

DON'T KILL *Your* FRIENDS



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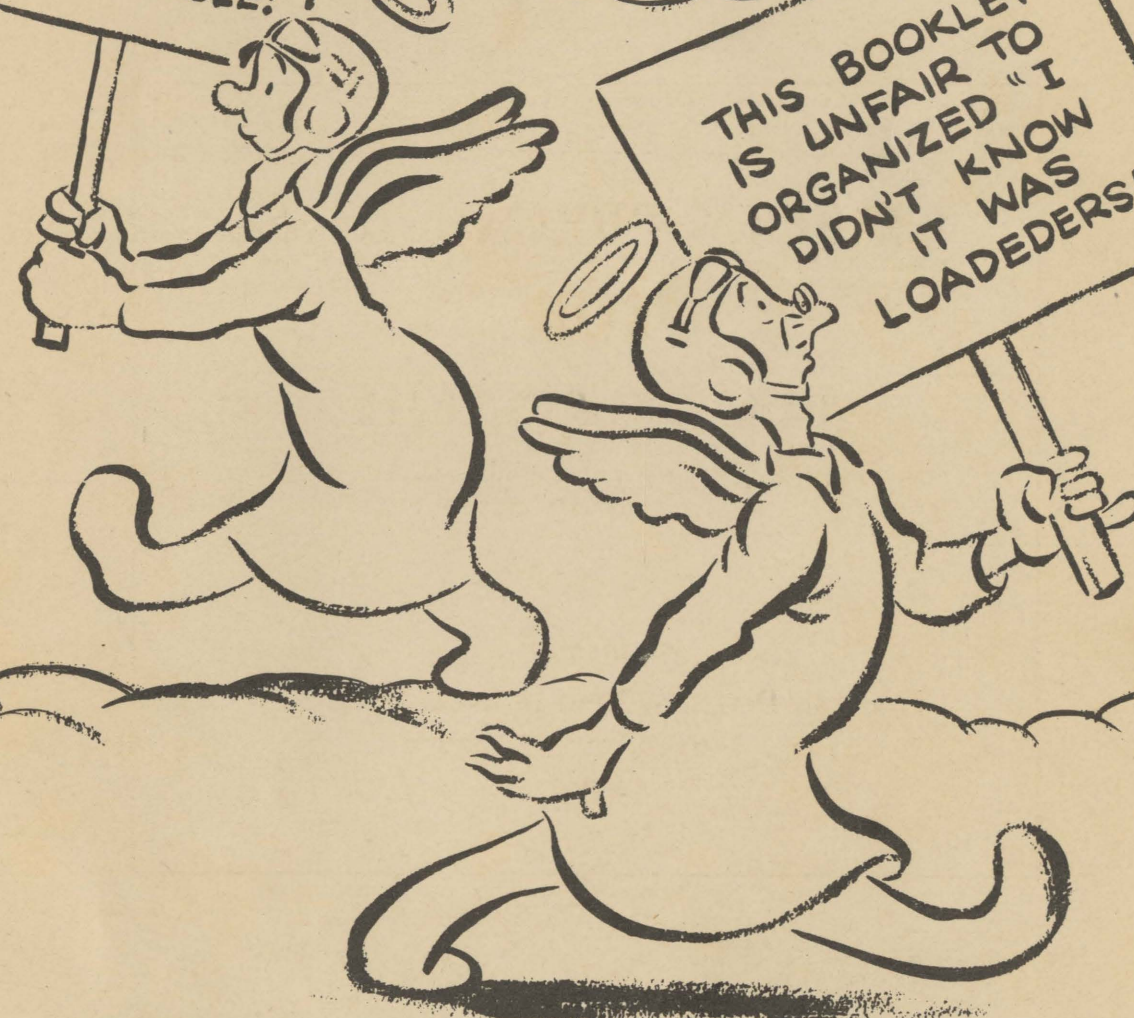
TRAINING DIVISION, BUREAU OF AERONAUTICS, UNITED STATES NAVY

SAFETY PRECAUTIONS
FOR
FIXED GUNNERY

Issued by
TRAINING DIVISION, BUREAU OF AERONAUTICS
UNITED STATES NAVY
1943

DON'T READ
THIS BOOKLET
IF YOU WANT
TO KEEP OUT
OF TROUBLE!

THIS BOOKLET
IS UNFAIR TO
ORGANIZED "I
DIDN'T KNOW
IT WAS
LOADEDERS!"



SAFETY PRECAUTIONS FOR FIXED GUNNERY

INTRODUCTION

Probably the corniest phrase in all stories of accidents is "He didn't know it was loaded."

There is a good and sufficient reason. The thing has happened so often that it's about as familiar to us as our own faces in a mirror. But remember this: Your own face wouldn't be so familiar, and you wouldn't like to have to look yourself in the eye, if people were saying about you, "He didn't know it was loaded!"

The deer hunter with his rifle, the duck hunter with his shotgun, have a terrible obligation to uphold. They are handling deadly weapons—and they must take every precaution to see that a shot doesn't kill some fellow-American by accident.

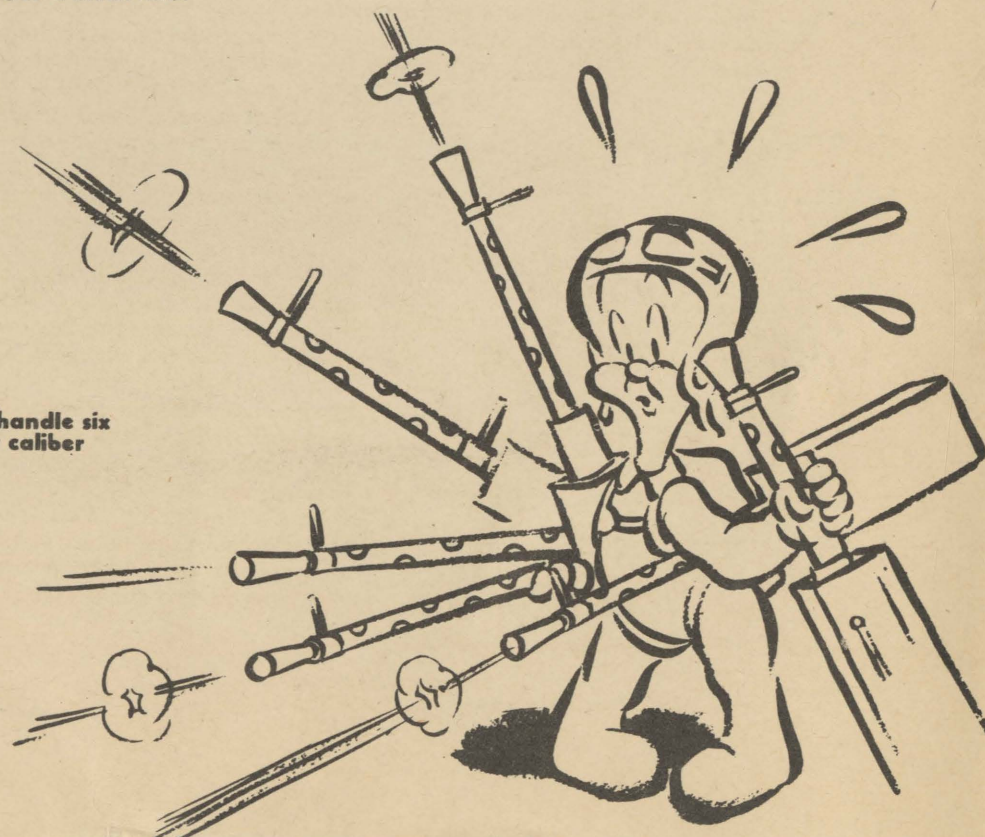
How much greater is your own obligation.

You are going to be handling *six rapid-fire heavy caliber machine guns!* One burst, fired by accident over a congested area, around an airport or aboard a carrier, can make you a murderer several times over in a fraction of a second.

The safety principles you learn in training are equally applicable in combat. It's just as important not to shoot a squadron mate in combat as it is to avoid endangering a fellow-student in training. The principles of safety in fixed gunnery are just as important over the South Pacific as they are over your training base.

There is a way of making sure that your guns injure your enemies and your enemies alone. Follow the rules set forth in this booklet, and **DON'T KILL YOUR FRIENDS.**

You're going to handle six rapid-fire heavy caliber machine guns



SAFETY PRECAUTIONS FOR FIXED GUNNERY

Before any pilot is released for fixed gunnery training he should become familiar with his equipment, and know how to handle it safely, both in the air and on the ground.

Firearms are deadly weapons, and when they are mounted in aircraft the plane actually becomes a big, six-barreled gun with wings. You wouldn't fool around with a loaded automatic, so don't be careless with your fixed guns—they are a thousand times more deadly.

Remember this—you are being trained to kill the enemy only. Save your shots for him.

As soon as you accept the airplane for flight by signing the yellow sheet, you are responsible until the plane is turned over to the ordnance-man upon completion of the flight. So don't take anything for granted! It's up to you to handle this big weapon with care, and you've got to have a complete working knowledge of how it operates as a flying gun platform.

Before you take over for flight you must know how many of the guns are loaded, the amount of ammunition in each gun and, if dummies are used, the number of rounds in each burst, and the number of charges required to load a live round.

All aircraft for gunnery training and fleet operations should have a *firing check-off* list placed permanently in the cockpit, within view of the pilot. This little card is a constant nudge in the ribs reminding you of the steps that must be taken before you can start shooting. You wouldn't walk down a crowded street with a cocked, hair-trigger rifle over your arm, so don't comply with the check-off list until you are ready to commence an approach in which you expect to fire.

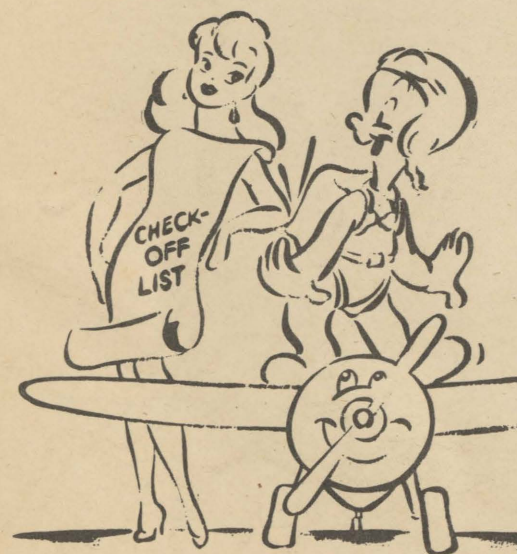
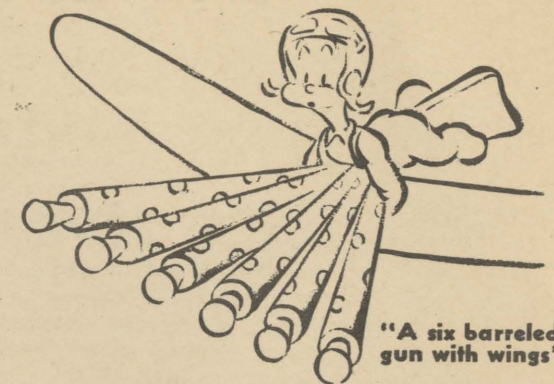
Get the procedure of the firing check-off list so fixed in your mind that you can perform the required operations in the dark, in your sleep, or in the heat of battle, without missing a single trick. That list is a big obligation. In combat, one faltering move on your part—one slip-up in procedure—may mean defeat for you and your squadron mates.

And training procedure is the same as combat procedure with these exceptions—in training, you are firing on a sleeve, and therefore must protect the tow plane; and you are over friendly territory, so you must be watchful of your countrymen below. Guns

should not be charged while you are flying over populated areas. One of the reasons for fighting a war is to keep Americans from being killed by falling objects, such as Axis aerial bombs. A dummy cartridge, falling from a training plane will do the work of an Axis bomb, on a smaller scale.

After the target is headed down the range at the prescribed altitude, and you are ready to make your run, take a look ahead and see that all is clear, and go over the check-off list item by item.

Guns charged, sight on, selector switches on, master switch on—then look around and sight all the planes in your group. As soon as all planes are sighted, rock your wings, shift your eyes to the target and do not take them off it at any time during the run. But if you lose it, don't start looking for it. Pull clear and discontinue the approach; it's better to lose your turn than to take a chance on mowing down your friends while you hunt all over the sky for the sleeve.



"A constant nudge"

SAFETY PRECAUTIONS FOR FIXED GUNNERY

In making target runs, don't forget the man in the tow plane. He may not want to live forever, but ten to one he'd rather not be put out of commission by a gunnery trainee.

Around the end of the sleeve is an imaginary "out of bounds" area called the safety cone. If you stay outside the cone in firing, the man in the tow plane has nothing to worry about. If you drop low and fire into the cone you run the risk of peppering the tow plane. You may not kill the tow pilot or shoot him down, but your bullets can't do him any good.

Play safe. You can't be of service to your country by unloading your guns into Americans!

Staying out of the cone not only makes it easier on the tow plane, but it teaches you to get hits before being "pulled flat." When you get to the fleet this may help you keep your *first fight* from being your *last one*. When you are recovering from a gunnery run, you want all your speed to get away when you leave the firing position. If you allow yourself to be pulled

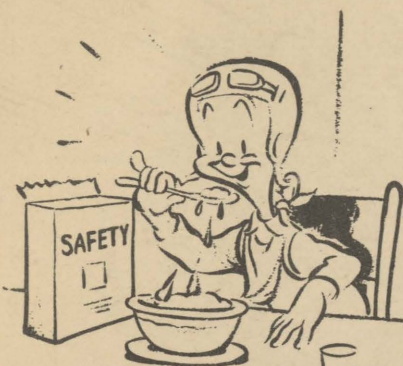
flat, you hang up there within range of the enemy free gunner and he thankfully knocks you down like a clay pigeon.

As soon as you have ceased firing, shift your eyes from the target to the tow plane immediately, keep them there until you pass underneath and well clear. After passing under the tow plane, sight the remainder of the group and get into position quickly.

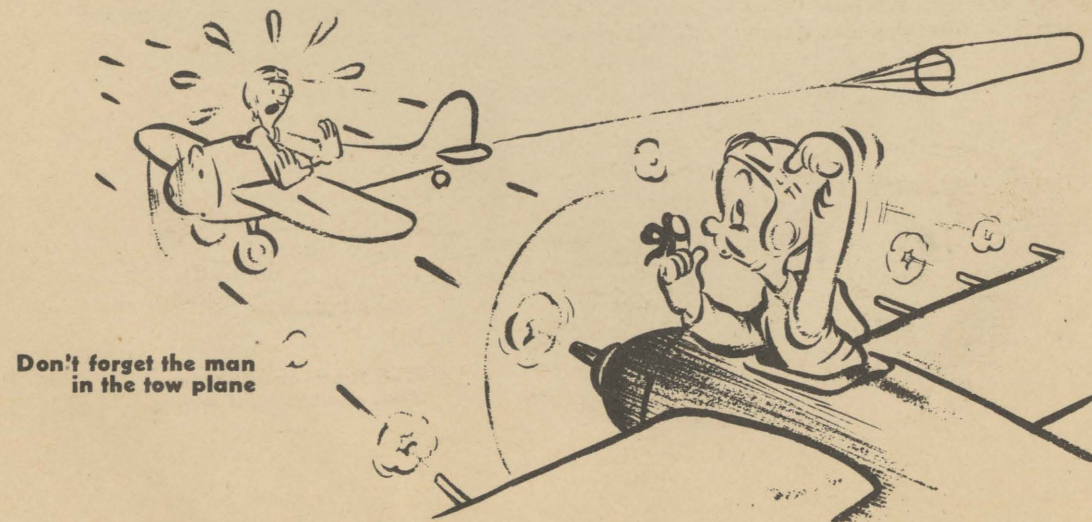
Immediately after firing each run, and before rejoining the gunnery group, go over the check-off list again, this time in the negative. Make sure your guns are on safe, selector switches off, master switch off. It's a big obligation. You've got the lives of the ground crew depending on your memory, so let the check-off list help you, and get so that complying with it is automatic.

Make vigilance a habit. Whenever you are working your switches or gun-charging handles, be sure you have your plane pointed at a clear space. Never fire into clouds or through them. Whether the guns fire accidentally or purposely, it is the man in the pilot's seat who must answer for the bullet's destination.

The range is considered foul, and firing is withheld, whenever there is any object in the vicinity of where the bullets might fall. Remember, the pilot is still responsible, and when the guns are loaded you should not bring your sight to bear on anything you do not wish to shoot. You signal for a foul range by rocking your wings and making "S" turns. When ready for firing to begin or be resumed, make a series of zooms. The tow pilot may also notify the firing group of a foul range by violently rocking his wings. However, when he is flying level it is difficult for him to see underneath. So don't rely on him. Keep a sharp lookout yourself for any condition which might render the range foul.



Make safety a habit!



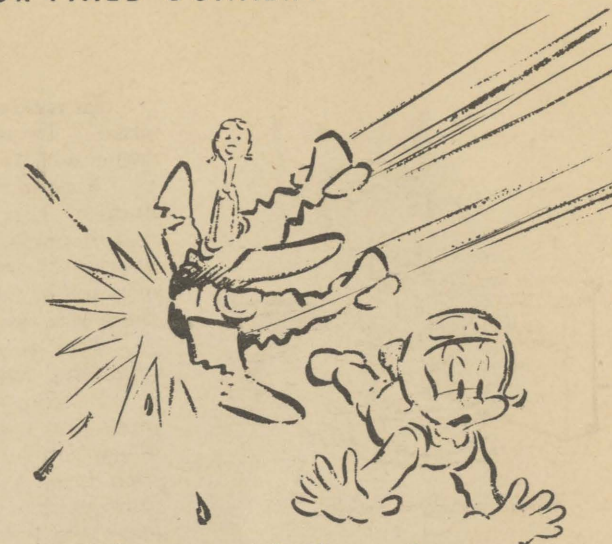
Don't forget the man in the tow plane

SAFETY PRECAUTIONS FOR FIXED GUNNERY

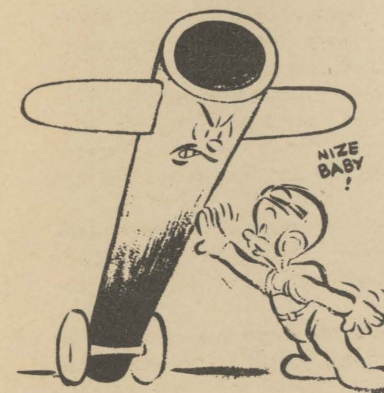
The gunnery group must never *make runs out of order*. This has cost Navy Mutual Aid a lot of money. Keep your eye on the man ahead of you and stay in your proper position.

If you start a bad approach, don't stop halfway down and start another. Go through with it, hold your fire and go back up until your next turn comes. If you dive simultaneously with another pilot, your eyes glued to the target, you may not see him and the result can be tragic.

After all runs are completed, and before you have left the range, double check to be sure your plane is ready to return to the field. Even though you are certain that you have expended all ammunition, your guns must be put on safe.



Don't dive at target simultaneously



Think of your plane as a big gun!

Normally the "short safe" or first position safe will be used at all times. This position causes less compression of the guns' driving springs, insuring longer life and more spring power. In planes with wing guns, long cables connect the charging handles and these cables must be in perfect adjustment for smooth gun action. Any prolonged pressure will cause them to stretch.

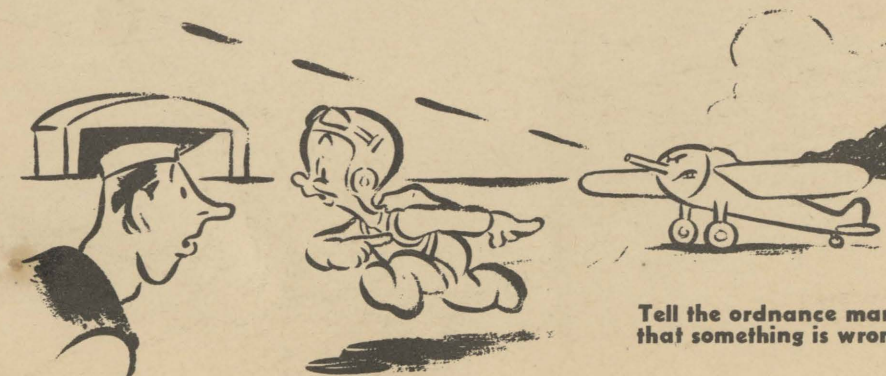
An occasion may arise when, due to stoppage, the guns cannot be put on short safe. Then the second position must be used.

In the event that the stoppage is of such a nature that neither safe can be used, be sure the remainder of your check-off list is completed and return to your base. Tell the *ordnanceman* that something is wrong before he opens the cover plate.

Here's an example of what one .50-caliber bullet can do, when the carelessness of a gunner and ordnance-

man turned it loose on one of our TBF's. It happened on the line at a west coast station, and here is the report of the bullet's activities:

"It passed through the lower starboard cowl flap, the lower 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."



Tell the ordnance man that something is wrong

SAFETY PRECAUTIONS FOR FIXED GUNNERY



Don't foul tow line

"The bullet then passed through the rear stanchion on the underside of the main fuel tank, where the jacket was stripped from the bullet. The pieces of the jacket dented the web of the box member at station No. 95, and then punctured an electric conduit and the channel in the lower left-hand corner of the after end of the bomb bay. The bombardier's bulkhead was also punctured by the shattered jacket.

"The bullet broke the end off the fuel vent tube at station No. 70 and passed through the stanchion at station No. 90, both webs of the box member at station No. 95, and the bulkhead of the radio compartment at station No. 105. There it broke two hydraulic tubes and a radio cable, being finally stopped in the radio receiver."

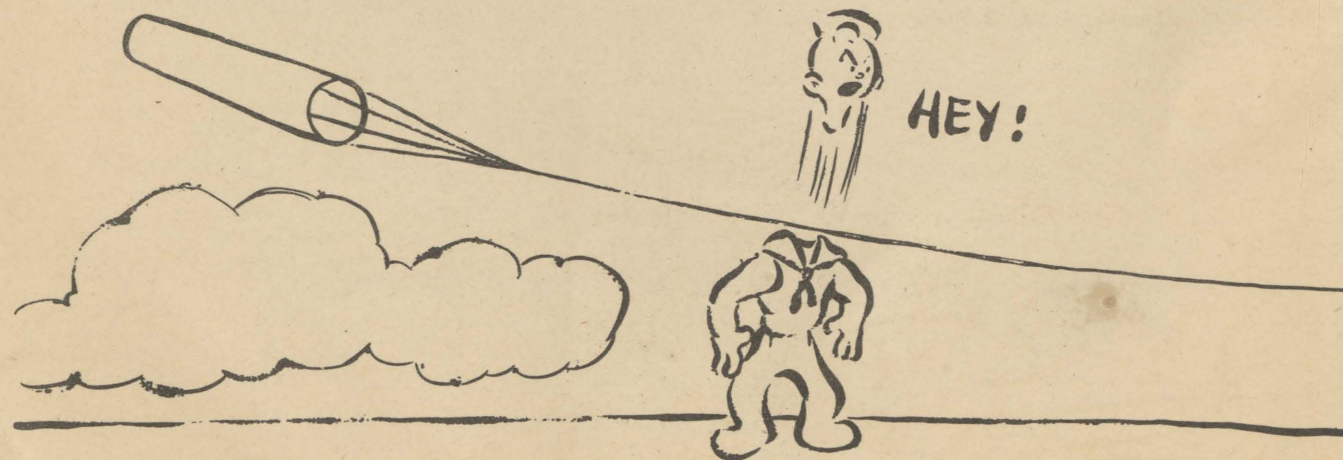
Probably the only reason the gunner and ordnanceman were not awarded Iron Crosses is that they failed to kill the radioman working in the radio compartment of the TBF!

Above all, pilots must remain with their planes until a responsible ordnanceman has taken charge. This does not mean to call over any seaman in the vicinity and leave him with the "Bag." Know your ordnanceman. Make sure it is he who takes over.

As an example of what can happen if this procedure is ignored, put yourself in the position of the pilot of an OS2U, operating in Alaska, who climbed out of his plane without bothering to wait, and without bothering to worry. His guns were loaded—his switches were on. A little later, on orders to start the engine, a mech walked over and pulled the prop through. His head was blown off. You wouldn't want to be that pilot, with the responsibility for that accident riding in your cockpit with you for the rest of your career, SO:

Remember to think of that plane as a big gun. Always park it in such a way that if the guns are accidentally fired the bullets will fall in the least congested surrounding area.

The pilot who is towing the target has certain responsibilities also. After the target is streamed he must bear in mind that, with the average length of tow line the sleeve will trail at 200 feet or more below his line of flight, according to the speed of the plane. For this reason the tow plane must never go below the prescribed altitude after the sleeve is taken off, and at this altitude only when dropping the target in the desired area. All turns, climbs and glides must be shallow and smooth or the tow line may become fouled in the tail resulting in plenty of trouble.



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When in the vicinity of a flying field the tow pilot must follow instructions carefully, maintaining a constant lookout for unsuspecting planes taking off or landing. Like the gunner who is responsible for his bullets, the tow pilot is responsible where his target falls when released. The sleeve has very little forward motion in dropping free, but allowance must be made for wind drift.

If the target cannot be released, a normal landing can easily be effected by landing "long" on the runway.

If a "short" landing is made, accidents may happen. In addition to dragging through obstructions on the edge of the field, the line and sleeve may decapitate anybody who happens to be in the way.

There are certain safety precautions to observe in battle areas also. Remember, when you are on combat air patrol in action with the fleet, to be sure you have gone over your check-off list in the negative before landing aboard your carrier, *even though you are sure you have expended all ammunition.* Do everything you'd want a pilot to do if you were standing on the flight deck.

Be sure your guns are on safe, and all switches off. Otherwise, if there are a few rounds left, the shock of landing may cause the guns to blast personnel on the flight deck. This isn't an idle warning! There have been pilots with the fleet who accidentally killed their shipmates.

From the time you first fly a plane with fixed guns, make safety precautions a routine. In combat you will be safer if your guns are ready to fire when you need them most.



If you want to sleep like a baby, turn all switches off!

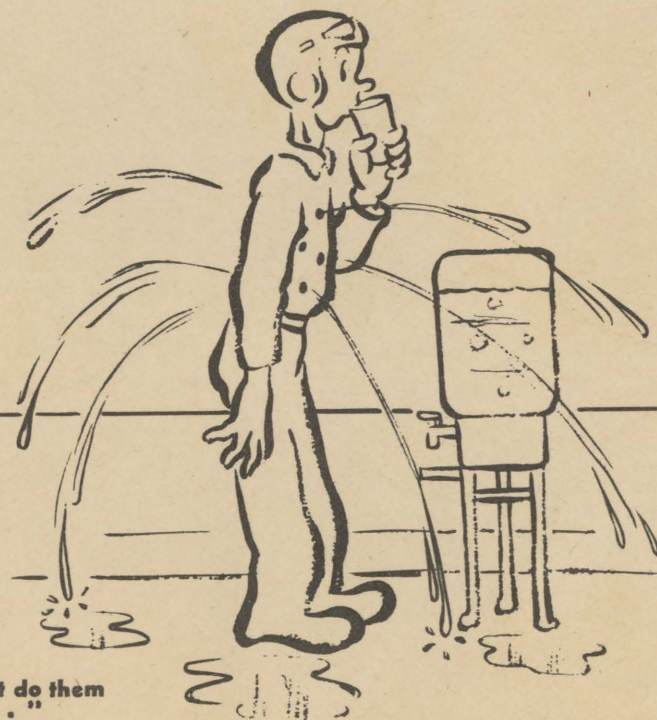


By using your head and keeping your mind on your job, you can get the most out of your gunnery training period. You will need all the knowledge you can get on this subject when you get to the fleet.

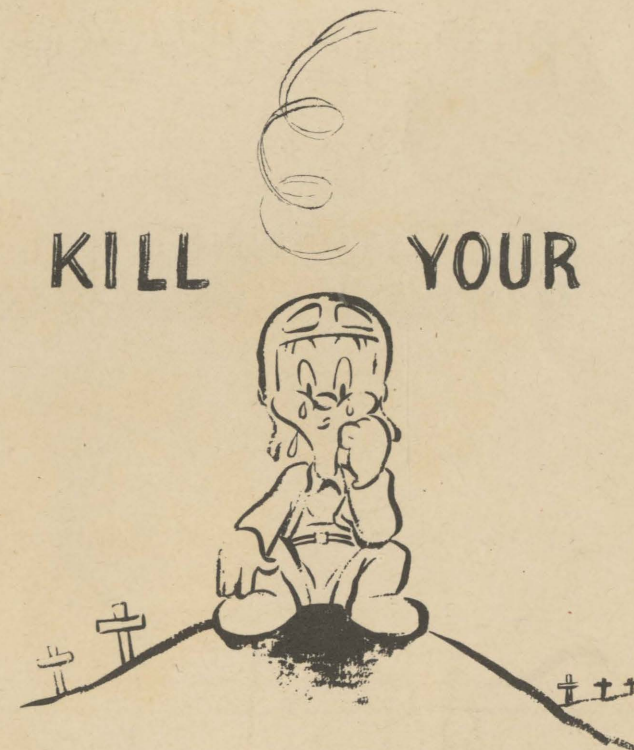


LEARN ALL YOU CAN ABOUT
HOW YOUR GUNS OPERATE SO
THAT YOU WILL UNDERSTAND
WHAT REALLY GOES ON WHEN
YOU COMPLY WITH THE CHECK-
OFF LIST.

Remember...play safe. DON'T KILL YOUR FRIENDS!



"Bullets can't do them
any good . . ."





THE JAPANESE GIVE MEDALS TO
PEOPLE FOR KILLING AMERICANS...

***DONT LET THEM
PIN ONE ON YOU!***