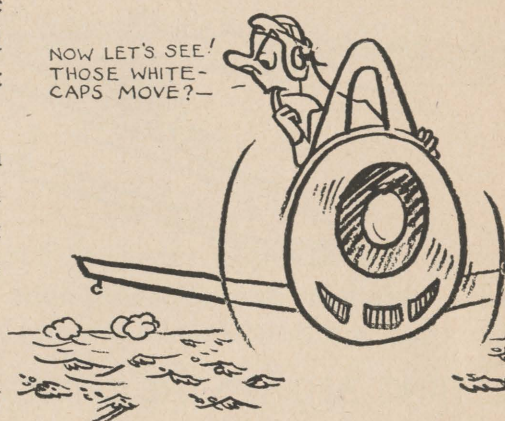
When you are in the vicinity of the ship, **watch** for the fox flag at the yardarm, watch the flags at Air Control and on the ramp, and for light signals from the bridge.

When you get a signal intended for **you**, let the bridge **know** you got it by rocking your wings. Don't leave Air Control in suspense, wondering whether you got the signal or are just studying the pretty cloud formations.

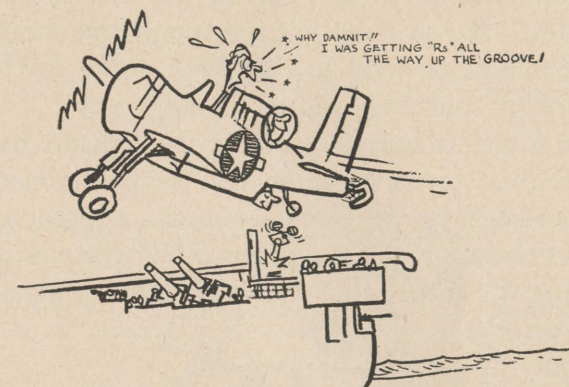
Start making passes at the ship any time it gets close to being into the wind. Frequently, of course, the first plane or two making passes will get a wave-off because the ship hasn't quite come around into the wind—but a good

many times they'll be able to come aboard. In any event the Captain knows the pilots are alert and trying to save every possible minute. A pilot with experience can tell when and where the ship will hit the wind, and when and where to start his approach to meet the ship.

When you get into the landing circle, **get ready to land**. Go through the entire checkoff list. Good pilots use the check-off list religiously to insure that their planes are in all respects ready to land



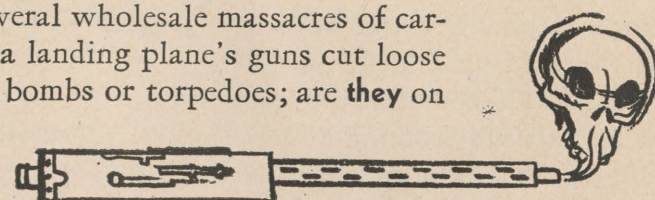
before they turn from the downwind leg. **First get your hook down.** Don't be guilty of coming around with your hook up wondering why the LSO doesn't give you a cut signal after your beautiful approach.



If you have a crewman, let him help you check. Don't forget the **guns**. Are they on safe, and switches off? Several wholesale massacres of carrier personnel have occurred when a landing plane's guns cut loose across the flight deck. Check the bombs or torpedoes; are **they** on safe? (Whether you should jettison them or not depends on doctrine.)

Once the "Charlie" is given by the ship, get into the landing circle at the first proper opportunity. **Don't wait for a special invitation.** It won't be repeated for each section, division, or squadron.

Section and division leaders must watch carefully to see that the landing circle is filled at all times, but not crowded. Two is the minimum, and more than six is like three in a double bed. Watch for wave-offs, and go in if they give you an opening. Whether the man who is waved off, or the section, retains position or waits to fall in behind a new section entering the landing circle should depend on what will speed up landings the most. It's a matter of judgment and team work. Equal and proper spacing in the landing circle gets planes aboard in the minimum



of time. Maintaining proper interval involves breaking up at the proper time and not getting too far abeam or drifting too far astern.

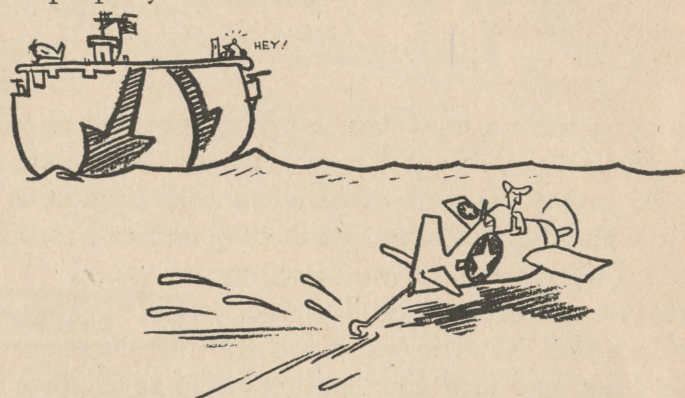
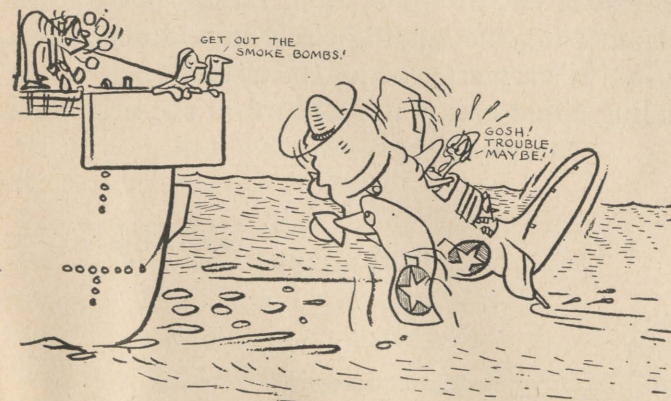
In the final approach circle, follow the familiar pattern drilled into you in training, using your position relative to the carrier for reference. Make the "right angle" turns right angles. If you have gone through the checkoff list you should have little difficulty—but a pilot who has to duck down in the cockpit to check something can't give proper concentration to his approach.

Some squadrons have found it helpful to have their pilots fix the approach pattern by setting the directional gyro while headed in the direction of the ship, then turning to 270°, 180°, and 90° by the compass in the approach circle. Using this mechanical procedure in the approach circle for a few times will fix the pattern in your mind so that making the turns properly will be almost automatic.

Don't get too low on the downwind leg of your approach circle. Remember it's a **carrier deck** on which you are landing, and not the surface of the field at Prairie Center N. A. S. Of course you have to lose altitude coming downwind, but it's foolhardy to get down so low that you drop below the level of the flight deck.

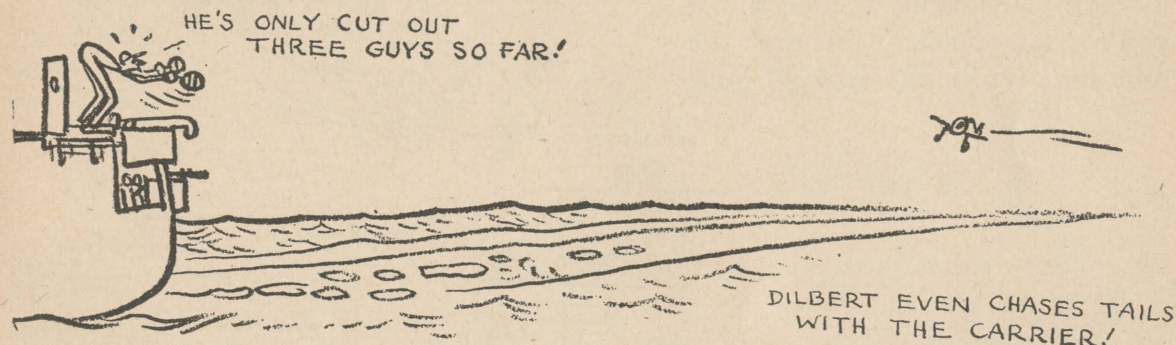
That mean's you're about 50 feet or less above the water. If an emergency arises, such as the necessity of changing fuel tanks, your chance of **not** having to go into the water is much better if you're flying at 100 feet, than at 50. There's no sense "hedgehopping" when you are far away from the ship and downwind. Give

yourself a break! Use the horizon and known height of a prominent portion of the carrier as your altimeter. If your eye, the top of the stack, and the horizon are in the same plane, then your height above the water is the same as the height of the stack above the water line. Don't depend on your cockpit altimeter readings at low altitudes in



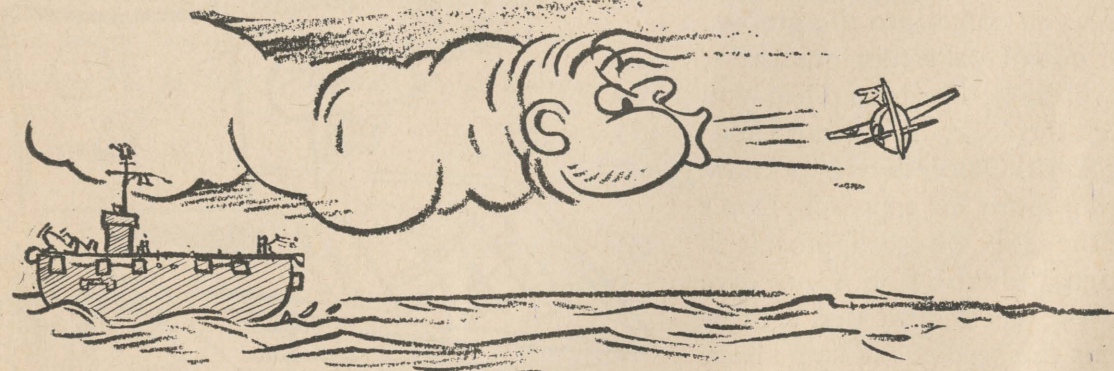
the approach circle. Use the horizon method of altitude determination in flying your planned approach at your planned altitude.

Be sure to start your turn into the crosswind leg soon enough, and make it a 90° turn. Many young pilots forget that the fact the ship is moving gives them a 30-



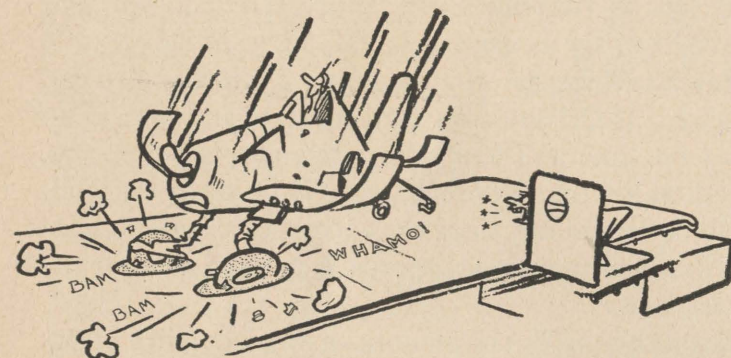
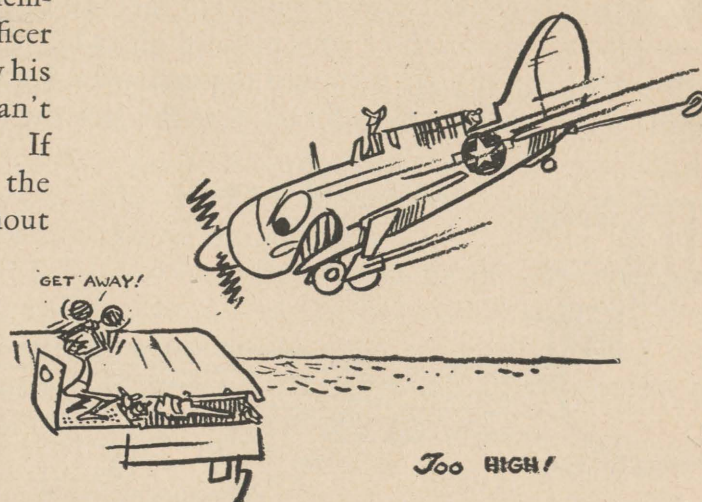
to 50-knot relative wind over the deck to contend with. They start too late and then come struggling up the groove from far astern like the fat boy in a two-mile run. The whole landing circle may be swung far aft just because one man is slow in starting his turn into the cross-leg. If Dilbert does turn too late and messes up the landing circle, make **your** turn on time and keep the circle moving properly. If Dilbert gets a wave-off incidental to his long approach, you'll be ready to land. If he's taken aboard you'll probably be waved off, since the correct turn will tighten the interval, but you will have maintained the proper approach pattern and cut the landing time of all the planes still in the air.

The time to turn into the cross-leg varies with the amount of wind coming across the deck.



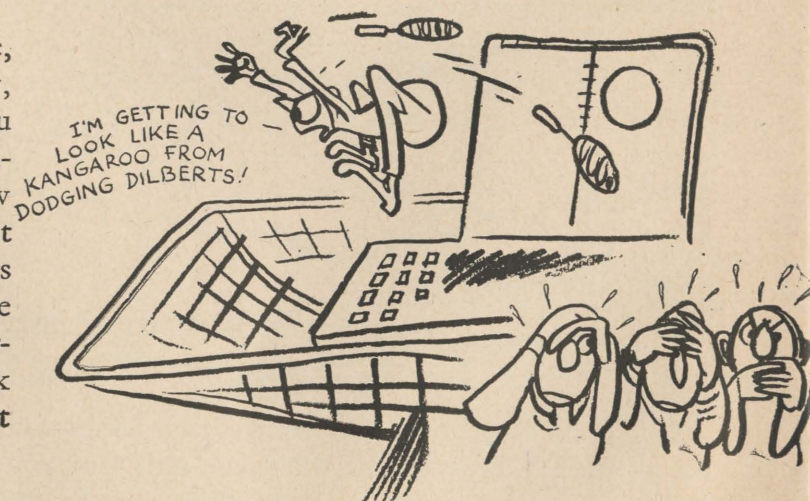
One good way of judging **interval** in a landing circle is this. If you are half way across the 90° cross-leg as the plane ahead of you lands aboard, it's about right. If you're closer than that, it's **too close**, and if you're farther away, it's **too far**.

As you come in to land, remember that the Landing Signal Officer is put there to **help you**. Follow his signals, and remember that he can't fly the plane from the deck. If you're high you can't just drop the nose and dive for the deck without

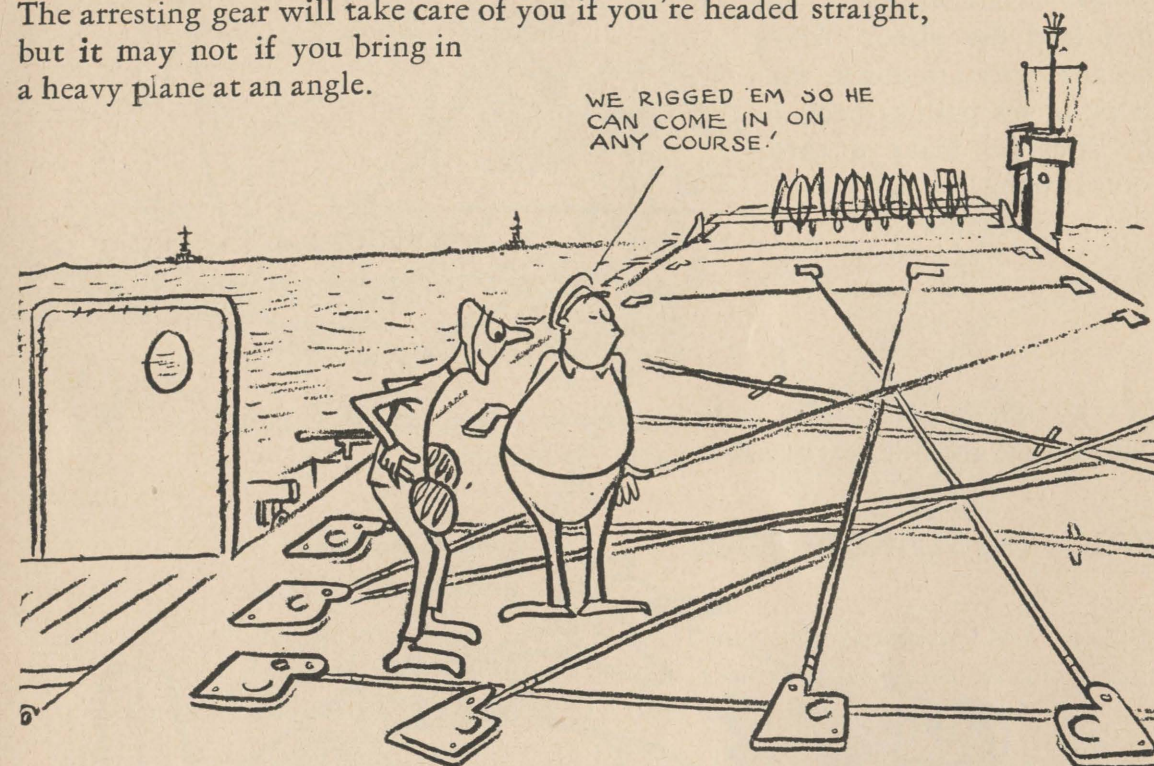


buckling your landing gear. Flying is a combination of airspeed and attitude. A change of one demands a change in the other.

As you come into the groove, roll out of your turn gradually, so you'll be lined up when you reach the deck. A veteran Landing Signal Officer is said to know each pilot by his approach. Don't be the guy whose approach is a signal for the L. S. O. to dive for the net! And don't overshoot the groove and come back at an angle. Be smooth. Don't overcontrol.



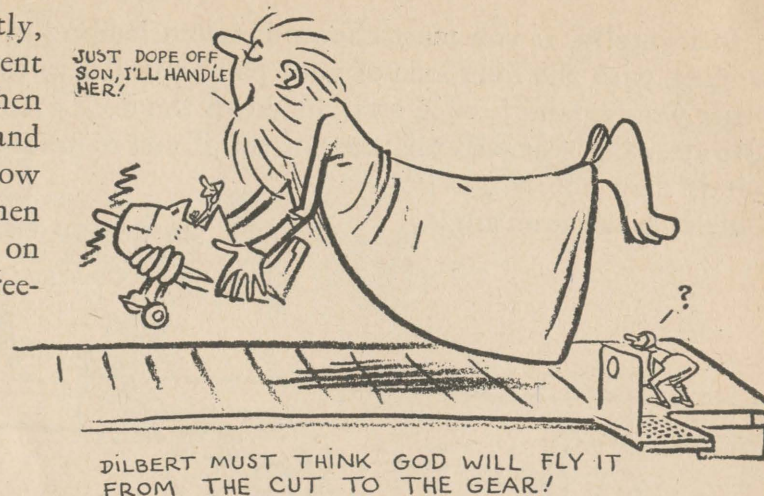
Incidentally, if you must choose between landing in the center of the deck and landing with the long axis of your plane parallel to the center, do the latter. In other words, land headed straight down the deck even if you are a bit off center. The arresting gear will take care of you if you're headed straight, but it may not if you bring in a heavy plane at an angle.



Only two landing signals are mandatory. They're the "cut," and the "wave-off." The other signals are in the nature of good advice—telling you what you need to do to be in the best possible position to make a good landing, but the "cut" and "wave-off" are **orders** and **must** be obeyed.

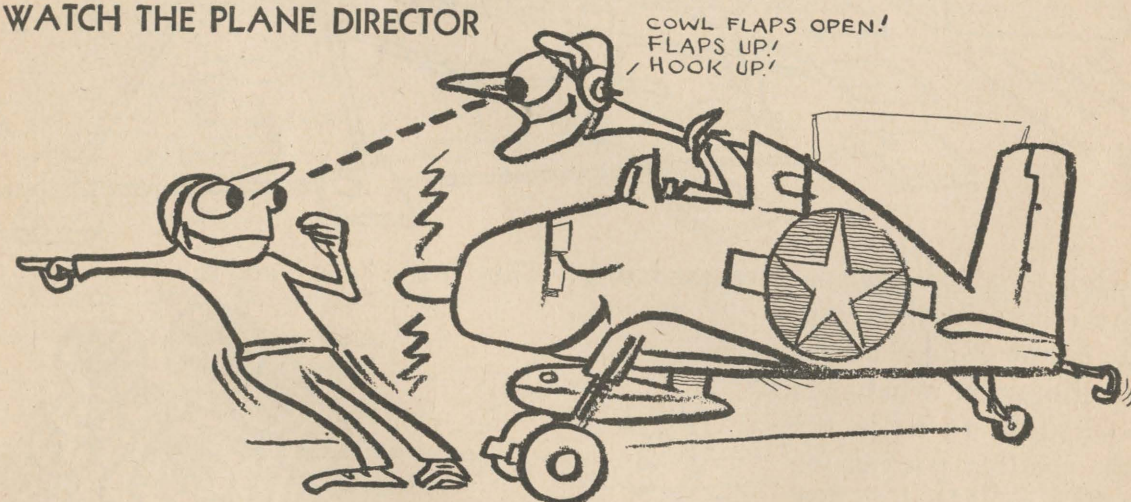


Close the throttle smartly, take your hand off to prevent accidentally opening it when you hit the arresting gear, and then **land the plane**. Allow the nose to start down, then check it by pulling back on the stick to make a three-point landing.



O. K. So you've decided to be nice about it and let the Landing Signal Officer help you get aboard? So you're aboard! What next?

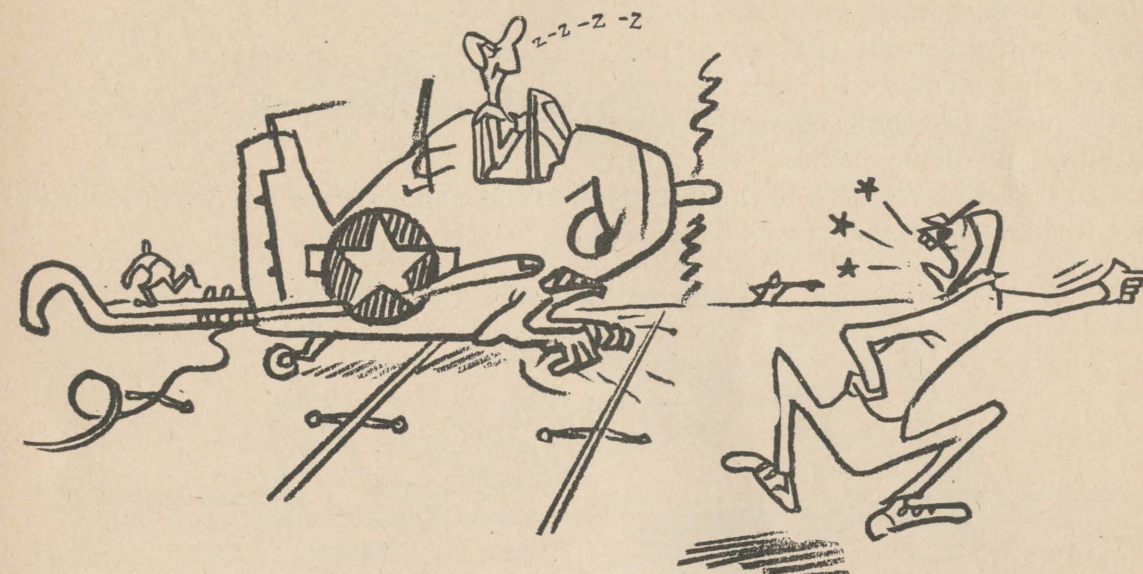
WATCH THE PLANE DIRECTOR



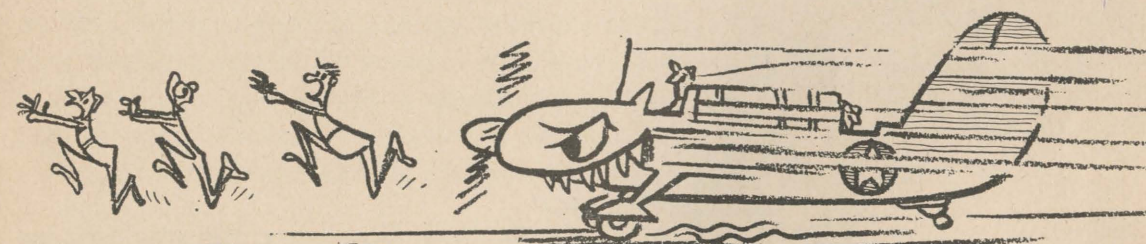
WATCH THE PLANE DIRECTOR

No, we're not stuttering. Just trying to be emphatic. **Watch the Plane Director.** As soon as you land and come to a stop let the plane drift back in the arresting gear until the Fly Three signalman directs you to hold with the brakes. (And save time by raising your flaps **then**.) Get your hand on the hook lever or switch, ready for the "hook up" signal.

When you get the "hook up" signal, get it up and **get going** up the deck or wherever the plane director (signalman) directs you. You may have to give a blast of



full throttle to get the plane out of the landing position promptly, but don't use it all the way down the deck. When he gets a slow signal, Dilbert customarily comes down the deck with full throttle and **both brakes on!**

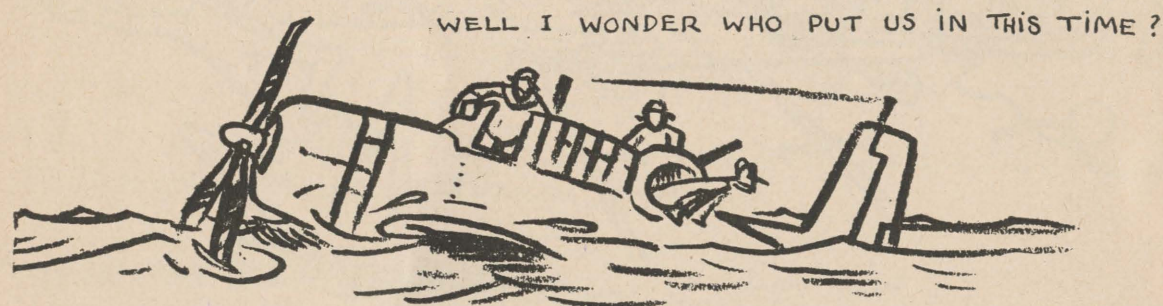
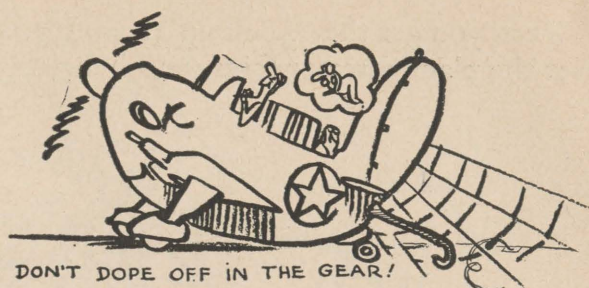


DON'T TERRORIZE THE CREW!

Incidentally, be sure your cowl flaps are opened after you land. If you keep them closed, your engine will heat up and be damaged.

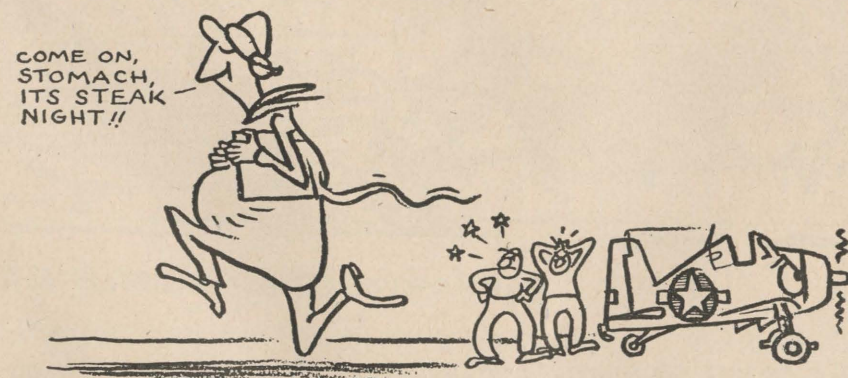
If the deck is slippery from rain or oil, take it easy. The brakes may not hold.

The main thing after you land is to get across the barriers and out of the way of the next plane to land, following the plane director's signals. If you are slow the plane behind you may have to take a wave-off—and the last plane to come aboard may run out of fuel and have to go down in the water. The last man may be you, some time.



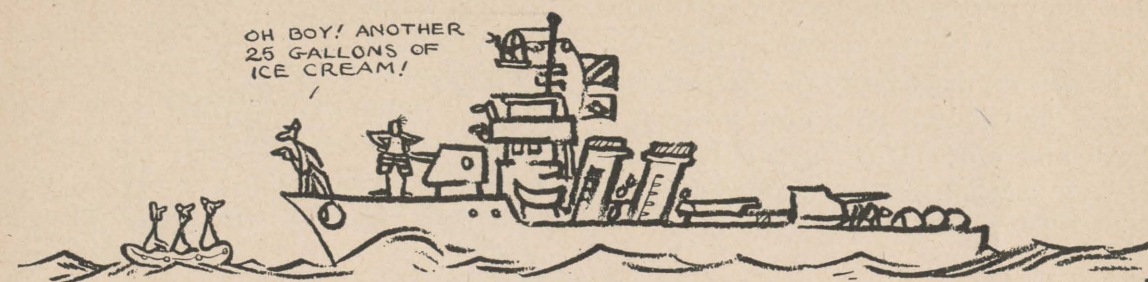
Once you get past the barriers, unlock the locking pin so you'll be ready to fold your wings on signal.

After you have cut your engine, don't jump blithely out of the cockpit and dash to the shower. Stay in the cockpit until the plane is chocked, even if that involves



riding the plane down to the hanger deck. You must stay until the plane is secured, and watch the plane director.

FORCED LANDING?



If you have a deferred forced landing coming up, **help the ship to help you.** Ordinarily there's nothing the ship can tell you about your situation that you can't supply better yourself. **You** know what's the matter with your plane, and what you can and can't do with it. Give the ship the benefit of that knowledge by:

1. making the proper signal for a deferred forced landing,
2. telling them what your specific trouble is, if possible, by whatever means of communication are permitted at the time.
3. making recommendations as to what you think should be done, if the situation calls for such a recommendation,
4. conserving your altitude.

This is just common sense. It's the difference between the man who telephones the doctor for emergency advice and gives him specific information on temperature, pulse, and other symptoms, and the one who simply says: "I feel pretty bad, Doc, what'll I do?"

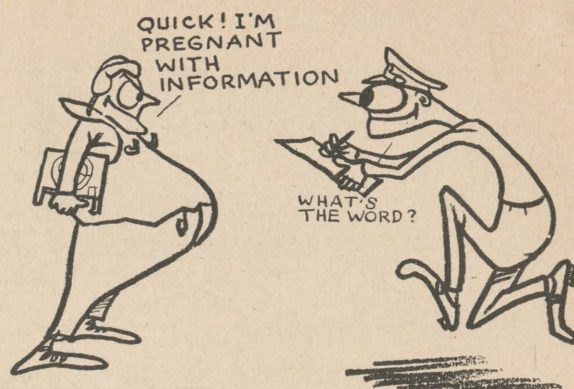
The moral is: **don't** ask the ship for a decision as to how and when you should make a deferred forced landing, without supplying all the information on which that decision should be based. And keep in mind that while the signal refusing permission to land aboard is mandatory and must be obeyed, the signal permitting you to attempt a landing aboard is **not** mandatory. The pilot can still choose between an emergency landing aboard and making a controlled water landing.

WHEN YOU'RE FINALLY ABOARD

If you've come back from a strike, your first job after you leave the plane and report is to tell your story to the Air Intelligence Officer and fill out his forms. Virtually all the plans for each carrier strike are made up from intelligence reports of various kinds. Your information on the ships you saw—number, type, and location; on ground installations; on the number of planes in the air and on the ground—**any** dope you have, is important. It is the basis on which the next strike will

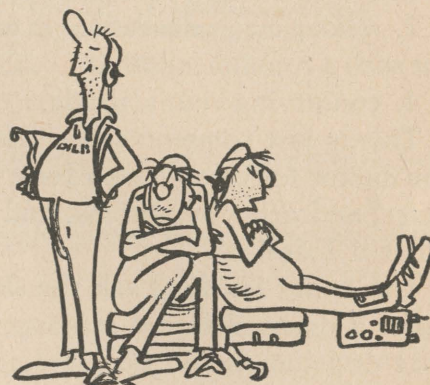
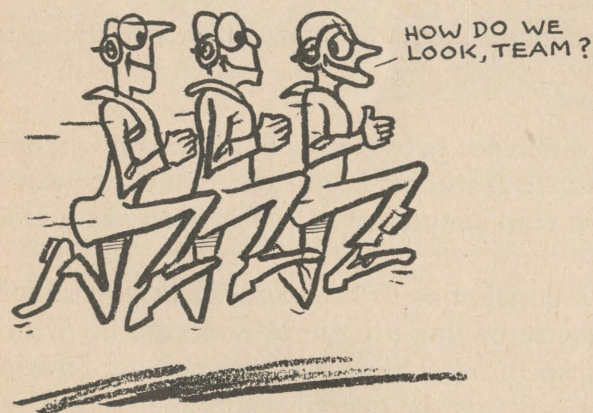
be made. Reports of other pilots gave you the information on which you were briefed before you went out.

So pass the dope on to the Air Intelligence Officer, and do it now, while it's fresh and hot. Then, and only then, is your mission really completed.



YOU AND YOUR AIRCREWMEN

Whether your aircrewmembers are a big help or are chiefly ballast in the rear seat will depend to a large extent on you. A crewman can see a lot of the sky you can't and has plenty of time to look around. Likewise, he can spot flying errors you have



slipped into without knowing it. But he may hesitate to tell you about an error if you're the "know-it-all" type, or he may not realize how much depends on his being your "eyes" from the rear seat. As the officer, it's up to you to establish the proper relationship. You'll find most crewmen willing to go far more than half way; and eager to help you without overstepping the bounds of Navy tradition as regards officers and men. Many a young pilot has been pulled through a bad combat situation by the calmness of a veteran in the rear seat or has been enabled to correct a flying fault that was rapidly earning him the ill-will of the squadron. Incidentally, your rear seat man may notice your faults and help correct them, but the chances are he'll tell the rest of the crew you're the best pilot in the Navy. **And mean it!**

IN PARTING

Know your ground training work, thoroughly, and **know your plane**. Don't be caught in the air with your fuel system shot up and go into the water, when a real knowledge of your fuel system would permit you to get yourself and your crew and your plane back to the carrier.

Expect to handle a good deal of responsibility for the squadron, in addition to flying with it. You're a naval **officer**. A squadron whose officers dodge responsibility and perform their "ground" duties haphazardly is inevitably a poor squadron in combat.

BEFORE YOU START TO GRIPE, THINK OF THIS

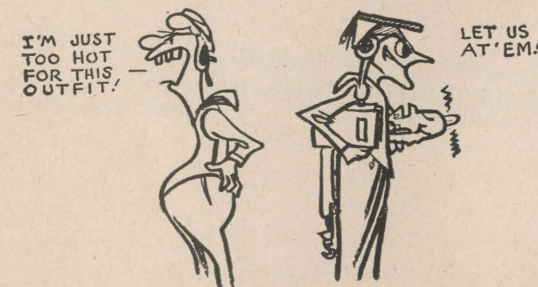
It's easy to find fault and complain. A little of it is natural, but **more than a little is too much**.

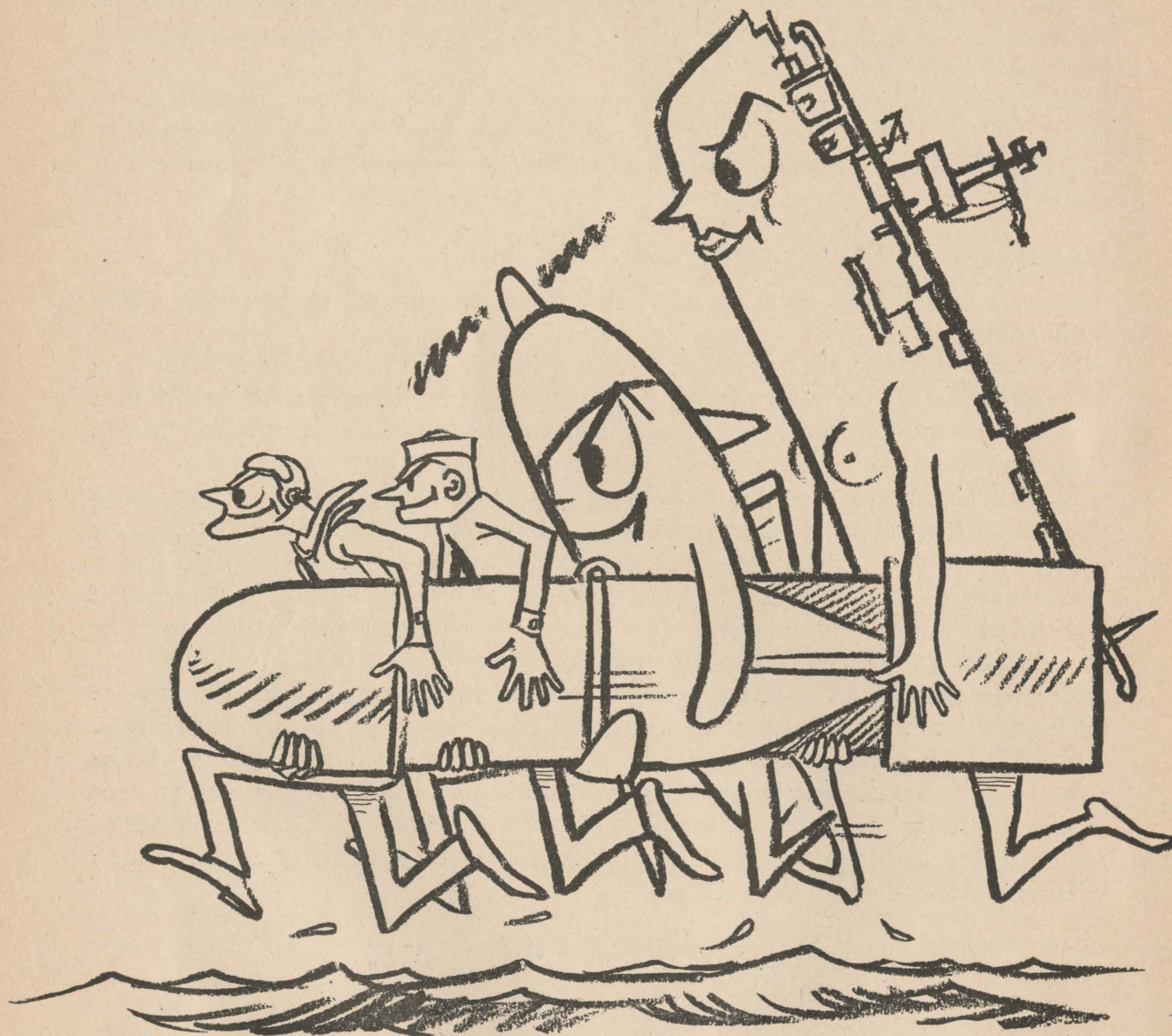
If something's wrong that you can correct, **get busy**. If it's outside your immediate province there are ways of getting your suggestion for improvement to the men who can correct the situation. Usually you'll find that it will be corrected or that there's a reason behind the situation which you failed to understand.

Life on board ship tends to be monotonous at best—even hard—and adapting yourself to it is a test of your manhood. Gripping won't make the ship cooler, or living quarters less crowded, or give you a chance to go to the show with your girl. But you **can** go to the fleet prepared to make life as livable as possible for yourself and the men with whom you fly. Don't be one of those guys who starts to gripe and yammer "I wanna get back to the States" as soon as he reports aboard ship.

Remember that a lot of men who have been out in the combat area and now are back on duty ashore would give a great deal to be **in your shoes out there aboard ship**.

Good carrier pilots aren't supermen. They report to their squadrons with the same training as all other pilots. What makes them **good** is willingness to keep studying, ability to "keep turning over between the ears," to bear their share of responsibility, and to go at least half way in getting along with other people. That's what it takes, and that's **all** it takes.





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