L. B. Clegg

LOOKOUT MANUAL

by the Bureau of Naval Personnel

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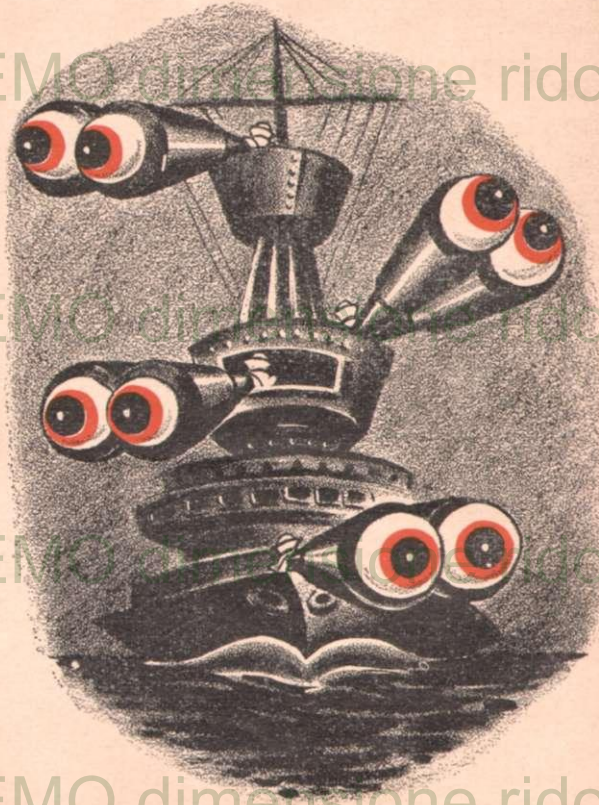


A lookout is the eyes of his ship

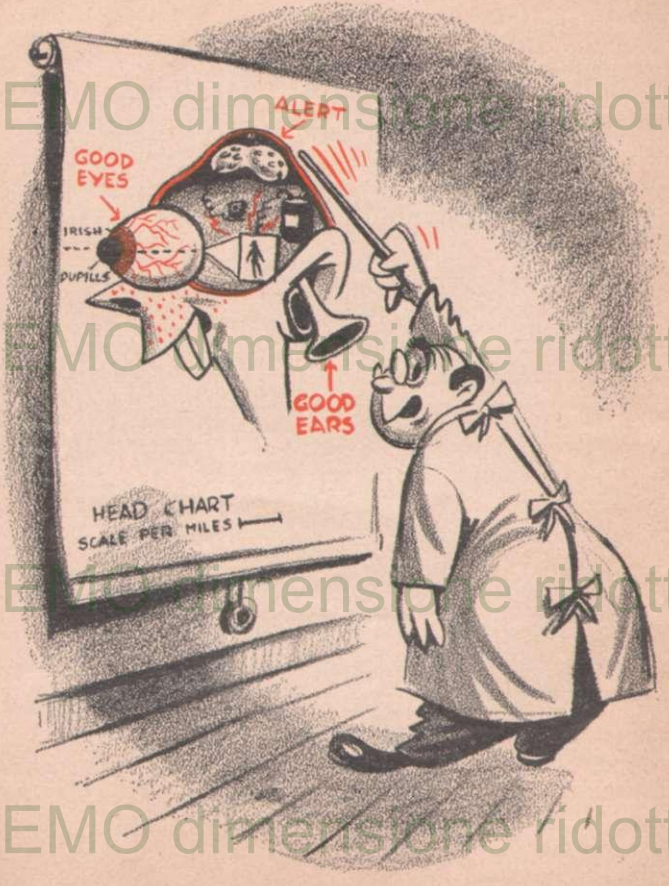
Importance of Lookouts

A lookout is the "eyes" of his ship. As a lookout you are charged with a heavy responsibility, which includes that of seeing and reporting any enemy ship or plane **before** he can attack, and of sighting and reporting any menace to navigation **before** your ship enters the danger area.

Your job is to sight objects, not only before anyone else in the ship, but also in time for all hands to man battle stations before an attack develops, or for any other action that may be necessary. **Your ability to sight and report** the enemy **before** he can attack may enable your ship to win an engagement with enemy surface craft, sink an enemy submarine, or shoot down attacking planes. On the other hand, inattention to your lookout duties, or carelessness in performing them, may easily cause the loss of the ship and the death of your shipmates.

Your reports, properly made, may be a vital factor in bringing victory to, or saving your ship. Never lose sight of your responsibility—of your importance to your ship.

To serve both the offensive and defensive purposes above suggested, you must have the "know how" involved in carrying out your duties properly. Getting the "know how" is the primary purpose of Lookout Training.



Physical Qualifications of Lookouts

VISION. The first and fundamental physical qualification of a lookout is good day and night vision. The ability to sight objects during daytime, and at night depends partly upon training, and partly upon good vision. You must have both to qualify as a competent lookout.

HEARING. Satisfactory hearing is a requirement.

When visibility is at a minimum, as during a heavy fog, keen hearing is tremendously important. Men posted as fog lookouts can often hear sounds from other ships, buoys, etc., before they can see them. Training in recognizing significant sounds at sea is important.

ENDURANCE. Keep in good physical shape! A tired lookout is an invitation to trouble for the whole ship. **Fatigue** is sure to interfere with your night vision. You owe it to your ship to be at your best.

Lookout Positions

Lookouts are classified as follows:

1. **Horizon** lookouts are stationed high to obtain maximum range of vision.

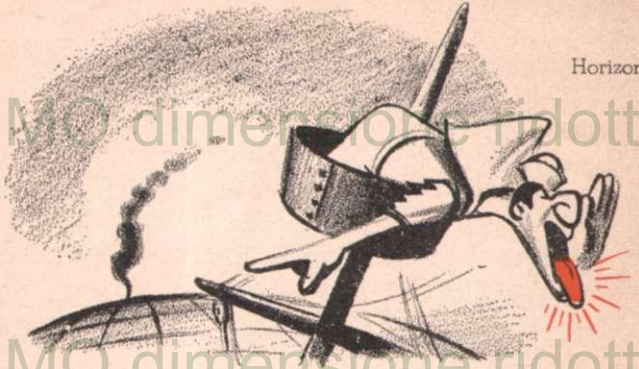
2. **Surface** lookouts are stationed in a well-protected location as low in the ship as is physically possible and as the condition of the sea permits, from which they can see the surface of the sea.

3. **Sky** lookouts are stationed where they can best see the whole sky.

In small craft the available men may have to combine the duties of two kinds of lookouts, or even of all three. **All lookouts—in fact, all hands on board ship—report everything they see, wherever it may be located.** Even the most harmless appearing object might be hiding a periscope.

HORIZON LOOKOUTS. The horizon lookout is so named because his first duty is to detect objects near or beyond the horizon before they are visible from lower positions in the ship.

On all ships it is essential that the **horizon lookout** have the **highest position practicable**—for any part of the ship that extends above his position may be sighted by an enemy before the enemy becomes visible to him.



SURFACE LOOKOUTS. Surface lookouts are so named because their attention is concentrated on the surface of the sea. They must report everything within view, from the ship to their horizon, and they must be able to detect and recognize a great variety of objects, such as periscopes, torpedo wakes, mines, ships of all types, buoys—even whales. They are stationed as low in the ship as practicable in order to obtain the advantage of seeing an object silhouetted against a lighter sky background above a near horizon. This is especially true at night.

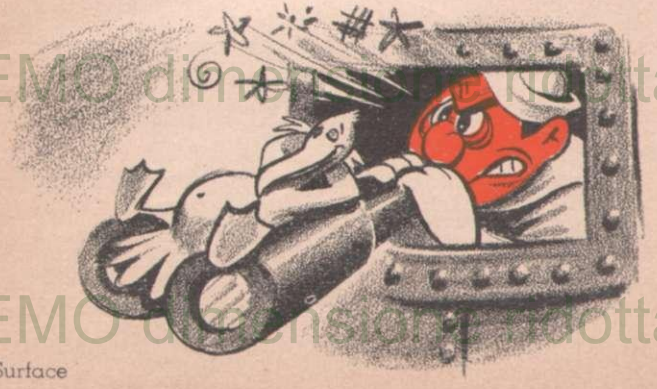
Surface lookouts must search the sea rapidly and with extreme thoroughness, because periscopes, mines, and torpedo wakes may first be sighted close aboard.

SKY LOOKOUTS. Sky lookouts are so named because they are responsible for the entire bowl of the sky, from the horizon to directly overhead. They report everything sighted including friendly and enemy planes, flares, blimps, parachutes, rockets, and even shooting stars.

The sky lookout's job makes severe demands on the eyes. Sky lookouts should search intently for brief periods and then be relieved. For this reason they should be organized in pairs, one searching and the other reading position angle and bearing, or acting as a talker.

No matter what type of ship you are serving in—no matter what your lookout duties are, never forget that:

WHEN YOU HAVE PICKED UP A TARGET DIFFICULT TO SPOT, MAKE YOUR REPORT, BUT DO NOT TAKE YOUR EYES OFF IT UNTIL YOU

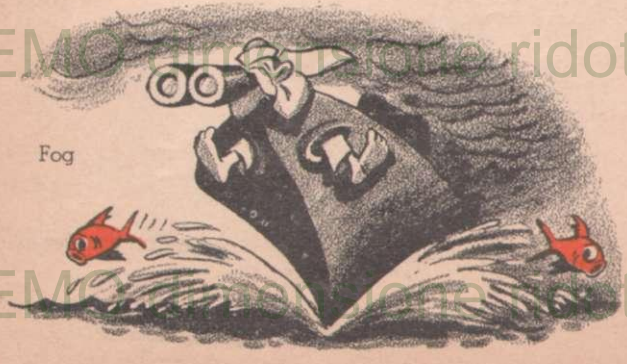


Sky

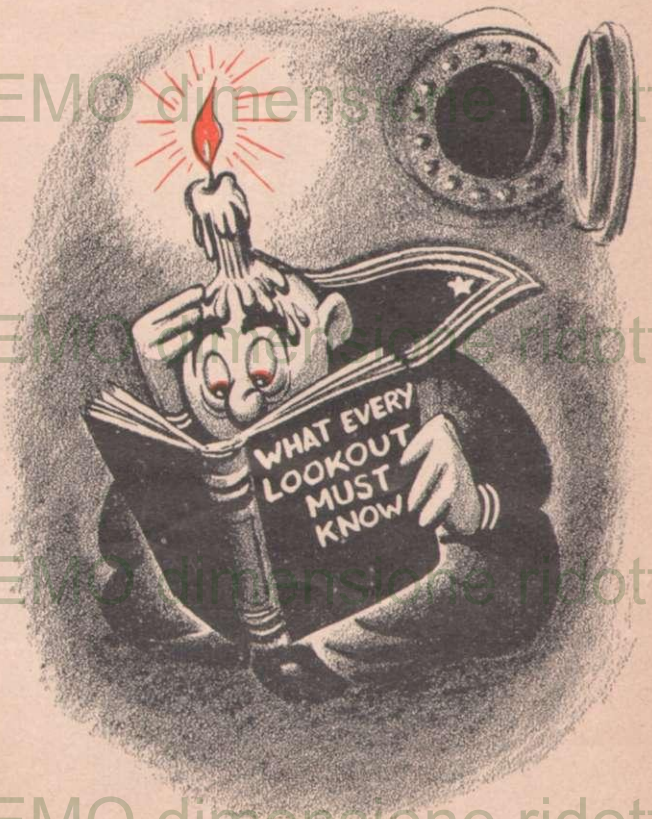
KNOW IT HAS BEEN SEEN BY PROPER AUTHORITIES. HOWEVER, AS SOON AS YOUR REPORT OF A PLAINLY VISIBLE TARGET IS ACKNOWLEDGED, RESUME SEARCH OF YOUR SECTOR FOR NEW TARGETS.

The enemy is tricky. Sometimes he will try to sneak in his main attack, gambling that you will have your attention on a target already under fire. Don't let him get away with it! Cover your area thoroughly at all times—even in the midst of action—and don't be distracted by anything, or you will be playing right into his hands.

FOG LOOKOUTS. When a ship is running through fog, it is in an extremely blind condition, and danger from mines and collision is greatest. Fogs vary considerably in thickness. Visibility may be only a few hundred yards, or even zero. It often happens that a fog thins, or even lifts above the surface of the water. This enables lookouts stationed very low in the ship to see much farther than lookouts stationed higher. One or two fog lookouts are normally stationed at the bow. They can see farther ahead than the bridge watch, and also are better placed to hear other ships and thus help prevent collision. For this reason, they report all that is heard as well as all that is seen. On the other hand, if there is a low, dense fog, it is practical to place a lookout as high as possible; he can thus see farther than would be possible at the bow.



Fog



What Every Lookout Must Know

A skillful lookout spots and identifies objects on the sea and in the air during all conditions of light and weather. He also relays immediately the necessary information to the proper place. Just sighting an object is of no use unless it is called to the attention of those responsible for bringing it under fire, or avoiding torpedoes or bombs.

Lookouts should be able to—

Report properly.
Estimate relative bearing of target.
Estimate "target angle."
Estimate "position angle."
Estimate approximate ranges of objects.
Search effectively during daylight and at night.
Identify ships and aircraft with which his ship may come in contact.

HOW TO REPORT. The officers in your ship depend on the reports that you make to them when you are on watch as a lookout to help them meet any situation the ship may encounter.

PHONE EQUIPMENT. The entire efficiency of the lookout system depends on speed in getting proper reports to the right officers. Lookout stations are connected with Control Stations by telephone. Adequate communication must always be maintained.

THE CONTACT REPORT. It is essential that every object sighted be reported to the proper authority immediately. This first, speedy report is called the **contact report.** This report gives two essential facts:

1. **What you see.**
2. **Where you see it.**

"What you see" is the shortest possible name of the object you have sighted. Destroyer! Smoke! Cruiser! Plane! Submarine! Mine! Battleship! Slick! Buoy! Periscope! Object!

When you can't make out something you have sighted, report it merely as an object, and at the close of the report, say this: "Cannot make it out." **In**

Making Contact Reports, Never Hesitate While You Try to Identify the Object You Have Sighted. Report it immediately, giving it its proper name if possible, and if not, calling it an object. By putting the phrase "cannot make it out" at the end of the contact report, you will avoid delay in giving your officers the information essential to proper action.

"Where you see it," is the relative bearing and estimated distance of the object you are reporting, as:

"Bearing zero-seven-zero, halfway to the horizon."

In contact reports of planes, position angle is included, and is given after the bearing, often in place of range, as:

"Bearing one-one-oh! Position angle, 10 degrees!"

Make your contact report in the fewest possible words and in the shortest possible time! **"What you see," and "Where you see it."** Properly done, this will give your officers the information they require in from 2 to 6 seconds from the time you have sighted an object.

THE AMPLIFYING REPORT. After the contact report has been made, in order to give the officers more complete information, a second report, the amplifying report, is made. This report normally gives five items of information:

1. **Station called.**
2. **Station reporting.**
3. **What you see.**
4. **Where you see it.**
5. **What it is doing.**

The first and second items simply call the report to the attention of the officer concerned, and tells him who is reporting. The third item tells what has been sighted. The fourth and fifth items describe its location, and tell what is happening.

ACKNOWLEDGING REPORTS. Be sure that your reports are acknowledged. Only when you hear the proper acknowledgment, can you be certain that your report has been received. If the report was to Bridge, the Bridge Talker should acknowledge, "Bridge, Aye, Aye." If to Conn, the Conn Talker says: "Conn, Aye, Aye"; or to Air Defense Officer: "Air Defense, Aye, Aye." If your report is not acknowledged, repeat it. The station called may not get your report for various reasons. For example, it is possible that phones are being shifted or are even out of commission. After repeating your report a second time and still receiving no acknowledgment, make your report to another station in the vicinity of the station called. Request that the information be relayed. **Get Your Reports Through!**

REPORTING

Follow these rules:

1. Give your report in a clear, distinct voice.
2. Be sure your reports are acknowledged.
3. Use as few words as possible—what you see; where you see it.
4. Give relative bearings and target angles in regular Navy style.

A lookout must report everything he sees

section 5

What to Report

RELATIVE BEARINGS. Definition.—The relative bearing of an object is the direction of the object measured from the ship's heading. The ship is assumed to be on course 000. The relative bearing is the angle between the ship's course and a line to the object measured clockwise from the bow, in degrees. The horizon—the point where the sky and water seem to

Figure I

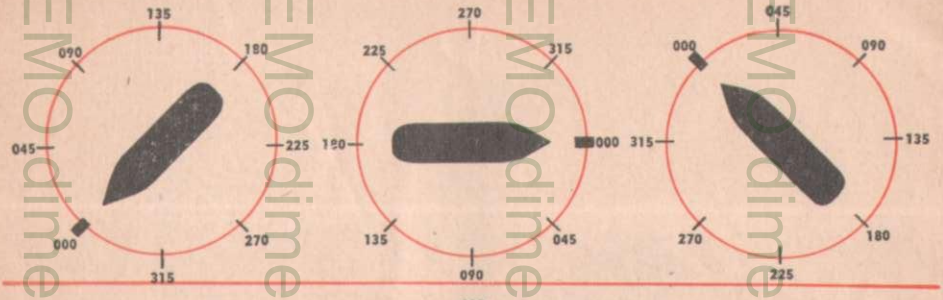
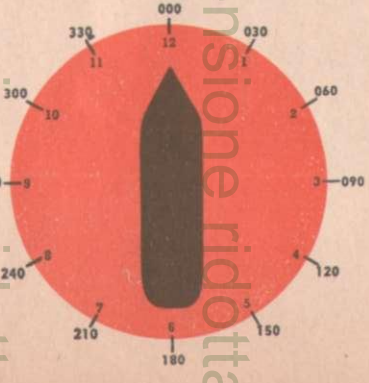


Figure II



meet—forms a vast circle. Every circle, regardless of size, measures 360 degrees around. (See Figure I.—Bearing circles marked at 000, 045, 090, 135, 180, 225, 270, 315.

Observe that 000 is always ahead and that the degrees are always counted clockwise—that is, in the same direction as the hands of a clock move. It may be helpful to consider the bearing circle as the face of a clock. The distance between each number is 30 degrees (Figure II).

You must give the relative bearing in approved Navy style. All relative bearings are reported by the use of three numbers.

Examples as follow:

Written	Spoken
005	zero—zero—five
045	zero—four—five
180	one—eight—oh
300	three—double—oh
207	two—oh—seven
030	zero—three—zero

IMPORTANCE OF PRACTICE. Learn the bearing circle and then practice taking relative bearings on everything you see. If, for example, you and your shipmate are making a liberty and spot a couple of blondes on the beach, take a bearing on them. Don't say that there are a couple of blondes over there, but rather, "Two blondes, bearing 045!" Constant practice will help you to be quick and accurate when it counts.

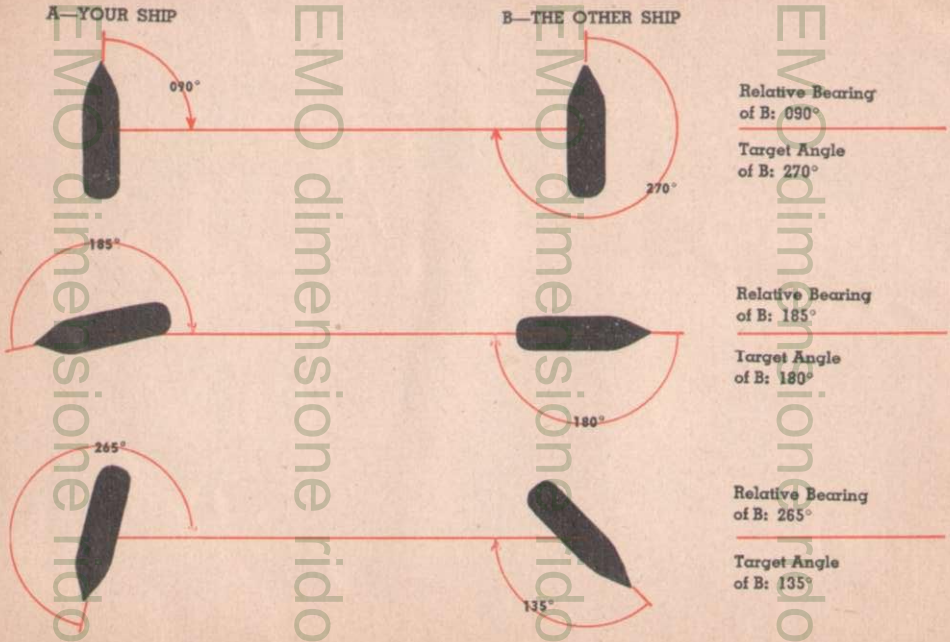
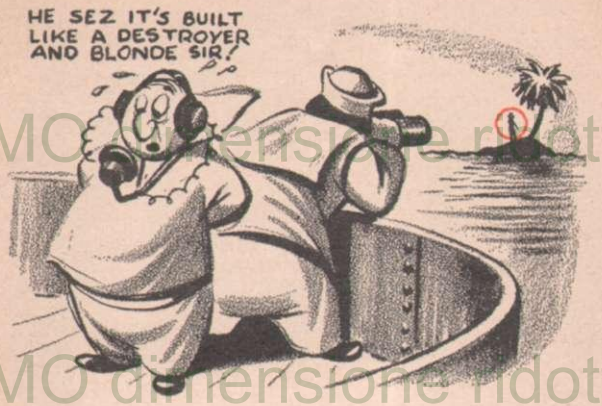


Figure III—Relative Bearing and Target Angle Diagrams



TARGET ANGLES. After some experience, lookouts should learn to estimate target angles. This information is of great value to the OOD, and much valuable time can be saved if lookouts can proficiently estimate this angle. The purpose of reporting target angles is to tell the Officer of the Deck the approximate course of the ship sighted. Don't let the title fool you! Target angles are reported on all ships—friend or foe.

Target angle is measured clockwise from the course of the target to the line of sight of your own ship. In other words, Target Angle is the relative bearing of your ship as seen from the target. Target angles are reported in degrees.

See Figure III for examples.

DISTANCE. A knowledge of how to estimate ranges is