

Table 13-2.—Characteristics for Selected BW Agents

Disease (common name)	Causative Agent	Physiological Effects	Time to effect
Anthrax	Bacillus anthracis	Mild fever and fatigue, worsening to severe respiratory disorders, high fever and excessively rapid pulse rate. Death can occur within 5-12 days of exposure if left untreated. Pulmonary anthrax is fatal more than 90% of the time.	1-5 days
Plague	Yersinia pestis	Fever, headache, and rapid heart rate, followed by pneumonia and hemorrhaging in the skin and mucous membranes. Untreated plague pneumonia fatalities approach 100%, but early treatment can reduce mortality to as low as 5%.	2-3 days
Tularemia	Francisella tularensis	Symptoms include fever, chills, headache and muscular pain. Untreated tularemia can result in 30-60% mortality; treated, the mortality rate is reduced to 1%.	3-5 days
Botulinum Toxin	Clostridium botulinum	Initial symptoms include extreme weakness, nausea, headaches, and intestinal pain leading to respiratory paralysis that may cause death.	2-26 hours

The degree of **fever** varies with the individual, depending on the person's resistance. However, fever does serve as a rough guide to the severity of infection. Often a violent chill precedes the fever. Whether the chill occurs or not, fever is usually one of the earliest symptoms.

**Malaise** is a feeling of bodily discomfort and weakness. There may be nausea, dizziness, loss of appetite, and general aches and pains.

**Inflammation** is caused by the reaction of body tissues combating and sealing off an infection. In almost every case there is pain, redness, and swelling. Some types of infection result in a characteristic rash, making it possible for a doctor to make an early diagnosis.

## REVIEW 2 QUESTIONS

Q1. BW is the intentional use of

(a) \_\_\_\_\_ to disable or  
destroy (b) \_\_\_\_\_.

Q2. What is the disadvantage an enemy has when using BW agents?

Q3. List the symptoms of biological disease in its early stages.

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## NUCLEAR WARFARE

**Learning Objectives:** When you finish this chapter, you will be able—

- Recall the terms used with nuclear warfare.
- Identify the types of nuclear warfare and the effects of nuclear weapons.
- Identify self-aid and first-aid methods for countering the effects of nuclear radiation.
- Recall the difference between radiological and radiation contamination.

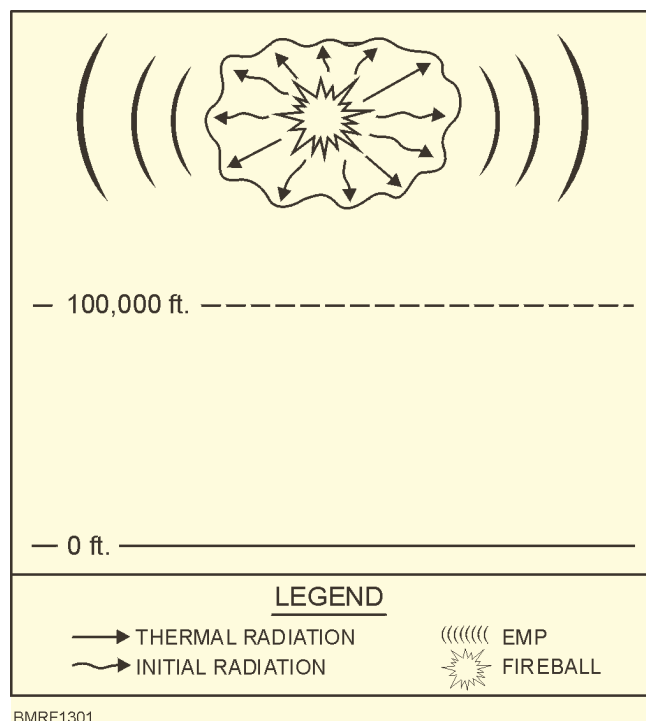
## Student Notes:

In one way, nuclear weapons are no different from ordinary high-explosive bombs—both are designed to cause destruction by blast and shock effects. Of course, nuclear weapons have a much greater destruction capability than conventional high-explosive weapons, with the added effects of nuclear radiation.

Nuclear explosions are classed according to the point of detonation with relationship to the surface of the earth—a high altitude blast, an air blast, a surface blast, and a subsurface blast.

### HIGH ALTITUDE BLAST

A high altitude blast (fig. 13-1) is defined as a blast that takes place above 100,000 feet. The major aim of this blast is to destroy or interrupt satellites and communication systems through the effect of an electromagnetic pulse (EMP). Basically, the EMP is an intense electrical surge that affects electronic or electrical equipment in a burnout that's equivalent (equal) to that caused by a lightning strike.



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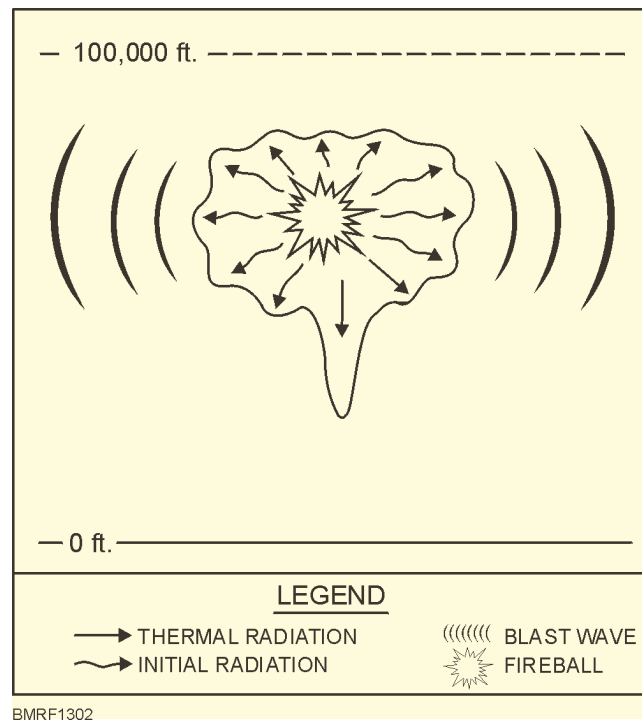
Figure 13-1.—A high altitude blast.

### AIR BLAST

An air blast (fig. 13-2) is one in which the fireball is below 100,000 feet and doesn't touch the earth's surface. The radiation effects from an air blast are minimal. The main reason for using an air blast is its destructive value produced in the expansion and compression phases of weapon detonation. The blast causes an over pressurization that crushes everything in its path. The front of the blast is called the *mock front*. An air blast would be most effective to use against a battle group at sea because it would structurally damage and/or sink many ships.

### SURFACE BLAST

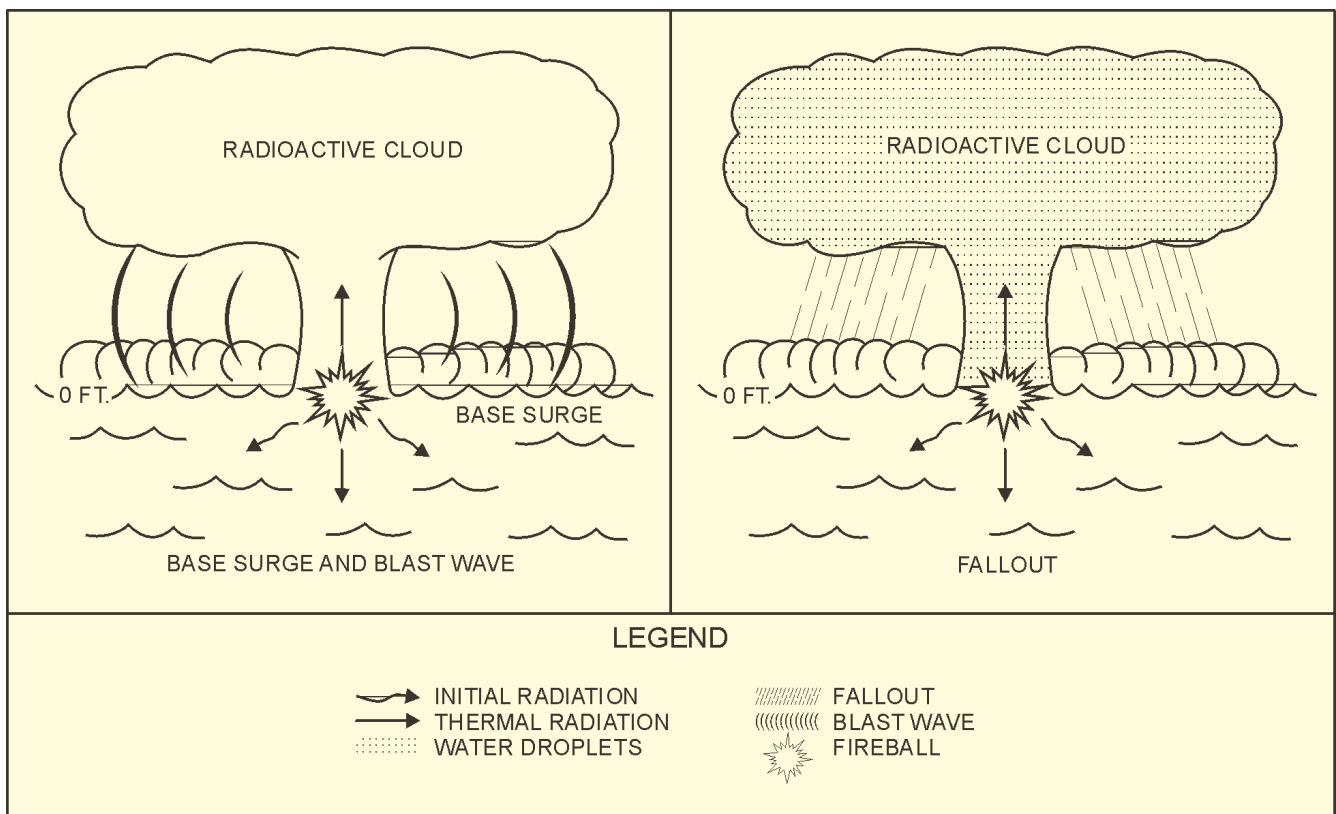
A surface blast (fig. 13-3) is one in which the fireball touches the earth's surface. Most of the damage caused by a surface blast is due to the shock (or blast) wave that accompanies the explosion. Large amounts of surface materials are vaporized and taken into the fireball. As the fireball rises, more debris is sucked up by the strong after winds. Much of this debris returns to earth as radioactive fallout.



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Figure 13-2.—An air blast.

### Student Notes:



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**Figure 13-3.—A surface blast.**

The effective range of blast damage is less than that from an air blast because much of the energy is transmitted in the form of a ground or water shock wave. Near ground zero, however, the severity of the shock wave is greater than that of the blast wave. The distance at which thermal radiation (heat) is hazardous is slightly less than that from an air blast.

Nuclear radiation is of two types—initial and residual.

### Initial Radiation

Initial radiation occurs within the first minute after an explosion; residual radiation occurs thereafter. In most instances, initial radiation is of little consequence because the lethal range of its effects is less than that of the blast wave.

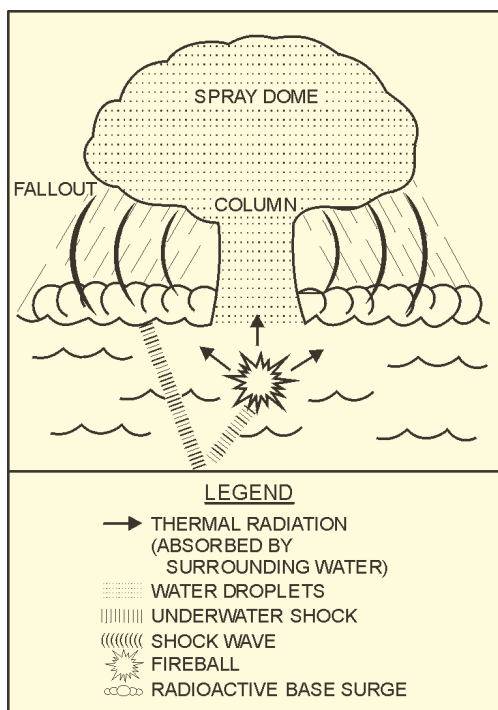
### Residual Radiation

Residual radiation for a surface burst is dangerous because the large amount of surface material drawn into the cloud is heavy enough to fall while still highly radioactive. Additionally, the fallout area of a surface blast is much larger than the area affected by heat and shock.

### SUBSURFACE (UNDERWATER) BURST

In an underwater burst (fig. 13-4) a fireball is formed. However, it's smaller than the fireball of an air burst and is not normal. The explosion creates a large bubble (cavity) that rises to the surface where it expels steam, gases, and debris into the air. Water rushing into the cavity is thrown upward in the form of a hollow column that may reach a height of several thousand feet. When the column collapses, a circular cloud of mist, called the *base surge*, is formed around the base of the

### Student Notes:



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Figure 13-4.—A subsurface burst.

column. The base surge billows upward to a height of several hundred feet and expands rapidly outward to a distance of several thousand yards. Then it gradually rises from the surface and merges with the cloud formed by the escaping fireball.

## EFFECTS OF NUCLEAR WEAPONS

Detonation of the nuclear bomb creates a blast wave that travels outward in all directions at an initial speed much greater than the speed of sound. When the wave strikes the earth's surface, another wave is formed by reflection. At some distance from ground zero (depending on the height of the blast), the primary and reflected waves combine to form a reinforced blast wave. Pressure at the wave front, called *overpressure*, is many times that of normal atmospheric pressure and is what causes most of the physical damage. Additionally, underwater bursts create large water waves, some of which reach heights of over 90 feet within a few hundred feet from the blast. The water waves travel outward at high speed for a distance of several miles, gradually diminishing in size. The overpressure

decreases as the distance from the blast increases, but it can cause damage many miles from the blast.

Nuclear weapons produce explosions of great force and heat and release nuclear radiation. Their primary purpose is the mass destruction of property and personnel. Their effects are divided into three categories—blast waves or shock waves, incendiary, and radiation.

### Blast Waves or Shock Waves

Injuries caused by blast waves can be divided into primary (direct) injuries and secondary (indirect) injuries.

**PRIMARY BLAST INJURIES.**—Primary blast injuries result from the direct action of the air shock wave on the human body. The greater the weapon's size, the greater the blast wave's effective range, with a subsequent increase in casualties.

**SECONDARY BLAST INJURIES.**—Secondary blast injuries are caused by strong blast winds reaching hundreds of miles per hour collapsing buildings and timber and flinging debris about. Personnel may also be hurled against stationary objects or thrown to the ground by high winds accompanying the explosion.

At sea, the shock wave accompanying an underwater burst produces various secondary injuries. Casualties resemble those caused by more conventional underwater weapons, such as mines and depth charges. Instead of being localized, the casualties extend over the entire ship. Also, injuries result from personnel being thrown against fixed objects or structures. Unsecured objects can act as missiles and cause many injuries.

### Incendiary

There are two general ways fires can originate in a nuclear explosion.

1. First, kindling fuels can be ignited as a direct result of the absorption of thermal radiation.
2. Second, fires can be started from electrical short circuits, broken gas lines, or other interrupted heat sources as an indirect effect of the blast wave.

## Student Notes:

Interaction of the blast wave, fire, and extent of blast damage are important factors in determining fire spread.

Flash burns are likely to occur on a large scale as a result of an air or surface blast of a nuclear weapon. Because thermal radiation travels in straight lines, it burns primarily on the side facing the explosion. But under hazy atmospheric conditions a large proportion of the thermal radiation may be scattered, resulting in burns received from all direction. Depending on the size of the weapons, second-degree burns may be received at distances of 25 miles or more.

The intense flash of light that accompanies a nuclear blast may produce flash blindness, even at a range of several miles. Flash blindness is normally temporary, though, the eyes can recover in about 15 minutes in the daytime and in about 45 minutes at night. A greater danger lies in receiving permanent damage to your eyes caused by burns from thermal radiation, which may occur 40 miles or more from a large-yield nuclear weapon.

Under some conditions, individual fires created by a nuclear explosion can come together into mass fires with great potential for destruction. The most significant types of mass fires are divided into two categories—firestorms and conflagrations.

**FIRESTORMS.**—In a firestorm, many fires merge to form a single column of hot gas that rises from the burning area. Strong, fire-induced, radial winds are associated with the column. Therefore, the fire front is essentially stationary and the outward spread of fire is prevented by the in-rushing wind. Virtually everything combustible within the firestorm area is destroyed.

**CONFLAGRATIONS.**—Conflagrations have moving fire fronts driven by the wind. Conflagrations can spread as long as there is fuel. Unlike firestorms, conflagrations can develop from a single ignition.

## **Radiation**

Nuclear radiation hazards consist of alpha and beta particles, gamma rays, and neutrons.

**ALFA PARTICLES.**—Alpha particles have little skin-penetrating power and must be taken into the body through ingestion or cuts to be injurious.

**BETA PARTICLES.**—Beta particles can present a hazard to personnel if the emitters of these particles (carried in contaminated dust, dirt, or bomb residue) come into contact with the skin or get inside the body. Beta particles with enough intensity cause skin burns (radiation burns).

**GAMMA RAYS.**—Gamma rays are pure energy and not easily stopped. They can penetrate every region of the body. In fact, many gamma rays will pass right through a body without touching it. However, gamma rays that do strike atoms in the body cause the atoms to ionize. The ionization may result in any number of possible chemical reactions that damage the cells of the body.

**NEUTRONS.**—Of all the nuclear radiation hazards, neutrons have the greatest penetrating power. When the neutron is captured in the atoms of various elements in the body, atmosphere, water, or soil, the elements become radioactive and release high-energy gamma rays and beta particles.

Initial radiation contains both gamma and neutron radiation. Residual radiation, our greatest concern, contains both gamma and beta radiation.

## **EFFECTS ON SHIPS AND SHIPBOARD SYSTEMS**

Ships close to a detonation point may sustain considerable material damage from air blast, underwater shock, water waves, and possibly thermal radiation. There will be a ship kill zone around ground zero. Outside ground zero, there will be a much larger damage-survival zone. Here, ships will receive severe, moderate or light topside damage as well as operational and equipment damage.

### **Damage from an Air Blast**

Depending on the weapon yield, the blast wave from nuclear detonations can cause damage to ships miles from the blast. Damage will be inflicted primarily on the superstructure and the hull above the waterline. Some examples of damage from an air blast might include the warping or buckling of the flight deck; a distortion of airplane elevators, hull girders, deck

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## ***Student Notes:***



machinery and radar antennas; and the cracking of seams above and below the waterline.

### **Damage from Underwater Shock**

The pressure pulse created in water by an explosion on or below the surface is called an *underwater shock*. It travels much faster than an air blast and can inflict damage to ships at a distance of several miles. Possible effects include damage to the hull, heavy machinery, gun mounts, and electronics systems.

### **Damage from Water Waves**

An underwater nuclear burst may result in waves over a hundred feet in height, but water waves are seldom the primary source of ship damage. The impact of water waves may cause distortion of the superstructure, carry away deck gear, or flood through damaged weather doors.

### **Damage to Ships Tactical Systems**

Nuclear detonation can cause considerable damage to tactical systems, including electrical and electronic systems, sonar, radar and communications. Such damage can be a result of an electromagnetic pulse (EMP), transient radiation effects on electronics, blueout, or blackout.

**ELECTROMAGNETIC PULSE (EMP).**—Shipboard damage occurs when metal conductors, such as electrical cables, antennas, and sensors, absorb EMP. Computers and other equipment using solid-state components are most vulnerable to EMP. Vacuum-tube equipment is less susceptible. Personnel aren't directly injured by EMP, but they may suffer electrical shock if they are in contact with a large conductor of electrical energy.

Preventive measures to protect or *harden* equipment against damage by EMP include metal shielding, good grounding, use of surge arresters, and the proper arrangement of electrical wiring.

**TRANSIENT RADIATION EFFECTS ON ELECTRONICS (TREE).**—TREE occurs in electronics systems as a result of exposure to gamma or neutron radiation. The actual effects are determined by the characteristics of the circuits in the electronics

package, the components in the circuits, and the construction techniques and materials used to make the components. In general, radios, radar, computers, cables and wiring, and inertial guidance systems are susceptible to TREE. The response of such systems to radiation depends on the nature of the radiation and on the specific components and operating status of the systems.

**BLUEOUT.**—Blueout is the prolonged disturbance of an underwater nuclear detonation and is caused by ocean basin shock reverberations that interfere with passive sonar systems. The noise resulting from the initial nuclear weapon detonation (the interaction of steam and water and the pulsations of the steam bubble) masks out all other sound for a short period of time making it impossible for sonar operators to listen for target data. The effects of blueout are temporary.

**BLACKOUT.**—Blackout, caused by an atmospheric nuclear explosion, is the interference of radio transmissions through ion fields formed in a detonation. In a tactical situation, straight-line communications (radar and radio transmissions) between ships on opposite sides of the fireball will be lost. Following a high altitude detonation, satellite communications may be affected or lost. Blackout alters or inhibits radar or radio waves and affects all frequency bands.

Procedures to counteract the effects of blackout include providing alternate paths for communications, shifting radio operating frequencies, changing transmission modes, and waiting for blackout effects to diminish.

## **REVIEW 3 QUESTIONS**

- Q1. List the four types of nuclear weapon explosion classification.
- a.
  - b.
  - c.
  - d.

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### ***Student Notes:***

Q2. Describe why residual radiation is more dangerous than initial radiation.

Q3. Describe how a secondary blast can cause injuries.

Q4. List the nuclear radiation hazards.

- a.
- b.
- c.
- d.

Q5. List the measures that should be taken to protect electronic equipment from the effects of EMP.

- a.
- b.
- c.
- d.

## CONTAMINATION, DETECTION, AND IDENTIFICATION

**Learning Objectives:** When you finish this chapter, you will be able to—

- Identify the purpose of CBR monitoring and decontamination teams.
- Identify the markers used to indicate CBR contamination.

- Recall the purpose of the markers used to indicate CBR contamination.

For a ship or station to retain its offensive power and carry out its mission, immediate detection and identification of radiation and BW and CW agents are of great importance. However, the nature of radiation and BW and CW agents makes it difficult to detect and identify them. Here are some examples.

You know a nuclear attack is taking place because you can see it, hear it, and feel it. But, you can't see the nuclear radiation. Nuclear radiation is just as deadly over a period of time as the blast itself. A biological and chemical attack can be just as invisible. You might not know about them until it's too late. Because CBR attacks might be invisible, you need to recognize symptoms of radiation and BW and CW contamination.

## SURVEY TEAMS

After a CW, BW, or nuclear attack, survey teams go through the ship to determine the extent and location of any contamination. Rapid detection and identification are vital so that effective defense measures may be taken immediately. A survey team, or monitoring party, consists of a minimum of three people—a monitor, a recorder, and a messenger.

The **monitor** is in charge of the party. The monitor carries high-range and low-range survey meters. The monitor is responsible for the safety of the team and for determining intensities and locations of contamination.

The **recorder** maintains a record of intensity readings (obtained by the monitor), time of the readings, location of the hazardous areas, and specific hazards. Also, the recorder may act as a marker, using line to rope off hazardous areas and chalk to mark on bulkheads and decks the intensities of contamination found during the survey.

The **messenger** reports to damage control central (DCC) the contaminated areas and the readings obtained by the monitor. In DCC, personnel plot the reports from the various teams to get a general outline of contaminated areas, to pinpoint hot spots (areas of higher-than-average intensities), and to establish stay times for specific areas (fig. 13-5).

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## Student Notes:

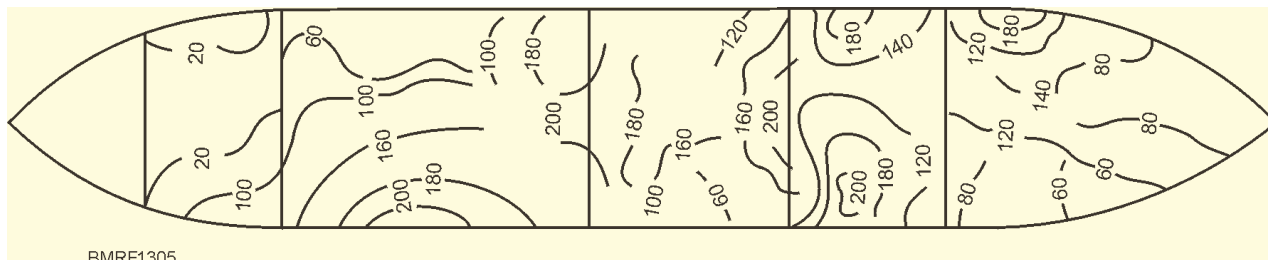


Figure 13-5.—General outline of contaminated areas on weather decks.

Two types of surveys are usually conducted—a rapid, or gross, survey and a detailed survey.

The **rapid survey** is a preliminary reconnaissance. Limited numbers of readings are taken in a minimum amount of time. The purpose of the rapid survey is to obtain a quick estimate of radiation levels at specified locations to determine the possibility of keeping stations manned.

A **detailed survey** is used to determine the effectiveness of decontamination measures. All accessible areas and equipment are surveyed in a slow, methodical manner. Special attention is paid to areas that tend to hold contamination (rust spots, caulking in wood decks, canvas, rope, and so on).

Each member of a monitoring team wears a protective mask and clothing and is equipped with both a pocket dosimeter and a high-range casualty dosimeter. No member with an open cut or wound should enter any contaminated area. Smoking, drinking, and eating are prohibited in contaminated areas.

## CBR CONTAMINATION MARKERS

A standard system is used to mark areas contaminated by CW, BW, or nuclear agents. Look at figure 13-6, which shows CBR contamination markers. The markers are triangular in shape, with a base of approximately 11 1/2 inches and sides of about 8 inches. Each type of contamination is readily identified by the color of the marker. Additionally, they are labeled GAS, BIO, or ATOM, as appropriate. The front of the marker indicates the safe limits of the contaminated area. **Never go beyond the markers without permission.** The front of each marker also contains information about the contaminated area, such as the date and time of detection and the type of agent.

## NUCLEAR RADIATION

When a ship is exposed to radiation or is radiologically contaminated (such as from a base surge or fallout), surveys are made to determine the degree of contamination.

During surveys, two types of measurement are made—intensity (dose rate) of the radiation field and the total amount (dose) received. This information is used to calculate (find) the safe entry time (time after exposure when an area may be entered safely) and stay time (length of time a person may remain in an area without exceeding permissible radiation exposure levels). Dose rate is expressed in roentgens (gamma ray measurement only). The total dose is expressed in rads (any type of radiation).

One measurement instrument is the radiac meter (radiac stands for *radioactivity detection, indication, and computation*). Usually, only qualified damage control (DC) personnel use the radiac meter; therefore, only the personnel dosimeter is covered here.

Measurements are made using two basic types of personnel dosimeters—self-reading and nonself-reading.

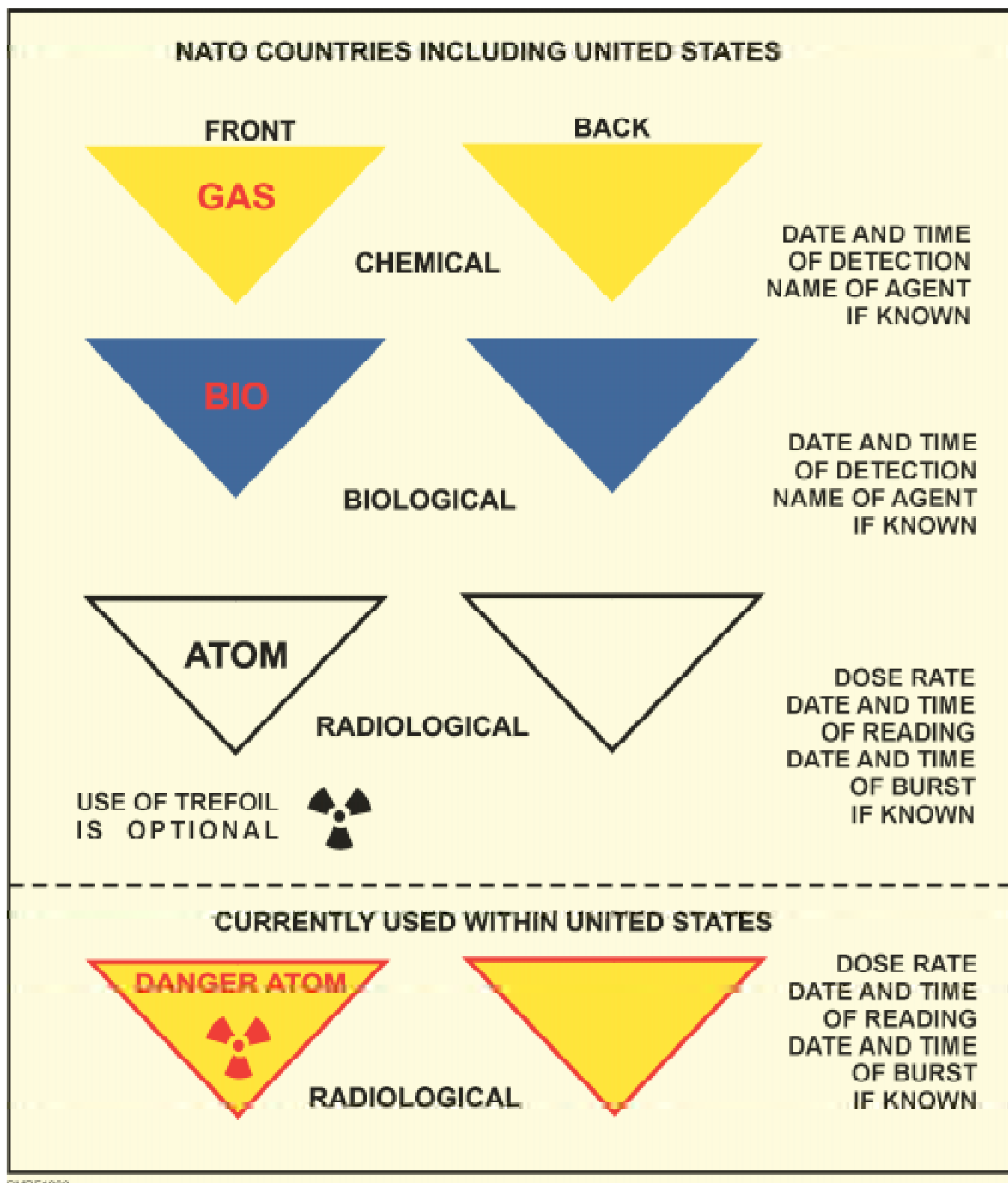
The self-reading pocket dosimeter (fig. 13-7) is about the size and shape of a fountain pen and comes in the following ranges:

- 0 to 5 roentgens
- 0 to 200 roentgens
- 0 to 600 roentgens
- 0 to 200 milliroentgens

Self-reading instruments measure exposure to radiation over a period of time, not dose rates at any given time. Hold the dosimeter up to a light source and

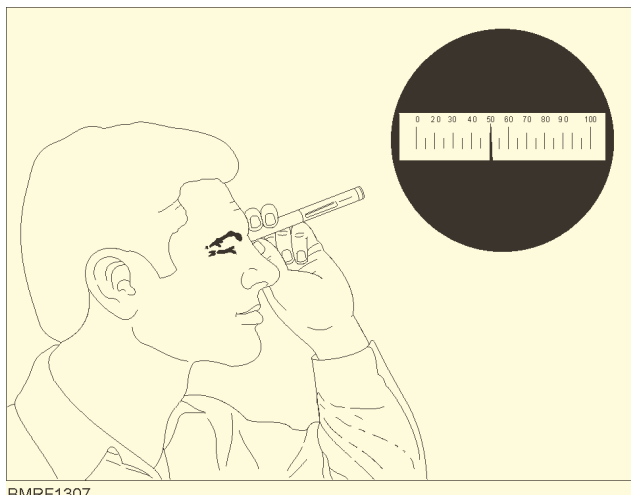
## Student Notes:





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Figure 13-6.—CBR contamination markers.



**Figure 13-7.—Self-reading pocket dosimeter.**

look through the eyepiece; the total radiation dose received is read directly on the scale. After each use, the dosimeter is recharged and the indicator line set to zero.

The nonself-reading category is a high-range casualty dosimeter (fig. 13-8). To determine the total amount of gamma radiation the wearer has been exposed to, it's put in a special radiac computer-indicator. Its range is 0 to 600 roentgens.

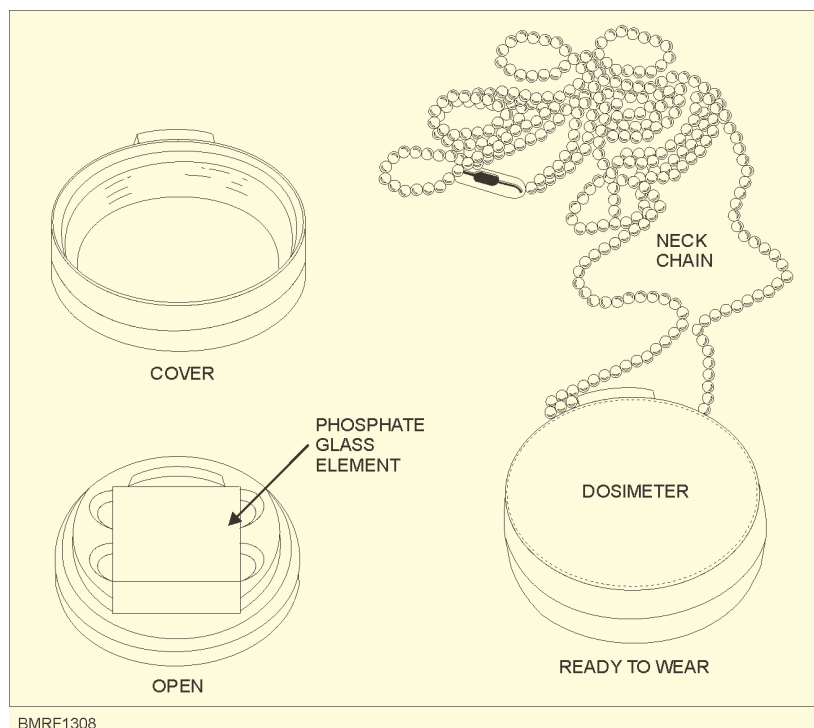
## BIOLOGICAL AGENTS

No simple or rapid method can be used to detect BW contaminants. The only known method consists of two phases—a sampling phase conducted by a CBR survey team and a laboratory stage conducted by medical personnel.

Samples of material are taken from a wide area. Samples include air, surfaces of bulkheads and decks, clothing, equipment, water, food, or anything else suspected of being contaminated. Then the samples are shipped to a medical laboratory for identification of the agent.

## CHEMICAL AGENTS

Warning of a CW attack based on detection by the physical senses alone is not only dangerous but would probably be too late. This is particularly true if fast-acting nerve agents were used. Special detection equipment, such as the M256A1 vapor sample detector kit and the M8 and M9 liquid chemical agent papers, is used to detect CW agents. Also, draeger tubes are used to detect the presence of phosgene gas. Other pieces of



**Figure 13-8.—High-range casualty dosimeter, DT-60/PD.**

## Student Notes:

CW detection equipment used by Navy personnel include the portable AN/KAS-1A chemical warfare directional detector (CWDD) and the permanent chemical agent point detector system (CAPDS). No one piece of equipment can detect all CW agents, which is why the Navy uses several different methods of CW detection.

M256A1 detector kits are used to check areas suspected of being contaminated, to test an area after decontamination operations, and to indicate when masks might be removed. The kits are not designed to indicate when it is necessary to don (put on) gas masks.

### REVIEW 4 QUESTIONS

- Q1. A survey team consists of—
- a.
  - b.
  - c.
- Q2. What are the two types of surveys?
- a.
  - b.
- Q3. Biological markers are (a) what color with (b) what color inscription?
- a.
  - b.
- Q4. To calculate safe entry time and stay time in a radiologically contaminated area, you need what two measurements?
- a.
  - b.

Q5. Describe the only known method for detecting BW contaminants.

Q6. To check areas suspected of being contaminated by CW agents, you should use what kit?

### CBR DEFENSE PROTECTIVE MEASURES

**Learning Objective:** When you finish this chapter, you will be able to—

- Recognize the procedures to follow in case of a CBR attack.

For a ship or shore activity to be able to continue its mission after a CW, BW, or nuclear attack, personnel must be protected. Protective measures include both individual and group actions. Individual protection is an immediate concern. What you do in the first few moments of a CW, BW, or nuclear attack may keep you alive!

### WHAT TO DO IN A CBR ATTACK

In a nuclear attack, defensive measures are much the same as the general damage control precautions taken against any explosion. These measures are to keep things squared away, maintain watertight integrity, make repairs as quickly as possible, protect yourself with your clothing and protective mask, be ready to fight fires ignited by the blast, and be ready to administer first aid to shipmates who are injured or burned. What you learned about damage control and firefighting in chapter 12 also applies to the damage and fires caused by nuclear weapons.

### General Precautions to Follow in a CBR Attack

As soon as the initial effects of the explosion are over, you should then take the following precautions:

1. Put on your mask immediately or cover your nose and mouth with a handkerchief or cloth.

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***Student Notes:***

2. Adjust your clothing to cover exposed skin (battle dress).
3. Slip on a protective cover, if you have one, or cover yourself with anything at hand.
4. Keep upwind of the explosion, if possible.
5. Administer first aid to yourself and to others.
6. If you are not a casualty, report to your duty station or to the designated area where you can take a shower and get clean clothes.
7. Keep your hands away from your face, particularly your mouth.
8. Don't eat, chew, drink, or smoke until the items are checked by a medical officer.
9. Don't stir up dust or step into puddles.
10. Don't brush against or touch decks, bulkheads, structures, or objects in the contaminated area.

Breathing radioactive particles is dangerous. Take shelter from dust clouds raised by wind, by aircraft, or by moving vehicles. Otherwise, use a protective mask or a handkerchief for protection.

### **Nuclear Attack**

If there is warning of a nuclear attack, the word is passed to take cover. When the word is passed, go to your designated shelter as quickly as possible. At the sound of the alarm, get your protective mask ready. If you are ordered to a shelter, remain there until the all-clear signal is given.

In general, the farther you are below the main deck (deep shelters), the better the protection from nuclear radiation. To reduce the contamination from the base surge and from fallout, secure the appropriate Circle W fittings. All topside openings will be closed for as long as the ship is in the danger area.

### **BW or CW Attack**

If you are in a BW or CW attack, avoid the spray, mist, or cloud if you can. Wear your mask, cover your body as much as possible, and seek shelter. Assume that all surfaces in the vicinity of the attack are contaminated; leave the area quickly, and follow the

route to the closest decontamination area. Report any sickness promptly, and do not eat, drink or smoke. Since BW and CW agents can sometimes enter your body through the skin, cover any cuts or scratches. As with nuclear warfare protective measures, if you have no mask with you, cover your nose and mouth with your handkerchief or cloth (such as a rag or shirt).

## **PROTECTIVE EQUIPMENT**

The protective equipment described here includes the MCU-2P mask, clothing, and antidotes for certain chemical agents.

- You should know how to use a MCU-2/P protective mask and how to apply antidotes.
- Two types of clothing are useful, to varying degrees, in CBR defense—wet-weather clothing and ordinary work clothing

### **MCU-2/P Protective Mask**

The protective mask, or gas mask, is your most important piece of protective equipment against CBR agents. It protects your face, eyes, nose, throat, and lungs. The reason it is so important is because inhaling CBR agents is much more dangerous than getting them on the outside of your body. Without filtration of some kind, a large amount of contamination could be inhaled in a short time.

The mask serves two functions:

1. It filters the air, removing particles of dust that may be radioactive or otherwise contaminated.
2. It purifies the air of many poisonous gases.

**The mask does not produce oxygen.** Therefore, it doesn't provide protection against smoke or against toxic gases, such as carbon monoxide, carbon dioxide, and ammonia. Therefore, it may be used for emergency escape only as a last resort. When entering a compartment containing such gases, you must use an oxygen breathing apparatus or an air hose mask.

The operation of the mask is simple. On inhalation (breathing in), the air passes through a filter system that filters and absorbs the CBR agents. Exhaled (breathing out) air is expelled through a one-way valve.

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## ***Student Notes:***

From the moment you hear the alarm or suspect a CBR attack, hold your breath until you can put on the mask. You should be able to don (put on) and adjust your mask within 10 seconds. If your eyes or face becomes contaminated before you can get the mask on, the contamination should be taken care of first, provided the necessary materials are readily available. The most important action is to don the mask immediately; then, proceed with decontamination.

The MCU-2/P protective mask is designed to provide full protection. It provides protection against tactical concentrations of chemical and biological agents, toxins, and radiological fallout particles. The MCU-2/P mask also accommodates the use of the tri-service/NATO canisters.

The MCU-2/P protective mask (fig. 13-9) is built with a silicone rubber facepiece. It has the following features:

- Two voice emitters
- A drinking tube
- A flexible lens that lets you use binoculars, gunsights, and other optical equipment; and the option to put the filter canister on either side

The mask can be worn over approved mask-compatible glasses. You can order compatible glasses through your medical department. The large lens size provides the user with a good all-around view.

### CBR Protective Clothing

Basically, any clothing or coverall that covers the body can provide a degree of protection from CBR contaminants. However, the type of clothing and its proper wear determine the amount of protection.

**C H E M I C A L - P R O T E C T I V E OVERGARMENT.**—The chemical-protective overgarment consists of two pieces—a smock and trousers (fig. 13-10). The smock has two layers of materials: inner (antigas) and outer (mon acrylic/nylon). The smock is generously cut to allow complete freedom of movement. It has a large front flap pocket for gloves, and so forth, and a sleeve patch where you can place detector paper for easy visibility. You can make quick and easy adjustments with hook-and-pile fasteners at the wrist and waist. The trousers are made of the same two layers of material and have suspender-type fittings located at the waist and across the shoulders. Hook-and-pile fasteners are located at the base of each leg for adjustment. The chemical-protective overgarment is issued in a plastic envelope that is

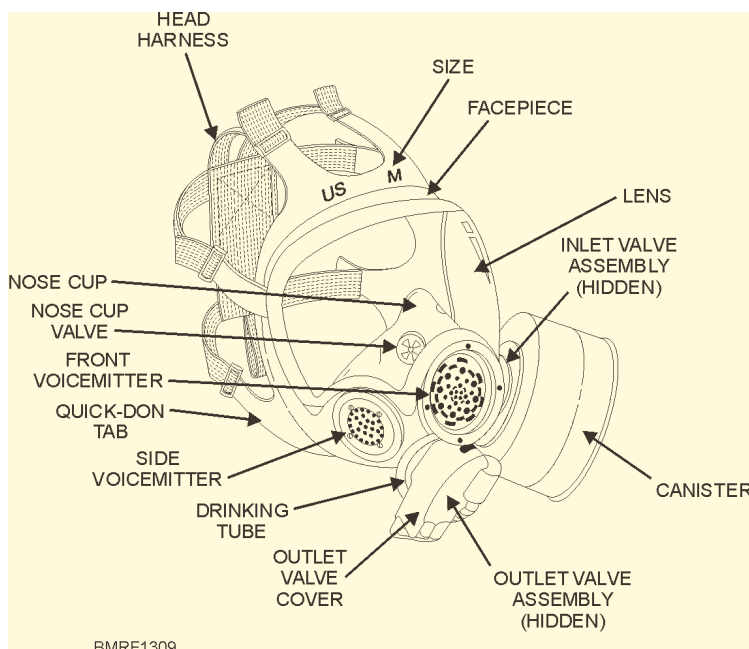
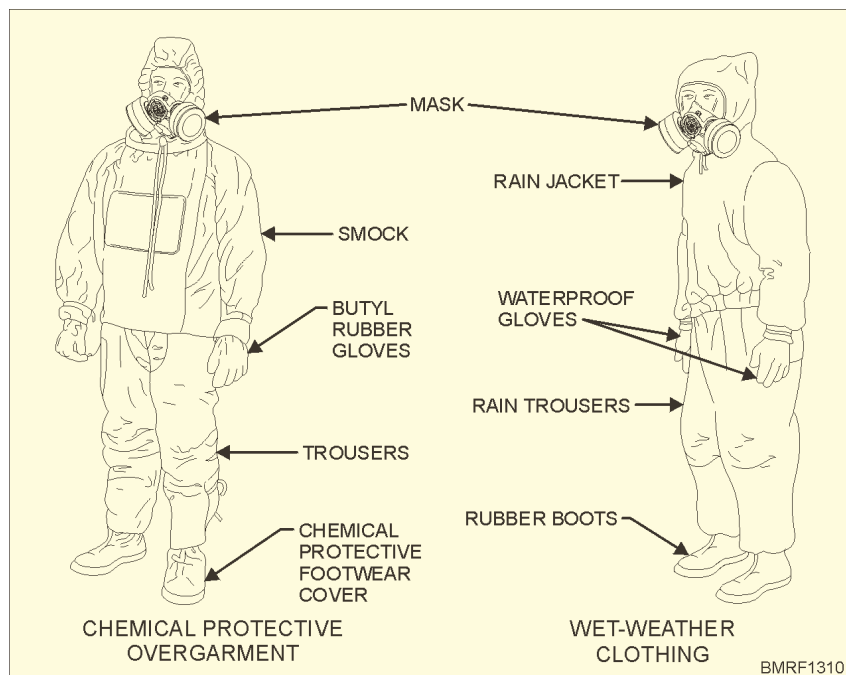


Figure 13-9.—MCU-2/P protective mask.

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### Student Notes:





**Figure 13-10.—Types of chemical-protective overgarments.**

pressure packed, air evacuated, and heat sealed. It is then placed in a polyethylene bag and heat sealed. The overgarment has a shelf life of 5 years when unopened.

The protective overgarment protects against all CBR agents and is permeable to water vapor. Once removed from its protective envelope, it has a shelf life of 14 days in a nonchemical environment. If it is opened but uncontaminated, keep it for training purposes. Once exposed to chemical contamination, the overgarment provides 6 hours of continuous protection, after which it should be discarded.

**CHEMICAL-PROTECTIVE FOOTWEAR COVERS.**—The chemical-protective footwear covers (overboots) are worn over the standard work shoe and provide protection to the feet against exposure to all known concentrations of nerve and blister agents. The overboots are made of loose-fitting, impermeable, butyl sheet rubber and have a premolded, nonslip, butyl rubber sole. The overboot is approximately 16 inches high with a grommet lace closure, including five eyelets to allow lacing around the foot. The overboots are available in two sizes and can be worn on either foot. They are issued in a polyethylene bag with two pairs of laces and an instruction sheet. Upon contamination, the

overboots provide 6 hours of protection from agent penetration.

**CHEMICAL-PROTECTIVE GLOVE SET.**—The chemical-protective glove set is worn to protect the hands against nerve and blister agents, liquids, and vapors. The set consists of an outer glove to provide chemical protection and an inner glove to assist in absorption of perspiration. The five-finger outer glove is made of impermeable, unsupported, black butyl rubber and is manufactured for both the right and left hand. The thin, white cotton inner glove can be worn on either hand. The glove set is issued in a clear polyethylene bag with an instruction sheet.

The black outer glove protects against chemical agent vapors, aerosols, and small droplets. Upon contamination, the set provides at least 6 hours of protection from agent penetration. These gloves, in good condition, can be decontaminated and reissued.

### **Wet-Weather Clothing**

Wet-weather clothing (refer back to fig. 13-10) is often described as impermeable or rubberized clothing. Its value results from the fact that the previously described impregnated/protective clothing can be

### ***Student Notes:***

partially penetrated by all but the smallest droplets of liquid agents, especially in relatively high winds. Moreover, the impregnated/protective clothing is not equally efficient in neutralizing all liquid CW agents. On the other hand, wet-weather clothing is resistant to all liquid CW agents for a limited amount of time, provided that the closures at the neck, wrists, and protective mask are well adjusted or taped.

Wet-weather clothing provides a measure of protection against CBR contaminants when worn over ordinary clothing; but it provides the most complete protection when worn over impregnated or protective clothing. Gradual penetration of the synthetic rubber layer of the wet-weather clothing will eventually occur unless CW agent contaminants are promptly removed. The contaminants are removed by frequent and thorough flushing of the surface with a seawater washdown or an equivalent, such as jury-rigged topside seawater showers, or by swabbing with liquid hypochlorite.

In warm weather or during periods of increased physical activity, wet-weather clothing has a major disadvantage in that it can only be tolerated for relatively short periods of time. Tolerance is limited because no air can pass through the clothing to cool the wearer's body by the evaporation of perspiration.

Perspiration is normally accumulated inside an impermeable suit. Underclothing, gloves, socks, and shoes may become saturated. Sweating can be reduced and tolerance times lengthened by reducing the exercise rate, by using water-spray cooling, and by reducing exposure to direct sunlight.

### **Ordinary Work Clothing**

Special protective clothing is not required for all personnel. Ordinarily, only the personnel of monitoring and decontamination teams who must work in or near hazardous areas wear it. All other personnel working near these areas should wear two layers of ordinary clothing, which provide partial protection against agents and radioactive particles.

## **REVIEW 5 QUESTIONS**

- Q1. True or false. Eating food after a CBR attack is okay as long as the food was in a sealed container before the attack.
- Q2. Aboard ship, the safest place to be during a nuclear attack is \_\_\_\_\_.
- Q3. What are the two functions of an MCU-2/P mask?
  - a.
  - b.
- Q4. How long should it take you to don and adjust an MCU-2/P mask?
- Q5. List the types of clothing that are useful for CBR defense.
  - a.
  - b.

## **MISSION ORIENTED PROTECTIVE POSTURE (MOPP)**

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the procedures for protection at each level of mission oriented protective posture (MOPP).

Mission oriented protective posture (MOPP) is a means of establishing levels of readiness. MOPP is a flexible system of protection against chemical agents

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### ***Student Notes:***

and is used in CW defense to help accomplish the mission.

The MOPP doesn't require that personnel wear protective clothing all the time. Duty requirements, body heat buildup, and basic human needs will prevent you from using full protective equipment for an infinite period of time. The MOPP does, however, give the CO the option of no protection to full protection, depending on the threat to the ship.

All operations are conducted under the MOPP system, even when there is no threat. There are four levels of MOPP—from Level-1, the least protection, to Level-4, the most protection.

#### **MOPP Level-1**

1. Individual protective equipment and medical supply items are issued to shipboard personnel and maintained at respective battle stations. Protective masks are fitted for immediate use.
2. Inventory stowed chemical/biological defense equipment and supplies.
3. Set readiness Condition III and material condition YOKE, if not already set.

#### **MOPP Level-2**

1. For both chemical and biological threats, protective mask is in a carrier and worn on the person.
2. Preposition decontamination supplies in decon stations and at repair lockers. Preposition stowed detection and monitoring equipment, supplies, and empty canteens as specified in the ship's CBR Defense Bill.
3. Set material condition ZEBRA (modified).

#### **MOPP Level-3**

1. Install new filter canisters on protective masks, maintain in a carrier and on the person. Provide wet-weather gear for donning over other protective clothing and equipment for weather deck activities. Don overgarment trousers and coat with hood down. Don chemical-protective overboots. Stow personnel decontamination kit in mask carrier. Stow chemical-protective glove set and medical supply items in pocket on

overgarment coat. Initiate pyridostigmine pretreatment regimen.

2. Go to general quarters (GQ) (readiness Condition I may be relaxed and readiness Condition II set at CO's discretion); set material condition ZEBRA.
3. Fill prepositioned canteens with potable water.
4. Activate decontamination stations and contamination control areas (CCAs) and assure operability. Post detection and monitoring teams.
5. Post and monitor detection equipment and materials as designated by the ship's CBR Defense Bill.
6. Activate countermeasures washdown system intermittently.

#### **MOPP Level-4**

1. Don protective mask and secure hood over head and around mask. Don chemical-protective glove set.
2. Direct ship to GQ (if not previously in effect).
3. Initiate continuous monitoring and operation of detection equipment.
4. Set CIRCLE WILLIAM.
5. Activate countermeasures washdown system to operate continuously.

The setting of MOPP levels may be different at various locations around the ship. This depends on the mission, work rate, and heat buildup in these battle station areas (engine rooms, combat information center, flight deck, and so on).

### **REVIEW 6 QUESTIONS**

Q1. What does the acronym MOPP stand for?

Q2. There are how many levels of MOPP?

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### ***Student Notes:***

Q3. What MOPP level provides the most protection?

Q4. At what MOPP level is material condition ZEBRA (modified) set?

## DECONTAMINATION

Learning Objectives: When you finish this chapter, you will be able to—

- Recall the procedures for area decontamination afloat.
- Identify the purpose of the decontamination station.

There are four levels of decontamination—emergency personnel decontamination, limited operational decontamination, operationally complete decontamination, and complete decontamination.

### LEVELS OF DECONTAMINATION

Level 1—Emergency personnel decontamination. Emergency personnel decontamination is decontamination necessary to save your life. It is your responsibility. The primary purpose of emergency personnel decontamination is to safeguard you in protective gear that includes the following items:

- Mask
- Protective overgarment
- Boots
- Gloves

However, if a chemical attack takes place before you don all of the protective gear, you **need to** destroy, neutralize, or remove the chemical agents from inside your protective gear and from exposed skin area. Personnel decontamination kits (M291) give you the ability to decontaminate skin surfaces. The cleansing/decontamination stations used for entering

and leaving the ship's interior provide soap, detergent, and shower facilities.

#### Level 2—Limited operational decontamination.

Limited operational decontamination is decontamination necessary to let you, while in protective clothing and/or masks, do your job with a minimum risk of contact, pickup, and transfer of chemical agent contamination. Initial contamination is most likely to be on the upper-outer surfaces of structures and equipment. Further contamination may be picked up and/or transferred to noncontaminated areas. The two types of contamination hazards are—

1. Pickup hazards. A chemical agent on a surface that is touched by an individual, contaminating himself/herself.
2. Transfer hazards. A chemical agent picked up, transferred, and then deposited on an otherwise uncontaminated area.

The objective of limited operational decontamination is to destroy, neutralize, or remove persistent chemical agents that are located on structures and/or equipment in places where they constitute a contact hazard.

**Level 3—Operationally complete decontamination.** Operationally complete decontamination (also known as *full decontamination*) is decontamination so that the contamination of personnel, structures, and equipment is reduced to a level that results in a significant operational benefit. Level 3 decontamination reduces contamination to the lowest level possible. However, it should only be conducted when there is a reasonable chance that work can be performed without masks or gloves for limited periods, and the ship's mission can be completed without undue hazards to personnel.

One hundred percent decontamination can't be accomplished on each and every item suspected of being contaminated. Level 3 decontamination isn't a fixed level of decontamination. It depends on the ship's operating schedule and the urgency of the assigned mission. Decontamination at sea or by ship's personnel will be of this type.

**Level 4—Complete decontamination.** Complete decontamination is a degree of decontamination where

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### Student Notes:

appropriate chemical tests fail to give a positive response for a residual agent. Decontamination at naval shipyards, advanced bases, or by shore-based personnel will normally be of the 100% chemically complete type. This level is **not** mission essential for shipboard units.

## DECONTAMINATION OF THE SHIP

The purpose of decontamination is to remove or reduce CBR contamination so that the ship can carry out its mission without danger to the life or health of its crew. Each type of contamination requires different decontamination procedures. Radiological (nuclear) contamination may be removed by washing it over the side; CW agents may be neutralized; BW agents must be destroyed.

### Nuclear Radiation Decontamination

Complete decontamination of a ship usually requires the service of a shipyard. However, radiation levels can be reduced by shipboard personnel to the point where radiation no longer presents a serious hazard to the crew. Most of the radioactive particles can be removed by washing down the ship. Two washdown methods are used—mechanical and manual.

**MECHANICAL METHOD.**—The mechanical method, called the *ship's water washdown system*, consists of a system of piping and nozzles that spray water over all weather surfaces. Water is supplied by the fire main.

### NOTE

The washdown system actually is a preventive measure against fallout, rather than a decontamination method, because normally the system is activated before the ship enters the fallout area.

The water spray carries away the radioactive particles as they fall on the ship. At the same time, the flowing water fills in the cracks and crevices so that the particles that do get through the spray cannot settle into the cracks and crevices.

**MANUAL METHOD.**—If parts of the ship are contaminated before the washdown system is turned on,

water from the sprinklers may not effectively reduce the radioactivity because the slowly flowing water doesn't have enough force to wash away the particles. The areas of heavy contamination must be hosed down with water under pressure. Hosing and scrubbing down the ship is the manual method.

Decontamination teams are formed to hose and scrub down the ship. A team usually consists of six people—the monitor, who is in charge; two hosemen; and three other team members. The hosemen wash down the hot spots with fire hoses, moving from the areas of less contamination toward areas of greater contamination, and working from top to bottom. Then the areas are scrubbed by the remaining team members with soap or detergent and water and are rinsed by hosing (fig. 13-11). The hosing-scrubbing-hosing continues until monitoring shows that contamination is removed or at least reduced to a safe level. Keep the contaminated water away from vent systems, doors, and hatches, because washing away the particles does not destroy them; they are simply being moved over the side.

### BW and CW Decontamination

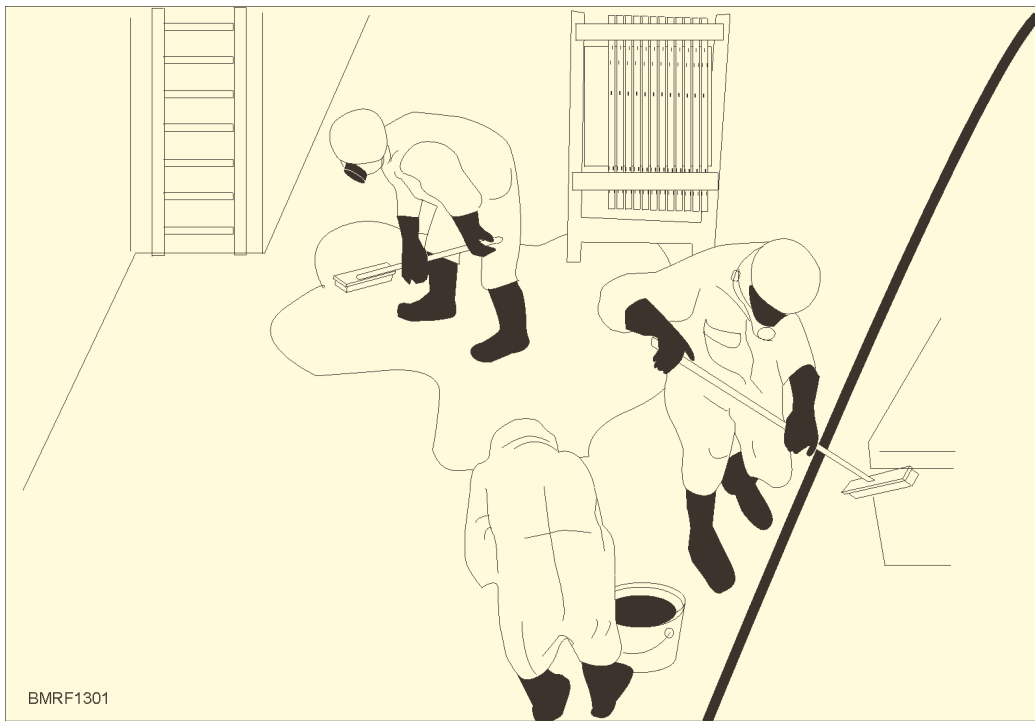
**BW decontamination** means eliminating the sources of infection. Using a chemical disinfectant is the most effective way to decontaminate BW agents. The type of disinfectant depends on the agent, the material to be decontaminated, and sometimes the area. Other methods include burning, dry heat, and moist heat. Burning usually is unsatisfactory because it naturally destroys surface material. An example of dry heat is a hot air oven set at 180°. Moist heat includes hot water or steam under pressure. Sunlight also is effective in reducing BW contamination. The ultraviolet rays of the sun kill most BW agents.

In **CW decontamination**, weather alone is the simplest means. Bright sunlight is a decontaminant, even in cold weather. However, lack of time, unfavorable weather, or contamination of critical areas may require a faster method. Enclosed spaces can be steamed. All spaces can be treated with liquid detergents. Water alone is often satisfactory as a flushing agent; hot water or steam is better than cold water.

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## Student Notes:





**Figure 13-11.—A decontamination team at work.**

## **PERSONNEL DECONTAMINATION**

Each ship has a special area designated as a decontamination (decon) station. Personnel exposed to CBR agents are processed through these decon stations. Aboard ship, the decon stations are shower rooms, one forward and one aft. Large ships have more stations. Each decon station is divided into three parts—

1. A contaminated or an unclean area
2. A washing area
3. A clean area

Whenever practicable, the clean and unclean sections have separate access routes and entrances. Undressing is done in the unclean area, and containers are located there for the disposal of contaminated clothing. A box containing a mixture of sand and bleach may be located at the entrance to the undressing area; if so, scuff your feet in the box before entering the station.

The following are some general decontamination procedures you should remember:

1. Enter the undressing area after scuffing your feet in the box. Then, sit on a bench with both feet on the

unclean side. Remove your shoes, swing your legs to the clean side of the bench, and remove your outer clothing only. In case of a BW or CW attack, keep your protective mask on. (Remove your protective mask only when told to do so.) Carefully remove your clothing to prevent the possible rise of a secondary aerosol. After placing your outer clothing in the containers, proceed to another section, remove your underwear and socks, and place them in the appropriate containers.

2. Proceed to the washing area. You should spend at least 5 minutes soaping, scrubbing, and rinsing. Give special attention to the hair, nails, skin creases, and ears, using a brush on the nails. You should rinse, soap, and scrub; then rinse again.

3. Proceed to the dressing area and dry off. (If nuclear contamination is involved, you will be monitored and required to repeat the shower until you are free of contamination.) Dress in clean clothing and proceed as directed.

Remember that showering doesn't destroy nuclear agents or many of the BW agents—it merely washes them away. Therefore, you should immediately report any illness (however minor) to medical personnel.

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## ***Student Notes:***

**M291 Decontamination Kit.** The purpose of the M291 decontamination kit is to decontaminate skin and selected personnel equipment contaminated with chemical agents. The kit contains six sealed foil packets, enough for three complete skin applications.

Each packet contains a folded applicator pad with a handle on one side. The pad is filled with the black decontaminating powder, which is a reactive and absorbent resin that is not toxic but may be slightly irritating to the skin or eyes.

New and/or improved CBR defense and decontamination kits, clothing, and equipment are being introduced rapidly. Check with your supervisor to see if any new or improved articles are available.

Atropine and oxime are used to counteract the effects of and to relieve the symptoms of nerve agents only. At the appropriate level of readiness, each crew member will be issued three atropine autoinjectors and two oxime autoinjectors. To use the injectors, remove the safety caps and press the injectors against the thigh or buttocks. The pressure on the end of the injector causes the automatic injection of the contents. As soon as the symptoms of nerve agent poisoning are noticed, immediately inject one atropine autoinjector and one oxime autoinjector. Wait 10 to 15 minutes; if symptoms are still present, inject another atropine and oxime autoinjector.

### CAUTION

Use atropine and oxime only against nerve agents.

### THE COLLECTIVE PROTECTION SYSTEM

**Learning Objective:** When you finish this chapter, you will be able to—

- Identify the purpose and use of the collective protection system (CPS) decontamination station.

The collective protection system (CPS) protects specific areas of the ship from the effects of CBR contamination by filtering the air supply and

maintaining an overpressure to prevent the penetration of contaminants. The system is divided into two protection zones:

1. The total protection (TP) zone, which provides a pressurized, toxic-free environment
2. The limited protection (LP) zone, which isn't pressurized and doesn't provide protection against gaseous chemical agents

The extent of CPS coverage varies. Some ships have only one or two TP zones and no LP zones. Other ships may have different numbers of protection zones. The level of protection is determined by the ship's mission, operational requirements, and the overall cost of installation. The following are the three levels of protection:

Level I—the shelter envelope. Level I provides protection for messing, berthing, sanitary, and battle dressing functions for 40% of the crew.

Level II—the minimum operational protection envelope. Level II provides at least the same protection as level I, but also includes protection for key operational functions.

Level III—the maximum operational protection envelope. Level III provides sufficient protection of the ship for mission requirements, but does not include launching aircraft or troops.

### REVIEW 7 QUESTIONS

- Q1. There are how many levels of decontamination?
- Q2. Describe the primary purpose of level 1 decontamination.
- Q3. What are the two types of contamination hazards?
- a.
  - b.

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### *Student Notes:*

Q4. What is the most effective way to remove radioactive particles from the ship?

Q5. What is the most effective way to decontaminate areas exposed to BW agents?

Q6. Decon stations are divided into what three areas?

a.

b.

c.

### SUMMARY

In this chapter, you have learned about CBR defense. During a major conflict, an enemy who uses weapons of mass destruction will find a way to get these weapons through our defenses. The U.S. Navy has spent many years and a considerable amount of money developing protective systems, equipment, and measuring devices that are available to us today. These systems give us the ability to defend ourselves and our units against CBR attacks and the ability to continue as a combat-capable force. These systems, devices, and equipment will work if used properly and at the right time. The continued training on procedures, techniques, systems, and equipment will ensure the maximum protection available.

### REVIEW 1 ANSWERS

A1. **Weapons of mass destruction** are weapons that can be used to destroy large areas or kill and disable large segments of a population.

A2. The most probable delivery method for chemical or biological weapons is by **aerosol**.

A3. The two types of antipersonnel agents are—

a. **Casualty**

### b. **Incapacitating**

A4. The use of nerve agents produces symptoms that are similar to **heat stress**, which is a more common condition.

A5. **Moist areas** of the body are most affected by blister agents.

A6. The first action you should take if exposed to a blood agent, is to **don (put on) a protective mask**.

A7. True, **cough suppressant and pain relievers can be given to a victim of a choking agent**.

### REVIEW 2 ANSWERS

A1. BW is the intentional use of (a) **living organisms, toxins, and microtoxins** to disable or destroy (b) **people, domestic animals, crops, or supplies**.

A2. The disadvantage an enemy has when using BW agents is that **BW agents degrade rapidly when exposed to environmental conditions such as ultraviolet light, radiation, heat, dryness, or humidity**.

A3. The symptoms of biological disease in its early stages include—

a. **Fever**

b. **Malaise**

c. **Inflammation**

### REVIEW 3 ANSWERS

A1. The four types of nuclear weapon explosion classification are—

a. **High altitude blast**

b. **Air blast**

c. **Surface blast**

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### *Student Notes:*

d. **Subsurface burst**

- A2. Residual radiation is more dangerous than initial radiation because **residual radiation is caused by large amounts of surface material drawn up into the cloud, which falls back to earth as radioactive fallout and affects a large area.**
- A3. A secondary blast can cause injuries by **its strong winds that collapse structures and trees.**
- A4. Nuclear radiation hazards include—
- a. **Alpha particles**
  - b. **Beta particles**
  - c. **Gamma rays**
  - d. **Neutrons**
- A5. The measures that should be taken to protect electronic equipment from the effects of EMP are—
- a. **Metal shielding**
  - b. **Good grounding**
  - c. **Surge arresters**
  - d. **Proper arrangement of electrical wiring**

**REVIEW 4 ANSWERS**

- A1. A survey team consists of a—
- a. **Monitor**, a
  - b. **Recorder**, and a
  - c. **Messenger**
- A2. The two types of surveys include—
- a. **Rapid** and
  - b. **Detailed**
- A3. Biological markers are (a) **blue** and have (b) a **red inscription.**

- A4. To calculate safe entry time and stay time in a radiologically contaminated area, you need to know the—
- a. **Dose rate**
  - b. **Dose**
- A5. The only known method for detecting BW contaminants is **to gather samples and ship them to a laboratory.**
- A6. To check areas suspected of being contaminated by CW agents, you should use an **M256A1 kit.**

**REVIEW 5 ANSWERS**

- A1. **False**, eating food after a CBR attack is **not** okay.
- A2. Aboard ship, the safest place to be during a nuclear attack is **below the main deck.**
- A3. The two functions of an MCU-2/P mask are to—
- a. **Filter air**
  - b. **Purify**
- A4. It should take you **10 seconds** to don and adjust an MCU-2/P mask.
- A5. The types of clothing that are useful for CBR defense are—
- a. **Wet-weather clothes**
  - b. **Ordinary work clothes**

**REVIEW 6 ANSWERS**

- A1. The acronym MOPP stands for **Mission Oriented Protective Posture.**
- A2. There are **four** MOPP levels.
- A3. **MOPP level 4** provides the most protection.
- A4. At **MOPP level 2** material condition ZEBRA (modified) is set.

## REVIEW 7 ANSWERS

- A1. There are **four levels** of decontamination.
- A2. The primary purpose of level 1 decontamination is to **safeguard you in protective gear that includes mask, overgarment, boots, and gloves.**
- A3. The two types of contamination hazards are—
- a. **Pick up hazards**
  - b. **Transfer hazards**
- A4. **Washdown** is the most effective way to remove radioactive particles from the ship.
- A5. Chemical disinfectant **is the most effective way to decontaminate areas exposed to BW agents.**
- A6. Decon stations are divided into an—
- a. **Unclean area**, a
  - b. **Washing area**, and a
  - c. **Clean area**





## CHAPTER 14

# FIRST AID AND HEALTH

*If you do something once, people call it an accident. If you do it twice, they call it coincidence. But do it a third time and you've just proven a natural law.*

—Rear Admiral Grace Murray Hopper

In this chapter, you will learn some guidelines on giving first aid in an emergency. You won't be an expert or even qualify to administer first aid. You will learn why first aid is important and the results of properly administered first aid. You will also learn the measures you should take for the treatment of shock, bleeding, burns, and fractures; methods of resuscitation; and methods of moving injured persons.

Personal hygiene is also important, not only to you, the individual, but to the entire ship's company. In this chapter, you will receive pointers for maintaining cleanliness of the body, clothing, and bedding. You will also learn the effects of sexually transmitted diseases.

### FIRST AID—ITS PURPOSE, LIMITATIONS, AND GENERAL RULES

**Learning Objective:** When you finish this chapter, you will be able to—

- Recognize the purpose, general rules, and limitations of first aid.

First aid is the emergency care you give to sick or injured persons until medical care is available. In addition to knowing what to do for a victim, it's just as important to know what not to do.

Your knowledge of first-aid measures and their proper application may mean the difference between life and death, between rapid recovery and long hospitalization, or between temporary disability and permanent injury.

### PURPOSE AND LIMITATIONS

The objectives of first aid are to save life, prevent further injury, and limit infection. However, first aid isn't a substitute for proper medical treatment. Keep in mind the objectives of first aid. Everyone in the Navy must know when and how to apply first-aid measures

and must be prepared to give assistance to persons injured in battle, collision, fire, and other mishaps.

In administering first aid, you have three primary tasks:

1. Maintain breathing
2. Stop bleeding/maintain circulation
3. Prevent or treat for shock

The first step, of course, is to determine the victim's injuries. When you treat a victim, first consideration usually must be given to the most serious injury. In general, the order of treatment is to restore breathing, stop bleeding, and treat for shock.

Work quickly, but don't rush around frantically. Don't waste time looking for ready-made materials. Do the best you can with whatever is at hand. Send for medical help as soon as possible.

### GENERAL FIRST-AID RULES

Although each case involving injury or sickness presents its own special problems, some general rules apply to practically all situations. Before you go on to learn first-aid treatment for specific types of injuries, learn with the following basic rules:

1. Keep the victim lying down; head level with the body, until you have found out what kind of injury has occurred and how serious it is. However, if the victim shows one of the following difficulties, follow the rule given for that specific problem:
  - a. Vomiting or bleeding about the mouth and semiconsciousness: If the victim is in danger of sucking in blood, vomited matter, or water, place the victim on his or her side or back with the head turned to one side and lower than the feet.

- b. Shortness of breath: If the victim has a chest injury or breathing difficulties, place the victim in a sitting or semisitting position.
- c. Shock: If the victim is in shock, place the victim on his or her back with the head slightly lower than the feet. (Shock is explained later in this chapter.)

2. Move the victim no more than is absolutely necessary. To determine the extent of the victim's injuries, carefully rip or cut the clothing along the seams. Removal of clothing in the normal way may make injuries worse, especially if fracture injuries are involved. Shoes may also be cut off to avoid causing pain or increasing an injury. When the clothing is removed, make sure the victim does not become chilled.

3. Keep the victim reassured and as comfortable as possible. If possible, don't let the victim see his or her injuries. The victim can endure pain and discomfort better if he or she is confident of your abilities.

4. Don't touch open wounds or burns with fingers or other objects except when sterile compresses or bandages aren't available and it's absolutely necessary to stop severe bleeding.

5. Don't try to give an unconscious person any solid or liquid substance by mouth. The person may vomit and get some of the material into the lungs when he or she breathes, causing choking and possibly death.

6. If a bone is broken or you suspect that one is broken, don't move the victim until you have immobilized the injured part. That may prove lifesaving in cases of severe bone fractures or spinal cord injuries, for the jagged bone may sever nerves and blood vessels, damage tissues, and increase shock. Of course, threat of fire, necessity to abandon ship, or other similar situations may require that you move the victim. But always keep in mind the principle that moving the victim could do further damage; always weigh the risk of moving the victim against other factors.

7. When transporting an injured person, always see that the litter is carried feet forward no matter what the injuries are. Carrying the litter this way lets the rear

bearer observe the victim for any respiratory obstruction or stoppage of breathing.

8. Keep the injured person comfortably warm—warm enough to maintain normal body temperature.

Very serious and mutilating injuries may require heroic first-aid measures on your part. However, the greater the number of injuries, the more judgment and self-control you must exhibit to prevent yourself and well-intentioned bystanders from trying to do too much.

## REVIEW 1 QUESTIONS

Q1. Describe the primary purpose of first aid.

Q2. List the primary tasks when administering first aid.

a.

b.

c.

Q3. Describe the general first-aid rule for the following conditions:

a. Shock

b. Broken bones

c. Transporting injured personnel

## ARTIFICIAL VENTILATION

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the procedures used to administer artificial ventilation.

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### *Student Notes:*

A person who has stopped breathing may not be dead but is in immediate critical danger. Life depends on oxygen that is breathed into the lungs and then carried by the blood to every body cell. Since body cells can't store oxygen and the blood can hold only a limited amount (and only for a short time), death will result from a continued lack of oxygen.

The heart may continue to beat and the blood may still be circulated to the body cells for some time after breathing has stopped. For a short time, blood will contain a small supply of oxygen; therefore, the body cells won't die immediately. **For a very few minutes, there's a chance that the person's life may be saved.** A person who's stopped breathing but who is still alive is in a state of *respiratory failure*. The first-aid treatment for respiratory failure is *artificial ventilation*.

Artificial ventilation provides air exchange until natural breathing is reestablished. Artificial ventilation should be given only when natural breathing has stopped. **Never give artificial ventilation to any person who is still breathing.**

Don't assume breathing has stopped if a person is unconscious or if a person has been rescued from the water, from poisonous gas, or from contact with an electrical wire. **Remember, never give artificial ventilation to a person who is breathing naturally.** If the victim doesn't begin spontaneous breathing (breaths by himself/herself) after using the head or jaw tilt techniques (discussed later) to open the airway, give artificial ventilation immediately. If a blocked airway prevents ventilation, one of the "thrust" methods (discussed later) to clear the airway must be performed, followed by another attempt at artificial ventilation.

## MOUTH TO MOUTH

To perform mouth-to-mouth ventilation, take the following steps:

1. Clear the victim's mouth of obstructions (false teeth and foreign matter).
2. Place the heel of one hand on the victim's forehead, and use the other hand placed under the chin to tilt back the head to open the airway.

3. Using the thumb and index finger, pinch the nostrils shut.
4. Take a deep breath, cover the victim's mouth with your own, and blow.
5. Then remove your mouth from the victim to allow him or her to exhale.

Observe the victim's chest for movement. If the victim hasn't started to breathe normally, start artificial ventilation with four quick ventilations in succession, letting the lungs inflate only partially. If the victim still doesn't respond, then you must fully inflate the victim's lungs at the rate of 12 to 15 ventilations per minute, or one breath every 5 seconds.

## MOUTH TO NOSE

Mouth-to-nose ventilation is effective when the victim has extensive facial or dental injuries or is very young. Mouth-to-nose ventilation creates an effective air seal.

To administer this mouth-to-nose ventilation—

1. Place the heel of one hand on the victim's forehead and use the other hand to lift the jaw.
2. After sealing the victim's lips, take a deep breath, place your lips over the victim's nose, and blow.

Observe the chest for movement and place your ear next to the victim's nose to listen for or feel air exchange. Again, you must continue your efforts at the rate of 12 to 15 ventilations per minute, or one breath every 5 seconds, until the victim can breathe without assistance.

Sometimes during artificial ventilation air enters the stomach instead of the lungs. This condition is called *gastric distention*. It can be relieved by moderate pressure exerted with a flat hand between the navel and the rib cage. Before applying pressure, turn the victim's head to the side to prevent choking on the stomach contents that are often brought up during the process.

## BACK PRESSURE/ARM LIFT

The back pressure/arm lift method is an alternate technique used when other methods are not possible. To

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## Student Notes:

perform the back pressure/arm lift method, do the following steps:

1. Place the victim on the stomach, face to one side, neck hyper extend, with hands under the head.
2. Quickly clear the mouth of any foreign matter.
3. Kneel at the victim's head and place your hands on the victim's back so that the heels of the hands lie just below a line between the armpits, with thumbs touching and fingers extending downward and outward.
4. Rock forward, keeping your arms straight, and exert pressure almost directly downward on the victim's back, forcing air out of the lungs.
5. Then rock backward, releasing the pressure and grasping the arms just above the elbows.
6. Continue to rock backward, pulling the arms upward and inward (toward the head) until resistance and tension in the victim's shoulders are noted. That expands the chest, causing active intake of air (inspiration).
7. Rock forward and release the victim's arms. That causes passive exiting of air (expiration).

Repeat the cycle of **press, release, lift, and release** 10 to 12 times a minute until the victim can breathe naturally.

## **CARDIAC ARREST AND CARDIOPULMONARY RESUSCITATION**

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the procedures to administer cardiopulmonary resuscitation (CPR).

Cardiac arrest is the complete stoppage of heart function. If the victim is to live, action must be taken immediately to restore heart function. The immediate administration of cardiopulmonary resuscitation (CPR) by a rescuer using correct procedures greatly increases the chances of a victim's survival. CPR consists of external heart compression and artificial ventilation.

The compression is performed on the outside of the chest, and the lungs are ventilated either by mouth-to-mouth or mouth-to-nose techniques. **To be effective, CPR must be started within 4 minutes of the onset of cardiac arrest.** The victim should be lying on a firm surface.

### **CAUTION**

A rescuer who has not been properly trained should not attempt CPR. (To learn CPR, you should take an approved course from a qualified CPR instructor.) Improperly done, CPR can cause serious damage. Therefore, it is **never** practiced on a healthy individual for training purposes; a training aid is used instead.

### **ONE-RESCUER TECHNIQUE**

In an unwitnessed cardiac arrest, don't assume that an arrest has occurred solely because the victim is lying on the floor and appears to be unconscious. Before beginning CPR, you should—

1. Try to arouse the victim (shake the victim's shoulders and shout to try to obtain a response).
2. Lie the unconscious victim on his/her back.
3. Kneel at the shoulders and establish an open airway, using the procedures outlined previously in artificial ventilations.
4. Check for breathing by looking, listening, and feeling.
  - a. Look to see if the chest is rising and falling.
  - b. Listen for air coming from the mouth.
  - c. Check close to the victim's mouth and feel for air coming out.
5. If the victim isn't breathing, seal the nose, take a deep breath, and blow four quick breaths into the victim without allowing time for the lungs to deflate fully.
6. Quickly remove your mouth and allow the victim to exhale by himself/herself.
7. Check the carotid pulse as shown in figure 14-1. If no pulse is present, start CPR immediately.

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### ***Student Notes:***





Figure 14-1.—Feeling for the carotid pulse.

To start **external cardiac compression**—

1. Place the victim on his/her back, establish an open airway, and kneel at right angles to the victim's body.
2. Then locate the victim's sternum (breastbone) by—
  - a. Baring the chest and locating the sternum by drawing an imaginary line from one nipple to the other to identify the proper area of the sternum, which is darkened in figure 14-2.
  - b. Locating the lower tip of the sternum with the index and middle fingers, placing the heels of your hands above your fingers in the darkened area.

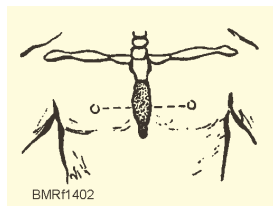


Figure 14-2.—Locating the sternum.

#### NOTE

There is a small piece of cartilage at the lower end of the sternum (fig. 14-2). A

fracture of this area can damage the liver, causing hemorrhage (heavy bleeding) and death. When you place the heels of your hands on the victim's chest, stay above the tip of the sternum.

3. Place the heel of one hand directly on the sternum, and the heel of the other on top of the first. Figure 14-3, view A, shows this technique. Interlock your fingers, and **keep them off the victim's chest!**
4. Lean or rock forward with elbows locked, and apply vertical pressure to depress the sternum (adult) 1 ½ to 2 inches (fig. 14-3, view B).
5. Then release the pressure, keeping the hands in place.
6. Administer 60 to 80 compressions per minute.

You won't get as tired if you use the proper technique, and you will be more effective. Ineffective compression occurs when the elbows are not locked, the rescuer is not directly over the sternum, or the hands are improperly placed on the sternum.

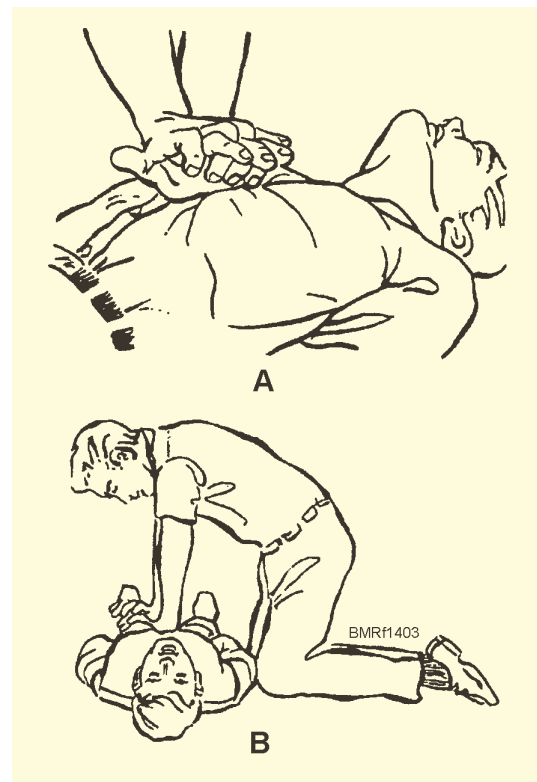


Figure 14-3.—Position for cardiac compression.

### Student Notes:

When one rescuer performs CPR, as shown in figure 14-4, the ratio of compressions to ventilations is 15 compressions to 2 ventilations (or 15 to 2). This ratio must continue for four full cycles. Then check for pulse and breathing. If there are still no signs of recovery, continue CPR until the victim can breathe unassisted or you are relieved by medical personnel.

Before reviewing the next technique, let's go over the steps to take in an unwitnessed cardiac arrest involving one rescuer.

1. Determine whether the victim is conscious.
2. Check the vital signs.
3. Ventilate four times. (You may have to remove an airway obstruction at this time.)
4. Again check the vital signs; if none—
  - a. Begin compression-ventilation rate of 15 to 2 for four complete cycles;
  - b. Check pulse, breathing, pupils; if no change,

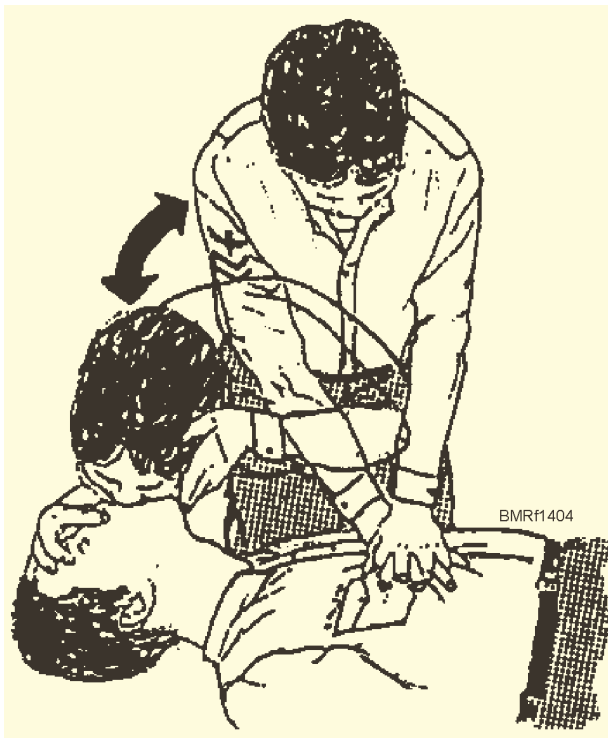


Figure 14-4.—One-rescuer CPR technique.

- c. Continue compression—ventilation rate of 15 to 2 until victim is responsive or you are relieved by medical personnel.

## TWO-RESCUER TECHNIQUE

If two people trained in CPR are on the scene, one performs compressions while the other performs artificial ventilation. The compression-ventilation ratio for two-person CPR is 5 compressions to 1 ventilation (5 to 1). One rescuer is positioned at the chest area and the other beside the victim's head. The rescuers should be on opposite sides of the victim.

To avoid confusion, one rescuer is designated the leader. The leader makes the preliminary checks of the victim's vital signs and performs the initial four ventilations. The second rescuer will perform the compressions.

When CPR is started, the compressions should be given in a constant, methodical rhythm. The rescuer giving the compressions counts them out loud. As the fifth compression is released, the other rescuer ventilates the victim. Do not stop the compressions while ventilation is being given.

## AIRWAY BLOCKAGE

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the procedures used to clear an airway passage.

Obstruction in the upper airway (throat) is often caused by attempting to chew food and talk at the same time. One of the most reliable indications of an airway obstruction is the inability of the victim to speak. Other indicators are the victim's grasping or pointing at his or her throat, exaggerated breathing efforts, and the skin turning a bluish color. Your first action upon encountering a victim with this problem is to clear the mouth of any food particles, foreign objects, or loose dentures. If that is not effective, you should use one of the following procedures:

---

### *Student Notes:*

PROCEDURE	STEPS
Standing abdominal thrust	<ol style="list-style-type: none"> <li>1. Stand behind the victim and wrap your arms around the victim's waist (fig. 14-5).</li> <li>2. Grasp your wrist and place the thumb side of your fist against the victim's abdomen, above the navel and just below the rib cage (fig. 14-6).</li> <li>3. Give four quick upward thrusts to the victim. The obstruction should pop out like a champagne cork. If unsuccessful, repeat until the obstruction is dislodged.</li> </ol>
Reclining abdominal thrust	<ol style="list-style-type: none"> <li>1. Position yourself for the thrust by either straddling the victim at the hips, straddling one leg, or kneeling at the victim's hips.</li> <li>2. Place your hands one on top of the other in the area between the lower end of the sternum and the navel, and give four quick upward thrusts into the abdomen, as shown in figure 14-7.</li> </ol>
Standing chest thrust	<ol style="list-style-type: none"> <li>1. Bring your arms under the arms of the victim and encircle the lower chest, as shown in figure 14-8.</li> <li>2. Grasp your wrist, keeping the thumb side close to the victim's chest. (Keep your fist on the middle, not the lower part, of the sternum.)</li> <li>3. Press the chest with a sharp, backward thrust.</li> </ol>
Reclining chest thrust	<ol style="list-style-type: none"> <li>1. Kneel at either side of the victim, place hands in same position as used for CPR.</li> <li>2. Deliver thrusts slowly and downward on the sternum (fig. 14-9).</li> </ol>



Figure 14-5.—Position for standing abdominal thrust.

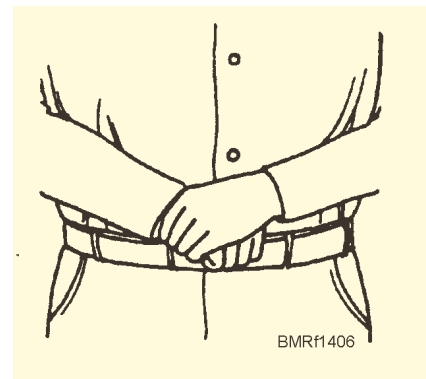


Figure 14-6.—Correct hand positioning.



Figure 14-7.—Position for reclining abdominal thrust.



Figure 14-8.—Position for standing chest thrust.

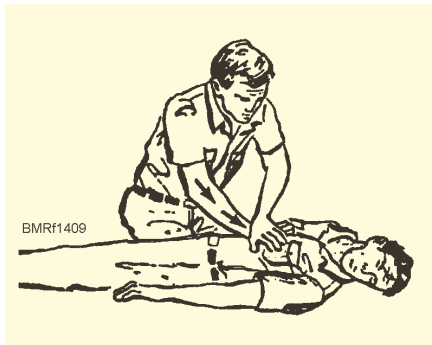


Figure 14-9.—Position for reclining chest thrust.

## REVIEW 2 QUESTIONS

Q1. What is the first-aid treatment for respiratory failure?

Q2. When should artificial ventilation be administered?

Q3. List the three types of artificial ventilation.

- a.
- b.
- c.

Q4. What is cardiac arrest?

Q5. To be effective, CPR must be started within how many minutes of the onset of cardiac arrest?

Q6. When you use the one-rescuer technique of CPR, what is the ratio of compressions to ventilations?

Q7. When you use the two-rescuer technique of CPR, what is the ratio of compressions to ventilations?

Q8. List the symptoms of airway blockage.

- a.
- b.
- c.

Q9. List the four methods you can use to clear a person's airway.

- a.
- b.
- c.
- d.

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***Student Notes:***

## HEMORRHAGE AND METHODS OF CONTROLLING BLEEDING

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the procedures used to control external bleeding.

Blood is circulated throughout the body by three different kinds of blood vessels.

1. Arteries, which are large vessels that carry the blood away from the heart
2. Veins, which are large vessels that carry the blood back to the heart
3. Capillaries, which form a connecting network of smaller vessels between the arteries and the veins

Hemorrhage (escape of blood) occurs whenever there is a break in the wall of one or more blood vessels. In most small cuts, only capillaries are injured. Deeper wounds result in injury to veins or arteries. Bleeding severe enough to endanger life seldom occurs **except** when arteries or veins are cut.

The average adult body contains about 5 quarts (4.75 liters) of blood. One pint of blood can usually be lost without harmful effect—in fact, that's the amount usually given by blood donors. However, the loss of 2 pints (0.95 liter) will usually cause shock, and shock becomes greater as the amount of blood loss increases. (Shock will be discussed later in this chapter.) If half the blood in the body is lost, death almost always results.

Capillary blood is usually brick red in color. If capillaries are cut, the blood oozes out slowly. Blood from the veins is dark red. If a vein is cut, the blood escapes in a steady, even flow. If an artery near the surface is cut, the blood will gush out in spurts that are synchronized with the heartbeats; but if the cut artery is deeply buried, the bleeding will appear to be a steady stream. Arterial blood is usually bright red in color.

In actual practice, you might find it difficult to decide whether bleeding was from a vein or an artery; but the distinction is not usually important. A person can bleed to death quickly from a cut artery; prolonged bleeding from any large cut can, of course, have the

same effect. The important thing to know is that **all** bleeding must be controlled as quickly as possible.

The only way to stop serious bleeding is by the application of pressure. In practically all cases, bleeding can be stopped if **pressure** is applied **directly to the wound**. If direct pressure doesn't stop the bleeding, pressure should be applied at the appropriate pressure point. In those very rare cases where bleeding is so severe that it cannot be controlled by either of these methods, pressure can be applied by a tight constricting band. The actual procedures you should use to stop bleeding are shown in chart on pages 14-10 and 14-11.

### CAUTION

Never put on a constricting band unless the hemorrhage is so severe that it cannot be controlled in any other way. Once a constricting band has been applied, it should be released only by medical personnel.

### BATTLE DRESSINGS

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the procedures used to apply battle dressings.

A battle dressing is a combination compress and bandage, in which a sterile gauze pad is fastened to a gauze, muslin, or adhesive bandage. Most Navy first-aid kits contain both large and small battle dressings. Battle dressings are also supplied at battle dressing stations located throughout the ship. Any part of a dressing that is to come into direct contact with a wound should be absolutely sterile. The dressing you find in Navy first-aid kits have been sterilized. Never touch a battle dressing with your fingers, clothing, or any other unsterile object.

When applying a battle dressing, make sure the dressing is the proper size so that it covers the wound completely. Some wounds, such as protruding abdominal wounds, require the dressing to be moistened in sterile water. Battle dressing should be applied so it doesn't allow the dressing to move or slip

---

### *Student Notes:*

PROCEDURE	STEPS
Direct pressure	<p>In most cases, bleeding can be stopped by the application of pressure directly on the wound.</p> <ul style="list-style-type: none"> <li>• Place a dressing (sterile or clean, if possible) over the wound and firmly fasten it in position with a bandage.</li> <li>• If bleeding doesn't stop, firmly secure another dressing over the first, or apply direct pressure with your hand to the dressing (fig. 14-10).</li> <li>• In cases of severe hemorrhage, don't worry too much about the danger of infection. The basic problem is to stop the flow of blood. If no material is available, simply place your hand firmly on the wound. Remember, direct pressure is the first method to use when you are trying to control hemorrhage.</li> </ul>
Pressure points	<p>Bleeding from a cut artery or vein may often be controlled by applying pressure to the appropriate pressure point. A pressure point is a place where the main artery to the injured part lies near the skin surface and over a bone. Pressure at such a point is applied with the fingers (digital pressure) or with the hand; no first-aid materials are required. The object of the pressure is to compress the artery against the bone, shutting off the flow of blood from the heart to the wound. There are 10 principal points (fig. 14-11) on each side of the body where hand or finger pressure can be used to stop hemorrhage. You should memorize these pressure points so that you will know immediately which point to use for hemorrhage from a particular part of the body. The correct pressure point you should use is the one that is—</p> <ol style="list-style-type: none"> <li>1. Nearest the wound.</li> <li>2. Between the wound and the main part of the body, or between the wound and the heart.</li> </ol> <p>Applying finger pressure is very tiring, and it can seldom be maintained for more than 15 minutes. Pressure points are recommended for use while direct pressure is being applied to a serious wound. While pressure is being applied at the appropriate pressure point, an assistant can bandage the wound (or wounds). If available, a battle dressing should be used. After opening the dressing, be careful not to contaminate it. Place the compress portion over the wound, then bind it tightly in place with the attached straps (fig. 14-12). If bleeding continues to be severe even after direct pressure and pressure points have been used, you may have to apply a constricting band.</p>
Constricting band	<p>A constricting band is a band used to cut off the supply of blood to an injured limb. <b>It can't be used to control bleeding from the head, neck, or body</b> because its use in these locations would result in greater injury or death. Only use a constricting band when hemorrhage can't be controlled by other means.</p> <p>A constricting band consists of a pad, a band, and a device for tightening the band so that the blood vessels will be compressed. There are several different kinds of ready-made constricting bands. A variety of materials can be used to improvise constricting bands. Any round, smooth pressure object may be used for the pad (such as a compress, a roller bandage, a stone, or a rifle shell), and any long, flat material may be used as the band. Remember, the band must be flat! Belts, stockings, flat strips of rubber, or neckerchiefs can be used; but rope, wire, string, or very narrow pieces of cloth shouldn't be used because they will cut into the flesh. A short stick may be used to twist the band, tightening the constricting band.</p>



PROCEDURE	STEPS
Constricting band (Continued)	<p>A constricting band must always be applied above the wound; that is, toward the body, and it must be applied as close to the wound as practicable.</p> <p>The best object to be used for the pad is either a pad, compress, or similar pressure object. The pad goes under the band. Place it directly over the artery, or it will actually decrease the pressure on the artery and allow greater flow of blood. If a constricting band placed over a pressure object doesn't stop the bleeding, the pressure object is probably in the wrong place. If that occurs, shift the object around until the constricting band, when tightened, controls the bleeding. If no suitable pressure object is available, use the constricting band without it.</p> <p>To apply an emergency constricting band (fig. 14-13) made from something like a neckerchief—</p> <ol style="list-style-type: none"> <li>1. Wrap the material (which is a minimum of 2 inches wide) at least twice around the limb and tie an overhand knot.</li> <li>2. Place a short stick on the overhand knot and tie a square knot over it. Then twist the stick rapidly to tighten the constricting band. The stick may be tied in place with another strip of material.</li> </ol> <p>To be effective, a constricting band must be tight enough to stop the blood flowing to the limb. If the pressure from the constricting band is less than the arterial pressure, arterial bleeding will continue. Also, insufficient constricting band pressure may actually increase the amount of bleeding from the veins. So be sure to draw the constricting band tight enough to stop the bleeding. However, don't make it any tighter than necessary.</p> <p>After you have brought the bleeding under control with the constricting band, apply a sterile compress or dressing to the wound, and fasten it in position with a bandage.</p> <p>Some points to remember about using a constricting band are as follows:</p> <ul style="list-style-type: none"> <li>• Don't use a constricting band unless you can't control the bleeding by any other means.</li> <li>• Don't use a constricting band for bleeding from the head, face, neck, or body. Use one only on the limbs.</li> <li>• Always apply a constricting band above the wound and as close to the wound as possible.</li> <li>• Be sure you draw the constricting band tight enough to stop the bleeding, but don't make it any tighter than necessary.</li> <li>• Don't loosen a constricting band after it has been applied.</li> </ul> <p>Don't cover a constricting band with a dressing. If it's necessary to cover the injured person in some way, make sure all other people concerned with the case know about the constricting band. Using a crayon, skin pencil, or blood, make a large <i>T</i> on the victim's forehead or on a medical tag attached to the wrist, and note the time the constricting band was applied.</p>

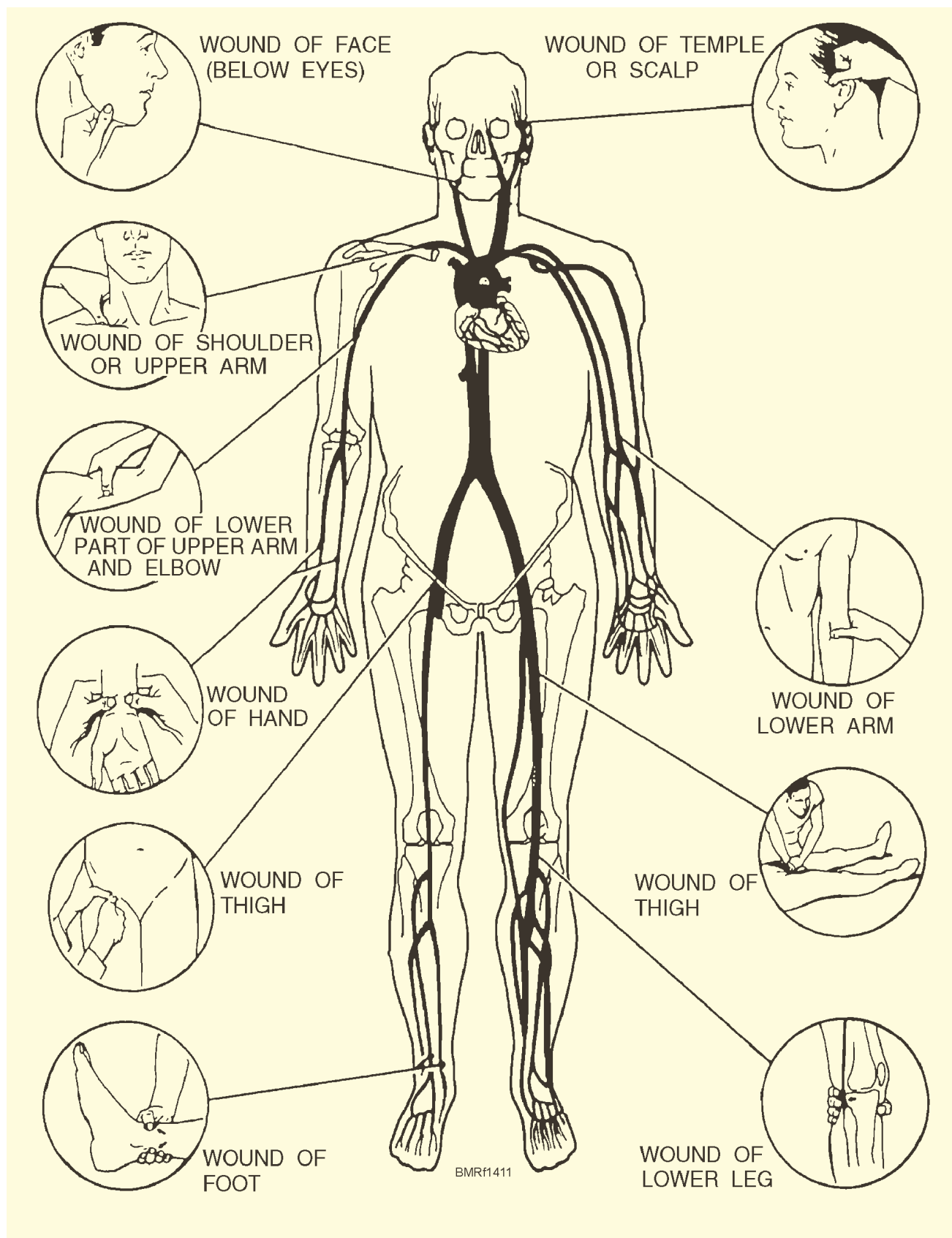
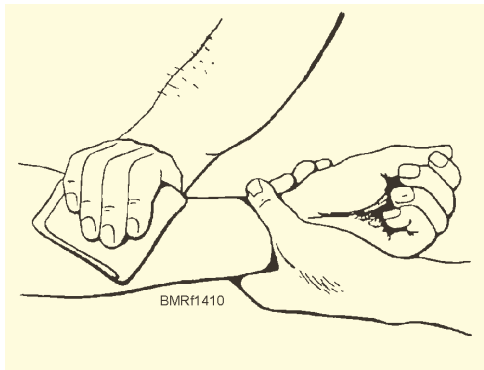
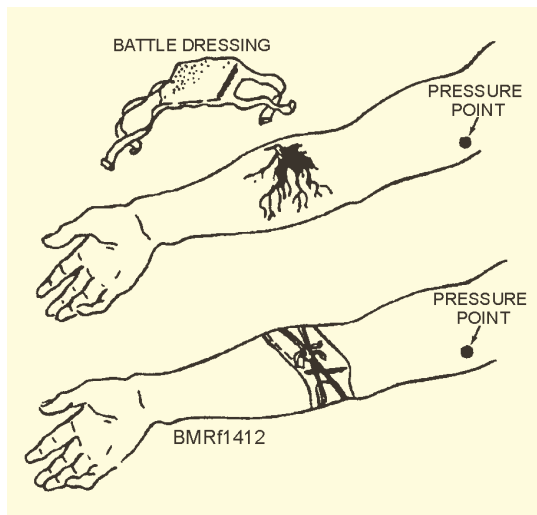


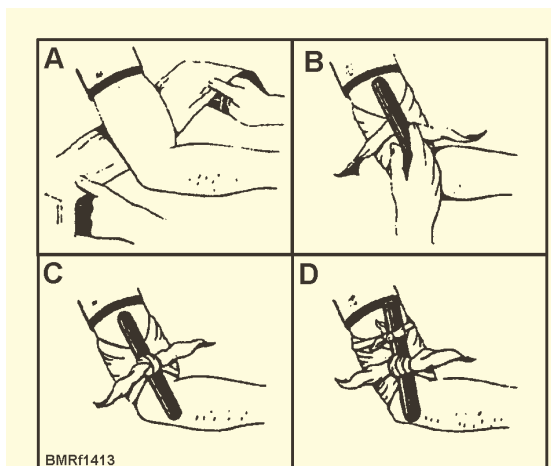
Figure 14-11.—Pressure points for control of bleeding.



**Figure 14-10.—Direct pressure.**



**Figure 14-12.—Battle dressing.**



**Figure 14-13.—Applying a constricting band.**

off the wounded area. Once a battle dressing has been applied to a wound, it shouldn't be removed except by medical personnel. Each ship in the Navy holds periodic training on first aid. There are always new and updated techniques on how to administer first-aid procedures, including how to apply battle dressings. Pay particular attention to these training sessions and learn as much as you possibly can.

### REVIEW 3 QUESTIONS

- Q1. List the three types of blood vessels the body uses to circulate blood.
  - a.
  - b.
  - c.
- Q2. Under what condition is hemorrhage (bleeding) severe enough to endanger life?
- Q3. A loss of how many pints of blood will usually cause shock?
- Q4. What color is blood carried by (a) capillaries, (b) veins, and (c) arteries?
  - a.
  - b.
  - c.
- Q5. What is the only way to stop serious bleeding?

---

**Student Notes:**

Q6. What is a constricting band?

Q7. When a battle dressing is applied, what person should release or remove it?

Q8. What is a battle dressing?

Q9. How should you apply a battle dressing?

## SHOCK

**Learning Objective:** When you finish this chapter, you will be able to—

- Recognize the symptoms, prevention, and treatment of shock.

If you've ever hit your finger with a hammer and felt—in addition to the pain—weak, dizzy, and nauseous, then you have experienced a mild form of shock. In this case, the symptoms appeared immediately after the injury, but they may not show up for several hours.

Shock is a condition in which blood circulation is seriously disturbed. Crushed or fractured bones, burns, prolonged bleeding, and asphyxia all cause shock. Shock may be slight or it may be severe enough to cause death. Because all traumatic injuries result in some form of shock, you should learn its symptoms and know how to treat the victim.

### HOW TO RECOGNIZE SHOCK

A person who is going into shock may show quite a few signs or symptoms, some of which are indicated in figure 14-14, and are discussed in the following paragraphs. Remember, that signs of shock don't always appear at the time of the injury; and, in many

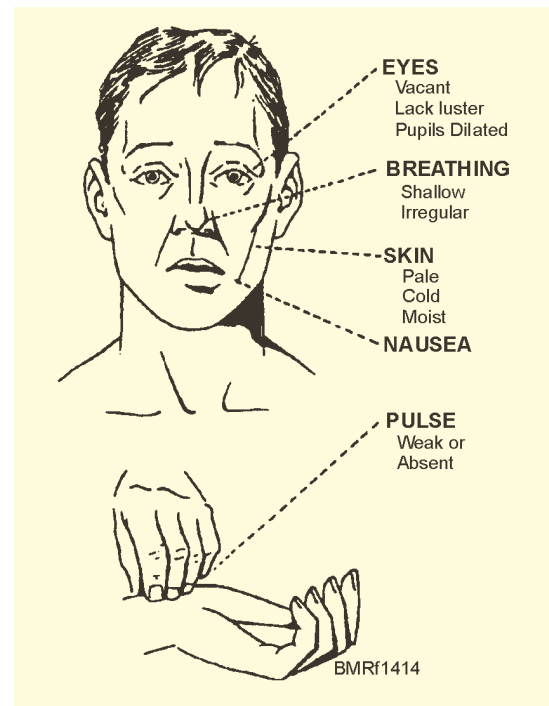


Figure 14-14.—Symptoms of shock.

very serious cases, symptoms may not appear until hours later.

The symptoms of a person suffering from shock are caused, directly or indirectly, by the disturbance of the circulation of the blood. Symptoms of shock include the following:

- The pulse is weak and rapid.
- Breathing is likely to be shallow, rapid, and irregular, because the poor circulation of the blood affects the breathing center in the brain.
- The temperature near the surface of the body is lowered because of the poor blood flow; so the face, arms, and legs feel cold to the touch.
- Sweating is likely to be very noticeable.
- A person in shock is usually very pale, but, in some cases, the skin may have a bluish or reddish color. In the case of victims with dark skin, you may have to rely primarily on the color of the mucous membranes on the inside of the mouth or under the eyelid or under the nail bed. A person in or going into shock has a bluish color to these membranes instead of a healthy pink.

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### *Student Notes:*

- The pupils of the eyes are usually dilated (enlarged).

- A conscious person in shock may complain of thirst and have a feeling of weakness, faintness, or dizziness. The victim may feel nauseous, restless, frightened, and/or anxious. As shock deepens, these signs gradually disappear and the victim becomes less and less responsive to what is going on. Even pain may not arouse the shock victim. Finally, the victim may become unconscious.

You will not likely see all the symptoms of shock in any one case. Some of them may appear only in late stages of shock when the disturbance of the blood flow has become so great that the person's life is in serious danger. Sometimes the signs of shock may be disguised by other signs of the injury. You must know what symptoms indicate the presence of shock, but don't ever wait for symptoms to develop before beginning the treatment for shock. **Remember, every seriously injured person is likely to develop serious shock!**

## PREVENTION AND TREATMENT OF SHOCK

You should begin treatment for shock as soon as possible. Prompt treatment may prevent shock or, if it has already developed, prevent its reaching a critical point. Keep the victim lying down and warm. If conscious, the victim should be encouraged and assured that expert medical help will arrive soon.

**Keep an injured person warm enough for comfort, but do not let the victim become overheated.**

The best position to use to prevent or to treat shock is one that encourages the flow of blood to the brain. If possible, place the injured person on his or her back on a bed, a cot, or a stretcher. Raise the lower end of the support about 12 inches so that the feet are higher than the head (fig. 14-15). If you can't do that and it's possible, raise the feet and legs enough to help the blood flow to the brain. Sometimes it's possible to take advantage of a natural slope of ground and place the victim so that the head is lower than the feet.

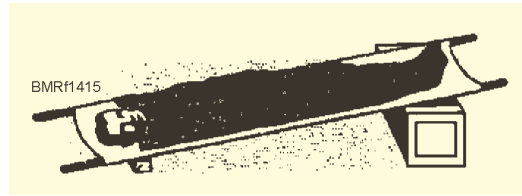


Figure 14-15.—Position for the treatment of shock.

Of course in every case, you'll have to consider what type of injury is present before you can decide on the best position. Here are some examples:

- If a person has a chest wound, he/she may have so much trouble breathing that you will have to raise the head slightly.
- If the face is flushed, rather than pale, or if you have any reason to suspect a head injury, don't raise the feet. Instead, you should keep the head level with or slightly higher than the feet.
- If the person has broken bones, you will have to judge what position would be best both for the fractures and for shock. A fractured spine must be immobilized before the victim is moved at all, if further injuries are to be avoided.

If you have any doubts about the correct position to use, have the victim lie flat on his/her back. **The basic position for treating shock is one in which the head is lower than the feet.** Do the best you can under the particular circumstances to get the injured person into this position. In any case, never let a seriously injured person sit, stand, or walk around.

Administer liquids sparingly, and not at all if medical attention will be available within a short time. If necessary, small amounts of warm water, tea, or coffee may be given to a victim who is conscious. Persons having serious burns are an exception. Burn victims require large amounts of fluids. Water, tea, fruit juices, and sugar water may be given freely to a victim who is conscious, able to swallow, and has no internal injuries. Slightly salted water is also beneficial. **Never give alcohol to a person in shock.**

An injured person may or may not be in pain. The amount of pain felt depends in part on the person's physical condition and the type of injury. Extreme pain, if not relieved, can increase the degree of shock. Make

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## Student Notes:

the victim as comfortable as possible. Fractures should be immobilized and supported. Immobilization greatly reduces, and sometimes eliminates, pain.

An injured person's body heat must be conserved. Therefore, heat is important in the treatment of shock. Exposure to cold, with resulting loss of body heat, can cause shock to develop or to become worse. You will have to judge the amount of covering to use by considering the weather and the general circumstances of the accident. Often a light covering will be enough to keep the casualty comfortable. Wet clothing should be removed and dry covering provided, even on a hot day. Use blankets or any dry material to conserve body heat. Artificial means of warming (hot water bottles, heated bricks, heated sand) should not ordinarily be used. Artificial heat may cause loss of body fluids (by sweating), and it brings the blood closer to the surface, defeating the body's own efforts to supply blood to the vital organs and to the brain. Also, the warming agent may burn the victim.

#### REVIEW 4 QUESTIONS

Q1. What is shock?

Q2. List the symptoms of shock.

- a.
- b.
- c.
- d.
- e.
- f.
- g.

Q3. True or false. Keep an injured person warm enough for comfort, but do not let the victim become overheated.

Q4. If you suspect a person to be in shock, what is the best position for that person?

#### SUICIDE

**Learning Objective:** When you finish this chapter, you will be able to—

- Recognize suicidal tendencies and possible treatment.

Suicide among young adults is a serious and growing problem. Among Navy personnel, approximately 10% of the Navy's nonhostile active-duty deaths are caused by suicide. Among the leading causes of nonhostile deaths in the Navy, suicide ranks third behind accidents and heat-related causes. The most frequent suicide victims in the Navy are enlisted males between the ages of 17 and 24 and in paygrades E-1 to E-6.

Why suicide? There isn't a simple answer as to why people choose to kill themselves. Usually, some emotional trauma is so great they "just want to stop the pain." They feel helpless, hopeless, and worthless. They feel that suicide is the only way out.

#### CAUSES OF SUICIDE

Most suicides are caused by a combination of events that lead a person to believe that suicide is the only way out. The following are some common causes of suicide:

- The breakup of a close relationship with a loved one or difficulties in interpersonal relationships
- The death of a loved one, spouse, child, parent, sibling, friend, or even a pet
- The loss of social or financial status of the family

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***Student Notes:***



- The compounding and disorienting effects of drugs and/or alcohol

## DEPRESSION

Depression is often associated with suicide. In 75% to 80% of all suicides, depression is a contributing factor. Sadness and an occasional “case of the blues” are normal emotions. However, depression isn’t a normal emotional state. Depression is a deep sadness that’s present almost daily for at least 2 weeks.

## WHAT TO DO

If you believe someone you know is suicidal, remember the following:

- Take all threats seriously
- Answer cries for help
- Confront the problem
- Tell the person you care
- Listen actively
- Get professional help
- Don’t leave the person alone

## REVIEW 5 QUESTIONS

- Q1. In the Navy, who is the most frequent suicide victim?
- Q2. List the common causes of suicide.
- a.
  - b.
  - c.
  - d.
- Q3. What condition is often associated with suicide?

Q4. List some actions you should take if someone you know might be suicidal.

- a.
- b.
- c.
- d.
- e.
- f.
- g.

## BURNS

**Learning Objective:** When you finish this chapter, you will be able to—

- Recognize the symptoms of, classification of, and first-aid treatment for burns.

The seriousness of a burn depends on two factors—the extent of the burned area and the depth of the burn. Shock can be expected from burns involving 15% or more of the body. Burns involving 20% endanger life. Without adequate treatment, burns of over 30% are usually fatal. The depth of the injury determines whether it is a first-, second-, or third-degree burn.

**First-degree burns.** First-degree burns are mildest. Symptoms are slight pain, redness, tenderness, and increased temperature of the affected area.

**Second-degree burns.** Second-degree burns are more serious. The inner skin may be damaged, resulting in blistering, severe pain, some dehydration, and possible shock.

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## *Student Notes:*

**Third-degree burns.** Third-degree burns are worst of all. The skin is destroyed, and possibly also the tissue and muscle beneath it. The skin may be charred, or it may be white and lifeless (from scalds). After the initial injury, pain may be less severe because of destroyed nerve ends. There may be chilling of the body. Some form of shock will result.

Probably the most important aspect is the extent of the burned area. A first-degree burn covering a large area could be more serious than a small third-degree burn. A sunburn, for example, ranging from mild to serious, is easily obtained, particularly if you aren't accustomed to the exposure. If you fall asleep while sunbathing, possible second- or even third-degree burns might occur and could be fatal.

The most effective immediate treatment of burns and of pain is as follows:

1. If the burn area covers **less than 20% of the body**, immerse the burned area in cold water, or apply cold compresses if immersion is impracticable. Cold water not only minimizes pain but also reduces the burning effect in the deeper layers of the skin. Gently pat dry the area with lint-free cloth or gauze.

2. If the burn area covers **more than 20% of the body**, apply sterile, dry bandages. Aspirin is also effective for the relief of pain. Continue treatment until no pain is felt when the burned area is exposed to the air.

Burn victims require large amounts of water, which should be slightly salted. Because of the nature of the injury, most burns are sterile. Therefore, the best treatment for uninfected burns is merely to protect the area by covering it with the cleanest (preferably sterile) dressing available.

Some actions that should **not** be taken when dealing with burns are as follows:

- Never apply ointments to a burn or use petrolatum gauze.
- Don't attempt to break blisters or to remove shreds of tissue or adhered particles of charred clothing.

- Never apply a greasy substance (butter, lard, or Vaseline™), antiseptic preparations, or ointments. These may cause further complications and interfere with later treatment by medical personnel.

## REVIEW 6 QUESTIONS

- Q1. Define the following types of burns:
- a. First-degree burn
  - b. Second-degree burn
  - c. Third-degree burn
- Q2. If a burn covers less than 20% of a victim's body, you should immerse the burned area in cold water or apply cold compresses. Why should you take these actions?
- Q3. If a burn covers more than 20% of a victim's body, what actions should you take?
- Q4. When treating burns, you should NEVER take which of the following actions?
- a. Apply petrolatum gauze
  - b. Break blisters
  - c. Apply butter, lard, or Vaseline™
  - d. Each of the above

## HEAT-RELATED PROBLEMS

**Learning Objective:** When you finish this chapter, you will be able to—

- Recognize the symptoms of and first-aid treatment for heat-related illnesses.

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### *Student Notes:*

Look at figure 14-16. Here, you see a comparison of the symptoms of heatstroke and heat exhaustion. These are dangers you face when working or exposed to conditions that might cause heatstroke or heat exhaustion.

## HEATSTROKE

Sunstroke is more accurately called *heatstroke* since it is not necessary for a person to be exposed to the sun for this condition to develop. It is a less common but far more serious condition than heat exhaustion, since heatstroke has a 20% mortality rate. The more important feature of heatstroke is the extremely high body temperature (105°F [41°C] or higher) that accompanies it. In heatstroke, the victim has a breakdown of the sweating mechanism and is unable to eliminate excessive body heat built up while exercising. If the body temperature rises too high, the brain, kidneys, and liver may be permanently damaged.

**Signs and symptoms of heatstroke.** Sometimes the victim may have preliminary symptoms such as headache, nausea, dizziness, or weakness. Breathing will be deep and rapid at first, later shallow and almost absent. Usually the victim will be flushed, very dry, and

very hot. The pupils will be constricted (pinpoint) and the pulse fast and strong.

**Treatment of heatstroke.** When you provide first aid for heatstroke, remember that this is a true life-and-death emergency. The longer the victim remains overheated, the higher the chances of irreversible body damage or even death. First-aid treatment for heatstroke is designed to reduce body heat and includes the following:

- Reduce body heat immediately by dousing the body with cold water, or applying wet, cold towels to the whole body.
- Move the victim to the coolest possible place and remove as much clothing as possible.
- Maintain an open airway.
- Place the victim on his or her back, with the head and shoulders slightly raised.
- If cold packs are available, place them under the arms, around the neck, at the ankles, and on the groin.

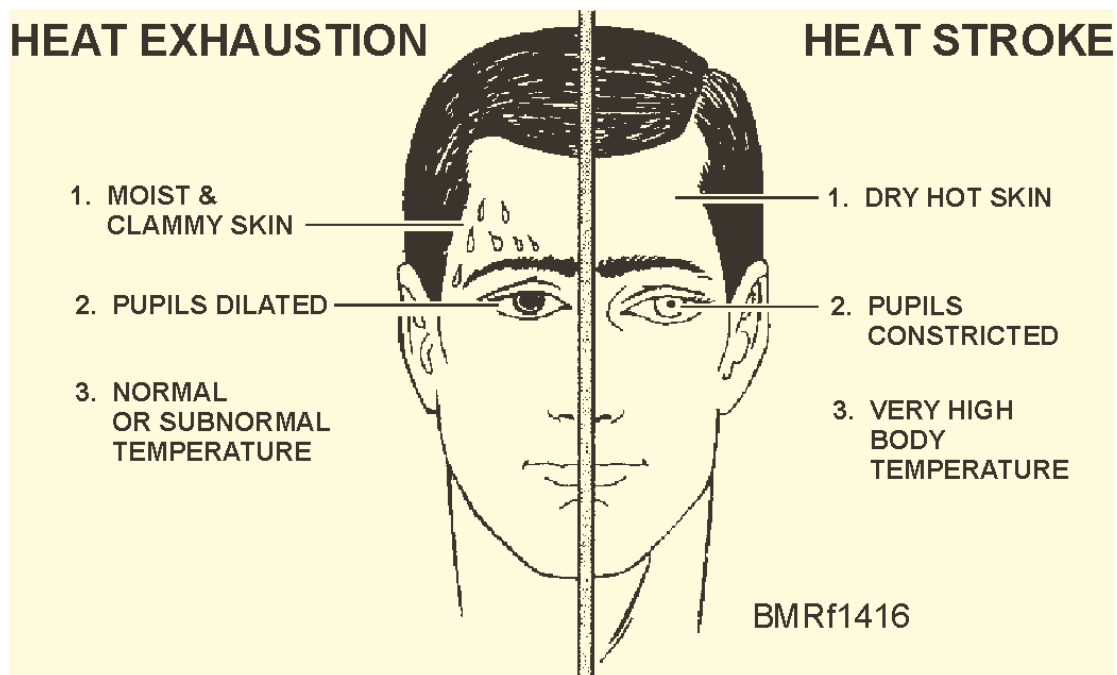


Figure 14-16.—Symptoms of heatstroke and heat exhaustion.

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### Student Notes:

- Expose the victim to a fan or air-conditioner since drafts will promote cooling.
- Immersing the victim in a cold water bath is also effective.
- Give the victim (if conscious) cool water to drink. Do not give any hot drinks or stimulants.
- Get the victim to a medical facility as soon as possible. Cooling measures must be continued while the victim is being transported.

## HEAT EXHAUSTION

Heat exhaustion (heat prostration or heat collapse) is the most common condition caused by working or exercising in hot spaces. Heat exhaustion produces a serious disruption of blood flow to the brain, heart, and lungs. This disruption of blood flow causes the victim to experience weakness, dizziness, headache, loss of appetite, and nausea.

**Signs and symptoms of heat exhaustion.** Signs and symptoms of heat exhaustion are similar to those of shock: for example—

- The victim will appear ashen gray; the skin cold, moist, and clammy.
- The pupils of the eyes may be dilated (enlarged).
- The vital signs (blood pressure, temperature, pulse, and respiration) usually are normal; however, the victim may have a weak pulse together with rapid and shallow breathing.
- Body temperature may be below normal.

**Treatment of heat exhaustion.** To treat heat exhaustion victims, you should treat them as if they were in shock.

- Loosen the clothing; apply cool, wet cloths.
- Move the victim to either a cool or an air-conditioned area, and fan the victim.
- Do not allow the person to become chilled.

- If the victim is conscious, administer a solution of 1 teaspoon of salt dissolved in a quart of cool water.
- If the victim vomits, don't give any more fluids.
- Transport the victim to a medical facility as soon as possible.

## REVIEW 7 QUESTIONS

- Q1. List the three most important signs of heatstroke.
- a.
  - b.
  - c.
- Q2. List the three most important signs of heat exhaustion.
- a.
  - b.
  - c.
- Q3. What is the most important action when treating someone who is showing signs of heatstroke or heat exhaustion?
- Q4. True or false. In case of heatstroke/heat exhaustion, you should transport the victim to a medical facility as soon as possible.

## FRACTURES, SPRAINS, AND STRAINS

**Learning Objectives:** When you finish this chapter, you will be able to—

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***Student Notes:***

- Recognize the classification of, symptoms of, and first-aid treatment for fractures.
- Recall the first-aid treatment for strains and sprains.

Simply put, a fracture is a broken bone. The severity of the injury depends on the part of the body affected, the type of fracture, and the amount of tissue damaged.

## FRACTURES

In this section, you will learn about fractures—how they're classified and the first-aid you would give the victim. Additional information is given on how to transport victims.

### Classification

Fractures may be classified in several ways. However, they are generally classified as either closed or open. A closed fracture is one in which the skin remains intact. An open fracture is one in which the bone protrudes from the skin. These fractures are shown in figure 14-17.

### Symptoms

You can't always tell that a fracture has occurred. However, if the victim has been involved in some form of violence, you may suspect that one or more bones have been broken. The victim may even have heard the bone snap. Some symptoms of a fracture are as follows:

- Pain and tenderness
- Inability to use the part
- Creaking or cracking
- Motion at points other than joints
- Swelling
- Deformity
- Discoloration of skin

### Treatment

If you are required to give first aid to a person who has suffered a fracture, you should follow these general rules:

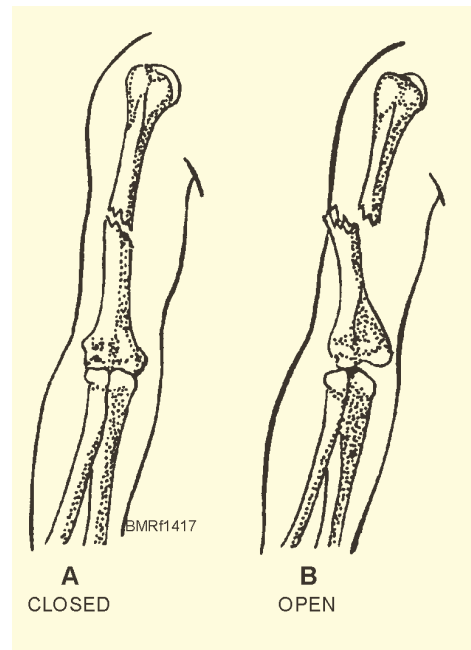


Figure 14-17.—Types of fractures.

- If there is any possibility that a fracture has been sustained, treat the injury as a fracture.
- Get medical aid at the first possible opportunity. All fractures require medical treatment.
- Don't move the victim until splints have been applied to the injured parts, unless the victim's life is in danger.
- Treat for shock.
- Don't attempt to locate a fracture by grating the ends of the bone together.
- Don't attempt to set a broken bone.
- When a long bone in the arm or leg is fractured, the limb should be carefully straightened so that splints can be applied. Pulling gently with your hands in the long axis of the limb is permissible, and it may be all that is necessary to get the limb back into position.
- Apply splints. Emergency splinting may be placed over clothing if the victim will be seen very soon by a medical officer or if the victim will be transported for a short distance. Otherwise, it's best to remove just enough clothing so you can apply well-padded splints

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## Student Notes:

directly to the injured part. If you decide to remove clothing over the injured part, cut the clothing or rip it along the seams. In any case, **be careful!** Rough handling of the victim may turn a closed fracture into an open fracture. That could increase the severity of shock and cause extensive damage to the blood vessels, nerves, muscles, and other tissues around the broken bone.

If the fracture is open, you must treat the wound before you can deal with the fracture. Bleeding from the wound may be serious. Most bleeding can be stopped by direct pressure on the wound or by finger pressure at the appropriate point. If, after your best efforts, these methods are not successful, use a constricting band; then treat the fracture.

### Use of Splints

An essential part of the first-aid treatment is immobilizing the injured part with splints so that the sharp ends of broken bones won't move around and cause further damage to nerves, blood vessels, or vital organs. Splints are also used to immobilize severely injured joints or muscles and to prevent the enlargement of extensive wounds. Before you can use a splint, you need to have a general understanding of the use of splints.

In an emergency, almost any firm object or material can be used as a splint. Such things as umbrellas, canes, swords, rifles, tent pegs, laths, sticks, oars, paddles, spars, wire, leather, boards, pillows, heavy clothing, corrugated cardboard, and folded newspapers can be used as splints. A fractured leg may sometimes be splinted by fastening it securely to the uninjured leg.

Splints, whether ready-made or improvised, must meet the following requirements:

- Be light in weight, but still be strong and fairly rigid.
- Be long enough to reach the joints above and below the fracture.
- Be wide enough so the bandages used to hold them in place won't pinch the injured part.

- Be well padded on the sides that touch the body. If they're not properly padded, they won't fit well and won't adequately immobilize the injured part.
- To improvise the padding for a splint, use articles of clothing, bandages, cotton, blankets, or any other soft material.
- If the victim is wearing heavy clothes, apply the splint on the outside, allowing the clothing to serve as at least part of the required padding.

Although splints should be applied snugly, **never** apply them tight enough to interfere with the circulation of the blood. When applying splints to an arm or a leg, try to leave the fingers or toes exposed. If the tips of the fingers or toes become blue or cold, you will know that the splints or bandages are too tight. You should examine a splinted part approximately every half-hour, and loosen the fastenings if circulation appears to be cut off. Remember that any injured part is likely to swell, and splints or bandages that are all right when applied may be too tight later.

Figure 14-18 shows a method of immobilizing the leg of a person with a broken kneecap. To secure the limb to the splint, belts, neckerchiefs, rope, or any suitable material may be used. If possible, tie the limb at two places above and two places below the break.

Leave the treatment of other types of fractures, such as jaw, ribs, and spine, to medical personnel. **Never try to move a person who might have a fractured spine or neck.** Moving such a person could cause permanent paralysis. Don't attempt to reset bones.

### SPRAINS AND STRAINS

A person with a sprain or a strain might have some of the same symptoms as a person who has a fracture. The information contained in this section will help you

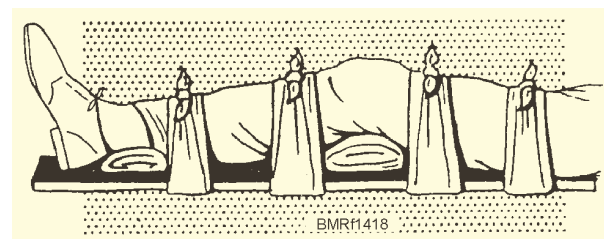


Figure 14-18.—Splinting.

### Student Notes:



know what to do if there is a possibility a shipmate has sustained a strain or a sprain.

## **Sprains**

A sprain is an injury to the ligaments and soft tissues that support a joint. A sprain is caused by the violent wrenching or twisting of the joint beyond its normal limits of movement. Any joint may be sprained; however, sprains of the ankle, wrist, knee, and finger are most common.

**SYMPTOMS.**—Symptoms of sprains include pain or pressure at the joint, pain upon movement, swelling and tenderness, possible loss of movement, and discoloration.

**TREATMENT.**—Treat all sprains as fractures until ruled out by X-rays. To treat a sprain, you should take the following actions:

- Application of cold packs for the first 24 to 48 hours.
- Elevation and rest of the affected area.
- Application of a snug, smooth, figure-eight bandage to control swelling and to immobilize (keep from moving) the affected area. (**NOTE:** Check bandaged areas regularly for swelling that might cause circulation problems and loosen bandages if necessary.)
- After the swelling stops (24 to 48 hours), apply moist heat for short periods (15 to 30 minutes).

## **CAUTION**

Do not apply heat until 24 hours after the last cold pack.

After applying first aid, make sure the victim has a follow-up examination by a medical officer. This exam includes X-rays to rule out fractures.

## **Strains**

A strain is an injury caused by the forcible overstretching or tearing of a muscle or tendon. A strain may be caused by lifting excessively heavy loads, sudden or violent movements, or any other action that pulls the muscles beyond their normal limits.

**SYMPTOMS.**—Symptoms of strains include pain, lameness or stiffness, moderate swelling at the place of the injury, discoloration caused by blood escaping from injured blood vessels into the tissues, possible loss of power, and a distinct gap felt at the site of the injury.

**TREATMENT.**—To treat a strain, you should take the following actions:

- Elevate the affected area.
- Apply cold packs for 24 to 48 hours.
- After the swelling stops, apply mild heat to increase circulation and aid in healing.

## **NOTE**

Do not apply heat until 24 hours after the last cold pack.

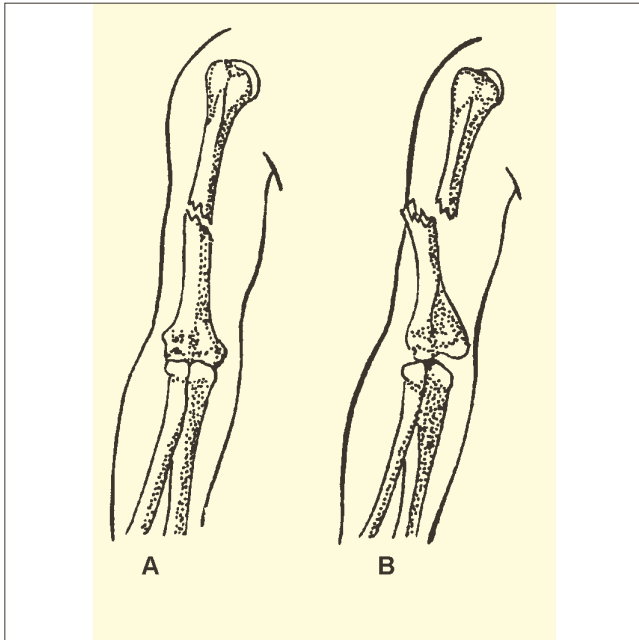
The victim should be evacuated to a medical facility where X-rays can be taken to rule out the possibility of a fracture.

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*Student Notes:*

## REVIEW 8 QUESTIONS

Q1. Label the following fractures.



Q2. List the symptoms of a fractured leg or arm.

a.

b.

c.

d.

e.

f.

g.

Q3. Briefly describe how to give first aid to someone with a fractured leg or arm.

a.

b.

c.

d.

e.

f.

g.

Q4. List the types of fractures that should be treated by medical personnel.

a.

b.

c.

Q5. What is the reason that you should never move a person who might have a fractured spine or neck?

Q6. List the symptoms a victim might have with a sprained or strained leg.

a.

b.

c.

d.

e.

---

***Student Notes:***

f.

g.

- Q7. Describe the first aid that should be given to a victim suspected of having a sprained or strained leg.

## RESCUE PROCEDURES

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the procedures to rescue a person.

There are many ways to move victims. The method used depends on several factors—where the victim is located and where the victim is to be taken, assistance available, equipment on hand, and so forth. If available, litters or stretchers should be used.

If you don't have any help, there are several methods you can use to move a victim alone. One method is simply to pick up and carry the victim in your arms, but it can be quite a task if the victim weighs more than you. If a blanket is handy, the victim can be placed upon it and dragged. Two other means are the fireman's carry (fig. 14-19) and the tied-hands crawl (fig. 14-20).

### FIREMAN'S CARRY

One of the easiest ways to carry an unconscious person is by the fireman's lift, also called the *fireman's carry* (fig. 14-19).

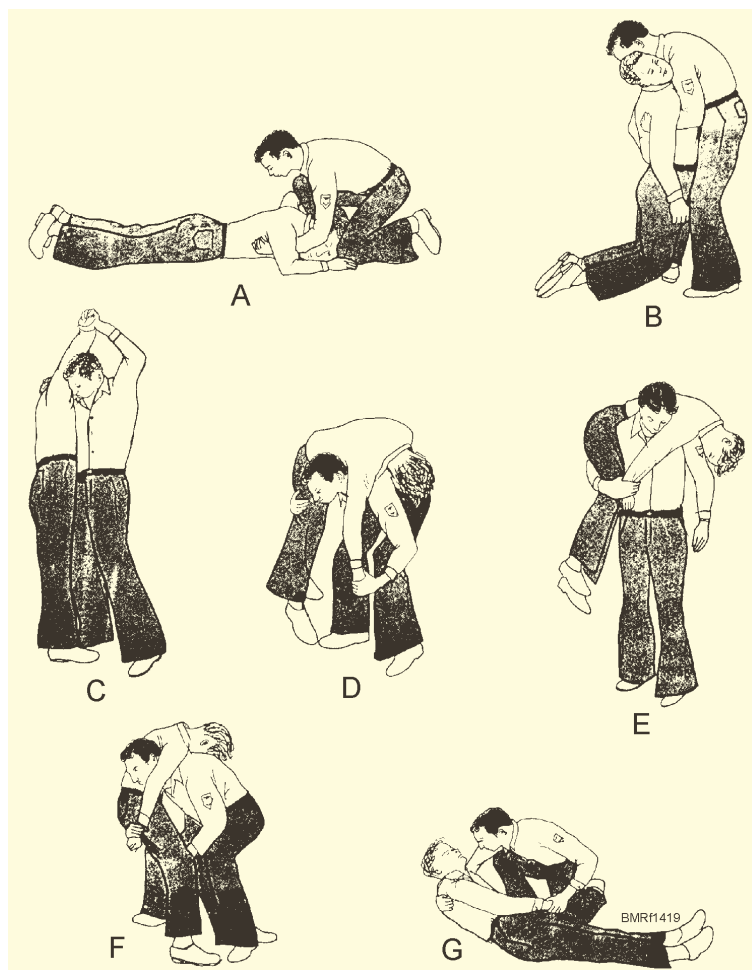


Figure 14-19.—Fireman's carry.

*Student Notes:*

1. Place the victim face down, as shown in figure 14-19, view A. Kneel on one knee at the head, facing the victim. Pass your hands under the armpits.
2. Raise the victim, as shown in figure 14-19, view B. Take a better hold across the back.
3. Raise the victim to a standing position and stick your right leg between the victim's legs, as shown in figure 14-19, view C. Grasp the victim's right wrist in your left hand and swing the arm around the back of your neck and down your left shoulder.
4. Stoop quickly and pull the victim across your shoulders and, at the same time, put your right arm between the victim's legs, as shown in figure 14-19, view D.
5. Grasp the victim's right wrist with your right hand and straighten up, as shown in figure 14-19, view E.

The procedure for lowering the victim to the deck is shown in figure 14-19, views F and G.

### TIED-HANDS CRAWL

The tied-hands crawl shown in figure 14-20 may be used to drag an unconscious person for a short distance; it is particularly useful when you must crawl underneath a low structure.

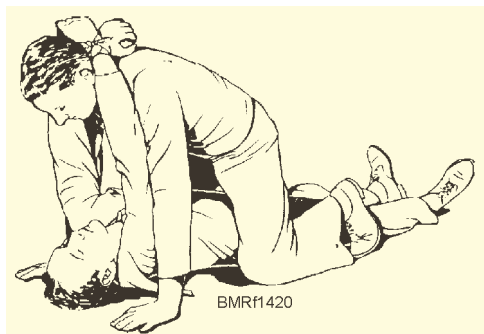


Figure 14-20.—Tied-hands crawl.

### RESCUE FROM ELECTRICAL CONTACT

Rescuing a person who has received an electric shock is likely to be difficult and dangerous. Use extreme caution or the rescuer may also be electrocuted.

### *Student Notes:*

**Don't touch the victim's body, the wire, or any other object that may be conducting electricity.**

Some procedures you might use to rescue a person who's received an electric shock are as follows:

- Look for the switch first of all, and if you find it, turn off the current immediately. Don't waste too much time hunting for the switch; however, every second is important.
- If you cannot find the switch, you should try to remove the wire from the victim with a dry broom handle, branch, pole, oar, board, or similar nonconducting object (fig. 14-21).
- It may be possible to use dry rope or dry clothing to pull the wire away from the victim.
- You can also break the contact by cutting the wire with a wooden-handled axe, but that is extremely dangerous because the cut ends of the wire are likely to curl and lash back at you before you have time to get out of the way.

**When you are trying to break an electrical contact, always stand on some nonconducting material, such as a dry board, newspaper, or clothing.**

Administer artificial ventilation immediately after freeing the person from the wire if the electric shock caused breathing to stop. Check the victim's pulse, since electric shock may also cause the heart to stop. If

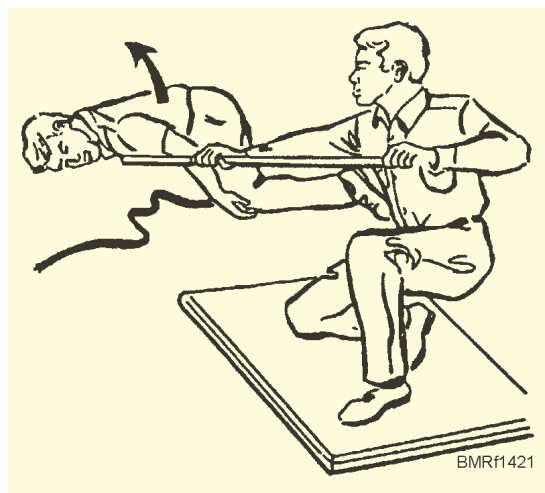


Figure 14-21.—Pushing a victim away from a power line.

you do not feel a pulse, immediately administer CPR. Get the victim to a medical facility as soon as possible.

## TRANSPORTATION PROCEDURES

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the procedures to transport a person.

So far, you've learned about the emergency methods used to get an injured person out of danger and into a position where first aid can be administered. As you have learned, these emergency rescue procedures often involve substantial risk to the victim and should be used only when clearly necessary.

Once you've rescued the victim from the immediate danger, **slow down!** Handle and transport the victim with care, being careful about the injuries that have been sustained. In the excitement and confusion that almost always accompany a mishap, you are likely to feel rushed, as though you must do everything rapidly. This is a reasonable way to feel. Speed is essential in treating many injuries and in getting the casualty to a medical officer or hospital. However, it's **not** reasonable to let yourself feel so hurried that you handle the victim roughly or carelessly or transport the victim in a way that will make the injuries worse.

## GENERAL PRECAUTIONS

The basic precautions to observe when transporting an injured person are summarized as follows:

- Give necessary first aid **before** attempting to transport the victim if possible. Be sure all injuries have been located. Treat serious breathing problems, bleeding, and shock in that order. Immobilize all fractures, sprains, and dislocations. Do whatever you can to reduce the victim's pain and to make the victim as comfortable as possible under the circumstances.
- Use a regular stretcher if one is available. If you must use an improvised stretcher, be sure it is strong enough. Also, be sure that you have enough personnel to

carry the stretcher so that you won't run any risk of dropping the victim.

- Whenever possible, bring the stretcher to the victim instead of carrying the victim to the stretcher.

- Fasten the victim to the stretcher to prevent slipping, sliding, or falling off. Tie the victim's feet together, unless the injuries make it impracticable.

- Use blankets, garments, or other material to pad the stretcher and to protect the victim from exposure.

- As a general rule, an injured person should be lying down, face up, while being moved. However, in some instances the type or location of the injury will necessitate the use of another position. If the victim has a chest wound, raising the head and shoulders may give greater comfort, and ease any breathing difficulties the victim may have. A person who has a broken bone should be moved very carefully so that the injury will not be made worse. If the victim has received a severe injury to the head, the victim should be kept lying on the side or on the back with the head turned to one side to prevent choking on saliva, blood, or vomit while being transported. In all cases, it is important to place the victim in a position that prevents further injuries.

- The stretcher should be carried in such a way that the victim will be moved feet first, so that the rear stretcher bearer can continually watch the victim for signs of breathing difficulty.

- If you must use a motor vehicle to transport a seriously injured person, the best means is an ambulance. If no ambulance is available, a truck or station wagon makes a fairly good substitute. If it is necessary to use a passenger car to transport a seriously injured person, the victim should be put in a place that requires the least amount of bending, twisting, or turning.

- Don't turn the victim over to anyone without giving a complete account of the situation. Be sure the person taking over knows what caused the injury and what first-aid treatment has been given. If a constricting band has been applied, make sure that is known to the person who is taking charge of the victim.

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## *Student Notes:*

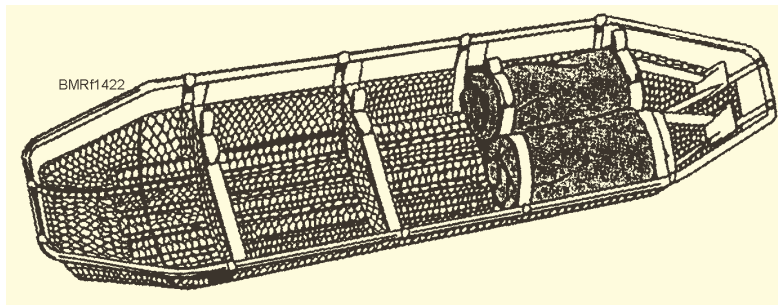


Figure 14-22.—Stokes stretcher.

## STOKES STRETCHER

The Navy service litter most commonly used for transporting sick or injured persons is called the *Stokes stretcher* (fig. 14-22). The Stokes stretcher is a wire basket supported by iron or aluminum rods. It's adaptable to a variety of uses, since the victim can be held securely in place, even if the stretcher is tipped or turned. The Stokes stretcher is particularly valuable for transferring injured persons to and from boats. It is also used for direct ship-to-ship transfer of injured persons.

## NEIL ROBERTSON STRETCHER

The Neil Robertson stretcher is designed for removing an injured person from engine-room spaces, holds, and other compartments where access hatches are too small to permit the use of regular stretchers.

The Neil Robertson stretcher is made of semirigid canvas. When firmly wrapped around the victim mummy-fashion, it gives sufficient support so the victim may be lifted vertically (fig. 14-23). To keep the injured person from swaying against bulkheads and hatchways while being lifted, tie a guideline to the victim's ankles.

Stretchers of this type can be made on board ship and kept in appropriate places ready for use. If a Neil Robertson stretcher is not available when needed, a piece of heavy canvas, wrapped firmly around the victim, will serve somewhat the same purpose.

## EMERGENCY RESCUE LINES

An emergency rescue line can be made from any strong fiber line. These lines should be used only in

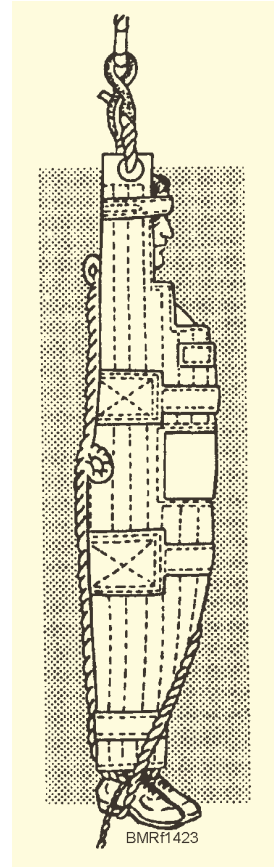


Figure 14-23.—Neil Robertson stretcher.

extreme emergencies when an injured person must be moved and no other means is available.

Figure 14-24 shows an emergency rescue line that could be used to hoist a person from a void or small compartment. Notice that a running bowline is passed around the body, just below the hips, and a half hitch just under the arms. Again, a guideline is tied to the victim's ankles.

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## Student Notes:



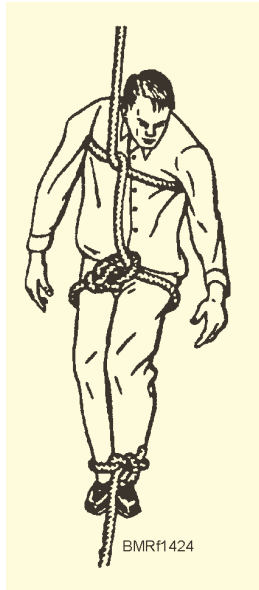


Figure 14-24.—Emergency rescue line.

## REVIEW 9 QUESTIONS

- Q1. What is one of the easiest ways to carry an unconscious person?
- Q2. Describe the precautions you should take when rescuing a person who has received an electric shock.
- Q3. How should you carry a stretcher?
- Q4. What type of stretcher is used to transport an injured person from engine-room spaces?
- Q5. When are emergency rescue lines used?

## PERSONAL HYGIENE

**Learning Objectives:** When you finish this chapter, you will be able to—

- Identify the purpose for personal hygiene.
- Recognize the consequences of not following a personal hygiene program.

Because of the close living quarters in the Navy, particularly aboard ship, personal hygiene is very important. Developing good personal hygiene habits is essential for the good health of the individual and for the protection of the entire crew. For the same reasons, sanitary conditions aboard ship must be maintained at all times. Clean spaces are a necessity. Dirt breeds disease. When spaces are kept clean and orderly, the general well-being of the crew improves and morale increases. No one wants to live or work in a filthy environment. In the Navy and at home, everyone should make it a habit to keep living and working spaces as clean as possible. Maintaining a clean, healthy environment reduces the chances of illness.

Negligence in reporting to the medical officer any matter that affects one's health is inexcusable. It can lead to a more serious illness. Don't ignore minor injuries. An untreated cut or scratch can lead to infection, loss of a limb, and even death. If you can't report for treatment right away, wash the injury with soap and clean water. A large wound should not be washed; cover it with a clean dressing until it can be attended to by medical personnel.

Some practices you can take to be healthy include the following:

**Showering.** Shower and change underwear daily. After showering, dry thoroughly, particularly your feet to prevent fungus development. Wear shower shoes when taking a shower to avoid contracting athlete's foot.

**Shoes and socks.** Wear properly fitted shoes and socks. The inner dimensions of the shoe should be about 1/4 inch longer and wider than the foot. Improperly fitted socks and socks with holes can cause blisters. Change your socks daily.

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## Student Notes:

**Toenails and feet.** Cut your nails straight across to prevent ingrown toenails. If corns or other foot ailments develop, have them treated at once.

**Fingernails.** Keep fingernails trimmed and clean.

**Hair.** Keep your hair neatly trimmed and wash it often.

**Bunk linen.** Change it at least weekly.

**Exercise and sleep.** Daily exercise improves bodily functions, increasing muscle tone and physical endurance. Even aboard small ships, it's possible to exercise in some manner. Get as much sleep as watch and work conditions permit.

**Diet.** Navy food is good and wholesome. It provides a well-balanced diet. Don't be a finicky eater, even though you don't like some foods. Learn to eat a variety of foods; try to avoid putting more on your tray than you care to eat.

## ORAL HYGIENE

Many dental disorders begin with the buildup of bacterial plaque that remains undisturbed around the teeth. The purpose of personal oral hygiene is to remove this plaque buildup. Plaque can be removed by proper tooth brushing and flossing techniques.

There are three common dental conditions that are caused by poor dental hygiene:

1. Tooth decay
2. Reddening of the gums
3. Gum and bone disease

Any of these can cause the loss of a tooth; but with proper oral hygiene, these conditions can be controlled or prevented.

Tooth decay can be reduced by cutting down on sweets and by brushing properly. For most people, cavities and gum and bone disease occur primarily between the teeth. No toothbrush can effectively cleanse these areas or the areas behind the last tooth in each arch. You must use dental floss to clean such hard-to-reach areas. You should floss at least once a day, either just before or just after brushing. Unwaxed dental floss should be used in most cases.

Dental cleansing devices, oral irrigators, and commercial mouthwashes are aids to oral hygiene. They may be used in addition to—but not in place of—tooth brushing and flossing. If these devices are electrically powered, they must be safety checked by electrical safety personnel before use.

## NOTE

Oral irrigation may be harmful for individuals with cardiovascular problems.

In addition to all of these procedures, you should also have a dental checkup every 6 months or at least once a year. Your dental technician or dentist can show you the proper way to brush and floss your teeth.

## SEXUALLY TRANSMITTED DISEASES

Sexually transmitted diseases (STDs) are illness caused by organisms that are transmitted through sexual intercourse or by forms of other intimate body contact with an infected person. The disease germs that cause syphilis and gonorrhea are very fragile and can live for only short periods of time outside the body. Venereal disease is not spread from inanimate objects such as toilet seats, drinking glasses, bed linens, or clothes.

Syphilis and gonorrhea are the two most common sexually transmitted diseases in the United States. Syphilis has had the worst reputation, but it is gonorrhea that is out of control.

### Syphilis

Syphilis can attack any tissue or organ of the body and is especially damaging to the brain, spinal cord, blood vessels, and heart.

A painless sore, called a *chancre*, is the first sign of syphilis. The sore usually appears on or around the sex organs about 9 to 90 days after contact with an infected person. The chancre will heal within a few weeks, even without treatment.

Other signs of syphilis that may develop either before or after the chancre goes away are a rash that may cover any part of the body; white, glistening spots in the mouth; and fever, sore throat, and headaches. The rash

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## Student Notes:

and other signs may not appear or may be so slight as to be unnoticed.

After these signs disappear, the germs may stay hidden for 10 to 20 years. If untreated, the disease causes mental illness, blindness, heart disease, or even death.

Syphilis is not inherited, but a pregnant woman with the disease can give it to her unborn child. These babies are born with congenital syphilis. A baby with congenital syphilis may be born dead or deformed. Congenital syphilis can be prevented if it is detected and treated in time.

The signs of syphilis may resemble many other diseases, or the signs may be slight and be unnoticed. The disease can be detected by a blood test for syphilis.

### **Gonorrhea**

If you have gonorrhea and don't get treatment, you may become sterile. Gonorrhea can damage the sperm ducts in males and the fallopian tubes in females. In men and women, gonorrhea may result in crippling arthritis, meningitis, or heart disease.

The signs of gonorrhea in males usually appear 3 to 5 days after sexual contact with an infected partner. Most men have a pus discharge from the sex organ and a painful, burning sensation during urination. Women rarely have painful symptoms until gonorrhea has seriously damaged their reproductive system. There may be some vaginal discharge or burning during urination, but women will usually have no symptoms and will not know that they have gonorrhea until a sexual partner has been infected.

If you have syphilis or gonorrhea, a cure is as near as your medical department. But early treatment is important. These diseases can be cured even in people who have had the disease for a long time, but the damage to the reproductive organs may be irreversible.

### **NOTE**

Self-treatment or pills from a friend are extremely dangerous.

### **Genital Herpes Infection**

Genital herpes is an increasingly common viral infection that produces recurrent, painful genital sores similar to cold sores that occur around the mouth. At this time, there is no known cure for genital herpes; the infected person may have recurrences of lesions throughout life. Individuals should avoid sexual intercourse when the sores are present because the herpes virus is infectious in this phase of the disease.

### **Acquired Immune Deficiency Syndrome**

The Acquired Immune Deficiency Syndrome (AIDS) was first reported in the United States in mid 1981. AIDS is a serious illness and a public health problem. It's the number one priority of the U.S. Public Health Service.

AIDS is a serious condition characterized by a defect in natural immunity (defense) against disease. People who have AIDS are vulnerable to serious illnesses that aren't a threat to anyone whose immune system is functioning normally. These illnesses are referred to as "opportunistic" infections or diseases.

Investigators have discovered the virus that causes AIDS. The virus is called either *human immune virus (HIV)*; *human T-lymphotropic virus, type III (HTLV-3)*; *lymphadenopathy associated virus (LAV)*; or *AIDS-related virus (ARV)*. Most people infected with the AIDS virus have no symptoms and feel well. Some develop symptoms that may include tiredness; fever; loss of appetite and weight; diarrhea; night sweats; and swollen glands (lymph nodes), usually in the neck, armpits, or groin. Anyone with these symptoms should see a doctor if the symptoms continue for more than 2 weeks

AIDS is spread by sexual contact, needle sharing, or less commonly, through blood or its components. The risk of getting AIDS is increased by having multiple sexual partners, either homosexual or heterosexual, and sharing needles with people who use illicit drugs. The occurrence of the AIDS in hemophilia patients and persons receiving transfusions provides evidence of transmission through blood. It may be transmitted from infected mother to infant before, during, or shortly after birth.

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### ***Student Notes:***

## Prevention

Using a condom during sex offers some protection. Birth control pills offer no protection against STDs. If you had the disease once and have been successfully treated, that does not grant you immunity against contracting an STD again.

If you have been diagnosed as having an STD and are receiving treatment at the present time, don't attempt to hide the name(s) of your sexual partners. The chances are that one of them infected you or have been infected by you. They deserve the benefit of treatment too. The health department will contact the persons named and treat them. These steps, which are done confidentially, can help in stopping an outbreak of a sexually transmitted disease.

### REVIEW 10 QUESTION

- Q1. List some of the reasons why personal hygiene is important.
- a.
  - b.
  - c.
  - d.
- Q2. List the three most common dental conditions caused by poor dental hygiene.
- a.
  - b.
  - c.
- Q3. What methods should you use to avoid dental problems?
- a.
  - b.
  - c.

- Q4. What are the two most common sexually transmitted diseases?
- a.
  - b.
- Q5. How is the Acquired Immune Deficiency Syndrome (AIDS) spread?
- a.
  - b.
  - c.

### SUMMARY

In this chapter, you have learned some of the basic steps and procedures required when administering first aid. You may never have the need to use these procedures, but if the situation should arise, by following the procedures outlined, and with additional training, you may be in a position to render what could be life-saving assistance. You also learned the recommended ways of transporting injured personnel so they can receive proper medical attention.

Personal hygiene is an important part of living closely together. A shipmate not overly concerned with keeping himself or herself clean and squared away could affect your physical well-being, but could also affect the morale of a great number of crew members. Keeping yourself clean and squared away will benefit you and the people you come into contact with on a daily basis.

Another topic covered here is sexually transmitted diseases. Being attracted to a member of the opposite sex is a natural reaction. Be aware of the possibility that if you engage in multiple sexual relations, you could become infected with one of the sexually transmitted diseases discussed in this chapter. Being responsible in your sexual relations and using approved protective measures will go a long way toward protecting yourself.

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### *Student Notes:*

## REVIEW 1 ANSWERS

- A1. The primary purpose of first aid is **to safe lives, prevent further injury, and limit infection.**
- A2. The primary tasks to take when you administer first aid are to—
  - a. **maintain breathing,**
  - b. **stop bleeding and maintain circulation,** and
  - c. **prevent or treat shock.**
- A3. The general first-aid rule for—
  - a. **shock is to place the victim on his/her back with the head slightly lower than the feet**
  - b. **broken bones is to keep the person still until you immobilize the injured part**
  - c. **transport of injured persons is on the litter with the litter carried feet first**

## REVIEW 2 ANSWERS

- A1. The first-aid treatment for respiratory failure is **artificial ventilation.**
- A2. Artificial ventilation should be administered **only when natural breathing has stopped. NEVER give artificial ventilation to a person who is still breathing.**
- A3. The three types of artificial ventilation are—
  - a. **Mouth to mouth**
  - b. **Mouth to nose**
  - c. **Back pressure/arm lift**
- A4. Cardiac arrest is **the complete stoppage of heart function.**
- A5. To be effective, CPR **must be started within 4 minutes** of the onset of cardiac arrest.
- A6. When you use the one-rescuer technique of CPR, the ratio of compressions to ventilations is **15 compressions to 2 ventilations.**
- A7. When you use the two-rescuer technique of CPR, the ratio of compressions to ventilations is **5 compressions to 1 ventilation.**

- A8. The symptoms of airway blockage are—
  - a. **Inability of the victim to speak**
  - b. **Exaggerated breathing efforts**
  - c. **Skin turning blue**
- A9. The four methods you can use to clear a person's airway are—
  - a. **Standing abdominal thrust**
  - b. **Reclining abdominal thrust**
  - c. **Standing chest thrust**
  - d. **Reclining chest thrust**

## REVIEW 3 ANSWERS

- A1. The three types of blood vessels the body uses to circulate blood are—
  - a. **Arteries—large vessels that carry blood away from the heart**
  - b. **Veins—large vessels that carry blood back to the heart**
  - c. **Capillaries—a connecting network of smaller vessels between the arteries and the veins**
- A2. Hemorrhage is severe enough to endanger life **when arteries or veins are cut.**
- A3. A loss of **2 pints of blood is usually enough to cause shock.**
- A4. Blood carried by—
  - a. **Capillaries is brick red**
  - b. **Veins is dark red**
  - c. **Arteries is bright red**
- A5. The only way to stop serious bleeding is the **application of pressure.**

- A6. A constricting band is **a pad, a band, and a device for tightening the band so that the blood vessels will be compressed. Only use a constricting band when hemorrhage can't be controlled any other way. Constricting bands are used above the wound. They aren't used for wounds on the head, neck, or body.**
- A7. When a constricting band or a battle dressing has been applied, **only medical personnel should release/remove it.**
- A8. A battle dressing is **a combination compress and bandage, in which a sterile gauze pad is fastened to a gauze, muslin, or adhesive bandage.**
- A9. When applying a battle dressing, you should make sure that the **dressing covers the entire wound.**

#### REVIEW 4 ANSWERS

- A1. Shock is **a condition where the blood circulation is seriously disturbed.**
- A2. The symptoms of shock in a person are—
- a. **Weak and rapid pulse**
  - b. **Shallow, rapid, and irregular breathing**
  - c. **Lower temperature—the arms, face, and legs feel cold to the touch**
  - d. **Sweating**
  - e. **Pale skin color; however, in some cases, it may be bluish or reddish**
  - f. **Dilated (enlarged) pupils**
  - g. **Thirst and an feeling of weakness, faintness, or dizziness**
- A3. **True**, you should keep an injured person warm enough to be comfortable, but not warm enough to become overheated.
- A4. If you suspect that a person is in shock, **you should keep the person lying flat on his/her back with the feet slightly elevated (raised) so that the position encourages the blood to flow back to the brain.**

#### REVIEW 5 ANSWERS

- A1. In the Navy, the most frequent suicide victim is **an enlisted male between 17 and 24 years old and in paygrades E-1 through E-6.**
- A2. The most common causes of suicide are—
- a. **Breakup of a close relationship**
  - b. **Death of a loved one**
  - c. **Loss of social or financial status**
  - d. **Effects of drugs and/or alcohol**
- A3. **Depression** is often associated with suicide.
- A4. Some actions you can take if you believe someone is suicidal are—
- a. **Take all threats seriously**
  - b. **Confront the problem**
  - c. **Answer cries for help**
  - d. **Let the person know you care**
  - e. **Listen**
  - f. **Get professional help**
  - g. **Don't leave the person alone**

#### REVIEW 6 ANSWERS

- A1. Burns are defined as follows:
- a. First-degree burn—**Mildest burn. Slight redness, tenderness, and increased temperature of the burned area.**
  - b. Second-degree burn—**More serious than first-degree burn. Inner skin may be damaged, blistering, severe pain, some dehydration, and possible shock.**
  - c. Third-degree burn—**Most serious burn. Skin is destroyed and possibly tissue and muscle beneath it. Skin may be charred or white and lifeless (from scalds). Some form of shock will result.**



- A2. By immersing the burned area in cold water or by applying cold compresses, you **minimize pain and reduce the burning effect in deeper layers of the skin.**
- A3. If a burn covers more than 20% of a victim's body, you should **apply sterile, dry bandages.**
- A4. When treating burns you should **NEVER apply petrolatum gauze, break blisters or apply butter, lard, or Vaseline™.**

### REVIEW 7 ANSWERS

- A1. The three most important signs of heatstroke are—
  - a. **Dry, hot skin**
  - b. **Constricted pupils**
  - c. **Very high body temperature (usually above 105°F)**
- A2. The three most important signs of heat exhaustion are—
  - a. **Moist, clammy skin**
  - b. **Dilated pupils**
  - c. **Normal or subnormal temperature**
- A3. The aim of first-aid treatment for heatstroke or heat exhaustion is **to reduce body temperature.**
- A4. **True**, in case of heatstroke/heat exhaustion, you should transport the victim to a medical facility as soon as possible.

### REVIEW 8 ANSWERS

- A1. Fractures are—
  - a. **Closed fracture**
  - b. **Open fracture**
- A2. The symptoms of a fractured leg or arm include—
  - a. **Pain and tenderness**
  - b. **Discoloration of the skin**

- c. **Creaking or cracking**
- d. **Inability to use the part**
- e. **Motion at points other than joints**
- f. **Swelling**
- g. **Deformity**

- A3. To give first aid to someone with a fractured leg or arm, you should—
  - a. **Get medical aid as soon as possible**
  - b. **Don't move the victim until splints have been applied, unless the victim's life is in danger**
  - c. **Treat for shock**
  - d. **Don't try to find a fracture by grating the ends of the bone together**
  - e. **Don't try to set a broken bone**
  - f. **If a long bone in the leg is fractured, carefully straighten the leg so it can be immobilized**
  - g. **Apply splints**
- A4. The types of fractures that should be treated by medical personnel are—
  - a. **Jaw**
  - b. **Ribs**
  - c. **Spine**
- A5. You should never move a person who might have a fractured spine or neck because **moving that person might cause permanent paralysis.**
- A6. The symptoms a victim might have with a sprained or strained leg include—
  - a. **Pain, lameness, stiffness, or pressure**
  - b. **Pain on movement**
  - c. **Swelling and tenderness**

d. **Discoloration**

e. **With a strain, a distinct gap at the site of the injury**

A7. The first aid that should be given to a victim suspected of having a sprained or strained leg includes **treating all sprains as fractures until ruled out by X-rays.**

#### **REVIEW 9 ANSWERS**

A1. One of the easiest ways to carry an unconscious person is to use the **fireman's lift/carry.**

A2. When rescuing a person who has received an electric shock, you should **not touch the victim's body, wire, or any other object that may conduct electricity.**

A3. You should carry a stretcher **with the victim's feet first so the rear stretcher bearer can see the victim for signs of breathing difficulty.**

A4. To transport an injured person from engine-room spaces, a **Neil Robertson stretcher is usually used.**

A5. Emergency rescue lines are used **when an injured person must be transported and no other means is available.**

#### **REVIEW 10 ANSWERS**

A1. Personal hygiene is important for the following reasons:

a. **Close living quarters**

b. **Well-being of the crew**

c. **Reduced chance of illness**

d. **Morale increase**

A2. The three most common dental conditions caused by poor dental hygiene are—

a. **Tooth decay**

b. **Reddening of the gums**

c. **Gum and bone disease**

A3. To avoid dental problems, you should—

a. **Brush your teeth**

b. **Floss your teeth**

c. **Have dental checkups every 6 months**

A4. The two most common sexually transmitted diseases are—

a. **Syphilis**

b. **Gonorrhea**

A5. AIDS is spread through—

a. **Sexual contact**

b. **Needle sharing by drug users**

c. **Transfusions**

## CHAPTER 15

# SURVIVAL

*Without a decisive naval force we can do nothing definitive, and with it, everything honorable and glorious.*

—George Washington

As you learned in earlier chapters, being a professional Sailor is dangerous. These dangers aren't limited to just your job in the Navy. In times of conflict, your ship or shore station may be in contact with an enemy force or ship. Regardless of your rate, rating, or duty station, you may need to stay alive in the water until you can reach land or be rescued. You must have the knowledge required to live in the field with limited equipment (survival) and to avoid the enemy (evasion). If captured, you also have the responsibility to flee from the enemy (escape) if possible.

This chapter contains information on the principles and techniques of sea survival, evasion, land survival, and escape that have been used successfully worldwide. The information given here is by no means all-inclusive, but should serve to help you if the need arises.

### SURVIVAL AT SEA

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recall the methods and procedures for abandoning ship.
- Identify the techniques for swimming through oil, flames, and debris.
- Recognize the techniques for using clothing and buoyant objects to stay afloat.
- Recognize the procedures used to care for and use personal flotation devices and the use of lifeboats and associated survival gear.
- Recall the characteristics of, use of, and adjustment to CO<sub>2</sub> inflatable and inherently buoyant life preservers.
- Identify the responsibilities and authority of the senior person in a survival situation.

Survival at sea depends on your knowledge, self-control, training, and equipment. The time to learn

as much as possible about survival and rescue at sea is **before** you abandon ship, not after you find yourself in the water. The information for survival at sea is general in nature and applies to all Navy ratings.

### ABANDONING SHIP

Having to abandon ship isn't pleasant. Your "home" is gone along with most of your possessions and possibly some of your shipmates. You don't know how long you must wait for rescue. However, with the proper knowledge and training, frightening aspects can be greatly reduced. Don't panic and don't give up hope. Remember, the Navy knows you're missing and is searching for you. Also, remember that thousands of persons have survived ships sinking in both wartime and peacetime.

If time permits, the crew will abandon the ship in a planned and orderly manner. In the prepare-to-abandon-ship stage, all personnel go topside and muster at their abandon ship stations, don life jackets, and rig lines and ladders over the side. Bearing and distance to the nearest land, sea and wind conditions, and water temperature are passed over the IMC (ship's general announcing system). When the order to abandon ship is given, all boats are lowered and lifeboats are released. The crew members then go over the side and board them as quickly as possible.

### Know Escape Routes

Many survivors have reported that their shipmates were lost because they were unable to get topside before the ship sank. In many of these cases, the compartments in which personnel were trapped were not cut off—the individuals only thought they were.

Once on board a particular ship, most Sailors learn the easiest ways from their berthing compartments to their stations and automatically use these routes day after day. The habit of using the same hatches and ladders day after day becomes so strong that a person finds it difficult to use other routes. This habit is

especially true of persons whose stations are in the lower part of the ship. However, a hit from a torpedo or bomb or a collision with another ship may flood the compartments normally used or knock out a ladder. Often, some measure to control flooding taken by the damage control party closes off the normal method of travel.

The only answer to this situation is to know your ship. Small ships don't present much of a problem because they have only a few routes you can follow. However, large ships are another matter. Aboard an aircraft carrier or cruiser, learning all the passageways, doors, and ladders takes a long time. During leisure time, learn escape routes from various below-deck sections to the weather decks. Ask the individuals who work in those sections the best way to get topside; then follow that route. The time to experiment is before an emergency occurs, not during one.

### Going Over the Side

As in everything else, there is a right way and a wrong way to abandon ship. Whenever possible, go over the side fully clothed. Shoes and clothing may hinder you while swimming; but in lifeboats, a covering of any kind offers protection against the effects of sun and salt water. In a cold climate, wear a watch cap to keep your head warm. Take along a pair of gloves and extra clothes if you can. Even in tropical waters you may feel cool at night because you can do little to keep warm.

Normally, you should leave from whichever side of the ship is lower in the water; but, if the propellers are turning, leave from the bow. Leave by the windward side whenever possible. Leaving from the lee side might protect you from a stiff wind, but the same wind causes the ship to drift down on you, often faster than you can swim. Also, if oil is on the water, you can clear the slick sooner by swimming into the wind.

Never dive, and do not jump unless you have to. Use a ladder, cargo net, line, or fire hose. If you must jump, do so feet first, legs together, and body erect. (First, check the water so you will not land on debris or on other personnel.) Except when jumping into flames, be sure your life preserver is fastened securely, including the leg straps. If you are wearing a vest-type preserver, place one hand firmly on the opposite shoulder to keep

the preserver from riding up sharply when you hit the water (in a long drop, the force of impact might hurt your chin or neck). Hold your nose with your other hand. If you are wearing an inflatable preserver, inflate it after you have entered the water.

### In the Water

Once you are in the water, your immediate concern is to clear the ship as quickly as possible. Before you rest, you should try to be 150 to 200 yards away from the ship. When the ship goes down, it may create a strong whirlpool effect, which might draw you down with the ship if you are too close. Another advantage of distance is that you will be safer if an explosion occurs.

After you are safely away from the ship, conserve your energy. Don't splash about or shout unnecessarily. If any danger of underwater explosions exists, float or swim on your back with your head and chest as far out of the water as possible. Help your shipmates all you can, and try to stay in groups (fig. 15-1). Get on a lifeboat, of course, as soon as you can. In the meantime, grab anything floatable that comes by, or just relax in the water. Above all, **remain calm!**

**SWIMMING AND FLOATING.**—Check the chart shown below. It tells you the requirements you must meet to qualify as a third class, second class, and first class swimmer.

Meeting the requirements for swimmer third class won't help you if you have to swim ½ mile to a lifeboat. You can see that by qualifying for swimmer second class, you'd have a better chance to survive. Better yet, qualifying for swimmer first class gives you the best chance for survival.

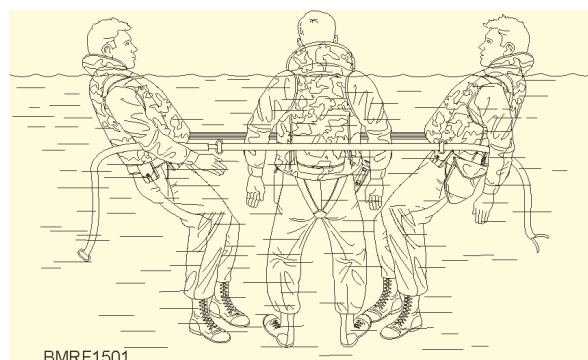


Figure 15-1.—Joining life preservers.

### Student Notes:

After abandoning ship, you may have to swim fast, slow, on the water, or under the water. You may have to put on or take off clothes; carry or search for objects; float for hours; or in shark-infested waters, lie still and keep your arms and legs from dangling. There is a lot you might have to do. You can get ready by practicing all the strokes you know.

### **THIRD CLASS SWIMMER**

1. Enter the water feet first from a height of 5 feet
2. Remain afloat for 5 minutes
3. Swim 50 yards

### **SECOND CLASS SWIMMER**

1. Jump from a height of 10 feet
2. Remain afloat for 10 minutes
3. Swim 100 yards, using three survival strokes for at least 25 yards each:
  - Breast stroke
  - Side stroke
  - Elementary back stroke

### **FIRST CLASS SWIMMER**

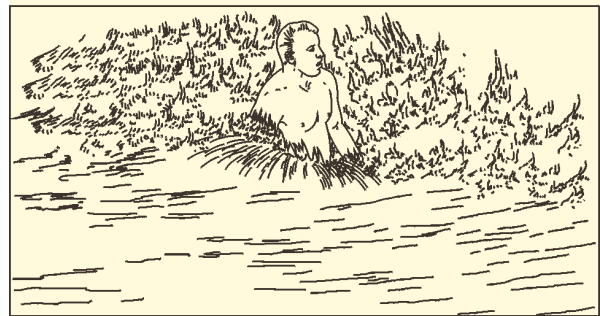
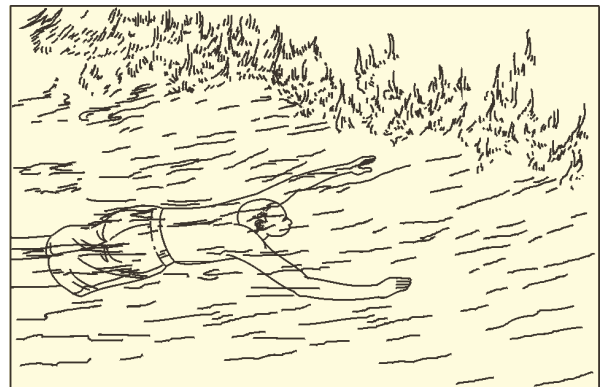
1. Swim 220 yards
2. Enter the water feet first and immediately swim 25 yards underwater (you may surface for air twice at 25-foot intervals)
3. Remove your trousers or slacks in the water and inflate them
4. Tow another person 25 yards, using the following methods:
  - Cross-chest carry
  - Extended reach (recommended for struggling victims)
  - Grabbing the victims hair from behind and use side stroke (recommended for towing unconscious victims)

Almost all the Navy's shore installations have swimming facilities for your use. Here, you can practice swimming. You should practice various strokes and extend your swimming range. Then, you will feel more confident that you can stay afloat and swim to a distant lifeboat or floating object.

### **SWIMMING THROUGH FLAMES.—**

Flame-covered water is a terrifying sight. However, you don't need to be afraid of jumping into flames. If you follow the procedures listed here, you will clear the burning area safely (fig. 15-2).

1. Don't wear an inherently buoyant life preserver (if you have one on, get rid of it).



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**Figure 15-2.—Swimming through flames.**

2. If you're wearing a CO<sub>2</sub> preserver, keep it on but don't inflate it.
3. Discard your shoes because they will hinder your underwater swimming.
4. Take a deep breath when you jump from the ship and cover your nose and mouth with one hand and your eyes with the other.

### ***Student Notes:***



5. Swim as far underwater as possible.
6. When you must come up for air, extend your arms above your head, then pull them back in a wide sweep to force the upper part of your body above the surface.
7. When you surface, use your hands and arms to make wide sweeping movements across the surface to splash the water and drive away the flames.

### NOTE

As you pop up above the surface, try to turn your back to the wind before you take a breath.

8. Submerge again feet first, and repeat the procedure until you're clear of the burning oil.

When going into oil that isn't burning, save your preserver to use as a raft. Keep your face above the surface. Keeping your head above the surface helps keep oil from getting into your eyes and mouth.

**AIDS FOR STAYING AFLOAT.**—If you're in the water without a life jacket, don't become frightened that you can't stay afloat—you can. Several articles of clothing, including the white hat, provide some flotation when used properly. The most useful article is your trousers or slacks, which you can inflate to serve as water wings.

1. To remove your trousers, lean forward in the water and slowly slip them down over your hips and legs. Don't let go of them—they may sink. To inflate your trousers—
2. Zip them; then float them on the surface with the fly or front turned down.
3. Tie a knot in each leg as close to the cuff as possible.
4. Work the garment around on the surface until the legs are over your shoulders and the knots are behind you, leaving the crotch in front of you.
5. Grasp the waist of the trousers with one hand on each side; then extend your arms straight upward, kicking your feet to get your body as

high out of the water as you can.

6. When this position is reached, pull the trousers downward smartly on the surface, trapping a pocket of air in each leg.
7. Then gather the waist under the water and hold in one hand (fig. 15-3). Keep the trousers legs wet by splashing water on them to reduce the loss of the trapped air.

You may use mattress covers, sea bags, laundry bags, and pillowcases in a similar manner. A large amount of debris, such as pieces of wood, empty shell boxes, powder cans, and so forth, is usually present. You can use this debris to stay afloat.

### SURVIVAL EQUIPMENT

The two basic categories of flotation devices are life preservers and lifeboats. Each is vital to the survival of a ship's crew if the ship sinks. Other than the lifeboat, the life preserver (commonly called a *life jacket*) is the most important piece of abandon ship equipment.

The inherently buoyant (vest-type) preserver is designed so that, if adjusted properly, it supports you and keeps your head out of the water even if you are unconscious. With a life preserver on, you can stay afloat for many days. Without a life preserver, you have little chance of surviving in the water for any great length of time.

The lifeboat presents the greatest chance of survival because it contains food and water, provides shelter from the elements, and contains equipment that greatly

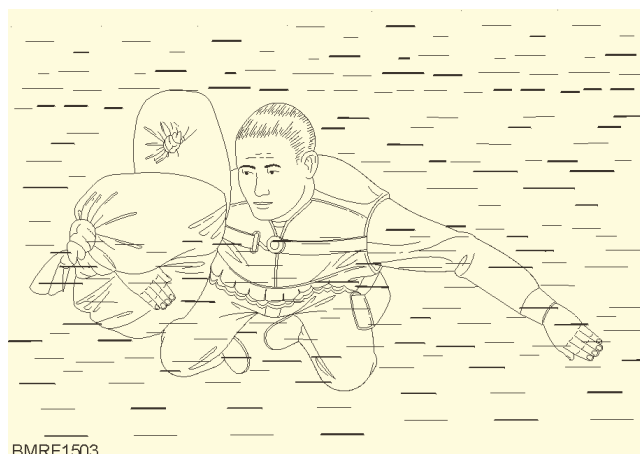


Figure 15-3.—Using inflated trousers/slacks for support.

### Student Notes:



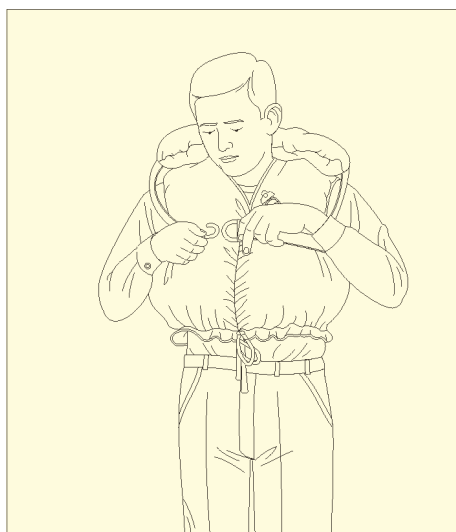
enhance your chances for survival.

During wartime, each person aboard ship is issued a life preserver. Wear it or keep it handy at all times. During peacetime, life preservers are stowed in ready-use lockers. Know where your preserver is stowed, how to put it on, and how to release and inflate the lifeboat.

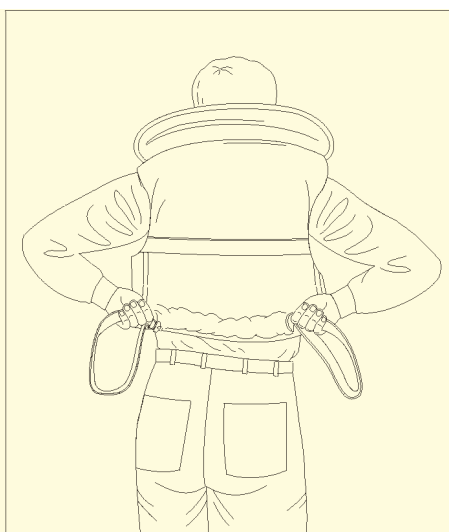
## Life Preservers

The Navy uses two types of life preservers—the inherently buoyant and the inflatable types. The inherently buoyant type has several designs. The vest type is the most widely used.

**INHERENTLY BUOYANT TYPE.**—The inherently buoyant vest type of life preserver (fig. 15-4) uses fibrous glass pads to provide buoyancy. The pads are sealed in plastic waterproof bags placed in an outer



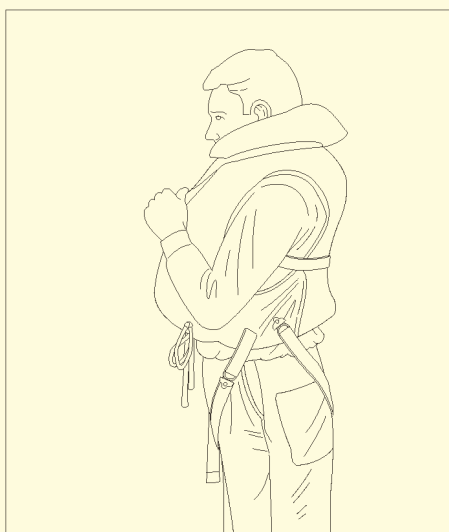
A. LIFE PRESERVER DONNED JACKET TIED AT UPPER CHEST AND WAIST: TIE PULLED SNUG, SNAP HOOK BEING FASTENED INTO RING ON CHEST STRAP.



B. LEG STRAPS BEING REMOVED FROM BACK OF PRESERVER; WILL BE LED BETWEEN LEGS.



C. BOTH STRAPS PULLED BETWEEN LEGS, ONE FASTENED TO D RING ON LEFT SIDE, OTHER BEING FASTENED.



D. TYING THE COLLAR.

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**Figure 15-4.—Adjusting the inherently buoyant vest-type life preserver.**

## Student Notes:

cover or envelope. The preserver has cloth tapes to pull tight for a close fit. Leg straps prevent it from riding up while you are in the water. A body strap across the chest helps give a snug fit and provides a hold for lifting you out of the water. You can also use the strap to attach yourself to a life raft or to other persons in the water.

Put on the vest type of life preserver over your clothing. Tie the upper tapes to make it fit comfortably, and pull the tape at the waist fairly tight to keep the preserver from sliding up in the water. Then adjust the chest strap and fasten the snap hook into the ring. Pull the leg straps as tight as possible without producing discomfort. Tie the collar tapes tightly under the chin. The collar holds the head upright and helps prevent an unconscious person from drowning.

**INFLATABLE TYPE.**—The inflatable life preserver (fig. 15-5) is made of lightweight, neoprene-coated nylon. It's carried in a pouch container held around your waist on a web belt. You blow up the inflatable preserver either by mouth or by using a carbon dioxide (CO<sub>2</sub>) cylinder. It's equipped with a lifting harness, a waist belt, and a wooden toggle and a line for attaching yourself to a life raft or another survivor. Take the following steps when using the inflatable life preserver:

1. Pull the pouch around to the front, remove the preserver from its pouch, and slip it over your head.
2. Grasp the lanyard attached to the CO<sub>2</sub> cylinder and jerk downward. If you need more buoyancy, the life preserver can be orally inflated by taking the following steps:
  - a. Turn down the knurled ring at the base of the oral inflation tube as far as it will go.
  - b. Depress the mouthpiece by force of the mouth, and blow into the tube as if you were blowing up a balloon.
  - c. Release the mouthpiece when inhaling to prevent escape of the air.
3. When the preserver is inflated, lock the oral valve by turning the knurled ring against the mouthpiece.

## NOTE

Always wait until you have entered the water to inflate this type of life preserver.

The automatically inflatable work-type life preserver provides you maximum lifesaving protection. At the same time, it doesn't interfere with the jobs you do, such as working over the side, performing underway replenishment (UNREP) duties, working as part of a boat crew, or manning selected battle stations. The automatically inflatable work-type life preserver will—

- Inflate the life preserver if you go into the water in an unconscious or helpless state.
- Allow you to inflate the auto inflatable preserver orally by the auto function device or by using a combination of the two.

The auto-function device uses a water-degradable paper to release a spring that causes two CO<sub>2</sub> cylinders to be punctured and inflate the preserver.

**PIN-ON LIGHTS.**—Small watertight flashlights or chemically activated light sticks have been developed for use with life preservers to help rescuers see a person in the water more easily at night. The flashlight consists of a one-cell battery case to which is permanently attached a heavy metal safety pin for fastening the light to the preserver. The lens is dome-shaped, providing 360° visibility from above. The chemically activated light sticks are activated by a chemical reaction in the stick.

Wear these lights whenever you use the life preserver. Check the battery at least once a week to see that it works. Replace the battery at least every 6 months. Check the light stick each time you use the preserver, and replace it if you see any indication that the stick has been damaged or used. Remember the following tips when using these lights:

- On the vest-type preserver, pin the light near the top of your shoulder so that the lens points upward.
- When pinning the light on the vest-type preserver, take care not to pierce the waterproof

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## Student Notes:



**Figure 15-5.—Inflatable life preserver.**

covering in which the fibrous glass pads are wrapped.

- Attach the light to the inflatable preserver to the tab provided for this purpose.

Some ships may issue strobe lights. These lights

have a brighter intensity. The battery screws in and is water-resistant.

Some commands are issuing chemical lights as life vest pin-on lights. The light used for a pin-on light has a green color when the chemical is activated. You activate the chemical light by squeezing the lens, which crushes

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***Student Notes:***

an inner vial; that allows the chemicals to mix, causing the wand to glow. Dispose of these lights after one use.

#### **CARE AND STOWAGE OF PRESERVERS.—**

Some of the rules you should follow when taking care of and stowing your preservers are contained in the following section:

**Laundering your life preserver.** Inherently buoyant life preservers—

- Launder the outer covers after removing the fibrous glass pads. (**NOTE:** Don't launder the pads.)
- Clean the inflatable types with a mild soap solution only.

**Stowing your life preserver.** The rules for stowing life preservers include—

- Don't stow life preservers in the vicinity of oil, paint, grease, heat, moisture, or dirt. The nylon material will deteriorate.
- Keep preservers clear of sharp edges, which increase wear and tear.
- Keep preservers away from steam lines and radiators.
- Dry preservers thoroughly before stowing them to prevent mildew.
- Don't tamper with your life preserver or handle it roughly.
- Don't sit or lie on it. This compresses and mats the filler pads and reduces the buoyancy of the preserver.

**Inspecting your life preserver.** The following rules apply when inspecting life preservers:

- Inspect your inflatable life preserver every time you put it on and at least once every month (when in your custody).
- Inflate it by mouth to locate possible leaks in the air chamber or inflation valve.
- Make sure the piercing pin of the CO<sub>2</sub> valve is in good working order and the cylinder itself has not been punctured.

- Weigh the cylinder on a gram scale to make sure it is fully charged.

**Other actions.** Other actions you should take with regard to your life preserver include—

- Being able to put the life preserver on and adjust it in the dark.
- Treat it like a friend; someday it might turn out to be the best one you have!

#### **Lifeboats**

A warship doesn't have room to carry all the powerboats needed to transport the entire crew. At sea, a powerboat is usually difficult and sometimes impossible to launch rapidly. For these reasons, the Navy has spent time and expense developing efficient lifeboats other than powerboats.

The Navy uses several types of inflatable lifeboats. Each boat has sufficient equipment to support the number of survivors for which the boat was designed to carry. Each boat's gear includes the following equipment:

- Canopy
- Sea anchor
- Lifeline
- Boarding line
- Rain-catcher tube
- Air hand pumps
- Paddles
- Sponges
- Boat repair kit for patching leaks
- Floatable knife

The inflatable lifeboat (fig. 15-6) also carries—

- Desalter kits for turning seawater into freshwater.
- Survival kits containing food rations, sea marker dye, a flashlight, batteries, a signal mirror, a

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#### ***Student Notes:***

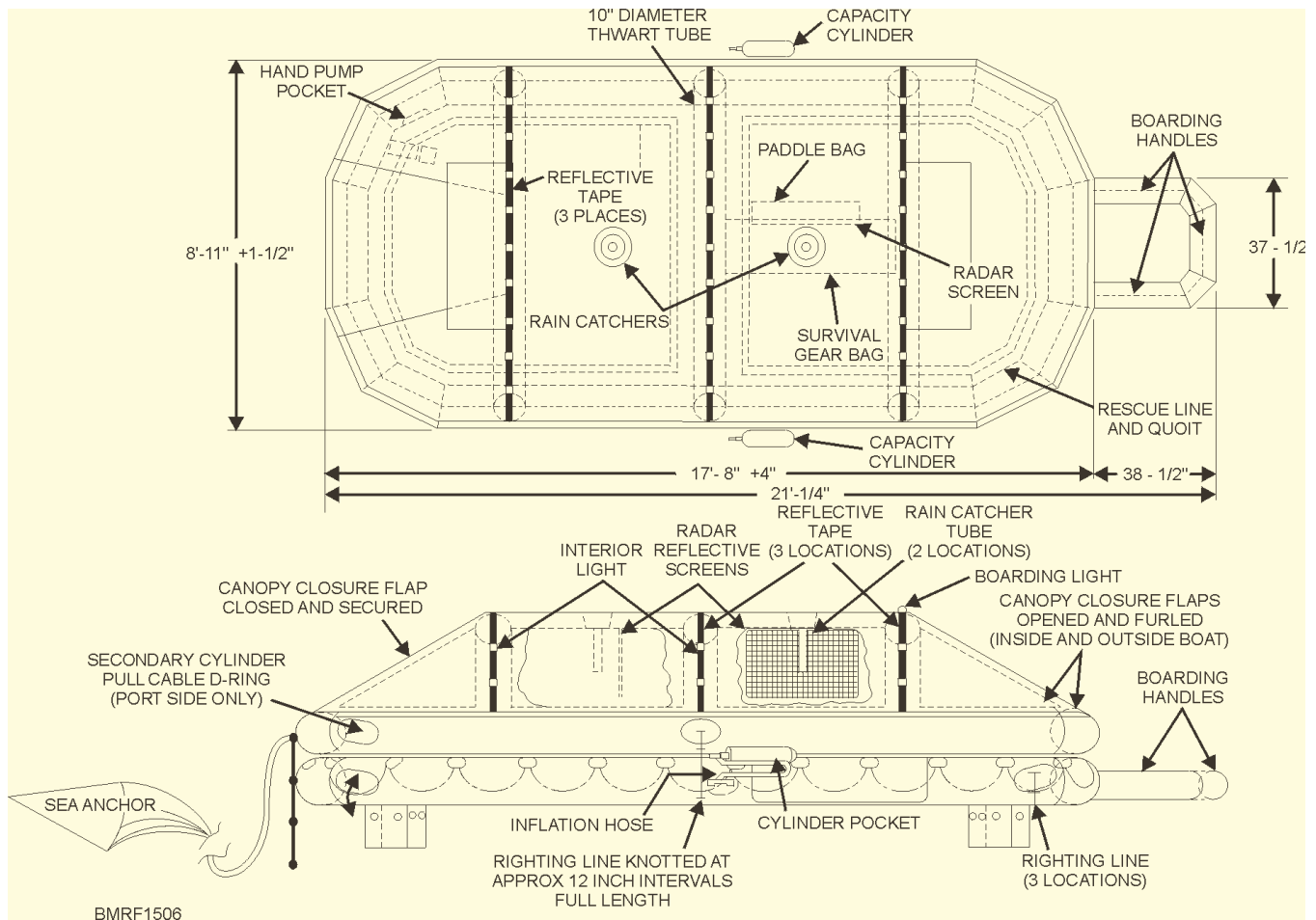


Figure 15-6.—Inflatable lifeboat.

whistle, a first-aid kit, a distress signal kit, and containers of freshwater.

- Survival kits in the large boats are designed to sustain 15 to 20 people for 5 days on regular rations.

**SIGNAL EQUIPMENT.**—Using signaling equipment in the lifeboat correctly might be the difference between rescue or remaining adrift. The opportunity to attract the attention of friendly aircraft or surface vessels may pass quickly; you must be prepared at all times to use the signaling equipment.

The following chart (next page) describes how to use signaling equipment.

**CARE AND USE OF SURVIVAL AND SIGNAL EQUIPMENT.**—When using survival and

signal equipment, stow it in containers for safekeeping and protection against the elements. Some of the items, such as the mirror and whistle, have a lanyard for wearing around the neck. Keep all items as dry as possible. After using any item, replace it in its container. Protect flashlights and knives from salt spray; otherwise, they will soon become corroded. About the only items that should be left out continuously are the sponges.

**EQUIPMENT FOR OBTAINING WATER.**—Never discard (throw away) any article that will hold water. When it rains, every container that can possibly hold water is invaluable. A rain-catcher tube attached to the lifeboat canopy will help you fill the containers. Even in a light rain, some water will drain from the canopy down through the tube. After filling all available

*Student Notes:*

EQUIPMENT	DESCRIPTION	HOW TO USE
Signal mirror	The mirror is an effective device when the sun is shining. Rough water makes focusing the mirror on a rescue ship or aircraft difficult. If the mirror is lost or is unusable, make another one from a piece of shiny metal.	<p>To signal with the mirror—</p> <ol style="list-style-type: none"> <li>1. Punch a cross-hole in its center.</li> <li>2. Hold the mirror about 3 inches in front of your face and sight through the cross at the ship or aircraft. The spot of light shining through the hole onto your face will be seen in the cross-hole.</li> <li>3. While keeping a sight on the ship or aircraft, adjust the mirror until the spot of light on your face disappears in the hole. The bright spot, seen through the sight, will then be aimed directly at the search ship or aircraft</li> </ol> <p style="text-align: center;"><b>NOTE</b></p> <p>The survival kit contains instructions for using the mirror</p>
Distress signal kit	The signal kit contains 12 (Mk 13 Mod 0) distress signals for day and night use and for providing wind drift information to helicopters rescuing personnel. One end of the signal tube produces an orange smoke for day use; the other end produces a red flare for night use. You can identify the night flare end in the dark by a series of small beadlike projections embossed around it. Each signal will burn for approximately 18 seconds.	<p>To use the signal—</p> <ol style="list-style-type: none"> <li>1. Select the proper flare, tear off the sealing tape from around the end of the cylinder, and remove the plastic cap to expose a metal pull ring (fig. 15-7). (Only the night end of the flare has a metal ring; the smoke [day] end does not have the ring.)</li> <li>2. To ignite the MK 13 signal, grasp the pull ring and flip it over the rim of the signal case, as shown in view A.</li> <li>3. Press down the overhanging ring with your thumb until the seal snaps, as shown in view B. (If the seal refuses to snap, continue pressing on the ring so that it bends over the rim and against the signal body, as shown in view C).</li> <li>4. Flip the ring back to the top of the signal and press down, as shown in view D, using the bent pull ring as a lever.</li> <li>5. After the seal breaks, point the signal away from your face and body and give a sharp yank on the pull ring.</li> <li>6. Hold the signal at an angle of approximately 45° from the horizontal position with your arm fully extended. The contents are hot, so take care not to drop any of the contents on yourself or the lifeboat.</li> <li>7. After using one end of the signal, cool it by dipping it in water; then save it until you use the other end. Make sure the distress signal is cool before storing it.</li> </ol>
Dye marker	The dye marker shown (fig. 15-8) produces a brilliant yellowish-green fluorescence when it is submerged in water. Under good conditions, the dye will be a good target for only about 1 hour, but it will retain some of its color for up to 4 hours. From an altitude of 3,000 feet, a rescue plane may see the dye marker as far away as 10 miles. The range decreases as the dye spreads or is diluted by the water.	See the front of the dye marker cover.



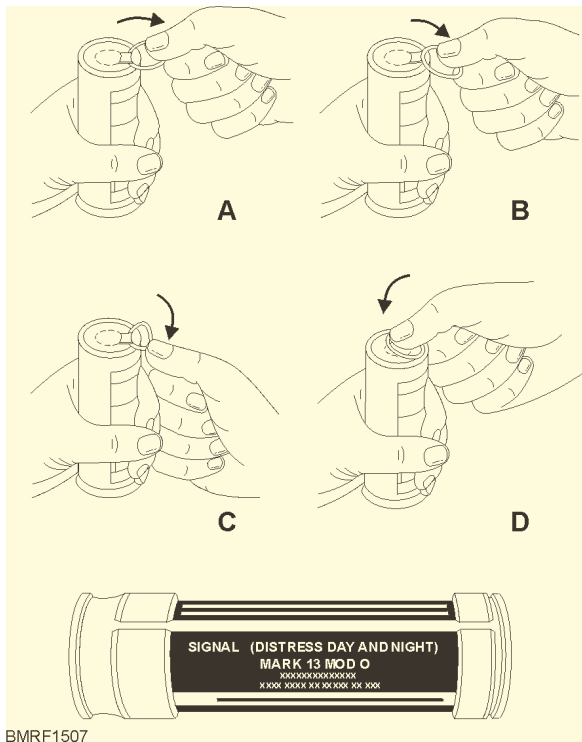


Figure 15-7.—Igniting the MK 13 distress signal.

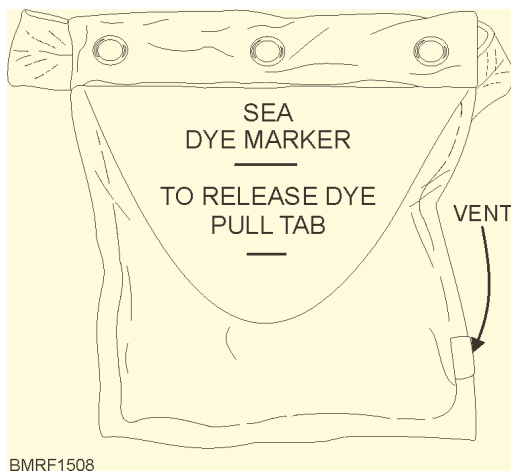


Figure 15-8.—Dye marker.

containers, stow them carefully so that you won't lose any water. Cover all open containers to slow down evaporation; use those you don't have covers for first. During the rain, drink all you can hold.

In polar areas, you can obtain freshwater from old sea ice. Old sea ice is a bluish color, splinters easily, and is nearly free from salt. New ice is milky in color, hard,

and salty. You may also obtain freshwater from icebergs, but use caution. As its underwater portion melts, an iceberg gets top heavy and can capsize without warning.

## SURVIVAL STEPS

Most of the following survival information applies to persons in lifeboats, but some of this information applies to persons in the water. In trying to survive at sea, you will face thirst, hunger, and exposure whether you are in a lifeboat or in the water. You can endure these conditions, however, if you take the proper steps.

### Thirst

The one absolutely essential requirement for survival is drinking water. Without it, death will most likely occur in 8 to 12 days. Normally, you need about 2 quarts of water a day; but because of inactivity and lack of food, you can survive on as little as 6 ounces a day in a lifeboat.

Water is lost from the body by the evaporation of perspiration and through the digestive process. Some actions you can take to reduce water loss include the following:

- Keep your clothes wet during the day (weather permitting, of course), but dry them before sundown.
- Wear the least amount of clothes possible, depending upon your need for protection from the elements.
- If water is scarce, eat sparingly.
- **Never drink seawater or urine.** To do so would only aggravate your thirst and increase body water loss with a subsequent speedup in dehydration.
- Do not drink your entire daily water ration at one time. It is better to drink small amounts three or four times daily.

### Hunger

The food rations supplied with each lifeboat are

## Student Notes:

specially designed to maintain your physical and mental abilities and aren't thirst-provoking. The ration is based on an allowance of one packet per person per day; but, you should eat only when you feel the greatest need. Don't take any food or water the first 24 hours. Food is much less important for survival than water. With water, a person can survive for 4 weeks or longer without food.

Nearly all forms of sea life are edible. Some fish are poisonous; for example, jellyfish (which you should never eat). Each lifeboat has a fishing kit for catching fish.

All sea birds are edible, and practically the entire bird is useful. In addition to the food and liquid obtained from sea birds, you can fashion fishhooks and lures from the bones and feathers. In cold weather, a bird's skin (with feathers) will protect exposed parts of your body.

Birds sometimes settle on the raft or boat, and survivors have reported instances where birds landed on their shoulders. If birds are shy, try dragging a baited hook through the water or throwing a baited hook into the air.

You can catch gulls, terns, gannets, and albatrosses by dragging a baited hook behind the boat or raft. You can attract them within shooting distance by dragging a bright piece of metal or shell behind the raft. It's possible to catch a bird if it lands within reach. Most birds, however, are shy and will settle on the raft out of reach. In that case, try a bird noose. Make it by tying a loose knot with two pieces of line, as shown in figure 15-9. Bait the center of the loop with fish entrails or similar bait. When the bird settles in the loop to eat the bait, tighten the noose around its feet.

The North Atlantic and the North Pacific have relatively few birds, and these are found mostly along the coasts. You may see many species of birds, often hundreds of miles from land, in southern waters.

Exposure

Exposure presents many dangers. Some dangers include sunburn, hypothermia, frostbite, and immersion foot. Some actions you can take to survive these conditions are as follows:

MAN OVERBOARD

All the information in this section applies mainly to ship disasters when your ship is sunk. Such events normally occur in wartime but rarely in peacetime. However, a mishap that can happen to you at any time, and usually without warning, is to fall overboard. One minute you are walking along the main deck; the next

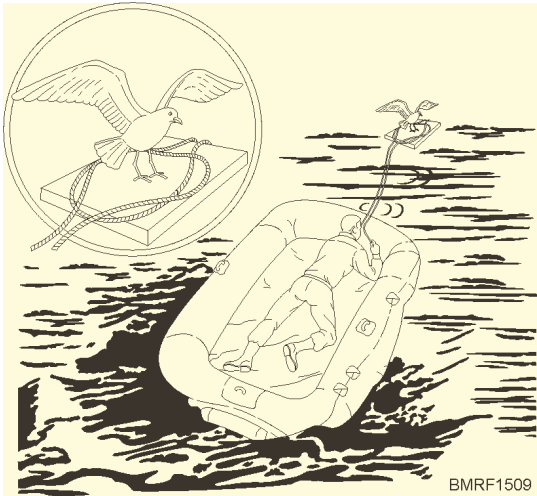


Figure 15-9.—Bird noose.

CONDITION	ACTION
Cold	You can't survive for any great length of time in cold water without a special exposure suit. In water cooler than 75°F, you face a serious condition called <i>hypothermia</i> . Hypothermia occurs when your body is exposed to subnormal temperatures. To overcome hypothermia, minimize heat loss from your head, neck, sides, and groin. Raise as much of your body as possible out of the water; wear a hat; and assume the fetal position or huddle in close, side-by-side contact with others. Don't move about. Stay calm and encourage others not to panic.

Student Notes:

CONDITION	ACTION
Cold (Continued)	<p>In cold waters, your greatest danger after abandoning ship is the effects of the cold. Wear as much clothing as you possibly can, especially heavy undergarments. Ordinary clothing gives you no protection against cold if you are immersed in water. You must get out of the water as quickly as possible</p> <p>Huddle together for warmth. A huddled group can survive cold that might be fatal to one person alone. Rig wind and spray shields, but don't block the sun's heat. Exercise mildly, if possible, to increase body heat; but never do so to the point of exhaustion.</p> <p>Lifeboats are uncomfortable and cold. In frigid temperatures, you must keep both ends of the inflatable lifeboat closed to keep the temperature comfortable; but this confinement creates other discomforts. Closing the ends reduces ventilation and raises the humidity. Then you must reopen the ends to let out the impure air and to bring in fresh air, which, of course, is cold.</p>
Sunburn	<p>Shoes and clothing are a real protection against sunburn and exposure. Remove clothing only when it is absolutely necessary. If you must remove your clothes while in the water, take off only the heaviest articles. Because your shirt or jumper offers warmth at night as well as protection from the sun during the day, don't remove it. Sunburn is easier to prevent than to treat. Try to remain out of the direct rays of the sun. If you can't avoid direct exposure, keep your hat on and cool your body by wetting your clothing.</p>
Dampness	<p>Although remaining dry on a lifeboat is always difficult, make every effort to keep your clothing dry. Since continuous condensation of moisture causes it to drop like rain, sponge out the boat whenever possible. Cold weather aggravates these uncomfortable conditions.</p>
Frostbite and immersion foot	<p>Frostbite and immersion foot are serious injuries that can happen even when you're wearing enough clothing to stay fairly comfortable. Frostbite usually affects the hands, face, or feet, and it most often occurs on windy, very cold days. Affected parts of the body turn stiff, pale, and numb. To prevent frostbite, keep exposed parts of the body as warm as possible and maintain circulation. If frostbite occurs, treat the affected part immediately by placing it in contact with a warm part of your body. Cover it with your hand or put frozen fingers inside your clothing. Don't rub the affected parts; that could result in damage to frozen tissue.</p> <p>Immersion foot is the swelling of the foot accompanied by numbness and pallor (lack of color) or discoloration. Immersion foot is caused by poor circulation in the legs, particularly when the foot remains wet for several days. To prevent immersion foot, exercise the ankles and toes for a few minutes several times each day. Keep your feet warm, dry, and elevated as much as possible. Unlace your shoes or take them off. If you have no dry socks or wrappings for your feet, put them under the arms or in the lap of a shipmate. Never treat immersion foot by rubbing. As with frostbite, tissue damage may result. Rewarming is the only proper treatment.</p>

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***Student Notes:***

minute you are in the water, swimming for your life.

If you fall overboard and someone hears or sees you (one of the purposes of the lookout watch), you can count on being rescued within a few minutes. Such rescues are made in nearly every instance. However, if no one sees you fall overboard or hears a cry for help, you'll be missed and rescue procedures will then be put into action.

If you fall overboard, the most important thing to do is stay calm. Panic will cause you more harm than almost anything else. If you see any floating debris nearby, hang on to it. Otherwise, remove and inflate your trousers. Remember, you can stay afloat for a long time, even without help, if you use the floating positions. Don't swim after the ship, because you'll only exhaust yourself needlessly, and the ship may waste valuable time searching for you at the point where you fell overboard.

The method used to rescue a person overboard depends on the circumstances at the time. In daylight, with good weather, a helicopter (if available) is normally used. Otherwise, the ship's motor whaleboat is used, or you may be recovered directly over the side of the ship.

Helicopters use three basic devices for recovering a person in the water—

1. Sling. If the sling is used, adjust it so that it is across your back and under your arms with the hoisting cable in front of you.
2. Net. If the net is used, simply sit in it and hold on.
3. Two- or three-pronged seat. If a two- and three-pronged seat is used, sit on the prongs and wrap your arms around the upright portion.

When a motor whaleboat is used for rescue, the boat crew helps you into the boat. Also, a swimmer provides assistance if you are injured or exhausted. Don't try to enter the boat from astern; you may be injured by the propeller.

If neither a helicopter nor a whaleboat can be used for rescue, the ship will maneuver to a position where a swimmer, towing a line, can reach you. After the line is fastened around your body, personnel on deck will haul

you in and hoist you aboard.

While awaiting rescue, remain calm. If sharks are in the area, float on your back, using as little arm and leg movement as possible.

To decrease your chances of having to be rescued at all, observe all safety regulations. Don't lean on lifelines. Don't go on deck in bad weather unless you have to. Always wear a life preserver when working in areas where you are in danger of falling overboard. Aboard aircraft carriers, don't walk behind a jet plane turning up its engines because the blast can blow you overboard.

Ships frequently hold man-overboard drills. In spite of precautions, accidents happen. Therefore, when you are at the beach, don't spend all your time sunbathing. Practice swimming and floating. Someday your life may depend on your ability to swim and float.

### REVIEW 1 QUESTIONS

- Q1. When aboard ship, you should know escape routes for what reason?
- Q2. True or False. You should dive into the water to abandon ship.
- Q3. What swimming classification gives you the best chance for survival if you have to abandon ship?
- Q4. If you have to jump from a ship into burning water, you should—
- Q5. Which of the following items can you use to stay afloat?
  - a. Trousers
  - b. Sea bag
  - c. Pieces of wood
  - d. All of the above

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### ***Student Notes:***

Q6. List the two types of life preservers used by the Navy.

a.

b.

Q7. When you have custody of your life preserver, how often should you inspect it?

a.

b.

c.

d.

Q8. List the contents of survival kits carried by inflatable lifeboats.

a.

b.

c.

d.

e.

f.

g.

h.

i.

Q9. What is the one essential requirement for survival?

Q10. The food ration carried by lifeboats is based on how many packets per person per day?

Q11. List some of the dangers you might face by exposure.

## SURVIVAL ASHORE

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recall the methods and procedures for survival ashore to include individual survival, group survival, and methods of evasion and escape.
- Identify the responsibilities and authority of the senior person in a survival situation.

Survival is largely a matter of mental outlook, and the will to survive is the deciding factor. The experiences of hundreds of service personnel isolated during World War II and the Korean conflict and Vietnam police action prove that survival is largely a matter of mental outlook. These experiences also prove that the will to survive is the deciding factor in survival. Whether with a group or alone, you will experience emotional problems resulting from fear, despair, loneliness, and boredom. Your will to live will also be taxed by injury and pain, fatigue, hunger, and thirst. Being prepared mentally to overcome all obstacles and accept the worst greatly increases your chances of coming out alive.

## INDIVIDUAL SURVIVAL

The shock of being isolated behind the enemy lines, in a desolate area, or in enemy hands can be reduced or even avoided if you remember what each letter in the key word *S-U-R-V-I-V-A-L* stands for.

**S**ize up the situation

**U**ndue haste makes waste

**R**emember where you are

**V**anquish fear and panic

**I**mprovise

---

***Student Notes:***

**V**alue living

**A**ct like the natives

**L**earn basic skills

**S** — Size up the situation by considering yourself, the country, and the enemy.

In considering yourself, hope for the best, but be prepared for the worst. Get to a safe, comfortable place as quickly as possible. Once there, look things over, think, and form a plan. Your fear will lessen and your confidence will increase. **Be calm!** Take it easy until you know where you are and where you are going.

Part of your fear may come from being in a strange country; therefore, try to determine where you are by landmarks, compass directions, or by recalling intelligence information passed on to you by your leaders.

In considering the enemy, put yourself in the enemy's shoes. What would you do? Watch the enemy's habits and routines. Base your plan on your observation. Remember, you know where the enemy is; the enemy does not know where you are.

**U** — Undue haste makes waste.

Don't be too eager to move. That will make you careless and impatient. If you begin to take unnecessary risks, you have a good chance of being captured. Don't lose your temper; doing so may cause you to stop thinking. When something irritating happens, stop, take a deep breath, relax, and start over.

Face the fact that danger does exist. To try to convince yourself otherwise only adds to the danger.

**R** — Remember where you are.

You may give yourself away because you're used to acting in a certain way. Doing "what comes naturally" could be the tip off that you don't belong there.

**V** — Vanquish fear and panic.

To feel fear is normal and necessary. It's nature's way of giving you that extra shot of energy just when you need it. Learn to recognize fear for what it is and control it. Look carefully at a situation and determine if your fear is justified. When you investigate, you will usually find many of your fears unreal.

When injured and in pain, you'll have difficulty controlling fear. Pain sometimes turns fear into panic and causes you to act without thinking. Loneliness can also cause panic. It can lead to hopelessness, thoughts of suicide, carelessness, even capture or surrender. Recognizing these signs helps you overcome panic.

**I** — Improvise.

You can always do something to improve the situation. Figure out what you need, take stock of what you have, and then improvise. Learn to put up with new and unpleasant conditions. Keeping your mind on SURVIVAL will help. Don't be afraid to try strange foods.

**V** — Value living.

Conserve your health and strength. Illness or injury will greatly reduce your chances of survival and escape. Hunger, cold, and fatigue lower your efficiency and stamina, make you careless, and increase the possibility of capture. Knowing that will make you especially careful because you'll realize your low spirits are the result of your physical condition and not the danger. Remember your goal of getting out alive. Concentrating on the future—on the time when you will return home—will help you value living during your survival situation.

**A** — Act like the natives.

"At a railroad station, there were German guards," one World War II male escapee related. "I had an urgent need to go to the rest room. The only rest room was an exposed one in front of the station. I felt too embarrassed to relieve myself in front of all passersby. I walked throughout the entire town, occasionally stopping and inquiring if a rest room were available."

This man was detected and captured because he failed to accept the customs of the natives. When you are in a foreign country, accept and adopt native behavior to avoid attracting attention to yourself.

**L** — Learn basic skills.

The best life insurance is to make sure you learn the techniques and procedures for survival so thoroughly that they become automatic. That increases the chances that you will do the right thing, even in panic. What you know about survival could save your life. Be inquisitive

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### ***Student Notes:***



and search for additional survival knowledge.

## GROUP SURVIVAL

Just as you must make your reactions to survival situations automatic, so must the entire squad, platoon, or other group that you might be a member of or be leading. The best chance for survival belongs to the group that works **together** and has a leader who accepts responsibility for the group. When you are the senior person, accept responsibility for your group by taking steps to lead members to work together. Some actions you can take include the following:

**Organize group survival activities.** Group survival depends largely upon the organization of its manpower. Organized action by group members who know what to do and when to do it, during ordinary circumstances and during a crisis, prevents panic. Keeping the group informed, devising a plan, and sticking to the plan helps achieve organization.

**Assume command and establish a chain of command that includes all members of the group.** Good leadership lessens panic, confusion, and disorganization. Make certain each person knows his or her position in the chain of command and is familiar with the duties of every other person, especially your duties as the senior member. Under no circumstances leave leadership of the group to chance acceptance by some member after a situation arises.

**Maintain respect for your leadership by using it wisely; be the leader and set the example.** Group survival is a test of effective leadership. Watch out for problems that could turn into serious arguments. Keep troublemakers from attracting undue attention, and keep those who may “crack up” from disrupting the group. Prevent carelessness caused by fatigue, hunger, and cold. Know yourself and the members of your group; take responsibility for each person’s welfare.

**Develop a feeling of mutual dependence within the group by stressing that each person depends on the others for survival.** Emphasize that the group will not leave the wounded or injured behind—that each member’s responsibility is to make sure the group returns intact. A feeling of mutual dependence fosters high morale and unity. Each member receives support and strength from the others.

### **Make the decisions no matter what the situation.**

However, base your decisions on the information and advice of other members of the group—much as admirals make decisions based on input from their staff. Above all else, never appear indecisive.

If situations require you to act immediately, consider the facts and make decisions rapidly. The ability to think on your feet usually determines successful survival.

## STRESS OF SURVIVAL

Survival is a state of mind. Your ability to return to your group or to be rescued depends in a great part on your ability to cope with frustrations. You may become frustrated because you find you are unable to accomplish specific tasks. Perhaps you are hungry, cold, lost, injured, or lack the proper equipment. Being able to improvise equipment, care for your physical needs, and provide first aid for your injuries will help you to control your environment, reactions, and emotions. Don’t be afraid to experiment and use your imagination. A logical experimental approach is the best way to solve most problems.

Remember the following rules:

1. Almost everything is useful—don’t throw away anything.
2. You can be lazier than you would expect, if you just think. The least effort can be the most efficient.
3. Everything you do should be oriented toward rescue.
4. If your surrounding conditions don’t suit your needs, do what you can to change them.

## SURVIVAL TECHNIQUES

As a member of the armed forces, you always face the chance of being exposed to conditions that can force you into a life-or-death struggle. However, you can remain alive anywhere in the world when you keep your wits. Remember that nature and the elements are neither your friend nor your enemy. By using your wits, you can make them work for you instead of allowing them to work against you.

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### *Student Notes:*

Survival depends on you. You must be physically fit and know how to locate or collect water. You must know what plants and animals are available for food, how to find or catch them, how to prepare them, and how to recognize those which will harm you. The more you know about the conditions peculiar to the region you are in, including the plant and animal life, the better are your chances for survival.

## **Water**

Without water your chances of living are slight, and all the food in the area means little. That is especially true in hot climates where you sweat a lot. Even in cold weather your body needs at least 2 quarts of water each day; a lesser amount reduces your efficiency.

When you can't find surface water, tap through the earth's water table for groundwater (rain or melted snow that has filtered through the ground). Getting to the water table and its supply of generally pure water depends on the contour of the land and the characteristics of the soil.

In the desert or arid regions, watch for water indicators. Some signs of water include—

- Plants covering animal trails and the direction in which certain birds fly. By searching in areas toward which these birds fly, you will probably find water.
- Places that are visibly damp, where animals have scratched, or where flies hover indicates recent surface water. Dig in those spots for water.

Leave your handkerchief out on clear nights to collect dew; then squeeze the water into a container. During a heavy dew, you should be able to collect about a pint an hour.

You may find runoff water above the water table. Runoff water includes streams, stagnant pools, and water in bogs. Consider this water contaminated and dangerous even if it is away from human habitation. Boil or treat this water with water purification tablets before you drink it.

If you are unsuccessful in your search for ground or runoff water or if you don't have time to purify questionable water, a water-yielding plant may be your

best bet. You can easily get clear, sweet sap that is pure and chiefly water from many plants. Many plants with fleshy leaves or stems store drinkable water. Try them wherever you find them. Desert plants often have their roots near the surface. Pry these roots out of the ground and cut them into 24- to 36-inch lengths. Remove the bark and suck out the water.

Not all vines yield palatable water, but try any vine you find. Use the following method for tapping a vine. It will work on any species.

1. Cut a deep notch in the vine as high up as you can reach.
2. Then cut the vine off close to the ground and let the water drip into your mouth or a container.
3. When the water ceases to drip, cut another section off the vine.
4. Repeat this procedure until the supply of fluid is exhausted (fig. 15-10).

## **NOTE**

If the liquid is a white sap or very dark in color, it is not drinkable. If the liquid is clear, test it for odor. If it is slightly pink or red in color, that normally indicates the presence of tannic acid, which isn't harmful. If it has no taste, or does not taste bad, it is a good source of water.

## **Food**

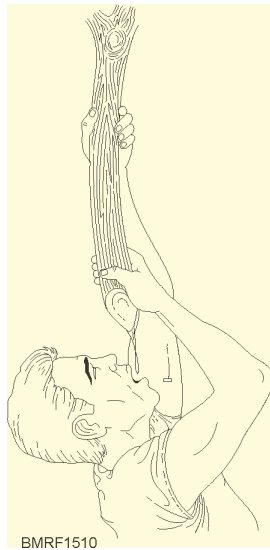
It takes little reasoning to recognize that your second requirement is food. That's especially true during a time of survival when you need every ounce of energy and endurance that you can muster.

People have been known to live for more than a month without food; but unless you are in extremely difficult circumstances, you don't need to deprive yourself of something to eat. Used properly, nature can provide you with food. Apply the following rules as soon as you realize you are isolated:

1. Inventory your rations and water. Estimate the length of time you will be on your own.
2. Divide your food—two thirds for the first half of your isolation and one third for the second half.

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## ***Student Notes:***



**Figure 15-10.—Extracting water from vines.**

3. Avoid dry, starchy, and highly flavored foods and meats if you have less than 1 quart of water for each day. Remember eating makes you thirsty. Eat food high in carbohydrates, such as hard candy and fruit bars.
4. Keep strenuous work to a minimum. The less you work, the less food and water you require.
5. Eat regularly if possible—don't nibble. Plan one good meal each day and cook it if you can. Cooking makes food safer, more digestible, and better tasting. Also, the time you spend cooking will give you a rest period in which you can relax.
6. Always be on the lookout for food. With few exceptions, everything you see that walks, crawls, swims, or grows from the soil is edible. Learn to live off the land.

**PLANTS.**—Experts estimate that about 300,000 classified plants grow on the earth's surface, including many that grow on mountain tops and ocean floors. Of these, 120,000 varieties are edible. Obviously, you won't be able to learn about all of these plants from reading this chapter. But if you know what types of food to look for in the area in which you are stranded, can identify them, and know how to prepare them properly, you should find enough to keep you alive. You may even surprise yourself with a delicious meal.

Eat those plants available in the area to provide you with needed energy while you search for meat. You can depend on them to keep you alive if you're injured, unarmed in enemy territory, or in an area where wildlife is not abundant. Although plant food may not provide a balanced diet, especially in the Arctic where heat-producing qualities of meat are essential, it will sustain you. Many plant foods, like nuts and seeds, will give you enough protein for normal efficiency. In all cases, plants provide energy and calorie-giving carbohydrates.

Most sources of plant foods (fruits, nuts, and berries) have one or more parts that have a lot of food value. For example, certain roots and other underground parts of plants that are rich in starch are excellent sources of food. Some examples are shown on the following page.

**ANIMALS.**—Foods derived from animals have more food value per pound than those derived from plants. Learning what parts of animals you can eat or use in other ways and learning how to prepare animals for cooking increase your chances of survival.

### **Methods of Cooking and Preserving Foods**

Besides making most foods more tasty and digestible, cooking makes them safer to eat by destroying bacteria, toxins, and harmful elements in the food. Your survival chances increase as your knowledge of field survival skills increases. Survival skills include your ability to improvise and to apply the following principles of cooking and preserving the foods you obtain in the field.

### **Harmful Plant and Animal Foods**

Although you will encounter relatively few poisonous plants and animals, you should learn to recognize and avoid them.

Some places, such as the Arctic and subarctic regions, have less than a dozen plants that are poisonous. These include the water hemlock (fig. 15-16) and the poisonous mushrooms (figs. 15-17 and 15-18).

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### ***Student Notes:***

FOOD	CHARACTERISTICS
Wild potato	The wild potato is an example of an edible tuber (fig. 15-11). This small plant is found throughout the world, especially in the tropics.
Solomon's seal	Tubers of Solomon's seal (fig. 15-12) grow on small plants found in North America, Europe, Northern Asia, and Jamaica. Boiled or roasted, they taste much like parsnips.
Water chestnut	The water chestnut is a native of Asia, but it has spread to both tropical and temperate areas of the world including North America, Africa, and Australia. It is found as a free-floating plant on rivers, lakes, and ponds in quiet water. The plant covers large areas wherever it grows. It has two kinds of leaves—the submerged leaf, which is long, rootlike, and feathery, and the floating leaf, which forms a rosette on the surface of the water. Beneath the water, the plant bears nuts that are 1 to 2 inches broad with strong spines that give them the appearance of a horned steer (fig. 15-13). You can roast or boil the seed inside the horny structure.
Nut grass	Nut grass is widespread in many parts of the world. Look for it in moist, sandy places along the margins of streams, ponds, and ditches. It occurs in both tropical and temperate climates. The grass differs from true grass because it has a three-angle stem and thick underground tubers that grow ½ to 1 inch in diameter. (See fig. 15-14.) These tubers are sweet and nutty. Boil, peel, and grind them into flour; you can use the flour as a coffee substitute.
Bullrush	Bullrush is a tall plant found in the wet, swampy areas of North America, Africa, Australia, the East Indies, and Malaya. (See fig. 15-15.) You may eat the roots and white stem base cooked or raw.



Figure 15-11.—Wild potato.

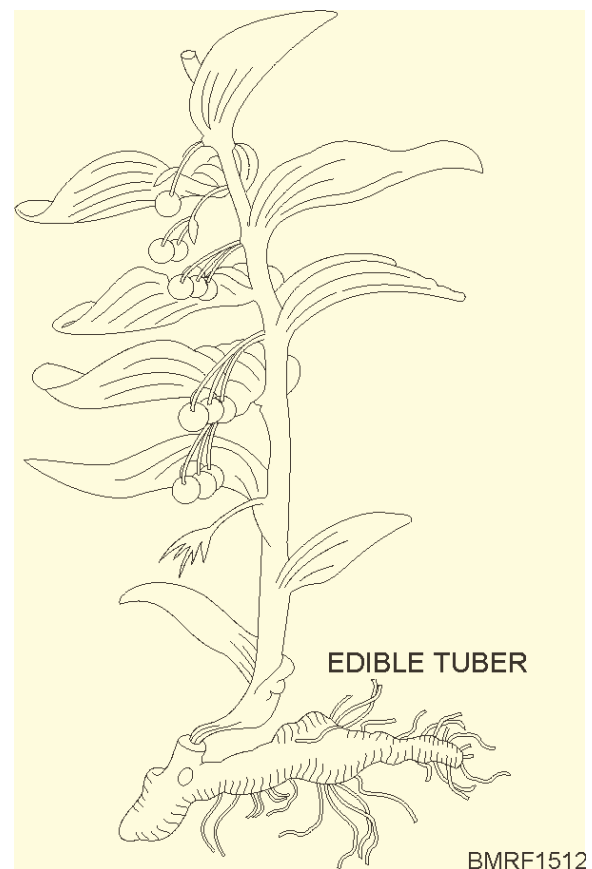
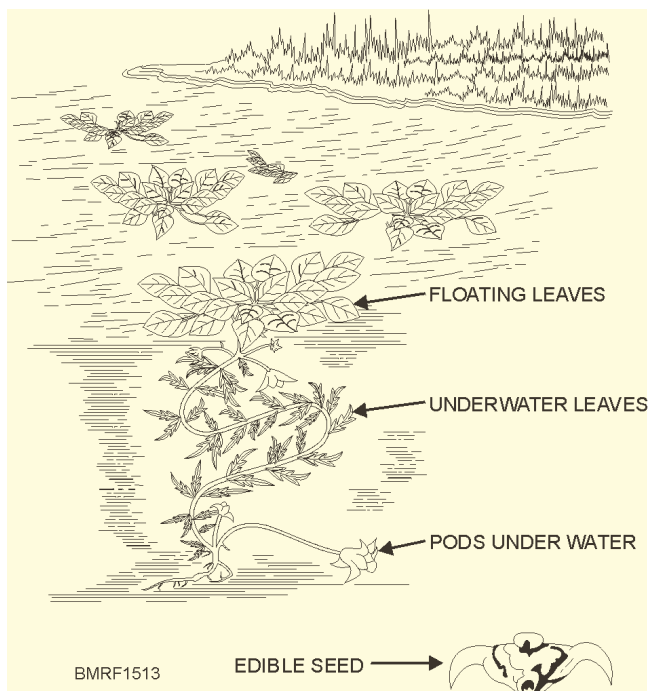
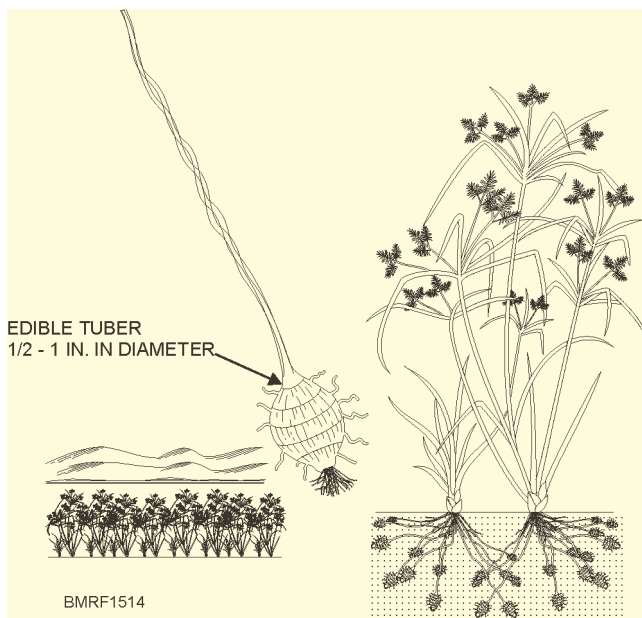


Figure 15-12.—Solomon's seal.

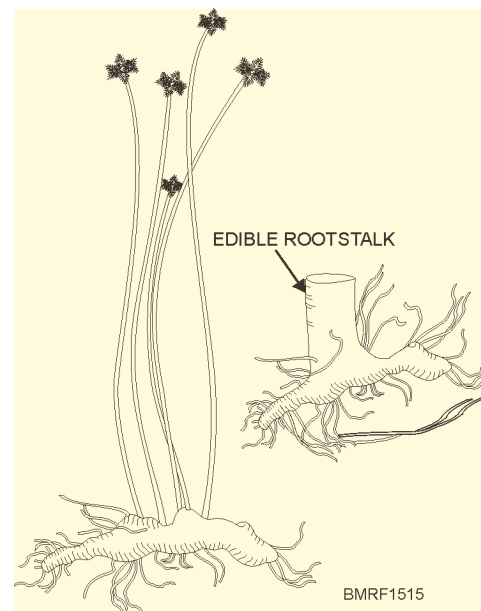
### Student Notes:



**Figure 15-13.—Water chestnut.**



**Figure 15-14.—Nut grass.**



**Figure 15-15.—Bullrush.**

The tropics have no greater proportion of poisonous plants than the United States. If you're in doubt about whether plants are poisonous or nonpoisonous, observe the habits of vegetable-eating animals, such as birds, rodents, monkeys, baboons, and bears. Usually the foods these animals eat are safe for humans. Cook all plant foods because cooking removes plant poisons (except those in poisonous mushrooms).

#### **NOTE**

Avoid eating plants that taste bitter. Also avoid eating untested plants that have milky juices. Don't let the milky juice contact your skin.

You may eat most animals. However, some, like mollusks, may introduce parasites into your body, especially if you eat them uncooked or when they aren't fresh. Crustaceans are almost always edible, but they spoil rapidly and may harbor harmful parasites. Be sure to cook the freshwater variety; eat the saltwater variety raw if you desire.

You have no simple way of telling whether a fish is edible. That depends on the place in which they live, their source of food, or even the season of the year. Often fish that are edible in one area of the world are not in another. At first, eat only small portions of any fish. If you feel no ill effects, you can probably continue to eat the fish safely.

### ***Student Notes:***



TYPE OF ANIMAL	PROCEDURE
Birds	<p>Cook most birds with the skin on to retain their food value. After plucking a bird, cut off the neck close to the body and take out the internal organs through the cavity. (<b>NOTE:</b> Scalding most birds makes them easier to pluck. Waterfowl are an exception; they are easier to pluck when dry.) Wash out the cavity with fresh, clean water. Save the neck, liver, and heart for stew. Boil scavenger birds, like buzzards and vultures, at least 20 minutes before you cook them to kill parasites.</p> <p>Birds' eggs are among the safest of foods. You can hard boil eggs and carry them for days as reserve food.</p> <p>Save all the feathers you pluck from the birds. You may use them for insulating your shoes or clothing or for bedding.</p>
Fur-bearing animals	<p>Clean and dress the carcass of a fur-bearing animal as soon as possible after death. Any delay will make your job harder. Cut the animal's throat and allow the blood to drain into a container. The boiled blood is a valuable source of food and salt. Save the kidneys, liver, and heart. Use the fat surrounding the intestines. All parts of the animal are edible, including the meaty parts of the skull, such as the brain, eyes, tongue, and flesh.</p>
Shellfish	<p>Crabs, crayfish, shrimp, prawns, and other crustaceans are excellent sources of food. However, crustaceans spoil rapidly so boil them alive immediately after capture. You can steam, boil, or bake shellfish such as clams, oysters, and conchs in the shell. Shellfish make an excellent stew when cooked with greens or tubers.</p>
Other foods	<p>You can easily catch grasshoppers, locusts, large grubs, termites, ants, and other insects to provide nourishment in an emergency.</p>

METHOD	DESCRIPTION
Roasting or broiling	<p>This is a quick way to prepare wild plant foods and tender meats. Roast meat by putting it on a stick and holding it near the embers of your fire. Roasting hardens the outside of the meat and retains the juices.</p>
Baking	<p>Baking is cooking in an oven over steady, moderate heat. The oven maybe a pit under you fire, a closed vessel, or a leaf or clay wrapping. Pit cooking protects food from flies and other pests and reveals no flame at night.</p>
Steaming	<p>You can steam foods that require little cooking, like shellfish. Place your food in a pit filled with heated stones over which leaves are placed. Put more leaves over your food. Then force a stick through the leaves down to the food pocket. Pack a layer of dirt on top of the leaves and around the stick. Remove the stick and pour water to the food through the holes that remains. Steaming is a slow but effective way to cook.</p>
Parching	<p>Parching may be a desirable method of preparing some foods, especially grains and nuts. To parch, place the food in a metal container and heat slowly until it is thoroughly scorched. In the absence of a suitable container, use anything that holds food or water—a heated, flat stone; turtle shells; seashells; leaves; bamboo; or a section of bark.</p>
Drying	<p>Drying preserves food by ridding it of moisture. You can dry plant food and meat by exposing them to wind, sun, air, fire, or any combination of these. To produce jerky, cut meat into 1/4-inch strips and place it across grates; allow it to dry in either the wind or smoke until brittle.</p>

*Student Notes:*



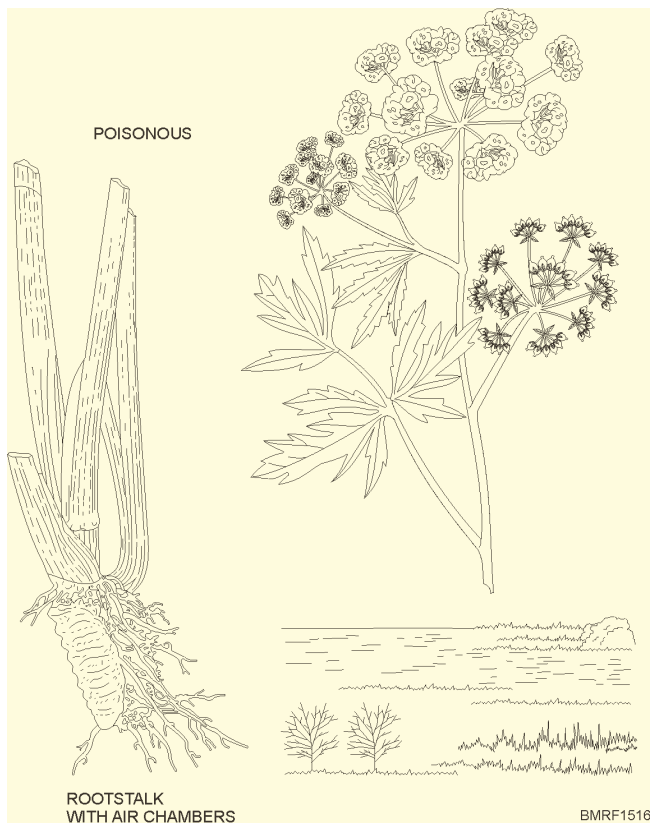


Figure 15-16.—Water hemlock.

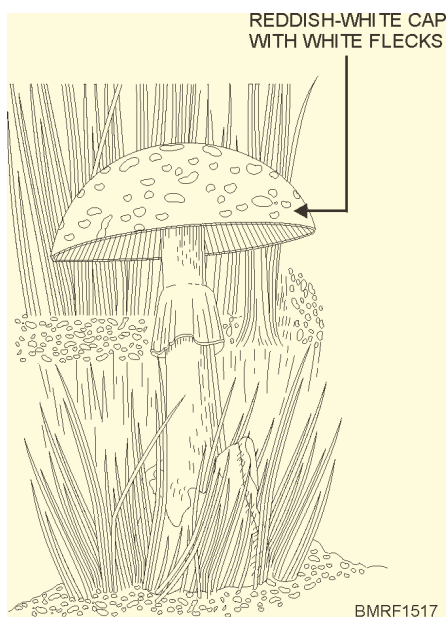


Figure 15-17.—Fly agaric.

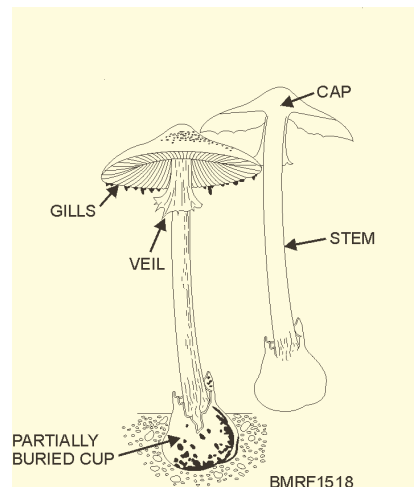


Figure 15-18.—Death angel.

## EVASION

According to the Code of Conduct for Members of the Armed Forces of the United States, it is your duty to evade capture by the enemy. Your job is to **get back** to your unit. Your survival will depend on your ability to apply the techniques of evasion. No other reason is more important for making evasion techniques part of your basic combat skills.

Evasion means traveling through enemy-held territory without being captured. Falling into the hands of the enemy is an event that no military person wants to experience. However, at some point in your career you may find yourself in a situation where capture is a possibility. You need to know a few basic evasion principles to decrease your chances of winding up as a guest of the enemy.

During World War II and the succeeding actions in Korea and Vietnam, many of our soldiers, Sailors, and marines were able to avoid the enemy and safely return to friendly forces. They were successful because they applied some or all of the guidelines presented in the following paragraphs. You need to learn this information so that you know how to evade the enemy. It could mean the difference between freedom or capture; interrogation; and possibly, inhumane treatment by enemy forces.

Obviously, the most important consideration in evasion is knowing where the enemy is located. If you don't know the enemy's location, watch for the

## Student Notes:

following signs. They can tell you the enemy’s location as well as other valuable information.

1. Signs that groups have passed, such as crushed grass, broken branches, footprints, cigarette butts, or other discarded trash, may reveal their identity and size, their direction of travel, and the time they passed through.
2. Workers in fields may indicate absence of the enemy.
3. Apparently normal activities in villages may indicate absence of the enemy.
4. Less obvious conditions may indicate the presence of the enemy, such as the following:
  - a. The absence of workers in fields is an indication that the enemy is near.
  - b. The absence of children in a village is an indication that the children have been hidden to protect them from action that may take place.
  - c. The absence of young people in a village is an indication that the enemy controls the village.

Some evasion techniques you may find useful are cover, concealment, and camouflage. To keep yourself from being seen, you may have to hide in bushes or lie flat in shallow ditches using brush as a cover or camouflage.

When evading the enemy, remember the following points:

1. Conceal yourself from enemy aircraft and nearby enemy troops.
2. Move quietly; noises carry in fog, fallen snow, heavy foliage, and over rock faces.
3. Maintain personal hygiene to prevent body odor; cover body waste and scraps of food; avoid activities, such as cooking and smoking, that produce smells; such smells can reveal your location.
4. Don’t make sudden, rapid movements that can reveal your location.
5. Select routes for movement that avoid exposed

areas and don’t show your silhouette against the skyline. Don’t leave obvious tracks.

### Crude Direction-Finding Techniques

How do you determine direction without a compass? Nature can help you or nature can fool you. The two best crude sources of direction are the sun and the stars, but you must know how to use them.

Sun	<p>The sun travels from the eastern sky to the western sky. How can you use the sun to determine an east-west direction?</p> <p>You can use shadows (even on a cloudy day) made by the sun to get an accurate east-west line. On a flat surface, drive a stick 3 or 4 feet high in the ground. Then mark the tip of the stick’s shadow with a rock. If you wait awhile and then mark the shadow again, you will see that the line connecting the tips of the shadows inscribes an east-west line on the ground.</p>
Stars	<p>To use the stars, you must have a clear night. You may locate north by finding the North Star (Polaris), the outermost star in the handle of the Little Dipper.</p>

These are very crude direction-finding techniques; you may only use them in the Northern Hemisphere. If your ship or aircraft is going to be operating in the Southern Hemisphere, you should learn the techniques for that area of the world.

### Evasion Travel

The route that you select to travel while trying to evade the enemy depends on your situation, the weather conditions, and the nature of the terrain. Whether you select a ridge, stream, valley, coastline, dense forest, or mountain range to follow, be sure it is the safest, rather than the easiest, way. Experience has proved that the most difficult route is frequently the safest.

### Travel Tips

Some tips you can use when traveling include the following:

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### Student Notes:

- Be patient, cautious, and avoid overconfidence. An enemy's approach isn't a cause for panic. Normally, you have a good chance of remaining unobserved.

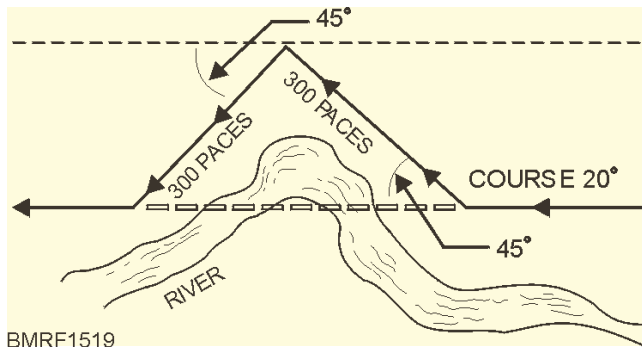
- Conserve your strength by avoiding exhaustion. When you have to remain in one place for an extended period, exercise moderately to keep fit.

- Generally, avoid eating uncooked food or drinking unboiled water. Select a hiding place to cook the food and boil the water you will use en route to the next evasion objective.

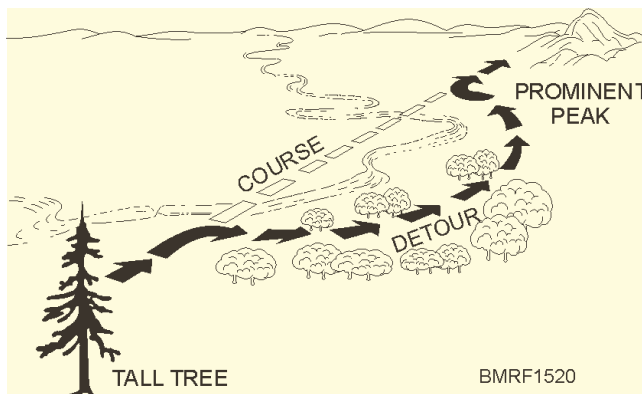
- Hold on to items of personal clothing and equipment; they serve a useful purpose during evasion. Keep some items that will identify you as a military person, such as your dog tags. If you can't positively

Along a ridgeline	Using a route along a ridgeline is usually easier to follow than one through a valley. You can frequently use animal trails on top of ridges to guide your travel. When following a ridge-top trail, stay below the trail and move parallel to it. <b>Never travel along the top of a ridge.</b> Doing so makes you an easily identifiable silhouette against the skyline.
Use of a stream	Using a stream as a route is of particular advantage in a strange country. It provides a fairly definite course and might lead to populated areas. It's a potential food and water source and may provide you a means of travel by boat or raft.
Following a coastline	Following a coastline leads you on a long, roundabout route. However, a coastline serves as a good starting point. It is an excellent base line from which to get your bearings and a probable source of food.
In a dense forest	When traveling in a dense forest, you probably won't be able to spot distant landmarks. You can stay on course by lining up two trees forward of your position in your direction of travel. As soon as you pass the first one, line up another beyond the second. You might find it helpful to look back occasionally to check the relative positions of landmarks.
Marking your route	You can mark your route with bent bushes, rocks, or notches placed on the backsides of trees at approximately eye level. Make bush marks by cutting vegetation or bending it so that the under, lighter sides of the leaves are facing upward. These signs are especially conspicuous in dense vegetation, but you should be cautious in using them. By plainly marking your route, you risk discovery.
Trails in your general direction	Follow trails that lead in your general direction; when you come to a fork, follow the path that appears most traveled. If you follow the wrong trail and become lost, stop and try to remember the last time you were sure of where you were. Mark your location and start backtracking. Sooner or later you will discover a recognizable feature with which you can pinpoint your position.
Detouring in rough country	You might have to detour frequently in rough country. To do that, try to follow the method shown in figure 15-19 for estimating distance and average angle of departure for short detours. On your return from the detour, estimate the angle and distance to regain your original line of travel. For greater accuracy, count paces and use a compass. Another method (fig. 15-20) lets you select a prominent landmark ahead and behind your line of travel. On returning from your detour, walk until you are again lined up on the two landmarks; then follow your original course.

*Student Notes:*



**Figure 15-19.—Estimating distance and average angle of departure.**



**Figure 15-20.—Using prominent landmarks.**

identify yourself as a military person, you may be treated as a spy if captured or be refused assistance by escape organizations or friendly natives.

- Don't leave or throw away any articles that, if found, could give the enemy a clear picture of your direction of travel. Bury, or otherwise dispose of, the effects of your campsite.

- Practice supply economy. You may have to use the same jacket or pair of shoes throughout the entire evasion trip, which could cover hundreds of cross-country miles during both winter and summer seasons. Build up your food and water supplies. Carefully ration them so that they will last until you can reach an evasion objective or can replenish them. If you have food but no water, don't eat. Since the digestive processes require water, you will dehydrate faster if you eat.

- Use firearms only in an emergency. Keep them concealed at all times during your evasion unless a situation arises that requires a show of arms.

- Avoid contact with people as long as possible. However, if you can't proceed on your own because of sickness, lack of food, or other reasons, then, and only then, seek out native assistance. Natives who are sympathetic to the allied cause or members of the underground who operate escape lines for the purpose of returning evaders to allied control may offer assistance. Be wary in contacting natives or accepting their help, regardless of what they claim to be.

- If you're fortunate enough to travel through an area where an organized escape line exists, the chances are good that a spotter will seek you out. Spotters for resistance or underground organizations are particularly alert when they have reason to believe allied evaders are in their area but so are enemy police and counterintelligence agents. Persons wearing civilian clothing in enemy-held territory are not necessarily civilians.

### Crucial Phase of Evasion

To establish contact with friendly lines or to cross the border to a neutral country is the most crucial point of evasion. All of your patience, planning, and hardships will be in vain if you aren't careful when contacting friendly frontline forces. Many personnel attempting to pass through friendly lines have been killed because they didn't identify themselves properly. Most of these people wouldn't have been shot if they had been cautious and followed proper procedures. The normal tendency is to throw caution to the wind when in sight of friendly forces. You must control this tendency.

Regular patrols or special mission personnel operating behind enemy lines are given the challenge and password of the day as a security measure. Challenges and passwords provide for the identification of the patrol as it approaches a friendly position. In addition, frontline troops are told the time and place where patrols will leave and enter the lines. These conditions exist only if you are able to rejoin your outfit within 24 hours following your separation. After 24 hours, you must follow certain established procedures and hope the frontline troops will also

### Student Notes:

follow them. Usually frontline troops, especially those employed several miles forward of the forward edge of the battle area, shoot first and ask questions later. Contacting these troops is, at the very least, sensitive and a calculated risk. However, in the absence of an opportunity to contact a friendly patrol, contact with frontline troops may be your only alternative. Generally, frontline troops are told to honor the display of a white flag or another white object and to advance the unknown person to be recognized.

Once back in friendly hands, you'll naturally want to talk about your exploits and will undoubtedly receive countless questions from frontline troops. However, that is the time you should remain silent. If you talk at this point, you may endanger the lives of those who helped you. In addition, you may compromise methods other service personnel might use to evade the enemy and get out safely. Give only information of immediate tactical importance to frontline units. Advise the first officer or petty officer contacted that you are returning to duty from missing in action, prisoner of war, or internment status. Then request to be taken to someone authorized to receive evasion and escape information.

These survival techniques are but a few of the ways you can stay alive and live to return to friendly forces. You can gain an in-depth knowledge of survival, evasion, and escape techniques through special training. The Navy provides this special training at survival, evasion, resistance, and escape (SERE) schools located at strategic locations throughout the world.

## ESCAPE

*If I am captured I will continue to resist by all means available. I will make every effort to escape and aid others to escape. I will accept neither parole nor special favors from the enemy.*

### —Code of Conduct, Art. III

What happens if you become a prisoner of war (POW)? After all, it is possible. Isolation, fear, and injury all work in favor of the enemy to increase your chances of capture in spite of a determined effort on your part to evade. The surrender of your arms, however, does not mean you forfeit your responsibilities as a member of the American armed

forces. **The armed forces Code of Conduct directs that you begin planning your escape the minute you are taken prisoner.**

Escape is tough; making it work is even tougher. It demands courage, cunning, and much planning in seeking ways out, determining what routes to follow, and locating friends. Above all, it demands physical stamina under the worst conditions imaginable. Experience has proven that "model" camps with regular rations and considerate treatment are the exception. But no matter what extremes you encounter as a POW, try to keep yourself physically able and sufficiently equipped to escape as soon as possible.

If captured, try to make your escape early. You may never be in any better physical condition to escape than at the moment you are captured. Prison rations are barely enough to keep you alive; they certainly won't supply you with a reserve of energy. The physical treatment, lack of medical care, and insufficient rations of prison life soon have effects such as physical weakness; night blindness; and loss of coordination, reasoning power, and morale.

There are other reasons for making your escape early after your capture. Friendly artillery fire or air strikes occurring during that time may increase your chances of getting away. The first guards you will have are not as well trained in handling prisoners as those farther back from the front lines. Some of the line guards may even be walking wounded who are distracted by their own condition. In addition, you know something about the terrain where you are captured, and you know the approximate location of friendly units. Several days later and many miles away, you may be in strange territory. An escape from a prison camp is much more difficult and requires more detailed planning. It must be organized and supported as any other military operation. The method you should use to escape depends on your particular situation. The only general rules are to make an early escape and to escape when the enemy's attention is distracted.

## Save, Add to, Take Care of (S-A-T)

Since the conditions in various POW camps differ, it is impossible to provide a specific escape or survival plan for each situation. What you need is a guide to help

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## Student Notes:



## **CODE OF CONDUCT**

### **ARTICLE I**

I am an American, fighting in the forces which guard my country and our way of life. I am prepared to give my life in their defense.

### **ARTICLE II**

I will never surrender of my own free will. If in command I will never surrender the members of my command while they still have the means to resist.

### **ARTICLE III**

If I am captured I will continue to resist by all means available. I will make every effort to escape and aid others to escape. I will accept neither parole nor special favors from the enemy.

### **ARTICLE IV**

If I become a prisoner of war, I will keep faith with my fellow prisoners. I will give no information or take part in any action which might be harmful to my comrades. If I am senior, I will take command. If not, I will obey the lawful orders of those appointed over me and will back them up in every way.

### **ARTICLE V**

When questioned, should I become a prisoner of war, I am required to give name, rank, service number and date of birth. I will evade answering further questions to the utmost of my ability. I will make no oral or written statements disloyal to my country and its allies or harmful to their cause.

### **ARTICLE VI**

I will never forget that I am an American, fighting for freedom, responsible for my actions, and dedicated to the principles which made my country free. I will trust in my God and in the United States of America.

you plan to make the best of what you have. One such guide is to remember the word S-A-T–SAVE, ADD TO, TAKE CARE OF

### **Maintaining Your Health**

Good physical health is essential to survival under any circumstances. It is especially important in a POW

camp where living conditions are crowded and food and shelter are lacking. That means you must use every device possible to keep yourself well.

Soap and water provide a basic preventive medicine; so keep clean. If water is scarce, collect rainwater, use dew, or simply rub yourself daily with a cloth or your bare hands. Pay attention to areas on your body that are likely to develop rash and fungus infection—your crotch, your scalp, and between your toes.

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### ***Student Notes:***



Save	<p><b>Save</b> what you can in a POW camp—clothing, pieces of metal, cloth, paper, string anything! A piece of twine may mean success or failure when the time comes for you to break out. Hide these items under the floor or in a hole in the ground. Since they appear harmless, little or nothing will be done to punish you if they are discovered.</p> <p><b>Wear</b> as few clothes as possible during your imprisonment. <b>SAVE</b> your shoes, underwear, shirts, jacket, and any other items of clothing that will protect you from the elements to wear during your escape.</p> <p><b>Save</b> any nonperishable foods you receive from the Red Cross or your captors. Candy, for example, comes in handy as a quick source of energy when you are traveling. If no candy source is available, <b>SAVE</b> each issue of sugar given you by the enemy. When you get enough, boil it down into hard candy. <b>SAVE</b> it until you build up your supply. Store any canned foods you receive. The enemy might puncture the cans to prevent you from saving them. However, you can recook some food into another form that preserves it. Other foods to hoard against the day of your escape include suet (a hard fat), cooked meat, nuts, and bread.</p> <p><b>Save</b> pieces of metal no matter how insignificant they may seem. Nails and pins can serve as buttons or fasteners. You can use old cans to improvise knives, cups, or food containers. If you are fortunate enough to have a razor blade, guard it. Use it for shaving only. Devise ways of sharpening it; rub it on glass or stone or some other hard surface. A clean shave is a good morale booster.</p> <p><b>Save</b> your strength but keep active. A walk around the compound or a few mild calisthenics will keep your muscles toned. Sleep as much as you can. You will not get much rest on your way back.</p>
Add to	<p><b>Use your ingenuity.</b> Select those items that you cannot get along without and supplement them; for example, your rations. There is more to eat in and around your compound than you think. When you are allowed to roam around the prison campgrounds, look for natural foods native to the area, such as roots, grasses, leaves, barks, and insects. If possible, <b>ADD</b> these foods to your escape cache (supplies). They will keep you alive when the going gets tough.</p> <p><b>Supplement</b> your clothing so that the more durable garments are in good repair when you escape. A block of wood and a piece of cloth make good moccasins; that saves wear on your shoes. Substitute rags for gloves; weave straw into hats. Do not forget to salvage clothing from the dead.</p>
Take care of	<p>Probably the most important part of any plan for survival is the <b>take-care-of</b> phase.</p> <p><b>Maintain</b> what you have. You won't receive a reissue of shoes or clothes that you wear out or lose. Also, maintain your health; it is not easy to regain once you lose it.</p> <p><b>Put</b> some of your clothing into your escape cache. Watch the rest for early signs of wear, and repair them with improvised material if needed. Use a needle made from a thorn, nail, or splinter and thread from unraveled cloth to mend a torn pair of trousers. Wood, canvas, or cardboard bound to the soles of your shoes will save them from wear. Even paper will suffice as a reinforcing insole if your shoes do wear through.</p>

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***Student Notes:***

Keeping clean also applies to your clothing. Use soap and water when you can spare it. Hang your clothes in the sun to air if soap and water are not available. Examine the seams of your clothing and the hairy portions on your body frequently for lice and their eggs. Disease-infected lice can kill. A possible way to get laundry service, or even a bath, is to tell your guard that you are infested with lice, whether or not your complaint is true. The prison authorities, fearing that lice on prisoners may cause an outbreak of louse-borne disease among the civilian and guard population, might provide this service.

If you become ill, report your condition to the camp authorities. The chance that you will receive aid is worth the try.

### **After You Escape**

Once you escape, you may have trouble contacting friendly units even when you know where they are. Approach the problem as you would if you were a member of a lost patrol. Time your movements so that you pass through the enemy forward areas at night and arrive between the enemy and friendly units at dawn. A good plan is to find a ditch or shell hole where you have cover from both friendly and enemy fire. Attract the attention of the friendly forces by waving a white cloth, shouting, exposing or laying out a panel, or some other method. In doing so, you alert friendly forces who are prepared to accept any small group that appears willing to regain contact. When you alert friendly forces, they are not as likely to shoot you on sight.

## **REVIEW 2 QUESTIONS**

Q1. Give the meaning of the letters in the key word *S-U-R-V-I-V-A-L*.

S

U

R

V

I

V

A

L

Q2. If in a group, what action(s) makes(s) for the best chance of survival?

Q3. List the sources of drinking water.

a.

b.

c.

d.

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***Student Notes:***

Q4. True or False. Food derived from animals has more food value per pound than food from plants.

Q5. List plants that you should not eat.

- a.
- b.
- c.

Q6. List some techniques that are useful to evade the enemy.

- a.
- b.
- c.

Q7. What does the armed forces Code of Conduct direct you to do?

### SUMMARY

You will probably spend the majority of your naval career aboard ship. Hopefully you will never fall or be washed overboard or have to abandon ship.

The U.S. Navy operates in all parts of the world from the tropics to polar regions. Each region has its own special survival problems. You may encounter the extreme cold of the polar regions or the heat and humidity of a tropical jungle. Your survival in these places will depend on your ability to take care of yourself. Knowing how to combat hypothermia or heat exhaustion will greatly increase your chances for survival.

Although it could happen, hopefully you will never find yourself stranded in enemy-held territory. To be captured by an enemy force is one of the worst situations you could face. Being properly prepared to make an escape and return to your unit is not only your duty, but it is what every POW thinks about. Knowing how to make that escape work is even more difficult. Knowing what the local environment has to offer in food and water supplies will help you survive during your escape. Maintaining the proper state of mind will greatly increase your chances of making a successful escape.

### REVIEW 1 ANSWERS

- A1. When aboard ship, you should know escape routes **so you won't be trapped or cut off in case of an emergency or if you must abandon ship.**
- A2. **False.** You should **never** dive into the water to abandon ship. Use a ladder, cargo net, line, or fire hose.
- A3. The swimming classification that gives you the best chance for survival if you have to abandon ship is the **First Class Swimmer.**
- A4. If you have to jump from a ship into burning water, you should **take a deep breath, cover your nose and mouth with one hand and your eyes with the other, and swim under water as far as possible.**
- A5. You can use **trousers/slacks, sea bag, and pieces of wood** to stay afloat.
- A6. The two types of life preservers used by the Navy are the—
  - a. **Inherently buoyant type**
  - b. **Inflatable type**
- A7. When you have custody of your life preserver, you should inspect it **once each month.**
- A8. The contents of survival kits carried by inflatable lifeboats include—
  - a. **Food rations**
  - b. **Sea marker dye**
  - c. **Flashlight**
  - d. **Batteries**
  - e. **Signal mirror**
  - f. **Whistle**
  - g. **First-aid kit**
  - h. **Distress signal kit**

i. **Containers of fresh water**

- A9. The one essential requirement for survival is **drinking water**.
- A10. The food ration carried by lifeboats is based on **one packet of food per person per day**.
- A11. Some of the dangers you might face by exposure include—
- a. **Sunburn**
  - b. **Hypothermia**
  - c. **Frostbite**
  - d. **Immersion foot**

**REVIEW 2 ANSWERS**

- A1. The meaning of the letters in the key word *S-U-R-V-I-V-A-L* are—
- S**ize up the situation
- U**ndue haste makes waste
- R**emember where you are
- V**anquish fear and panic
- I**mprovise
- V**alue living
- A**ct like the natives
- L**earn basic skills
- A2. In a group, **working together** is the best chance of survival.

- A3. Some sources of drinking water include—

- a. **Dig to the water table**
- b. **Collect dew during the night**
- c. **Runoff water**
- d. **A water-yielding plant**

- A4. **True**. Food derived from animals has more food value per pound than food from plants.

- A5. Plants that you should not eat include—

A. **Water hemlock**

B. **Fly agaric**

C. **Poisonous mushrooms**

- A6. Some techniques that are useful to evade the enemy include—

- a. **Cover**
- b. **Concealment**
- c. **Camouflage**

- A7. The armed forces Code of Conduct directs you to **make every effort to escape**.

## CHAPTER 16

# CAREER AND EDUCATION INFORMATION

*I came into the Navy feeling I could spend a few years away from home, save some money, see different places, and maybe get some training or education that I could use later. I've had to change my attitude about several things since joining. I didn't realize there are so many different opportunities open to me. I guess I'm only limited to how far I can go by how much effort I'm willing to put forth.*

—A letter home

As this letter points out, you have opportunities in the Navy. You can advance, get an education, and have a rewarding career. Since the Navy is an all-volunteer organization, its success is influenced by the personal satisfaction of its personnel. Your desire to serve and your patriotism are two factors that contribute to your job satisfaction.

This chapter doesn't provide a detailed explanation of all the available rights and benefits; but it does introduce you to some of them. Remember, the Navy and the Department of Defense make frequent changes to personnel policies. Therefore, some of the information may have changed by the time you read this manual. You should check with your LPO, division or department career counselor, or the command career counselor for the latest information about any Navy program.

### THE NAVY GOAL CARD

**Learning Objective:** When you finish this chapter, you will be able to—

- Identify the purpose of the Navy Goal Card.

The Navy helps first-term Sailors set and achieve both short-term and long-term goals while in the service. The Goal Card Program is one way to keep the volunteer, high-quality Sailor in the Navy. This program is made up of the Navy Goal Card and the Navy Pocket Goal Card. It reinforces goal setting and goal accomplishment by first-term Sailors.

The Navy Goal Card is a two-page document of rating and advancement career information for each new recruit and first-term Sailor. Some of the topics covered by the Goal Card include the following:

- Advanced training and education for your rating
- Montgomery G.I. Bill benefits and goals
- Voluntary education, including Tuition Assistance and SOCNV
- Officer programs
- Advancement
- Career milestones
- The Apprenticeship Program
- Job descriptions

The Navy Pocket Goal Card (fig. 16-1 and Appendix V) shows a sample of the trifold form for newly recruited Sailors. Appendix V contains a Navy Pocket Goal Card for your use. Areas of goal setting covered on the Pocket Goal Card include the following:

- Delayed Entry Program (DEP) goals
- Navy Core Values
- Recruit training goals
- The Sailor's Creed
- Fleet goals, personal priorities (including education)
- Space for Sailors to write in their own goals

<p><b>FLEET GOALS</b>  I will complete my Warfare Specialty qualifications, if assigned to sea duty, by end of 1st enlistment.</p> <p>I will increase savings to _____ dollars per month.</p> <p>I will maintain a physical fitness program.</p> <p>I will advance to every paygrade as soon as my first eligibility: E3 _____ E4 _____ E5 _____ E6 _____</p> <p>I will go to the education office (Navy Campus) to document college credits earned upon completion of Recruit Training, _____ school, and _____.</p> <p><b>PERSONAL PRIORITIES</b></p>	<p><b>DEP GOALS</b>  I will attend all DEP meetings.</p> <p>I will save _____ dollars per month.</p> <p>I will advance to E2/E3 by encouraging others to visit recruiters and enlist.  I will maintain a physical fitness program.</p> <p>I will earn my _____ diploma.</p> <p>I will not use illegal drugs or abuse alcohol.</p> <p>I will take personal responsibility for my future.</p> <p>Personal Goal: _____  _____  _____</p> <p><b>RECRUIT TRAINING GOALS</b></p>
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Figure 16-1.—Navy Pocket Goal Card.

## REVIEW 1 QUESTIONS

- Q1. What means does the Navy use to help new Sailors set and achieve goals while in the service?
- Q2. List some of the areas covered in the Pocket Goal Card.
- - 
  - 
  - 
  - 
  - 
  -

## PROFESSIONAL DEVELOPMENT

**Learning Objectives:** When you finish this chapter, you will be able to—

- Identify the requirements for professional development.
- Recognize the purpose of the Professional Development Board.

One purpose of the Professional Development Board is to give Sailors a chance for greater responsibility. The board interviews Sailors who want advancement training and who want to attend special programs or programs that need command endorsement (approval). Also, the board advises career Sailors who find it difficult to be selected for advancement or to complete command-required personnel qualification standards (PQS). All recommendations made by the board are forwarded to the CO for approval.

Permanent board members include the—

- Command master chief,
- Command career counselor,
- Personnel officer, and the
- Educational service officer.

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**Student Notes:**



Supplemental board members include the—

- Division officer,
- Division chief, and the
- Division career counselor.

## ENLISTED CAREER STRUCTURE

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recognize the paths of advancement and recall the requirements for advancement of nonrated personnel.
- Identify the eligibility requirements for advancement to E-2 and E-3 and petty officer.
- Recognize selection criteria for advancement and preparation for advancement.
- Identify the career enlistment objectives.

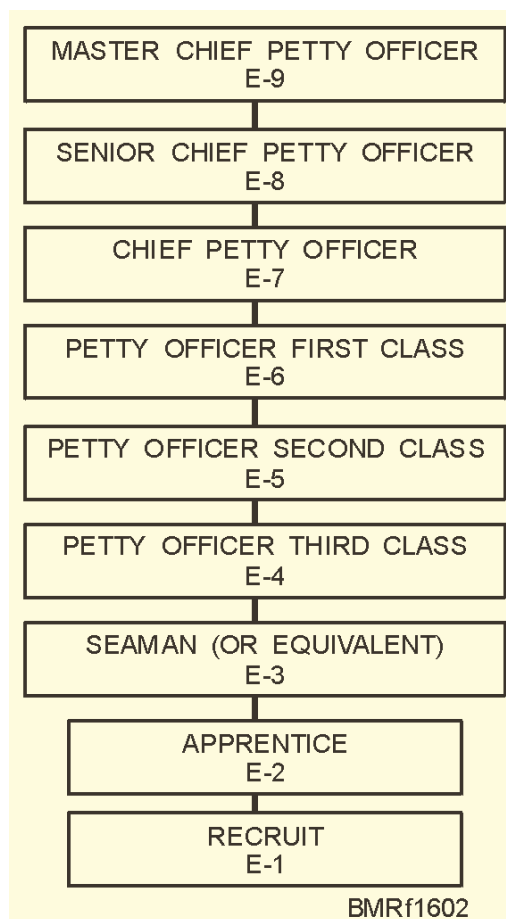
The objective of the enlisted advancement system is to provide qualified petty officers to operate the Navy's ships, squadrons, and shore stations. Advancements, in turn, provide the opportunity for the orderly progression of qualified enlisted personnel to higher levels of responsibility throughout their naval career. Information about the advancement system is contained in BUPERSINST 1430.16. The advancement system offers you increased pay, prestige, and privileges, as well as additional responsibilities and authority.

## PATH OF ADVANCEMENT

The enlisted advancement structure is organized into paygrades. E-1 is the lowest enlisted paygrade and E-9 is the highest. The path of advancement from E-1 to E-9, along with the title of each paygrade, is shown in figure 16-2.

The lowest three paygrades (E-1 to E-3) are referred to as apprenticeships and identified as one of the following:

- Seaman apprenticeship (SR, SA, SN)
- Fireman apprenticeship (FR, FA, FN)
- Airman apprenticeship (AR, AA, AN)



**Figure 16-2.—Path of advancement.**

- Constructionman apprenticeship (CR, CA, CN)
- Hospitalman apprenticeship (HR, HA, HN)
- Dentalman apprenticeship (DR, DA, DN)

Petty officers (E-4 to E-9) and designated strikers belong to a rating. Ratings are divided into two categories—general ratings and service ratings.

## General Ratings

A general rating is a broad occupational field (a group of jobs) that requires the same general qualifications and includes similar duties. Boatswain's Mate, Quartermaster, and Storekeeper are all examples of a general rating. Each rating has its own rating badge. These rating badges are shown in chapter 10 of this manual.

In some cases, two or more related general ratings will combine at the E-8 or E-9 level to form a new

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## Student Notes:

general rating. That is called compressing. For example, the two ratings Electrician's Mate and Interior Communications Electrician compress into Electrician's Mate at the E-9 level.

### **Service Ratings**

Some general ratings are subdivided into service ratings to allow for special training or the assignments of personnel who have received special training. Service ratings indicate specialties within a general rating; for example, Aviation Boatswain Mate is a general rating, but Aviation Boatswain Mate is divided into three service ratings: Catapults and Arresting Gear Equipment (ABE), Handling (ABH), and Fuels (ABF).

Service ratings may be established within a general rating at any paygrade and may extend to any other paygrade. For example, a general rating may have service ratings at E-4 and E-5 but not at E-6 through E-9.

Service ratings are not identified by special rating badges. They use the rating badge of the general rating to which they belong.

### **Designated Strikers**

A designated striker is a person in paygrade E-1, E-2, or E-3 who has been designated (appointed or specified) as technically qualified for a particular rating. Personnel in the general apprenticeships (E-1, E-2, and E-3) are identified as strikers for ratings for which they—

- have demonstrated their technical qualifications through on-the-job training (OJT) or
- have received formal school training.

Commanding officers may designate personnel in their commands as strikers if certain qualifications are met. These qualifications are spelled out in the Navy's advancement manual. For more information on the requirements to be a striker in a rating, go to your career counselor or personnel office.

## **QUALIFICATIONS FOR ADVANCEMENT**

Before you are advanced, you must fulfill (meet) the qualifications for the paygrade you wish to be advanced to. You must also fulfill other eligibility requirements, and then you must be selected to be advanced.

How can you find out what is required of you for you to be considered qualified for the next paygrade? The Navy has created standards for every enlisted paygrade and rate. These standards are of two types: Naval Standards (NAVSTDs) and Occupational Standards (OCCSTDs).

The NAVSTDs and OCCSTDs are published in the *Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards*, NAVPERS 18068. This publication should be available at your ESO or personnel office. Parts of this publication are reprinted in booklet form. There are two different types of booklets. One type lists the occupational standards for a particular rating. The other booklet lists the naval standards for all paygrades and the occupational standards for AN, CN, FN, and SN. These booklets are helpful when you are preparing for advancement and are available at your educational services office (ESO).

To help you study and prepare for your advancement examination, refer to the Advancement Handbook (AH) for your rate. Also, information about advancement can be found in the Navy Enlisted Advancement System (NEAS).

### **Navy Enlisted Advancement System (NEAS)**

The NEAS contains general information about the enlisted advancement system, exam study tips, how exams are developed, final multiple computations, and explanation of the tear sheet and the profile form, and other information useful to all Navy enlisted advancement candidates.

Advancement handbooks (AHs) provide the occupational skills for a rating, the knowledge factors that relate to those skills, and references to read to understand the knowledge factors. Also, AHs contain a section titled "Exam Expectations," a narrative that describes how knowledge factors could be tested.

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### ***Student Notes:***

The NEAS and AHs are available in electronic form at the Naval Education and Training Professional Development and Technology Center (NETPDTC) at [www.cnet.navy.mil/netpdtc/nac/download/ah\\_intro.htm](http://www.cnet.navy.mil/netpdtc/nac/download/ah_intro.htm).

## Naval Standards

NAVSTDs are military requirements for a paygrade. They apply to all enlisted personnel in the Navy. NAVSTDs are skills and knowledges required for enlisted personnel to be able to perform their duty. They include military requirements and essential qualities of professionalism and pride of service in support of your oath of enlistment. They also include basic skills and knowledges relating to the maintenance of good order and discipline, as well as those that directly contribute to the mission of the Navy. To be qualified for a paygrade, you are responsible for knowing all the naval standards for that paygrade and all the naval standards for all lower paygrades.

## Occupational Standards

OCCSTDs are a listing of the things you must be able to do to be considered professionally qualified for a rate. OCCSTDs are the minimum occupational requirements of a particular rate and are separate and different from NAVSTDs. In other words, to be an SN you would have to fulfill the OCCSTDs for SN as well as the NAVSTDs for E-3.

If you wanted to look at the OCCSTDs for a particular rate, you would need to look at the OCCSTDs for that rate and all lower paygrades in the same rating as well as the OCCSTDs for the appropriate apprenticeship. For example, to see all the OCCSTDs for Boatswain's Mate second class (BM2), you would have to look at the OCCSTDs for BM2, BM3, and Seaman (SN).

## ELIGIBILITY FOR ADVANCEMENT

In addition to all the naval and occupational standards for a rate, other requirements must be met for you to be eligible for advancement. However, being eligible does not guarantee advancement. To be advanced, you must be selected for advancement.

## Eligibility for Advancement to E-2 and E-3

The eligibility requirements for E-2 and E-3 are relatively simple. The requirements are as follows:

- Have a certain amount of time in rate
- Be recommended by your commanding officer
- Complete *Basic Military Requirements*, NAVEDTRA 12018

Additionally, your command may require you to pass a written examination. An examination for E-2 would be prepared by your command. For an E-3, the examination would either be prepared locally or prepared by the Naval Education and Training Professional Development and Technology Center (NETPDTC).

**Remember, these are eligibility requirements.** Meeting these requirements means you are eligible for advancement; but they don't mean you'll be automatically advanced. Selection for advancement is discussed later in this chapter.

## Eligibility for Advancement to Petty Officer

Advancement to petty officer has more eligibility requirements than advancement to E-2 or E-3. The eligibility requirements are as follows:

- Have a certain amount of time in rate
- Complete all personnel advancement requirements (PARs)
- Demonstrate knowledge of material in your mandatory rate training manual
- Be recommended by your commanding officer (CO)

**TIME IN RATE.**—You must fulfill time-in-rate requirements to be eligible for advancement to petty officer. That means you must have been in your present paygrade for a specific minimum period of time to be eligible for the next paygrade.

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## Student Notes:

**PERSONNEL ADVANCEMENT REQUIREMENTS (PARS).**—PARS are skills and abilities that can best be demonstrated (shown) by actual performance. Generally, each PAR contains one or more OCCSTDs on the same or similar subject and is written in on-the-job rating language. PARs aren't competitive; that is, no mark is assigned. Completion indicates that you can perform the tasks.

Completion of PARs is mandatory for advancement. Commands should make sure you complete PARs before you are recommended for advancement. Because of limitations in command equipment, mission, and operations, you may not be able to demonstrate all PARs. In that case, actual demonstration of ability isn't mandatory. However, your being recommended for advancement must be based on the command being satisfied that you have the necessary ability to perform properly at the higher paygrade at the present command and at other commands.

PARs are not designed to replace other qualification programs, such as PQS. However, PAR items that duplicate "sign off" items in other programs can be signed off as PAR items if they have already been signed off under any other program.

PARs and BIBs are available in electronic format from:

- NETPDTC Web Site: Get PARS, [www.cnet.navy.mil/netpdtc](http://www.cnet.navy.mil/netpdtc)
- Streamlined Automated Logistics Transmission System (SALTS), [www.salts.navy.mil](http://www.salts.navy.mil)

**BIBLIOGRAPHY (BIB) FOR ADVANCEMENT-IN-RATE EXAM STUDY.**—The BIB is developed by exam writers (chief petty officers) to help Sailors study for advancement-in-rate examinations. The BIB is a list of references that includes training courses (TRAMANs/NRTC's), instructions, technical manuals, guides, and other publications commonly used in a rating.

BIBs are posted (issued) three times a year and are only available in electronic format. You can find the BIBs at the NETPDTC web site. The E-4/E-5/E-6 BIBs are posted in March and September; and E-7 BIBs are posted in July. The BIBs posted in March are for the

exam given the following September; the BIBs posted in September are for the exam given the following March.

**TRAINING MANUAL INFORMATION.**—Training manuals (TRAMANs) and their associated nonresident training courses (NRTC's) are prepared as self-study packages to help you develop the knowledge required for your rating. You may also use them when preparing to take an advancement examination. The information in some TRAMANs is considered mandatory.

You must complete certain courses (mandatory courses) to meet advancement eligibility requirements. For example, if you're going up for E-3 and didn't attend the Apprenticeship Training Program (ATP), you must complete *Basic Military Requirements (BMR)* and either the *Airman (AN)*, *Fireman (FN)*, or *Seaman (SN)* (depending on your rate) TRAMANs. If you graduated from the ATP, you have satisfied the requirement for completion of the *AN*, *FN*, or *SN* apprenticeship TRAMAN. However, you still must complete the *BMR*.

Remember, you are responsible for the information in training manuals concerning the rating in which you wish to be advanced and the appropriate apprenticeship and general rate training manuals.

**COMMANDING OFFICER'S (CO'S) RECOMMENDATION.**—This eligibility requirement is, perhaps, the most important of all. For your CO to recommend you for advancement, he/she must be satisfied that you are fully qualified for advancement.

To a great extent, your CO relies on the recommendations of the people in the chain of command to decide if you are fully qualified for advancement. Your supervisor constantly evaluates your performance to see if you can handle the duties and responsibilities of an advancement.

In addition, your CO can add requirements to the eligibility requirements shown here. These additional requirements should be met for you to receive your CO's recommendation. Check with your supervisor or personnel office to see if your command has local requirements.

**ADDITIONAL ELIGIBILITY REQUIREMENTS.**—In addition to the eligibility requirements

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### *Student Notes:*

already mentioned, some ratings require a specific school and/or a performance test for advancement. Figure 16-3 is a presentation of the general requirements for advancement. To get specific information on advancement to a particular rate, see your ESO or personnel office.

## SELECTION FOR ADVANCEMENT

Once you meet all the eligibility requirements, you are considered eligible and qualified for advancement. However, to be advanced, you must be selected for advancement. In all advancements, your commanding officer has the final word—you are always advanced by your commanding officer.

### Selection for Advancement to E-2 or E-3

The selection for advancement to E-2 or E-3 is done by your CO. The Navy has no limits on the number of people who can be advanced to E-2 or E-3. Therefore, the CO may select and advance people to E-2 or E-3 as soon as they have met all the eligibility requirements.

### Selection for Advancement to Petty Officer

Selection for advancement to petty officer (up to E-6) is done on the basis of a final multiple among those who pass the Navywide advancement examination. The number of persons who may be advanced is limited by the number of vacancies that exist in each rate and rating. Therefore, when the number of those who pass the Navywide advancement examination is greater than the number of vacancies, a final multiple system is used to determine which personnel may be advanced to paygrades E-4, E-5, and E-6.

Three separate categories are taken into consideration when a final multiple is computed. The final multiple score is based on these three things:

1. Merit rating
2. Personnel testing
3. Experience

**Merit rating** gives people who have shown they are outstanding performers an advantage in promotion. Merit rating is done by averaging your performance marks for the last 3 years.

**Personnel testing** refers to the Navywide advancement examination. These examinations are prepared and administered by NETPDTC. Each test consists of 200 multiple-choice questions based upon the occupational standards for the rating and Naval Standards. If you pass this examination but are not selected for advancement, you are considered to have PNA (passed, not advanced) status for the examination. Personnel testing includes your examination score in computing the final multiple score.

You receive credit for your **experience** in the final multiple score. Experience includes longevity—your total active federal military service (TAFMS)—and time in rate (TIR). It also includes certain awards and PNA credits.

To sum it all up, the following factors are considered in your final multiple computation:

- Performance mark average
- Examination score
- Length of service (TAFMS)
- Service in paygrade (TIR)
- Awards
- PNA credit

Your final multiple score is computed by NETPDTC at the time your Navywide advancement examination is scored.

## REVIEW 2 QUESTIONS

- Q1. List the permanent board members on the Professional Development Board.
- a.
  - b.
  - c.
  - d.
- Q2. What is the purpose of the Professional Development Board?

---

## Student Notes:



Requirements	E-1 to E-2	E-2 to E-3	E-3 to E-4	E-4 to E-5	E-5 to E-6	E-6 to E-7	E-7 to E-8	E-8 to E-9	
Time in rate	9 months	9 mo as E-2	12 mos as E-3	36 mo as E-4	36 mo as E-5	36 mo as E-6	36 mo as E-7	36 mo as E-8	
School	RTC (CO may advance up to 20% of company)	None	Class “A” for AME, BU, CE, CM, CTA, CTI, CTM, CTO, CTR, CTT, DT, EA, EO, EW, FT, HM, IS, JO, NM, MT, MU, PR, SW, UT	Naval Justice School for LN3	None	Navy School for AGC, MU	Navy School for MUCS	None	
Performance Test	None	None	Specified ratings must complete applicable performance test before taking Navywide advancement examination.						None
Nonresident Training Course (NRTC) training manual (TRAMAN)	None	Required for E-3 and all petty officer advancements unless waived because of completion of Navy school. Courses need not be completed but once; i.e., those who complete the 3&2 course for PO3 need not complete the same course again for advancement to PO2.	Nonresident training course recommended (See NAVEDTRA 12061*)						
Examinations	Locally prepared tests	NETPDTC exams or locally prepared test	Navywide advancement examinations required for advancement to E-4 to E-7.						None
Selection board	None	None	None	None	None	Navywide CPO or SCPO/MCPO selection			
Obligated service requirement	There is no set amount of obligated service required either to take the Navywide advancement examination or to accept advancement to paygrades E-1 through E-6.		All CPO candidates must have two years remaining to accept appointment to a CPO paygrade.						
Enlisted performance evaluation	As used by CO when approving advancements		Counts toward performance factor credit in advancement final multiple for all E-4 through E-6 candidates.						
CO recommendation	All Navy Advancements require the commanding officer’s recommendation for advancement.								
Authorization for advancement	Commanding officer	Naval Education and Training Professional Development and Technology Center (NETPDTC) for advancement to E-4 through E-9 in addition to command approval.							

**Figure 16-3.—Requirements for advancement.**



Q3. The lowest three paygrades are referred to as—

Q4. What are the two categories ratings divided into?

a.

b.

Q5. What is a designated striker?

Q6. What manual contains a list of Navy standards (NAVSTDs) and occupational standards (OCCSTDs)?

Q7. What's the difference between a NAVSTD and an OCCSTD?

Q8. What three requirements do you need to meet to be eligible to advance from E-2 to E-3?

a.

b.

c.

Q9. List the eligibility requirements to advance to Petty Officer.

a.

b.

c.

d.

Q10. The final multiple score of a rating exam is based on what three things?

a.

b.

c.

## TYPES OF DUTY

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recall the definitions of sea duty, shore duty, and neutral duty.
- Recognize the methods used for enlisted assignments.

You often hear about three types of duty: sea duty, shore duty, and neutral duty. These three designations refer to duty for rotation purposes.

Everyone in the Navy has sea/shore rotation. The amount of time spent on sea duty or shore duty depends on your rate, rating, and individual circumstances. Each rate and rating in the Navy has a designated sea/shore rotation cycle. You can find out what the current sea/shore rotation for your rate and rating is from your supervisor or career counselor.

For example, if your sea/shore rotation is listed as 36/36, that means that you spend 36 months in sea duty billets and 36 months in shore duty billets. In other words when you complete 36 months of sea duty, your next 36 months is shore duty. After 36 months of shore duty, you have 36 months of sea duty. That is your sea/shore rotation.

You might ask, “What is sea duty, and what is shore duty”? There are eight types of duty designations used for sea/shore rotation. Each of these duty types is credited as sea, shore, or neutral duty for rotation purposes.

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### *Student Notes:*

1. Shore duty (sea/shore Code 1). Shore duty, Code 1, is performed in CONUS (the 48 contiguous states) land-based activities and long-term schooling programs. (Long term is defined as 18 or more months; school assignments of less than 18 months are considered neutral duty.) Members are not required to be absent from the corporate limits of their duty stations in excess of 99 days.
2. Preferred overseas shore duty (sea/shore Code 6). Preferred overseas shore duty, Code 6, is duty performed in overseas land-based activities that are credited as shore duty for rotational purposes as determined by BUPERS.
3. Sea duty (sea/shore Code 2). Sea duty, Code 2, is duty performed in commissioned vessels or activities home ported/home based in CONUS that operate away from their home port/home base in excess of 150 days per year.
4. Overseas shore duty (sea/shore Code 3). Overseas shore duty, Code 3, is duty performed in overseas land activities that is credited as sea duty for rotational purposes as determined by BUPERS.
5. Nonrotated sea duty (sea/shore Code 4). Nonrotated sea duty, Code 4, is duty performed in commissioned vessels home-ported overseas (outside the contiguous 48 states) or in activities that operate away from their overseas home port/home base in excess of 150 days per year.
6. Neutral duty (sea/shore Code 5). Neutral duty, Code 5, is duty in activities normally designated as shore duty for rotation, but that requires members to be absent 100 to 150 days per year from the corporate limits of their duty station while accomplishing their assigned task. School assignments of less than 18 months are included in this category.
7. Partial sea duty (sea/shore Code 7). Partial sea duty, Code 7, is duty performed in overseas, land-based activities credited as shore duty for rotational purposes, but credited as partial sea duty according to established guidelines.

8. Double sea duty (sea/shore Code 8). Double sea duty, Code 8, is duty performed in commissioned vessels or activities in an active status that operate away from their home port/home base in excess of 50 days a year credited as double sea credited because of the nature of the mission.

### **ENLISTED DETAILERS AND USE OF THE DUTY PREFERENCE FORM, NAVPERS 1306/63**

**Learning Objective:** When you finish this chapter, you will be able to—

- Identify the entries made on the Duty Preference Form, NAVPERS 1306/63.

Every rate and, in most cases, every paygrade has a senior enlisted person who matches personnel within a particular rate or specialty with the available billets Navywide. This person is referred to as the enlisted detailer. When detailers work to fulfill requisitions (vacant billets), several factors are involved. To assign you to a billet, the enlisted detailer for your rate must match you with a billet you are qualified for and within a certain time frame.

### **DUTY PREFERENCE FORM, NAVPERS 1306/63**

You may sometimes ask yourself “How did I get the job I have now”? Your detailer had a lot to do with it, of course. However, the detailer determines what jobs you are qualified to hold by the information you submitted on your Enlisted Duty Preference Form, NAVPERS 1306/63.

Your detailer has access to your Enlisted Duty Preference Form and a record of your training through a computer terminal. The computer contains a record of the on-the-job and formal training you have received.

Although you may not have total control over your training and qualifications, you are completely responsible for the information the duty preference sheet contains. *You* are also responsible for submitting the form.

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### ***Student Notes:***

## FILLING OUT THE NAVPERS 1306/63

You can get NAVPERS 1306/63 (fig. 16-4) from your division or command career counselor. The form contains instructions for filling it out. If you need help, contact your division or command career counselor.

The information on this form tells your detailer where you would like to be stationed, what type of duty you prefer, and your career intentions. The Remarks section tells the detailer if you or your family has special qualifications that would make a particular duty station advantageous to you, the Navy, or both. The form contains this section because the Navy recognizes that no one can be completely described in encoded, check-block-type symbols. Other information you might want to include in the Remarks sections includes the following:

- If you are volunteering for overseas duty, all community support skills your family has; for example, qualification as a teacher, nurse, dental technician, hairdresser, or secretary
- Any handicap a family member may have, and the areas where treatment or support facilities exist
- If your wife is pregnant, her expected delivery date
- Dates and terms of a reenlistment within 24 hours of reenlisting
- If you are married to another service member, your spouse's full name, military service, social security number, rate, and present duty station

## SUBMITTING THE NAVPERS 1306/63

Although you have no guarantee of getting the duty you want, your detailer will try to match your desires with the needs of the Navy. Without a NAVPERS 1306/63 on file, your detailer assumes you don't care where or what duty you are assigned. Unfortunately, a large number of Sailors don't submit any duty preference.

You may want duty in a location, or of a type, that isn't listed on the form. In that case, you will find a

detailed listing of duty choices you may request in chapter 25 of the TRANSMAN. Another handy reference, available from your command, is *Homeports and Permanent Duty Stations of Activities of the Operating Forces of the Navy*, OPNAVINST 3111.14. This instruction contains the location of home ports of ships and activities and can help you choose realistic duty preferences. Once you have completed the NAVPERS 1306/63, submit it through your command to BUPERS. BUPERS enters the information into the database detailers use to determine your qualifications. Be sure to keep a copy of the form you submit for your own reference.

## WHEN TO SUBMIT NAVPERS 1306/63

You should submit a duty preference form after 6 months at your first duty station. After submitting the first NAVPERS 1306/63, you may submit a new one at any time. Submit a revised form anytime you change duty stations or when important personal data, such as status of dependents or location of household goods, changes. Within 24 hours of a reenlistment, you must submit a new NAVPERS 1306/63 that indicates the date and number of years of reenlistment in the Remarks section.

## REVIEW 3 QUESTIONS

Q1. List the three types of duty.

- a.
- b.
- c.

Q2. Overseas shore duty Code 3 is classified as what type of duty?

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## Student Notes:

ENLISTED DUTY PREFERENCES										
<b>PRIVACY ACT STATEMENT</b> The authority to request this information is contained in 5 USC 301 Department Regulations. The principal purpose of the information is to enable you to make known what you want for a future duty assignment. The information will be used to assist officials of the Department of the Navy in determining your future duty assignment. Completion of the form is mandatory. Failure to provide required information may result in no consideration of your desires for a future duty assignment.										
Social Security Number <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>			Rating/Rate <input type="text"/> <input type="text"/>		Date Submitted (YYMMDD) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		UIC <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		COMMAND/DIVISION CAREER COUNSELOR'S INITIALS <input type="text"/> <input type="text"/>	
Last Name (first five letters in blocks) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>			First Name <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>			M.I. <input type="text"/> <input type="text"/> <input type="text"/>				
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> -Rank in order of desirability (1, 2, 3)										
<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> -Indicate whether LOCATION (L) or TYPE duty (T) is more important										
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <b>SEA</b>            1st Choice            Location <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>            Code <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>            Duty/Activity type <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div> <div style="width: 30%;">           2nd Choice            Location <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>            Code <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>            Duty/Activity type <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div> <div style="width: 30%;">           3rd Choice            Location <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>            Code <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>            Duty/Activity type <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div> </div>										
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<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <b>School Preferences:</b>  <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div> <div style="width: 10%;"> <b>Volunteer:</b>  <input type="text"/> </div> <div style="width: 45%;"> <b>Last Deployment:</b>            When returned <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>            Mo. Yr. Length Mos. Where Location Code         </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>Duty willing to extend for:</b>            Duty type (Code) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>            Location (Code) <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div> <div style="width: 50%;"> <b>DEPLOYMENT LOCATION CODES:</b>            7FLT - 7th fleet      MIST - Mid-East            MED - Mediterranean      INDO - Indian Ocean            CARB - Caribbean      SOAM - South America            NEUR - North Europe      ANT - Antarctic         </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <b>Career intentions:</b>            Codes: Place one of these in block at left  <input type="text"/> </div> <div style="width: 50%;">           R - Reenlist at EAOS            P - Ret on board Present Duty Station            E - Extension at EAOS            U - Uncertain            D - Discharge at EAOS            F - Fleet Reserve/Retire         </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <b>STATUS</b>  <input type="text"/> </div> <div style="width: 30%;"> <b>Marriage/Dependents (Adults)</b>            M - Married            S - Single            D - Divorced            W - Married, Spouse Working            P - Single Sponsor         </div> <div style="width: 30%;"> <b>Location Code</b>  <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div> <div style="width: 10%;"> <b>Primary Dependents</b>            M F Ages 0-4      M F Ages 5-11      M F Ages 12+         </div> <div style="width: 10%;"> <b>Secondary Dependents</b>            M F Ages 0-4      M F Ages 5-11      M F Ages 12+         </div> <div style="width: 10%;"> <b>Military Spouse</b>            SSN (Navy) Branch of Service (Other)         </div> </div>										
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <b>Quarters Information:</b>            Present Duty Station            Types: H - Home G - Gov't Qtrs.      A - Apt. M - Mobile Home            Own/Rent <input type="text"/> <input type="text"/> (O or R)         </div> <div style="width: 20%;"> <b>Other Area</b>            Own/Rent <input type="text"/> <input type="text"/> (O or R)         </div> <div style="width: 20%;"> <b>Location Code</b>  <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> </div> <div style="width: 20%;"> <b>Household Effects</b>            Present duty wgt. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> (in lbs.)            Other loc wgt. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> (in lbs.)         </div> </div>										
<b>REMARKS (Space between each word)</b> <div style="border: 1px solid black; height: 100px; margin-top: 5px;"></div>										
Signature <input type="text"/>										

NAVPERS 1306/63 (Rev. 10-86)

S/N 0106-LF-013-0917

BMR1604

Figure 16-4.—Enlisted Duty Preference Form, NAVPERS 1306/63 (front).

Q3. What form do you submit to your detailer to let him/her know what duty station you want?

Q4. List the kind of information found on the Enlisted Duty Preference Form.

- a.
- b.
- c.
- d.

### ENLISTED EVALUATION REPORT AND COUNSELING RECORD

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recognize the purpose of the enlisted performance evaluation system.
- Identify the traits to be evaluated.

The Enlisted Evaluation Report and Counseling Record is used to document an individual's qualifications, performance, conduct, and eligibility for increased responsibility. **The Evaluation Report and Counseling Record is the most significant personnel management tool in your service record.** It is used primarily by BUPERS to make advancement-in-rate and assignment decisions. It may also be used for the following purposes:

- To determine eligibility for Good Conduct Medals
- For reenlistment
- To determine the type of discharge
- As a basis for selecting members for advancement
- For continuation of service

- For appointment to commissioned status
- For assignment to special duties
- For special educational programs

The Evaluation Report and Counseling Record is very important. Both the command and you, the individual Sailor, need to pay attention to it.

### DEVELOPMENT AND REVIEW

All Sailors need to submit information they believe should be included in their evaluation to their reporting senior. Types of information you may submit include but are not limited to—

- Off-duty educational achievements
- Completed correspondence courses
- Community involvement

Also, you have the right to review your own evaluation before final disposition is made. You need to take an active role in developing and reviewing your evaluation. Your career and your future depend on it.

### TRAITS TO BE EVALUATED

The reporting senior compares your performance against others of the same rate and rating as yourself. When you aren't assigned duties of your rate or rating, comparison is made against others of the same paygrade who are performing similar duties. The reporting senior will make a concerted effort to evaluate you objectively in each trait. Each trait is assigned a numerical value and there are meanings as follows:

5.0—Greatly Exceeds Standards

4.0—Above Standards

3.0—Meets Standards

2.0—Progressing

1.0—Below Standards

Some of the traits you may be evaluated on are professional knowledge, quality of work, equal

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***Student Notes:***



opportunity, military bearing/character, personal job accomplishment/initiative, teamwork, and leadership.

### **Professional Knowledge**

In the professional knowledge trait, you are rated on your knowledge and performance of your job-related duties, your application of technical and professional skills, your problem-solving abilities, and your ability to accept instructions and directions.

### **Quality of Work**

In the quality of work trait, you are rated on the extent to which you can be depended on to perform assigned tasks successfully and the quality of the work you performed. You're also rated on how much supervision is required for you to perform an assigned task.

### **Equal Opportunity**

In the equal opportunity trait, you are evaluated on your contribution to command morale, unit cohesiveness, and your support of the Navy's Command Managed Equal Opportunity Program.

### **Military Bearing/Character**

In the military bearing/character trait, you are evaluated on your personal appearance, including physical fitness; wearing of your uniform; and, when appropriate, neatness of your civilian clothing. You are also graded on your knowledge and practice of military courtesies and the way you adhere to the Navy Core Values—Honor, Commitment, and Courage.

### **Personal Job Accomplishment/Initiative**

In the personal job accomplishment/initiative trait, you are evaluated on your ability to act appropriately, independently, and without specific direction, while exercising sound judgement. You're also rated on your ability to plan/prioritize wisely, seek extra responsibility, and willingness to take on the hardest jobs.

### **Teamwork**

In the teamwork trait, you're evaluated on your contributions to team building and your ability to work successfully with subordinates, peers, and superiors. Finally, under this trait, you're rated on your ability to understand team goals.

### **Leadership**

In the leadership trait, you're evaluated on your ability to organize and motivate people, as well as developing in others their ability to accomplish goals. Your ability to delegate, to gain commitment from others, and to challenge and inspire subordinates while maintaining positive and realistic expectations are taken into account.

### **NOTE**

For personnel in paygrades E-1 through E-3, a grade in this trait is not required unless abilities are clearly demonstrated.

### **SUBMISSION AND DISPOSITION**

The Evaluation Report and Counseling Record for E-3 and below is submitted on a biyearly basis or when a person is transferred. In addition, counseling is performed on a biyearly basis to record your progress and make you aware of your performance.

**You must sign your Evaluation Report and Counseling Record.** Your signature on your Evaluation Report and Counseling Record does not indicate agreement with the evaluation; it indicates you have seen the Evaluation Report and Counseling Record and your rights have been explained. Your signature also indicates you have verified the identification data in the evaluation.

Once signed the Evaluation Report and Counseling Record is sent to BUPERS (counseling documentation is retained at the command and not sent to BUPERS). A copy of your Evaluation Report and Counseling Record is placed in your field service record, a copy is retained by the reporting activity, and you are given a copy.

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### ***Student Notes:***



## REVIEW 4 QUESTIONS

- Q1. What is the purpose of the Evaluation Report and Counseling Record?
- Q2. What is the numerical grading scale used on the Evaluation Report and Counseling Record?
- Q3. List the evaluation traits that are found on the Evaluation Report and Counseling Record.
- a.
  - b.
  - c.
  - d.
  - e.
  - f.
  - g.
- Q4. Once your Evaluation Report is signed, where is it sent and who gets a copy?

## ENLISTED SERVICE RECORD

**Learning Objective:** When you finish this chapter, you will be able to—

- Identify the components of the Enlisted Service Record, NAVPERS 1070/600, to include the Record of Emergency Data, Navy Occupation/Training and Awards History, Enlisted Performance Record, and the Enlisted Remarks Form.

The Enlisted Service Record, NAVPERS 1070/600, is the official history of a person's Navy career. The information contained in the service record starts when you apply for enlistment and is added to throughout your naval service. The record is the property of the Navy. It must be safeguarded against loss and against access by unauthorized persons. Only those personnel given the authority by the CO make service record entries.

The Enlisted Service Record is a folder that contains various forms concerning your enlisted service. The right-hand side has various forms in a specific order. (**NOTE:** Your service record will contain only the forms that apply to you.) There are 15 different forms altogether. The order in which these forms are filed has led to their being referred to as pages. For example, your enlisted contract is the first, or bottommost, form. It's referred to as a *Page 1*.

Other papers required for safe keeping or record purposes are filed on the left-hand side of the folder. A separator entitled Career Performance Data, NAVPERS 1070/617, divides the left-hand side. Beneath this separator, all your performance evaluations, commendations, and awards correspondence are filed. If you have a previous enlistment, a certified copy of the Enlisted Performance Record from the previous enlistment and copies of any Certificates of Release or Discharge from Active Duty, DD Form 214s, are also filed beneath the separator. All other papers are filed above the separator in chronological order, the latest date on top.

Only three of the forms from the Enlisted Service Record are covered in this chapter. They include the—

- Enlisted Qualifications History, NAVPERS 1070/604,
- Dependency Application/Record of Emergency Data, NAVPERS 1070/602W, and the
- Administrative Remarks Form, NAVPERS, 1070/613

The remaining forms are more or less of an administrative nature. Some pages require several sheets during an enlistment; for example, there are usually several Page 13s.

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## *Student Notes:*

## **DEPENDENCY APPLICATION/RECORD OF EMERGENCY DATA, NAVPERS 1070/602W**

The Dependency Application/Record of Emergency Data, NAVPERS 1070/602W, Page 2, is a multipurpose form. It is used for both officer and enlisted personnel. Figures 16-5 and 16-6 show the worksheet used to enter information. When the worksheet is complete, PSD personnel enter the information into the computer. This then becomes a computerized record that is entered into your Enlisted Service Record.

The Dependency Application/Record of Emergency Data serves as an application for dependency allowances. This form is normally completed at the recruit training command, or first duty station, for all personnel with dependents. Information on this form provides an immediately accessible, up-to-date record of emergency data for casualty reporting and notification of the next of kin. Therefore, you need to update this part of the form whenever there is any change in family member status, such as marriage, birth, divorce, a change of address, etc.

## **ENLISTED QUALIFICATIONS HISTORY, NAVPERS 1070/604**

The Enlisted Qualifications History, NAVPERS 1070/604, Page 4, is another service record of interest to you and the Navy (figs. 16-7, 16-8, 16-9, 16-10). This form consists of the following 12 parts:

1. Educational Experience Level
2. Classification/ASVAB Testing Qualifications
3. Record of Off-Duty Education/VOC/TECH Training and Non-Required Correspondence Courses
4. Other Training Courses/Instructions Completed
5. Navy Service Schools/Military Training Courses
6. Correspondence Courses Required for Advancement
7. Navy Enlisted Classifications
8. Pers. Adv. Req. (PARS) no longer required.

9. Enlisted Rate/Rating
10. Designator Record
11. Awards
12. Personnel Qualification Standards (PQS)

The information contained in the various parts of NAVPERS 1070/604 is valuable, both to you and to the Navy. The information provides a complete chronological record of the following types of information:

- Navy enlisted classification (NEC) codes
- Designators assigned, changed, or revoked
- Navy service schools attended
- Navy training courses, performance tests, and personnel qualification standards completed
- Maintenance and/or technical qualifications attained
- Advancements, reductions, changes in rate or rating
- General educational development (GED) tests and off-duty courses completed
- Decorations received and good conduct, unit, marksmanship, campaign/service, and other awards received

If you reenlist, transfer to the Fleet Reserve, or enlist in the Naval Reserve at your place of discharge, the Enlisted Classification Record is removed from your closed (old) service record and inserted in your new record.

When you are discharged and do not immediately reenlist, this form is given to you. Upon application for enlistment/reenlistment, this form should be presented to the recruiter along with the discharge certificate.

## **ADMINISTRATIVE REMARKS FORM NAVPERS 1070/613**

When complete, the Administrative Remarks Form, NAVPERS 1070/613, becomes Page 13 of your service record. Page 13 contains miscellaneous entries

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### ***Student Notes:***

DEPENDENCY APPLICATION/RECORD OF EMERGENCY DATA				WORKSHEET	
1. UNIT I.D.		2. SHIP OR STATION		3. INITIAL <input type="checkbox"/>	4. CHANGE <input type="checkbox"/>
5. NAME OF SPOUSE			6. DATE OF BIRTH OF SPOUSE		7. RELATIONSHIP
8. PLACE OF MARRIAGE (CITY & STATE OR COUNTRY)			9. DATE MARRIED		10. CITIZENSHIP OF SPOUSE
11. ADDRESS OF SPOUSE					12. DEP
13. NAME OF CHILD OR DEPENDENT			14. DATE OF BIRTH		15. RELATIONSHIP
16. ADDRESS (INCLUDE NAME OF CUSTODIAN IF OTHER THAN CLAIMANT)					17. DEP
18. NAME OF CHILD OR DEPENDENT			19. DATE OF BIRTH		20. RELATIONSHIP
21. ADDRESS (INCLUDE NAME OF CUSTODIAN IF OTHER THAN CLAIMANT)					22. DEP
23. NAME OF CHILD OR DEPENDENT			24. DATE OF BIRTH		25. RELATIONSHIP
26. ADDRESS (INCLUDE NAME OF CUSTODIAN IF OTHER THAN CLAIMANT)					27. DEP
28. NAME OF CHILD OR DEPENDENT			29. DATE OF BIRTH		30. RELATIONSHIP
31. ADDRESS (INCLUDE NAME OF CUSTODIAN IF OTHER THAN CLAIMANT)					32. DEP
33. NAME OF FATHER					
34. ADDRESS OF FATHER (SEE SPECIAL INSTRUCTIONS BEFORE COMPLETING BLOCK 35)					35. DEP
36. NAME OF MOTHER					
37. ADDRESS OF MOTHER (SEE SPECIAL INSTRUCTIONS BEFORE COMPLETING BLOCK 38)					38. DEP
39. WERE YOU PREVIOUSLY MARRIED? <input type="checkbox"/> YES <input type="checkbox"/> NO		40. PRIOR MARRIAGE DISSOLVED BY <input type="checkbox"/> DEATH <input type="checkbox"/> ANNULMENT <input type="checkbox"/> DIVORCE		41. DATE	42. PLACE (CITY & STATE OR COUNTRY)
43. WAS SPOUSE PREVIOUSLY MARRIED? <input type="checkbox"/> YES <input type="checkbox"/> NO		44. PRIOR MARRIAGE DISSOLVED BY <input type="checkbox"/> DEATH <input type="checkbox"/> ANNULMENT <input type="checkbox"/> DIVORCE		45. DATE	46. PLACE (CITY & STATE OR COUNTRY)
47. OTHER			48. ADDRESS		49. RELATIONSHIP
50. NEXT OF KIN OR SPOUSE (NOT HUSBAND, WIFE OR MINOR CHILD)			51. ADDRESS		52. RELATIONSHIP
53. BENEFICIARY(S) FOR UNPAID PAY AND ALLOWANCES			54. ADDRESS		55. RELATIONSHIP
					56. %
57. PERSON TO RECEIVE ALLOTMENT IF IN A MISSING STATUS. SUBJECT TO SECNAV DETERMINATION			58. ADDRESS		59. %
60. BENEFICIARY(S) FOR GRATUITY PAY (NO SPOUSE OR CHILD SURVIVING)			61. ADDRESS		62. RELATIONSHIP
					63. %
64. LIFE INSURANCE DATA (NAME OF CO) (DO NOT INCLUDE SGLI)			65. ADDRESS		66. POLICY NUMBER
67. RELIGION		68. TOTAL NO DEPENDENTS THIS PAGE		69. EFFECTIVE DATE	70. RANK/RATE
73. NAME OF APPLICANT/DESIGNATOR (LAST, FIRST, MIDDLE)			74. SSN		75. USN <input type="checkbox"/>
					76. USNR <input type="checkbox"/>

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BMR1605

Figure 16-5.—Dependency Application/Record of Emergency Data (Page 2),  
NAVPERS 1070/602W (front).

77. LOCATION OF WILL OR OTHER VALUABLE PAPERS

78. REMARKS

Is beneficiary designation of S. G. L. I. on file?

☐ YES

☐ NO

DATE (if Yes)

NOTE: THIS FORM DOES NOT DESIGNATE OR CHANGE BENEFICIARIES OF GOV'T LIFE INSURANCE.

79. SIGNATURE OF DESIGNATOR

80. SIGNATURE OF APPROVING OFFICER, TITLE, AND DATE

CERTIFICATION OF DESIGNATOR

I have reviewed the data entered on this form and certify that it is correct.  
Execute a new NAVPERS 1070/602 if data is not correct.

DATE	SIGNATURE OF DESIGNATOR	DATE	SIGNATURE OF DESIGNATOR

BMRf1606

Figure 16-6.—Dependency Application/Record of Emergency Data (Page 2), NAVPERS 1070/602W (back).

## ENLISTED QUALIFICATIONS HISTORY

## 1. EDUCATIONAL EXPERIENCE LEVEL

GED (HS) EQUIVALENT TEST			COLLEGE LEVEL GENERAL EXAMS			PRESENT LEVEL OF EDUCATION					
DATE ISSUED	ISSUING STATE	INIT	DATE PASSED	INIT		12	13	14	15	16	17

## 2. CLASSIFICATION/ASVAB TESTING QUALIFICATIONS

TEST FORM ID	DATE ADMIN.	AFQT	GS	AR	WK	PC	NO	CS	AS	MK	MC	EI	VE
--------------	-------------	------	----	----	----	----	----	----	----	----	----	----	----

ASVAB ADMINISTERED BY:

## SPECIAL TEST SCORES

NAME	FORM	DATE	SCORE

CLASSIFIER'S SIGNATURE:

## 3. RECORD OF OFF-DUTY EDUCATION/VOC/TECH TRAINING AND NON-REQUIRED CORRESPONDENCE COURSES

NUMBER/TITLE OF COURSE OR TEST	SCHOOL	DATE COMPLETED	GRADE	INIT	NUMBER/TITLE OF COURSE OR TEST	SCHOOL	DATE COMPLETED	GRADE	INIT

## 4. OTHER TRAINING COURSES/INSTRUCTIONS COMPLETED

DATE COMPLETED	TYPE OF COURSE AND/OR INSTRUCTION	DURATION	LOCATION	INIT

NAME (Last, First, Middle)

SOCIAL SECURITY NUMBER

BRANCH AND CLASS

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Figure 16-7.—Enlisted Qualifications History, NAVPERS 1070/604 (front).

5. NAVY SERVICE SCHOOLS/MILITARY TRAINING COURSES											
COURSE TITLE/SCHOOL			NEC	DATE ENROLLED/COMPLETED		COURSE TITLE/SCHOOL			NEC	DATE ENROLLED/COMPLETED	
COURSE LENGTH	GRADE	MANNER OF COMPLETION		INIT	COURSE LENGTH	GRADE	MANNER OF COMPLETION		INIT		
		<input type="checkbox"/> GRADUATED	<input type="checkbox"/> DROPPED				<input type="checkbox"/> GRADUATED	<input type="checkbox"/> DROPPED			
COURSE TITLE/SCHOOL			NEC	DATE ENROLLED/COMPLETED		COURSE TITLE/SCHOOL			NEC	DATE ENROLLED/COMPLETED	
COURSE LENGTH	GRADE	MANNER OF COMPLETION		INIT	COURSE LENGTH	GRADE	MANNER OF COMPLETION		INIT		
		<input type="checkbox"/> GRADUATED	<input type="checkbox"/> DROPPED				<input type="checkbox"/> GRADUATED	<input type="checkbox"/> DROPPED			

6. CORRESPONDENCE COURSES REQUIRED FOR ADVANCEMENT							
DESCRIPTION OF COURSE, RATE OR NAVPERS NUMBER		DATE COMPLETED	INIT	DESCRIPTION OF COURSE, RATE OR NAVPERS NUMBER		DATE COMPLETED	INIT

7. NAVY ENLISTED CLASSIFICATIONS				8. PERSONNEL ADVANCEMENT REQUIREMENTS		
PRIMARY CODE	SECONDARY CODE	DATE	INIT	DESCRIPTION	DATE COMPLETED	INIT

9. ENLISTED RATE/RATING				10. DESIGNATOR RECORD			
RATE	DATE	TIME IN RATE	INIT	DATE	DESIGNATOR	QUAL/REVOCATION	INIT

NAME (Last, First, Middle)					SOCIAL SECURITY NUMBER		BRANCH AND CLASS	
----------------------------	--	--	--	--	------------------------	--	------------------	--

Figure 16-8.—Enlisted Qualifications History, NAVPERS 1070/604 (page 2).



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11. AWARDS				
AWARD NAME	DATE OF AWARD	AUTHORITY	ADV PNTS	INIT

NAME (Last, First, Middle)		SOCIAL SECURITY NUMBER	BRANCH AND CLASS	

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PAGE 3

4

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Figure 16-9.—Enlisted Qualifications History, NAVPERS 1070/604 (page 3).

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12. PERSONNEL QUALIFICATION STANDARDS (PQS)							
PQS TITLE	PQS STATION #	DATE	INIT	PQS TITLE	PQS STATION #	DATE	INIT

NAME (Last, First, Middle)				SOCIAL SECURITY NUMBER		BRANCH AND CLASS	

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PAGE 4

4

BMRf1610

Figure 16-10.—Enlisted Qualifications History, NAVPERS 1070/604 (page 4).

of information not recorded elsewhere or of detailed information that may be required in the clarification of entries on other pages of the service record. The original is retained in your service record, and a copy is forwarded to BUPERS.

### REVIEW 5 QUESTIONS

- Q1. Your service record contains several pages. What form is page 1 of your service record?
- Q2. Your evaluations are kept in what part of your service record?
- Q3. The Dependency Application/Record of Emergency Data form is what page of your service record?
- Q4. How often should you update your Page 2?
- Q5. DELETE
- Q6. What type of information is recorded on your Page 4?
- a.
  - b.
  - c.
  - d.
  - e.
  - f.

### SIGNATURE AUTHORITY

**Learning Objective:** When you finish this chapter, you will be able to—

- Identify the purpose of signature authority.

The commanding officer, officer in charge, or other person acting in either position is responsible for signing all command documents. Some documents require the commanding officer's personal signature. Documents that require the CO's personal signature include those that establish policy or deal with aspects of military justice. Other documents that require the CO's signature are those he/she is required by law to sign, such as ships' deck logs.

The CO may delegate (give) signature authority to both military and civilian subordinates. However, this authority is normally limited to their specific area of responsibility. This responsibility may include the work center supervisor signing a PQS requirement or the division chief or officer signing off advancement requirements.

Command personnel authorized to sign command correspondence are normally listed in a unit organization manual or instruction. A signature above the words "By direction" shows that the CO has authorized that person to sign the document.

### DIVISIONAL LOGS AND FILES

**Learning Objective:** When you finish this chapter, you will be able to—

- Identify the procedures used to maintain publications, logs, and files.

There are many logs and files division personnel maintain. Therefore, not all of them are shown here. They may range from a QM3 keeping a list of all required chart corrections, an ENFN maintaining a fuel log for the ship's boats, or an ET2 listing all field changes for the surface search radar. Each division of every ship, squadron, or facility has a certain number of logs and files that must be kept up-to-date so that the command can operate efficiently. Here are a couple of examples:

---

***Student Notes:***

- 1,000 flying hours are logged on an F-14 *Tomcat's* engines—these engines should have been replaced after 750 hours.
- The USS *Missouri* (BB-63) fired 400 rounds of 16" projectiles in practice but deployed with only 20 rounds on board.

Both of these situations were avoidable. The division concerned should have kept up-to-date files.

You are aboard a ship under way in the North Atlantic. Think about going on a lookout watch at midnight in December. You arrive for watch at the prescribed time to find no foul weather gear available. The person responsible for maintaining an inventory of special gear didn't do the inventory because he/she didn't think it was that important last June in sunny Florida.

You must remember that besides your division, the entire crew and even the ship itself may depend on how well you maintain your assigned logs and files.

### 3-M SYSTEMS

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recognize the concepts of the 3-M Systems.
- Identify the basic procedures used in the 3-M Systems.

Equipment must be cared for. One way to take care of equipment is through preventive maintenance. Preventive maintenance is maintenance done before a problem exists. The Navy has procedures (ways to do things) and schedules for accomplishing (doing) preventive maintenance. These procedures and schedules are part of the Maintenance and Material Management Systems—the 3-M Systems. The objectives of the 3-M Systems are shown below.

- Maintain equipment at maximum operating efficiency
- Reduce equipment downtime
- Reduce the cost of maintenance in both money and man-hours

- Provide data on the expenditures of spare parts, failure rates, man-hours expended, and other information directly related to maintenance

Essentially, the 3-M Systems is used to improve the material readiness of the fleet. The main feature of the 3-M Systems you will be concerned with is the planned maintenance system (PMS).

PMS simplifies maintenance procedures by—

- Defining the maintenance required,
- Scheduling its performance,
- Describing the tools and methods to be used, and
- Providing for the detection and prevention of impending casualties.

Your department head uses PMS to manage, schedule, and control the maintenance of assigned equipment. The components (parts) of the PMS are—

- PMS manual,
- Cycle, quarterly, and weekly maintenance schedules; and
- Maintenance requirements cards (MRCs).

PMS also provides a good foundation for training in equipment operation and maintenance. As you become more familiar with your shipboard duties and are assigned the responsibility for equipment maintenance, PMS will play a big part in your daily activities on the job.

### REVIEW 6 QUESTIONS

- Q1. What type of documents would require the CO's personal signature?
- Q2. Where can you find a list of command personnel that has signature authority to sign command correspondence?

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**Student Notes:**

Q3. What does 3-M stand for?

Q4. What are the objectives of the 3-M system?

- a.
- b.
- c.
- d.

### PERSONNEL QUALIFICATION STANDARDS (PQS) PROGRAM

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recognize the purpose of the PQS program.
- Identify the provisions of the PQS program.

The PQS program is a way you can qualify to perform your assigned duties. A personnel qualification standard (PQS) is a written list of knowledges and skills you must have to—

- Qualify for a specific watch station,
- Maintain a specific equipment or system, or
- Perform as a team member within an assigned unit.

Most PQS standards are divided into three sections—Fundamentals, Systems, and Watch Stations.

**The 100 Series.** The **Fundamentals** section contains the facts, principles, and fundamentals about the subject you are qualifying for.

**The 200 Series.** The **Systems** section deals with the major working parts of the installation, organization, or equipment the PQS is concerned with.

**The 300 Series.** The **Watch Stations** section defines the actual duties, assignments, and responsibilities you must perform to obtain your

qualification. The Watch Stations section also contains spaces for your supervisor's or qualifying officer's signature once you have proved your abilities.

If you have any questions about PQS in general or a specific PQS, see your supervisor or training petty officer.

### TRAINING AND EDUCATION

**Learning Objectives:** When you finish this chapter, you will be able to—

- Identify the duties of the educational services officer (ESO).
- Recognize the purpose of various types of training to include on-the job training (OJT), general military training (GMT), and various Navy schools.
- Recognize the purpose of distance education.
- Recall the incentives for reenlistment, education, and special duty.

The Navy offers you training and education. If you take advantage of various programs the Navy offers, you can increase your knowledge and skills. By increasing your knowledges and skills, you are more valuable to the Navy, civilian employers, and yourself.

Training and education are closely related. The following are definitions of these terms as used in this chapter:

**Training.** Training is being taught skills directed to specific tasks. Training is usually based on knowledge you already have. Usually, Navy training refers to those things related to your job or Navy skills.

**Education.** Education is being taught broad, general, and specific knowledge. This knowledge prepares you for the specific skills you will receive through training. Education refers to schooling not directly related to your naval career. Because of that, education programs are sometimes referred to as off-duty educational opportunities.

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### *Student Notes:*

## EDUCATIONAL SERVICES OFFICER

The educational services officer (ESO) is your point of contact for all the Navy's training and education programs. The ESO gives all locally administered tests, fills all orders for correspondence courses, and arranges off-duty education. In short, the ESO is responsible for all the training within and for your unit.

## PURPOSE OF TRAINING

The purpose of training in the Navy is to support and improve fleet readiness. All training in the Navy is directed toward accomplishing the Navy's mission. Training helps you to do your job better. Remember, training refers to skills directed to specific tasks.

## ON-THE-JOB TRAINING

On-the-job training (OJT) takes place during daily operation and maintenance situations. In OJT you learn to perform a task or duty while performing it. For example, when you have a new job or are standing a watch for the first time, someone shows you how to do that job or what is involved in standing the watch. That is OJT. When your supervisor corrects you or shows you a better or faster way to do a job, that is OJT also. OJT is usually informal; but if a group of people are being indoctrinated about a job or watch, OJT may be conducted in a more formal, classroomlike way. OJT is probably the most common form of training in the Navy.

Remember, that even as you work at a familiar job, such as painting, watch standing, boat details, and so on, you are qualifying yourself to be a better Navy member. Do your daily jobs with snap and precision. Your officers and petty officers will recognize your ability and will let you take on jobs of increased responsibility, thereby assisting you in your overall preparation for advancement. Moreover, a job done halfheartedly becomes twice as boring and seems to last twice as long. By trying to do a job faster, more economically, or more neatly, the work becomes more interesting. At the same time you will be training yourself in better attitudes.

During the day, your petty officers will take the opportunity to instruct you in various jobs as they occur. Think about what they tell and show you. Practice as much as you can. Ask questions of experienced

personnel so that you understand what you are doing, how and why it should be done, and why the work is important to the Navy and to you. Don't wait for the chief to come along and tell you what to do. Use some initiative, observe what others do, think about what you see, ask questions, and keep learning as you work.

## GENERAL MILITARY TRAINING

General military training (GMT) is nonoccupational training that all naval personnel are required to take on a periodic basis. GMT is an important part of the Navy's Leadership Continuum. GMT is an important source of needed *booster shots*. It calls attention to the leadership responsibilities and Navy core values at all levels—both officer and enlisted. At the same time, GMT makes the CO's duty to provide continuing training easier.

In the GMT, you'll get training that has a value-based approach in the following five areas:

1. Healthy lifestyles
2. Interpersonal relationships
3. Pride and professionalism in the Navy
4. Personal and professional growth
5. Risk management

Navy military training (NMT) is a part of GMT. NMT is a combination of formal and informal training, staff leadership, supervision, mentoring, counseling, and positive reinforcement. NMT does this within the framework of a strong military environment. It spans the new Sailors first year in the Navy (after completion of recruit training) and continues developing the Sailor's professional behavior and military knowledge and skills the Sailor needs in military life.

NMT is a shared responsibility. The length of NMT you'll get depends on the amount of time you stay in the training command, often less than 1 year. As you graduate and transfer, you will continue NMT in the fleet.

## NAVY SCHOOLS

Navy schools, sometimes referred to as service schools, are divided into several classifications. Each

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### *Student Notes:*

class of school has a particular purpose. They usually train you in a specific skill or for a particular job. The classes and their purposes are given in the following paragraphs.

### **Class “R” Schools**

Class “R” schools provide general indoctrination and teach skills and knowledge in basic military subjects. You have already attended a class “R” school—recruit training. Recruit training is considered GMT as well as a class “R” school.

### **Class “A” Schools**

Class “A” schools provide basic technical knowledge and skills required to prepare you for a Navy rating and further specialized training. An example of a class “A” school is Electrician’s Mate “A” school.

### **Class “C” Schools**

Class “C” schools provide you with the advanced knowledge, skills, and techniques to perform a particular job in a billet. A Navy enlisted classification (NEC) code may be awarded to identify the skill achieved. An example of a class “C” school would be a school on a particular type of radar system.

### **Class “F” Schools**

Class “F” schools provide team training to officer and enlisted fleet personnel who normally are members of ships’ companies. They also provide refresher training, including operator and technical courses of short duration to meet the needs of a fleet or type commander.

### **Class “P” Schools**

Class “P” schools provide undergraduate education and indoctrination and basic training in fundamentals, preliminaries, or principles to midshipmen officer candidates and other newly commissioned officers (except those schools acquired through class “V” programs). The Naval Academy, Naval Reserve Officer Training Corps (NROTC), and Officer Candidate School (OCS) are all class “P” schools.

### **Class “V” Schools**

Class “V” schools provide training in the skills that lead to the designation of naval aviator or naval flight officer.

### **Obligated Service Requirements for Schools**

Normally, you must have a certain amount of obligated service to be eligible to attend a Navy school. The amount of obligated service required depends on the length of the school. Obligated service is counted from the time you start the school until the end of your active obligated service (EAOS) date. You may increase your obligated service to qualify for a school by agreeing to extend your enlistment or reenlist. Your personnel office can give you the obligated service requirement for any particular school.

### **TRAINING MANUALS AND NONRESIDENT TRAINING COURSES**

A training manual (TRAMAN) provides you with basic information about a particular rating. You may also use it to study for advancement examinations. The Naval Education and Training Professional Development and Technology Center (NETPDTC) publishes TRAMANS. Navy schools may use them as texts or references. They may also be used as references for questions in personnel qualification standards (PQS), as texts for correspondence courses, or as self-study manuals. TRAMANS cover the qualifications necessary for advancement by covering the material directly or by directing you to some other reference. TRAMANS include general TRAMANS, such as this text and other military requirements texts, and texts written for a specific rating, such as *Equipment Operator Basics*. Other TRAMANS cover a wide range of subjects, such as basic machines, fluid power, blueprint reading and sketching, and leadership.

The nonresident training course (NRTC) is a self-study, enlisted training course used with a TRAMAN. Generally, the NRTC is locally administered, which means your ESO scores it. TRAMANS and NRTCs are usually printed in one book and referred to as a TRAMAN/NRTC.

The *Catalog of Nonresident Training Courses*, NAVEDTRA 12061, contains a current list of available

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### ***Student Notes:***



courses. This catalog can be found on the web at <http://www.cnet.navy.mil/netpdtc/nac/neas.htm>.

## **OFF-DUTY EDUCATIONAL OPPORTUNITIES**

This section covers some of the off-duty educational programs designed to help you in your career and allow you to improve your education. Some programs are Navywide and others are local. Take advantage of as many of the available educational programs as you can. For detailed information on off-duty educational programs, contact your ESO.

### **Navy Campus**

Navy Campus is the name given to in-service voluntary educational programs and the supporting services provided by the Navy to help you with your education. Navy Campus includes all educational activities, from basic education skills preparation to graduate study, that contribute to the general academic and vocational development of naval personnel.

In the following paragraphs, you will learn about some of the educational opportunities available to you through Navy Campus. For further information on those opportunities or to find out about other Navy Campus programs, see your ESO, career counselor, or Navy Campus representative.

**BASIC SKILLS PROGRAM.**—Many shore stations and some large ships provide tuition-free, on-duty courses to help Sailors improve their skills and military performance. The basic courses offered include subjects such as English, mathematics, and reading.

The Basic Skills Program offers courses to people who need to earn high school diplomas. The Navy pays for all high school completion courses personnel take during off-duty hours. However, the Navy encourages young people to stay in school and graduate before enlisting in the Navy.

**PROGRAM FOR AFLOAT COLLEGE EDUCATION (PACE).**—The Program for Afloat College Education (PACE) provides undergraduate courses from accredited colleges or universities to shipboard personnel. Civilian instructors teach the courses aboard ship. The Navy fully funds PACE

courses; however, students must pay course registration fees and purchase their own books.

### **Tuition Assistance (TA) Program**

The Tuition Assistance (TA) Program provides financial assistance to eligible personnel who attend educational institutions on a voluntary, off-duty basis.

### **Defense Activity for Nontraditional Education Support (DANTES)**

The Defense Activity for Nontraditional Education Support (DANTES) provides support to the voluntary education programs of all the military services. DANTES is not a Navy activity, but is part of the Department of Defense. DANTES administers nontraditional education; that is, education that does not take place in a formal classroom. DANTES provides a wide range of examination and certification programs, operates an independent study support system, and provides other support and developmental activities.

**DANTES EXAMINATION PROGRAMS.**—DANTES administers and sponsors examination programs at over 560 test centers throughout the world. DANTES offers aptitude and interests tests as well as examinations for college admission, academic credit, professional certification, and high school equivalency.

**DANTES INDEPENDENT STUDY PROGRAMS.**—DANTES Independent Study Programs let you take correspondence courses from many colleges and universities. Those courses range from high school to graduate level.

**OTHER DANTES SERVICES.**—DANTES provides many other services besides those just described. To find out more about DANTES, contact your ESO or Navy Campus representative.

### **Enlisted Education Advancement Program**

The Enlisted Education Advancement Program (EEAP) lets career-motivated individuals get an associate of arts/sciences degree in 24 calendar months or less. If you're accepted into the program, you must pay all educational expenses, such as tuition, fees, and books. Upon enrolling in this program, you must

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## ***Student Notes:***

obligate for 6 years' active duty. While attending college, you may compete for advancement.

### REVIEW 7 QUESTIONS

Q1. What are the three sections that PQS is divided into?

- a.
- b.
- c.

Q2. To find a list of Navy TRAMANs, you would refer to the \_\_\_\_\_ on the web at \_\_\_\_\_.

Q3. What type of training are you receiving when you're learning a skill while working?

Q4. What type of training is recruit training?

Q5. List the different classifications of Navy schools.

- a.
- b.
- c.
- d.
- e.
- f.

Q6. What program does the Navy offer to help Sailors earn a high school diploma or improve their skills and military performance?

Q7. What financial program does the Navy have to help Sailors with their off-duty education?

Q8. What type of services does DANTES provide?

### PROGRAMS LEADING TO A NAVAL COMMISSION

**Learning Objective:** When you finish this chapter, you will be able to—

- Identify the programs that can lead to a Navy commission.

Navy personnel may follow many paths to a Navy commission. Certain enlisted men and women who are outstanding performers may qualify for a commissioning program. This section briefly describes the Navy's basic commissioning programs.

#### NAVAL ACADEMY

Each year, the Secretary of the Navy may appoint the following to the Naval Academy at Annapolis, Maryland:

- 85 enlisted men and women from the Regular Navy or Regular Marine Corps and
- 85 enlisted men and women from the Naval or Marine Corps Reserve (active or inactive)

Those who are appointed receive a fully subsidized undergraduate education that leads to a commission in the Navy or the Marine Corps.

Students at the Naval Academy are appointed as midshipmen, U.S. Navy. They receive pay equal to about one-half an ensign's basic monthly pay, plus tuition, room, and board. Upon graduation, they are

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***Student Notes:***

awarded a Bachelor of Science degree in one of 18 majors and an ensign's or second lieutenant's gold bars.

### **NAVAL ACADEMY PREPARATORY SCHOOL**

The Naval Academy Preparatory School (NAPS) is located in Newport, Rhode Island, as a part of the Naval Education and Training Center. With up to 300 male and female students, the school offers a balanced academic, military, and physical program patterned after the Naval Academy.

Academically, the school teaches mathematics, chemistry, physics, and English at three levels of difficulty. It also teaches an introductory computer course.

Although not required to gain a Secretary of the Navy appointment to the Academy, attendance at NAPS greatly improves the chances for obtaining one of these appointments.

### **NROTC SCHOLARSHIP PROGRAM**

The Naval Reserve Officer Training Corps (NROTC) Scholarship Program leads to an appointment as a Reserve or Regular officer in the Navy or Marine Corps at the grade of ensign or second lieutenant. If you qualify and are selected for this program, you will receive a scholarship to a college or university with an NROTC unit. You must sign an agreement to spend 6 years in the Navy upon completion of or withdrawal from school. If you are on active duty at the time you sign the agreement, you will be discharged to attend school for a maximum of 40 months. During that time you will receive tuition, books, and fees. Personnel who have entered the program from active duty will also receive a subsistence allowance.

### **BROADENED OPPORTUNITY FOR OFFICER SELECTION AND TRAINING (BOOST) PROGRAM**

If you are interested in the Naval Academy or the NROTC Scholarship Program and qualify in all respects except academically, you may want to apply for the BOOST program. BOOST stands for Broadened Opportunity for Officer Selection and Training. The

BOOST program is intended to help people who have been educationally deprived but have demonstrated they have the basic qualities and desires needed to gain a commission.

If you are selected for BOOST, you will receive academic, physical fitness, and general military training as well as counseling. Selection for BOOST does not guarantee your selection for the Naval Academy or the NROTC Scholarship Program, but it certainly increases your opportunities.

### **ENLISTED COMMISSIONING PROGRAM**

If you are interested in a commission and have enough college credit to complete all the requirements for a baccalaureate degree within 2 years, you may qualify for the Enlisted Commissioning Program (ECP). If you are selected for the ECP, you will attend a college of your choice and receive full pay and allowances while you do so. However, you will pay your own educational expenses. Upon graduation, you will attend Officer Candidate School and be commissioned.

You must agree to a 6-year obligation for active enlisted service from the date of enrollment in the Enlisted Commissioning Program. Upon your commission, that obligation is canceled and you assume an obligation of 4 years of commissioned service.

### **NAVAL RESERVE OFFICER PROGRAMS**

Six programs lead to commissions in the U.S. Naval Reserve for enlisted personnel who possess a baccalaureate degree or higher. These programs are as follows:

1. Unrestricted Line Appointment
2. Program Nuclear Propulsion Officer Candidate
3. Program Aviation Officer Candidate School
4. Program Navy Judge Advocate General (JAG) Corps
5. Program Civil Engineer Corps
6. Direct Appointment Program Nuclear Power Instructor and Naval Reactor Engineer Direct Appointment Program

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### ***Student Notes:***

All candidates attend either the Aviation Officer Candidate School (AOCS) program, Officer Candidate School (OCS), or Officer Indoctrination School (OIS) held in Pensacola, Florida.

If you are interested in any of the Naval Reserve Officer Programs, contact your career counselor. The *Retention Team Manual* contains information on these programs.

### **CHIEF WARRANT OFFICER PROGRAM**

The Chief Warrant Officer Program provides personnel an opportunity to earn a commission as an officer without possessing a college degree. You must be in one of the senior enlisted paygrades to qualify as a chief warrant officer candidate. The specific requirements of the program, which are published each year, are available from your career counselor.

### **LIMITED DUTY OFFICER PROGRAM**

The Limited Duty Officer (LDO) Program is another way in which you can obtain a commission without a college degree. LDOs are commissioned officers who are selected from the senior enlisted paygrades. The requirements for this program, also published each year, are available from your career counselor.

### **SEAMEN TO ADMIRAL PROGRAM**

The Seaman to Admiral program is applicable to enlisted personnel of the Regular Navy and Naval Reserve. Eligible applicants will be considered by a board convened by the Chief of Naval Personnel (CNP). The board will select the best qualified for appointment in the program, within quotas authorized. If selected, you will be appointed a permanent ensign in the U.S. Navy after successful completion of Officer Candidate School (OCS). Following commissioning, officers will be assigned to a warfare community. Upon successful completion of initial sea duty and warfare qualification, officers will be screened for selection to a bachelor's degree program at the Naval Postgraduate School.

## **REVIEW 8 QUESTIONS**

- Q1. The Secretary of the Navy can appoint a specific number of enlisted personnel to the Naval Academy. What number of (a) Regular Navy or Regular Marine Corps and (b) Naval or Marine Corps Reserve (active or inactive) can be appointed?
- a.
- b.
- Q2. What is the maximum time allowed to attend college in the NROTC program?
- Q3. Who was the BOOST program intended for?
- Q4. What is the major requirement to be eligible for the Enlisted Commissioning Program?
- Q5. In what two programs can senior enlisted personnel obtain a commission without a requirement for a college degree?
- a.
- b.

## **DISCHARGES**

**Learning Objectives:** When you finish this chapter, you will be able to—

- Identify the types of discharges.
- Recognize the effects of the various types of discharges.

If you separate from the Navy before the end of your active obligated service (EAOS) or after 8 years of service or if you reenlist, you will receive a discharge

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### ***Student Notes:***

from the Navy. If you separate from the Navy at your EAOS but before completing 8 years of service, you will not receive a discharge but will be “separated” from active naval service. The Navy gives five types of discharge. Each type of discharge has a specific meaning and affects you in a way different from any of the others. The type of discharge you receive depends on the reason for your discharge.

## **REASONS FOR DISCHARGE**

You may receive a discharge for many reasons. Under almost all conditions, whenever and however you leave the Navy, you will receive a discharge. Some of the reasons for receiving a discharge are as follows:

- Expiration of enlistment
- Disability, dependency, or hardship
- Fulfillment of service obligation
- Convenience of the government
- Unsuitability

If discharged for any of the above reasons, you will receive an honorable or a general discharge.

## **TYPES OF DISCHARGE**

The five types of discharge are as follows:

1. Honorable
2. General (under honorable conditions)
3. Other than honorable
4. Bad conduct
5. Dishonorable

Some personnel think because a general discharge is given under honorable conditions, it is as good as the honorable discharge itself. However, that assumption is not true. A general discharge indicates satisfactory service but not to the established standard of the Navy.

### **Honorable Discharge**

To receive an honorable discharge, you must have received a rating from good to excellent for your service to the Navy. Even though you only qualify for a general

discharge, you may receive an honorable discharge under two circumstances.

1. When you are being separated because of a disability incurred in the line of duty
2. When you receive any awards for gallantry in action, heroism, or other meritorious service

### **General Discharge**

You receive a general discharge when you separate from the service, under honorable conditions, without a sufficiently meritorious military record to deserve an honorable discharge.

### **Other Than Honorable Discharge**

You receive an other than honorable discharge for misconduct or security reasons.

### **Bad Conduct Discharge**

You receive a bad conduct discharge (BCD) when you separate from the service under conditions other than honorable. You receive a bad conduct discharge only by an approved sentence of a general or a special court-martial.

### **Dishonorable Discharge**

You receive a dishonorable discharge (DD) when you separate from the service under dishonorable conditions. You may receive a dishonorable discharge only by a general court-martial and as appropriate for serious offenses calling for dishonorable separation as part of the punishment.

## **EFFECTS OF THE TYPE OF DISCHARGE**

Some people will try to convince you (or themselves) that the type of discharge they receive will make no difference in their civilian lives. Others will tell you that a discharge under less than honorable conditions can be upgraded if they show themselves to have been good citizens for a time. How wrong they are! Although some discharges have been upgraded by the Board for Correction of Naval Records, the percentage

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## ***Student Notes:***



is small. The Board is not interested in your civilian life, but how you performed while in the Navy.

When you leave the Navy, you want to do so with an honorable discharge. An honorable discharge has many advantages for you throughout your life. Some of the immediate advantages are the entitlements to various veterans' benefits and rights. When you apply for a job or for entry to a school or college, you will find an honorable discharge is advantageous, and, in many instances, an absolute necessity. Most important of all, and vital for your future self-respect and peace of mind, is the knowledge that your service to your country was up to standard.

Receiving an honorable or general discharge makes you eligible for all federal benefits (and they are considerable). Receiving a dishonorable or bad conduct discharge by a general court-martial disqualifies you for any benefits. A bad conduct discharge from a special court-martial even disqualifies you for any military benefits such as transportation home or payment for accrued leave. A bad conduct discharge bars you from receiving civil service employment preference, reemployment rights, or other related benefits. The Veterans' Administration decides your entitlement to veterans' benefits on an individual basis.

Failing to receive an honorable discharge also has consequences of a more personal and far-reaching nature. You bring shame to your family. You will have difficulty explaining your dishonorable or bad conduct discharge to friends who have honorable military service. You will have difficulty getting good jobs and getting accepted into good schools. Everybody knows the Navy does not give bad conduct discharges except for serious or repeated offenses. Thus, you may have a hard time proving that people can trust you as a friend or to do a job.

Receiving an honorable discharge means you can face the world proudly and secure in the knowledge that your years served in the Navy were well spent. On the other hand, receiving a dishonorable or bad conduct discharge means you must admit to wasted years in the Navy. It means you failed in your duty to your country and in meeting the high standards of the Navy.

## NAVY GOOD CONDUCT MEDAL

**Learning Objective:** When you finish this chapter, you will be able to—

- Identify the requirements for the Good Conduct Medal.

You may earn many awards while you are in the Navy. One of the most important of these awards is the Navy Good Conduct Medal. That medal is the highest precedence award among the campaign and service awards.

Make every effort to earn the Navy Good Conduct Medal. Earning that award can affect your promotion. Meeting the requirements for the Navy Good Conduct Medal means you also meet the requirements for reenlistment, overseas duty, certain Navy schools, and Navy commissioning programs.

Your CO can recommend you for a Navy Good Conduct Medal as a reward for 3 years of good conduct.

## REVIEW 9 QUESTIONS

- Q1. List the five types of discharges the Navy gives.
- a.
  - b.
  - c.
  - d.
  - e.
- Q2. When getting out of the Navy with less than 8 years of service, you are \_\_\_\_\_ from naval service instead of discharged.

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### *Student Notes:*



Q3. List some advantages of having an honorable discharge from the Navy.

- a.
- b.
- c.

Q4. DELETE

### SUMMARY

This chapter provides a wealth of information useful to you in your continuing professional development.

The Navy's Enlisted Performance Evaluation System is a system that documents a Sailor's qualifications, performance, conduct, and increased responsibilities. It is the Navy's prime personnel management tool.

Many incentive programs are available for Navy personnel. The purpose of incentive programs is to attract an individual to a rewarding, enjoyable Navy career. Other considerations that often persuade an individual to select a Navy career are job security, paid vacations, travel, family protection plans, retirement, and many other incentives. Often, a combination of these factors causes a person to choose a naval career.

Education is a key to professional development and a better understanding of the world in which we live. The Navy gives Sailors the opportunity to meet their career and educational needs. Navy-sponsored programs, as well as civilian schools, are available to all Navy personnel. As a Navy member, you should take part in academic programs to increase your formal educational background and to further develop your potential for a rewarding career in the Navy.

In this chapter we have also discussed a wide variety of programs designed to help you in making decisions that affect your career.

The Navy has several programs that provide professional training and off-duty educational opportunities. As the Navy has long recognized, the more education you get, the more you will benefit your organization and the Navy.

Many programs lead to a commission as a naval officer. Each year, hundreds of enlisted personnel receive a commission through one of these programs. They then continue to make significant contributions to the Navy's mission as an officer.

The Navy gives various types of discharges. Your eligibility for benefits and other programs after separation or retirement depends on the type of discharge you receive. An other than honorable discharge has certain negative social effects.

The many helping resources and programs within the Navy's organization can benefit everyone. Look into these programs. Ask questions and learn all you can about them. They can benefit you in many ways during your naval career.

### REVIEW 1 ANSWERS

- A1. The Navy uses the **Goal Card Program** to help new Sailors set and achieve goals while in the service.
- A2. Some areas covered by the Pocket Goal Card include—
  - a. **DEP goals**
  - b. **Navy core values**
  - c. **Recruit training goals**
  - d. **The Sailor's Creed**
  - e. **Fleet goals**
  - f. **Personal priorities (including education)**
  - g. **There is also space for Sailors to write their own goals**

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***Student Notes:***

## REVIEW 2 ANSWERS

- A1. The permanent board members of the Professional Development Board include the—
- a. **Command Master Chief**
  - b. **Command Career Counselor**
  - c. **Personnel Officer**
  - d. **Educational Service Officer**
- A2. The Professional Development Board **interviews Sailors who want advancement training or who want to attend special programs.**
- A3. The three lowest grades are known as **apprenticeships.**
- A4. Ratings are divided into—
- a. **General**
  - b. **Service**
- A5. A designated striker is a person in **paygrades E-1, E-2, or E-3 who has been designated as technically qualified for a particular rating.**
- A6. The *Manpower and Personnel Classifications and Occupational Standard*, NAVPERS 18068, contains a list of NAVSTDs and OCCSTDs.
- A7. A NAVSTD is **a military requirement that deals with all enlisted personnel**, while an OCCSTD is **an occupational requirement that is rate specific.**
- A8. The three requirements you need to meet to be advanced to E-3 are—
- a. **Time in rate**
  - b. **The CO's recommendation**
  - c. **Complete *Basic Military Requirements*, NAVEDTRA 12018**
- A9. To be advanced to petty officer, you must meet the following requirements:
- a. **Time in rate**

b. **DELETE**

- c. **Demonstrate knowledge of material in your TRAMAN**
- d. **CO's recommendation**

- A10. The final multiple score of an advancement exam is based on—
- a. **Merit rating**
  - b. **Personnel testing**
  - c. **Experience**

## REVIEW 3 ANSWERS

- A1. The three types of duty are—
- a. **Sea**
  - b. **Shore**
  - c. **Neutral**
- A2. Overseas shore duty Code 3 is classified as **sea duty for rotational purposes.**
- A3. To let your detailer know what duty station you want, you should submit **Enlisted Duty Preference Form, NAVPERS 1306/63.**
- A4. The kind of information found on the Enlisted Duty Preference Form includes—
- a. **Where you want to go**
  - b. **What type of duty you prefer**
  - c. **Career intentions**
  - d. **Family status**

## REVIEW 4 ANSWERS

- A1. The Evaluation Report and Counseling Record is used to **record your qualifications, conduct, performance, and eligibility for advancement.**
- A2. The numerical grading scale used on the Evaluation Report and Counseling Record is

similar to the A, B, C, D, F scale used in most high schools. The following scale shows the grading scale used on the Evaluation Report and Counseling Record:

- a. **5.0—greatly exceeds standards**
- b. **4.0—above standards**
- c. **3.0—meets standards**
- d. **2.0—progressing**
- e. **1.0—below standards**

A3. The evaluation traits that are found on the Evaluation Report and Counseling Record include—

- a. **Professional knowledge**
- b. **Quality of work**
- c. **Equal opportunity**
- d. **Military bearing and character**
- e. **Personal job accomplishment and initiative**
- f. **Teamwork**
- g. **Leadership**

A4. After you sign your Evaluation Report, **it is sent to BUPERS and copies go to the field service record, reporting activity, and to you, the service member.**

#### REVIEW 5 ANSWERS

- A1. Page 1 of your service record contains your **enlisted contract.**
- A2. Your evaluations are kept in the **left-hand side of your service record, underneath the separator.**
- A3. Record of Emergency Data form is **Page 2** of your service record.

A4. You should update Page 2 **anytime you or your family member has a change of address or change in status.**

A5. DELETE

A6. Page 4 contains the following information:

- a. **NECs; designators, assigned, changed, or revoked**
- b. **Navy schools attended**
- c. **Navy training courses completed**
- d. **Personal qualifications; technical qualifications**
- e. **GED and off-duty courses completed**
- f. **Decoration and awards**

#### REVIEW 6 ANSWERS

- A1. Documents that require the CO's personal signature include **documents dealing with law or aspects of military justice and documents that by law are required to have the CO's signature, such as ships' deck log.**
- A2. You can find a list of command personnel that has signature authority to sign command correspondence in your **unit's organizational manual or instruction.**
- A3. 3-M stands for the **Maintenance and Material Management Systems.**
- A4. The objectives of the 3-M system include—
  - a. **Maintain equipment at maximum operating efficiency**
  - b. **Reduce equipment downtime**
  - c. **Reduce cost of maintenance in both money and man-hours**
  - d. **Provide data directly related to maintenance**

#### REVIEW 7 ANSWERS

- A1. PQS is divided into three sections that include—
  - a. **Fundamentals**

b. **Systems**

c. **Watch stations**

- A2. To find a list of Navy TRAMANs, you would refer to the *Catalog of Nonresident Training Courses* on the web at <http://www.cnet.navy.mil/netpdtc/nac/neas.htm>.
- A3. When you're learning a skill while working, you are receiving **on-the-job (OJT) training**.
- A4. Recruit training is **General Military Training (GMT) and a class "R" school**.
- A5. Different Navy schools include—
- a. **Class "R"**
  - b. **Class "A"**
  - c. **Class "C"**
  - d. **Class "F"**
  - e. **Class "P"**
  - f. **Class "V"**
- A6. The **Basic Skills Program** offers Sailors a chance to earn a high school diploma or improve their skills and military performance.
- A7. The **Tuition Assistance Program** is the Navy's financial program that helps Sailors with their off-duty education.
- A8. DANTES offers **examinations and certification programs, operates an independent study support system, and provides other support and development activities**.

**REVIEW 8 ANSWERS**

- A1. The Secretary of the Navy can appoint the following enlisted personnel to the Naval Academy:
- a. **85 Regular Navy or Regular Marine Corps**
  - b. **85 Naval or Marine Corps Reserve (active or inactive)**

A2. The **maximum time allowed to attend college on the NROTC program is 40 months**.

A3. The BOOST program was intended for **Sailors who meet all the requirements for the Naval Academy or NROTC program except for academics and people who have been educationally deprived**.

A4. The major requirement to be eligible for the Enlisted Commissioning Program is the **candidate must be able to complete a baccalaureate degree within 2 years**.

A5. The two programs that can lead to an enlisted member being commissioned are—

- a. **Chief Warrant Officer**
- b. **Limited Duty Officer**

**REVIEW 9 ANSWERS**

A1. The five types of discharge are—

- a. **Honorable**
- b. **General**
- c. **Other than Honorable**
- d. **Bad Conduct**
- e. **Dishonorable**

A2. When getting out of the Navy with less than 8 years of service, you are **separated** from naval service instead of discharged.

A3. Some advantages of having an honorable discharge from the Navy include—

- a. **Entitlements to various veterans' benefits and rights**
- b. **Job preferences**
- c. **Entry into a school or college**

A4. DELETE.

## CHAPTER 17

# FINANCIAL MANAGEMENT AND STRESS MANAGEMENT

*The policy of the Navy is “to promote habits of thrift and encourage... conduct of financial affairs in such a manner as to reflect credit upon the naval services.” As a Navy sailor it is your responsibility to seek out financial information to avoid any financial problems.*

You may wonder why this chapter is titled “Financial Management and Stress Management,” or why financial management and stress management are covered in the same chapter. Although there are many causes of stress, one primary cause of stress in families is not having enough money to meet needs. This cause of stress can result in spouse and child abuse, which is **not acceptable behavior**. All commands have a Family Advocacy Program (FAP) to help families undergoing stress.

Many commands provide financial counselors to advise Sailors in financial difficulties. Family service centers or your leading petty officer (LPO) are some examples of who you can seek for financial counseling. The Naval Military Personnel Manual section 62 offers some good advice to all paygrades.

### MILITARY PAY SYSTEM

**Learning Objectives:** When you finish this chapter, you will be able to—

- Identify the various types of military pay, the Leave and Earnings Statement, and the method used to deposit military pay.
- Recognize the responsibilities of making sure that pay and earnings statements are correct.
- Identify liberty and leave and recognize their differences.

The military pay system affects you directly. The amount you receive every payday is determined by the military pay system. Therefore, you should have a basic understanding of the difference between pay and allowances and the different types of pay and allowances. You should also understand a little about allotments and government insurance.

In this section, you will learn about the basics of the military pay system. The pay system is very complex and pay and allowances are subject to change. If you need specific information about your pay, you should consult your disbursing office.

### PAY

Pay is money paid to you for services rendered. All pay is taxable as income. The Navy has three types of pay:

1. Basic pay
2. Incentive pay
3. Special pay

You may receive all three types of pay if you are qualified, or you may receive only basic pay.

Navy personnel paychecks are deposited automatically into their checking or savings account via the Direct Deposit System (DDS). To get paid, you must open up a savings or checking account.

### Basic Pay

Basic pay is the pay you receive based upon your paygrade and your length of service. All people on active duty in the Navy receive basic pay.

Navy personnel receive longevity (length of service) raises after 2, 3, and 4 years of service. After that, they generally receive a longevity raise for every 2 years of service. Personnel in paygrades E-1 and E-2 don't receive longevity raises. An E-3 doesn't receive longevity raises after 4 years of service. Length of service for pay purposes includes active-duty and inactive Reserve time, former service (if you have a broken-service enlistment), and service in other branches of the U.S. armed forces.

## Incentive Pay

Incentive pay is pay you receive for certain types of duty. These types of duty are usually considered hazardous. Therefore, incentive pay is sometimes referred to as *hazardous duty pay*. Duty for which you may receive incentive pay includes aviation duty, submarine duty, parachute duty, flight deck duty, demolition duty, and experimental stress duty.

You receive incentive pay based on the following guidelines:

- You may receive a maximum of two incentive pays if you meet the requirements for more than one.
- You may not receive incentive pay if you receive special pay for diving duty. (Special pay is covered next.)
- You receive the same basic rate of pay for all types of incentive pay with the exception of aviation duty and submarine duty pay, which vary according to your paygrade and longevity.

## Special Pay

Special pay is pay for special circumstances, such as reenlistment or a particular type of duty. Duty for which you may receive special pay includes foreign duty, sea duty, medical duty, special assignment duty, hostile fire duty, and diving duty. You may also receive special pay in the form of a selective reenlistment bonus (SRB).

## ALLOWANCES

An allowance is money used to reimburse you (pay you back) for expenses necessary for you to perform your job. Because they are reimbursements for expenses, allowances are not taxable as income. You receive allowances for expenses, such as clothing, quarters, and food. You may also receive allowances for various other expenses.

### Clothing Allowance

Enlisted members of the Navy, including Naval Reservists on extended active duty, normally receive an

initial allowance for uniforms. You may receive a clothing allowance by two methods.

1. You may receive a reimbursement of cash for your purchases of the uniforms and uniform accessories required for your paygrade.
2. You may receive issues of clothing equal to the cash value of your allowance.

Following an initial 6-month active-duty period, you are entitled to receive an annual clothing maintenance allowance. The purpose of the maintenance allowance is to provide you with cash for the purchase of replacement clothing or for the repair of clothing.

### Basic Allowance for Subsistence

Entitlement to a basic allowance for subsistence (BAS) depends on your status and the availability of a government mess. Enlisted members are entitled to a daily ration in kind. Each enlisted member receives a daily ration in kind in the form of three meals a day in a government mess. An enlisted member may receive a daily subsistence allowance for each day a government mess is not available or not used.

Normally, entitlement to BAS depends on the conditions at your permanent duty station. If the station doesn't have a government mess, you are entitled to BAS. If the station has a government mess but you are authorized to mess separately, you are entitled to separate rations (RATS SEP). When authorized BAS, you receive the applicable rate for each calendar day of the month for which you don't receive a ration in kind.

If you are authorized to mess separately, are receiving RATS SEP, and your duties prevent you from purchasing certain meals in a government mess, you are entitled to a supplemental BAS.

### Basic Allowance for Quarters

The purpose of basic allowance for quarters (BAQ) is to help you pay the cost of suitable living quarters when government quarters are unavailable or not assigned. Entitlement to BAQ depends on your paygrade, whether you have dependents, and whether you and your dependents have been assigned quarters. The receipt of BAQ involves many restrictions and conditions of entitlement.

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## Student Notes:



BAQ is divided into two basic categories—BAQ for members without dependents and BAQ for members with dependents. The rates payable vary within each category and with each paygrade. To find out whether you are entitled to BAQ and the amounts payable, check with your personnel or disbursing office.

### **Other Allowances**

In addition to the allowances mentioned above, you may receive a family separation allowance (FSA), cost of living allowance (COLA), overseas housing allowance (OHO), variable housing allowance (VHA), or other allowances. Your disbursing or personnel office can provide you with information about the type of allowances, if any, you are entitled to.

### **Basic Allowance for Housing**

Basic allowance for quarters and variable housing allowance are a single allowance called basic allowance for housing (BAH). Your LES will show only the BAH amount.

### **ALLOTMENTS**

Allotments are amounts of money you designate to be withheld from your pay and paid directly to someone else. You may authorize many types of allotments, including the following:

- C (charity drive donation)—allotments to a charity such as the Combined Federal Campaign
- D (dependent)—allotments directly to your dependents
- H (housing)—allotments to a lending institution to pay home-loan payments
- I (insurance)—allotments to a commercial insurance company for life insurance premiums
- S (savings)—allotments directly to an account in your name at a savings institution such as a bank or credit union

For information on making allotments and rules governing their use, see your disbursing office.

### **OVERPAID**

You aren't responsible for calculating your pay, but you are responsible for questioning anything that isn't normal. If you don't question something that isn't normal with your pay, you could be at risk for being charged with larceny. Computerized systems, equal pay periods, and Leave and Earnings Statements (LES) have made budgeting your pay easy. You should be getting the same amount every payday. But computers are only as smart as their operators and the electricity they run on. When you notice a large difference in your pay from last payday and you aren't due for a longevity raise, promotion, or annual pay raise, there may be an error in your pay.

Sailors who haven't reported the difference to their disbursing offices have found themselves held liable for stealing. Even if you do notice and report a questionable payday and nothing changes, you are still liable for the overpayment. Regular disbursing audits balance payments made with those due. Eventually, you'll have to reimburse (give back) that amount, so bank the overage. Look at it this way: You would rush in to your disbursing office and insist on knowing why you were paid too little—right? So—rush in if you're being paid too much, too.

### **LEAVE AND EARNINGS STATEMENT**

Based on the Navy's Joint Uniform Military Pay System (JUMPS), the Navy must provide you a monthly Leave and Earnings Statement (LES). JUMPS is a computerized pay and leave accounting system located at the Defense Finance and Accounting Service, Cleveland, Ohio. The monthly leave and earnings statement provides you with a complete and accurate record of the following:

- Pay
- Allowances
- The type and amount of each allotment requested
- The amount deducted for withholding tax, Social Security, and Servicemen's Group Life Insurance

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### ***Student Notes:***

## Earned and Used Leave

The LES (fig. 17-1) contains all the details you need to keep a personal record of these items. Most of the blocks are self-explanatory. Some of the abbreviations and the use of some of the blocks are explained on the back of the form.

After receiving your LES, check it carefully to verify (make sure) that the information is correct. If it isn't correct or if you have any questions, go to your personnel office or disbursing office.

## Leave and Liberty

Leave and liberty consist of the times you are authorized to spend away from work and off duty. Each is a separate category, and the two cannot be combined.

**LEAVE.**—Leave is an authorized absence similar to vacations in civilian jobs. Basically, you will earn 30 days of leave in each year of active duty. The various terms applied to leave are covered after you learn about the way leave is computed and earned. **Leave is shown on your LES (fig. 17-1) in the row "LEAVE."**

Vacations and short periods of rest from duty provide benefits to morale and motivation that are essential to maintaining maximum effectiveness. The lack of a break from the work environment adversely affects your health, your availability, and your performance.

Normally, you're encouraged to use your entire 30 days of leave each year. Congress has provided compensation for you if military requirements prevented you from using your leave. You should not be required to expend leave immediately before separation simply for the purpose of reducing your leave balance.

**LIBERTY.**—Liberty is an authorized absence from work or duty for a short period. The Navy grants two types of liberty—regular and special. **Liberty is not shown on your LES.**

**Regular liberty** is usually granted from the end of one work period to the beginning of the next. That period may be from one day to the next or over a weekend or holiday.

**Special liberty** is liberty granted outside of regular liberty periods for unusual reasons, such as compensatory time, emergencies, or voting. You may also receive special liberty for special recognition or to allow you to observe major religious events. Special liberty is granted as 3-day or 4-day periods.

Three-day special liberty is a liberty period designed to give a servicemember three full days absence from work or duty. Three-day special liberty usually begins at the end of normal working hours on a given day and ends with the start of normal working hours on the fourth day—for example from Monday evening until Friday morning. When a 3-day special liberty is during regular liberty time, such as a Saturday and Sunday with Monday or Friday a national holiday (special work hours aren't included), the time off is treated as regular liberty.

Four-day liberty is a special liberty period granted by the CO that gives the servicemember four full days absence from work or duty. Usually, special liberty begins at the end of normal working hours on a given day and ends with the start of normal working hours on the fifth day. Four-day special liberty includes at least two consecutive nonwork days—for example, from Wednesday evening until Monday morning.

**CONVALESCENT LEAVE.**—Convalescent leave is a period of authorized absence given as part of care and treatment prescribed for your recuperation and convalescence. If you have a medical problem that requires a period of recovery but does not require hospitalization, your doctor may prescribe convalescent leave. Convalescent leave is not charged to your earned, advance, or excess leave account; it is computed separately.

**REQUESTING LEAVE.**—To request either regular or emergency leave, you should use the Leave Request/Authorization, NAVCOMPT Form 3065. When you submit a leave request, forward the completed form through the normal chain of command. Emergency leave requests are hand-carried for approval. When emergency requests need approval after normal working hours, the command duty officer usually approves the request.

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## Student Notes:

Division : FNV6

DEFENSE FINANCE AND ACCOUNTING SERVICE MILITARY LEAVE AND EARNINGS STATEMENT

ID	Name (Last, First, MI)	SSN	Grade	PyDate	Yrs	ETS	Branch	ADSN	PPO	Period Covered
			E				NAVY			

ENTITLEMENTS DEDUCTIONS ALLOTMENTS SUMMARY

TYPE	AMOUNT	TYPE	AMOUNT	TYPE	AMOUNT	+AmtFwd
------	--------	------	--------	------	--------	---------

A	BASE PAY	FEDERAL TAXES		COMB FED CAMPAIGN	15.00	
B	BAS	FICA-SOC SECURITY				+Tot Ent
C	BAH	FICA-MEDICARE				
D		SGLI FOR 200,000				-Tot Ded
E		AFRH				
F		DENTAL				-Tot Allt
G		MID-MONTH-PAY				
H						=Net Amt
I						
J						-Cr Fwd
K						
L						
M						EOM Pay
N						
O						
	Total					

Bf Bal	Ernd	Used	CrBal	ETSBal	Lost	Paid	UseLose	FED	WagePeriod	Wage YTD	Ms	Ex	AddlTax	Tax YTD
LEAVE								TAXES						

FICA	WagePeriod	SocWageYTD	SocTaxYTD	Med Wg YTD	Med Tx YTD	STATE	St	Wg Period	Wage YTD	Ms	Ex	Tax YTD
TAXES						TAXES	FL					

PAY	BAQ Type	BAQ Depn	VHA Zip	Rent Amt	Share	Sta	JFTR	Depns	2d JFTR	BAS Type	Charity	Tpc	Pacidn
DATA													

REMARKS:

YTD ENTITLE

YTD DEDUCT

FOREIGN DUTY PAY WAS CHANGED TO  
HARDSHIP DUTY PAY EFFECTIVE FEBRUARY 4, 1999.  
BANK

SEA DUTY TIME  
BAH BASED ON

OFFICER IN CHARGE  
PERSONNEL SUPPORT DETACHMENT  
CODE

Figure 17-1.—Leave and earning statement.

## REVIEW 1 QUESTIONS

Q1. What's the main difference between pay and allowance?

Q2. List the three types of pay the Navy uses.

a.

b.

c.

Q3. What system is used to deposit Navy personnel paychecks?

Q4. As an E-4, you have served more than 4 years of active-duty service. How often will you receive a longevity raise?

Q5. How often do you receive your clothing maintenance allowance?

Q6. DELETE

Q7. What person is responsible for making sure your paycheck and LES are accurate?

Q8. How many days of leave do you earn per year?

Q9. The CO may grant how many days of special liberty?

## PERSONAL FINANCIAL MANAGEMENT

**Learning Objective:** When you finish this chapter, you will be able to—

- Recognize the procedures for managing personal finances to include money management, use of credit, and indebtedness.

The consumer debt of the United States is the amount Americans borrow for large purchases, such as cars, stereos, appliances, and furniture. The consumer debt also includes revolving credit (which is a type of loan), such as credit cards. This debt keeps spiraling up (getting larger). Repayment of consumer loans slices more than a quarter of every dollar a wage earner takes home. You are probably no exception.

As a young service member, your take-home pay may be less than the national average. You should learn to plan your finances so you can balance your income, savings, and spending.

The following section on personal financial management gives you information you can use. Paying attention to this information will help you manage your money.

## MONEY MANAGEMENT

Managing money can be hard to do. You will probably have checking and savings accounts, have allotments, and keep some cash to spend. There are advantages and disadvantages to each of these.

---

***Student Notes:***

## Checking Account


A checking account usually serves as the safest and the easiest way for you to keep track of your money. A checking account is a financial arrangement with a bank, savings and loan association, or credit union for safeguarding money. It provides a system that allows you to account for your money—both what you’ve received and what you’ve spent. Money you *receive* might be your paycheck, while money you *expend* might be a bill you pay.

Some terms that deal with checking accounts are shown below.

**Check.** A check (fig. 17-2) is a written order telling your bank to withdraw a sum of money from your account to pay another person or business.

**Check register.** A check register is a booklet used to record transactions involving your checking account.

**Deposit ticket or deposit slip.** A deposit ticket (fig. 17-3) is a slip of paper used to place money into your account. Deposits can be done either electronically or by you actually going to the bank, filling out a deposit ticket, and handing it to a teller.




4888

2 Oct 2000

PAY TO THE ORDER OF My Mortgage \$ 40.00

Forty \_\_\_\_\_ DOLLARS



**GREAT LAKES CREDIT UNION**

PURPOSE Mortgage
James P. Boat

I: 1234567891

**RECORD ALL CHARGES OR CREDITS THAT AFFECT YOUR ACCOUNT**

NUMBER	DATE	DESCRIPTION OF TRANSACTION	PAYMENT/ DEBT		✓ T	FEE (IF ANY) (-)	DEPOSIT/ CREDIT (+)	BALANCE	
								\$	
								100	00
4888	10 / 2	To: <u>My Mortgage</u>	\$ 40	00		\$		-40	00
		For:						60	00
		To:							
		For:							
		To:							
		For:							
		To:							
		For:							
		To:							
		For:							
		To:							
		For:							

BMRF1702

Figure 17-2.—A check and check register.

## Student Notes:

**DEPOSIT TICKET**

**James P. Beat**  
 1763 SHERIDAN DRIVE  
 YOUR CITY, STATE 12345

DATE 19 Sep 2000  
DEPOSITS MAY NOT BE AVAILABLE FOR IMMEDIATE WITHDRAWAL

\_\_\_\_\_  
SIGN HERE FOR CASH RECEIVED (IF REQUIRED)

<b>DATE</b>	<b>CURRENCY</b>		
	<b>COIN</b>		
<small>LIST CHECKS SINGLY</small>			
		100	00
<b>TOTAL FROM OTHER SIDE</b>			
<b>TOTAL</b>		100	00
<b>LESS CASH RECEIVED</b>		0	
<b>NET DEPOSIT</b>		100	00

00-6789/0000

USE OTHER SIDE FOR ADDITIONAL LISTING

BE SURE EACH ITEM IS PROPERLY ENDORSED

**DELUXE CHECK PRINTERS**

⑆000067894⑆ 123456789⑆

CHECKS AND OTHER ITEMS RECEIVED FOR DEPOSIT SUBJECT TO THE PROVISIONS OF THE UNIFORM COMMERCIAL CODE OR ANY APPLICABLE COLLECTION AGREEMENT.

RECORD ALL CHARGES OR CREDITS THAT AFFECT YOUR ACCOUNT

NUMBER	DATE	DESCRIPTION OF TRANSACTION	PAYMENT/ DEBT	✓ T	FEE (IF ANY) (-)	DEPOSIT/ CREDIT (+)	BALANCE
			\$		\$		\$ 15 00
	9/19	To:					
		For: <i>Deposit</i>				100 00	+100 00
							115 00
		To:					
		For:					
		To:					
		For:					
		To:					
		For:					
		To:					
		For:					
		To:					
		For:					
		To:					
		For:					

BMR1703

Figure 17-3.—A sample deposit ticket and corresponding check register entry.

**BENEFITS OF HAVING A CHECKING ACCOUNT.**—One benefit of having a checking account is safety. It is safer to carry checks than money. Another benefit of having a checking account is proof of payment. A canceled check is proof that you paid a bill. Also, having a checking account is convenient. A checking account allows you to receive and spend your money without carrying cash. Also, a checking account lets you pay your bills through the mail, rather than in person. Another benefit of a checking account is that it lets you establish credit. A well-maintained checking account is an asset to establishing and obtaining credit. Finally, a checking account helps you budget your

money. Keeping a record of checking activities helps you budget your expenses and income.

As you need money, you *draw* or *transfer* funds by writing a check. You can issue a check payable to another person or to a company to pay bills or to get cash. A checking account provides a canceled check as a receipt of payment. Also, checks are available with carbonless copies of the original check. This easy-to-maintain method can conveniently help you manage your financial affairs.

Before you open a checking account, ask the bank or credit union the questions shown in the following chart.

***Student Notes:***



1. Is there a minimum balance required?
2. Does the account pay interest?
3. Is there a monthly service fee? Are there other service charges?
4. Is there a limit on how many checks per month I can write?
5. What is the cost to order checks?
6. Are canceled checks returned or photocopied?
7. Is overdraft protection available?

**RESPONSIBILITIES OF HAVING A CHECKING ACCOUNT.**—You have responsibilities when you have a checking account. You must maintain your check register with exactness to avoid checks being returned for insufficient funds. This is known as *bouncing* a check. For example, if you write out a check and there isn't enough money in your account to cover the check, the check will bounce. The check will usually be sent back to the payee with "Non-sufficient Funds" stamped on it. The bank and the payee will charge you more money because you wrote a bad check. To avoid bouncing a check, always balance your checkbook.

Here are some tips you can use to avoid bouncing a check.

1. Each month, your bank will send a statement of your transactions. Check it for accuracy and balance your checkbook each month (fig. 17-4).
2. Always record transactions in your check register as they occur.
3. Be aware of any service fees and deduct them promptly.

It's unlawful to knowingly write a check when you don't have the necessary funds in your account. In fact, UCMJ, article 123a, prohibits this action. Also, it's a federal offense in civilian courts. Further, writing checks without having sufficient funds can do the following:

- Ruin your credit history
- Destroy your reputation
- Land you in jail (civilian and/or military)

## Convenience Cards

Convenience cards are available from your financial institution. These cards make it easier to get money and to make purchases from your bank account. Two types of convenience cards are covered in this section. If you have a convenience card, you will have a personal identification number (PIN). A PIN is a secret access code that you must provide to use your convenience card. Do not tell your PIN to anyone.

### WARNING

Do not make purchases that will exceed the balance in your checking account.

One thing to remember, make sure that you update your check register each time you make a transaction using a convenience card. Updating your check register will prevent you from overdrawing your checking account.

Finally, a record of all your convenience card transactions will appear on your monthly bank statement.

**AUTOMATIC TELLER MACHINE (ATM) CARDS.**—ATM cards are available from your financial institution. ATM cards can be used to make deposits or withdrawals; to make inquiries about account balances; or to move money among your accounts. ATM cards can also be used 24 hours a day, 7 days a week.

**CHECK (DEBIT) CARDS.**—You can use a debit card instead of writing a check. When used to pay for merchandise or services, the amount is automatically deducted from your checking account. You can use your

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## Student Notes:

24 HOUR TELEPHONE TRANSFER LINE - 123-5678  
CUSTOMER SERVICE NUMBER - 567-1234 EXT 296

**DETAIL CHECKING  
REGULAR CHECKING  
ACCOUNT:  
SOC. SEC.**

THIS STATEMENT SHOWS ALL ACCOUNT TRANSACTIONS FROM SEP 14,19?? - THRU OCT 12, 19??

DEPOSITS		CHECKS AND DEDUCTIONS				DAILY BALANCES	
DATE	AMOUNT	NO	DATE	AMOUNT	NO	DATE	AMOUNT
9/19	100.00	4882 ****	9/15	32.00		9/15	2533.40
		****				9/16	2503.45
		****				9/19	2603.45
9/28	269.00	4885	9/18	29.95		9/26	2593.45
		4886	9/26	10.00		9/28	2862.45
		****				10/02	2822.45
		4888	10/02	40.00			
					2000		

\*\*\*\* INDICATES ONE OR MORE MISSING CHECKS

BEGINNING BALANCE 9/14/??	DEPOSITS & CREDITS		CHECKS & DEBITS		ENDING BALANCE 10/12/??
	NO	AMOUNT	NO	AMOUNT	
2565.40	2	369.00	4	111.95	2822.45
2000					
ENCLOSURES:					8

debit card to withdraw funds from your checking or savings account, transfer funds, and check your account balance day or night at ATMs.

**SAFETY PRECAUTIONS FOR USING ATMs.**—Some precautions you should use when using ATMs are—

- Be alert, Don't use an ATM if the lights aren't operating or you see suspicious activity. At drive-up ATMs, keep car doors locked, other windows closed, and the engine running. If you feel that something is wrong, leave.
- Take someone with you if you must make a transaction at night.
- Keep a low profile. Have your card ready when you approach the ATM. Remember to take your card, cash, and receipt and put them away. Count your money only when you are safely away from the ATM.

### **Savings Account**

One way for you to manage your money is to have a savings account. Savings accounts draw interest (earn money), while checking accounts sometimes do not. A savings account is an excellent way to earn interest and keep from spending money.

### **Balancing Your Account**

Depending on the bank and type of account, your monthly bank statement might include the following:

- Actual or miniphoto copies of your canceled checks.
- A list of your checks. The bank keeps photocopies of your checks on file.
- A listing of your savings account transactions.

The part of your statement dealing with your checking account includes—

- All processed checks,

- Deposits and withdrawals, including those made via convenience cards, and the
- Balance as of the end of your statement.

You use the bank statement to balance your checking account. Compare your statement and register and identify any discrepancies to your accounts.

If you have any questions, the family service center, your command financial specialist, or your LPO can teach you how to balance a checkbook.

### **Allotments**

Allotments provide a good method for you to handle your financial affairs. The following paragraphs describe voluntary and involuntary allotments.

**VOLUNTARY ALLOTMENTS.**—Voluntary allotments are requested by you. Some of the reasons for making a voluntary allotment are as follows:

- Savings
- Purchase of U.S. saving bonds
- Loan payments
- Life insurance payments
- Mortgage payments
- Pledges to the Combined Federal Campaign payments
- Payment to family members and relatives

**INVOLUNTARY ALLOTMENTS.**— Involuntary allotments from a Navy member's pay usually mean one thing—financial irresponsibility. Involuntary allotments are usually garnishment of your pay.

### **Budgeting**

Preparing and using a budget is the key to successful money management. A budget is a plan to spend money or a plan of money management. Many Navy members have false images of the meaning of a budget. They often associate budgets with detailed bookkeeping, stacks of paper, ledgers, and so forth. A

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### ***Student Notes:***

budget gives you records of your income vice your expenses and helps you manage your financial affairs.

If you're married, budgeting involves both you and your spouse. For married couples, handling money matters is a joint effort. With two-income families, money management is a different ball game. The yours-mine-ours approach usually comes up, requiring definite understandings. Certain inherent expenses become greater when both the husband and wife earn wages. Couples also need to have an understanding as to what expenses they will pay from what funds. A written budget, properly prepared and followed, helps couples work out these problems.

In budget preparation you determine income and expenses; examine spending habits; and see what, if anything, you need to correct or improve. To help you improve your spending habits, you need to be familiar with the following terms used in financial management:

*Gross income.* The total amount of pay before any deductions.

*Deductions.* The amount of money taken from pay for income taxes, Social Security, Service Group Life Insurance(SGLI), and so forth.

*Allotments.* The money taken from gross income for savings, checking accounts, family support or to pay debts, such as car payments and debts due the United States.

*Net income.* The money paid to a member after all deductions and allotments are paid. Also known as *take-home pay*.

*Fixed expenses.* Expenses that are the same each month.

*Flexible or variable expenses.* Expenses that are different each month.

Fixed expenses include rent and mortgage payments and time payments for expenses, such as autos, furniture, and insurance. The difference between fixed expenses and net income is optional income. This is the income available for planning purposes, which you can apply to variable or flexible expenses. These expenses include items such as savings, food, utilities, entertainment, clothes, and gifts.

When preparing a budget, plan for savings first. Planning for savings first is important. If you save first, then you can plan your budget and still save money.

Everyone needs a savings program for unforeseen expenses in the future. In addition, using a systematic, planned savings program will help you to achieve set goals. In determining how much to save, have a realistic percentage of your optional income. This percentage could be as little as 5% to 10% or as high as 20% of your optional income.

After savings comes a fixed expense, followed by variable expenses. The U.S. Department of Labor suggest these percentage of take-home-pay for budget preparation:

Fixed Expenses		Variable Expenses	
Housing	25%	Food	23%
Transportation	9%	Clothing	11%
		Gifts and contributions	5%
		Savings and unforeseen expenses	22%

These percentages are approximate and will vary from area to area and person to person.

To prepare a personal budget, you should keep close track of your income, expenses, and savings for several months. This information will help you understand your spending habits. It will also help you determine average non-fixed expenses. Understanding your spending habits puts you in a position not only to budget your income but also to correct undesirable spending habits.

Plans for spending extend to many areas and vary according to the person's status and requirements. The basics of spending are to spend money wisely and in as small amounts as possible.

## INVESTMENT RULE OF 72

What is the rule of 72? The Rule of 72 gives you an easy method of estimating the number of years it takes for an investment's value to double at a specific interest rate or rate of return. The general formula for the Rule of 72 is as follows:

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### ***Student Notes:***

$$72 = I \times Y,$$

where,

I is the interest rate, and

Y is the number of years needed to double your investment.

Divide 72 years by your interest rate to estimate the number of years it will take to double your investment. For example, at a rate of 8%, an investment's value will double in 9 years.

## CREDIT

Credit is based largely on trust. The average person in the Navy is trustworthy and expects to receive a fair deal in business and financial dealings. On the other hand, the way people handle their finances is a reliable sign of their general character and trustworthiness.

Usually, when you think of credit, you think of time payment purchases or charge accounts. Actually credit has a much broader scope.

The entire country runs on credit, including industries; banks; and local, state, and federal governments. In fact, if credit were to stop suddenly, the result would be catastrophic. For example, almost no one would be able to buy a home, an automobile, furniture, or a television or stereo set. Without these sales, unemployment would skyrocket. These salaries, not available for the retail market, would in turn adversely affect the sale of other goods. The effect would continue from the highest to the lowest level, and economic chaos would result.

### Principles of Credit

Credit literally means buy now, pay later. The system permits you to purchase goods as you need them, but pay for them over a certain period. Credit means you receive a loan of money, and you always pay extra when you borrow money. Credit, if used wisely, ensures a reasonable standard of living. However, you cannot substitute credit for sound financial planning and a systematic savings plan. Additionally, improper use of credit can create a financial nightmare that can adversely affect your job, family life, and mental and physical health.

## Cost of Credit

Have you ever rented a motorcycle or sailboat? You always know in advance that it will cost you so much an hour or day. The rent or cost of using the bike or boat has its base on length of use.

The rent paid for using borrowed money or credit is known as *interest*. Sometimes, you may have difficulty figuring interest. Some lenders and businesses quote interest rates plus other charges in a way that hides the actual figures. Then, people don't know the total cost of loans or installment purchases.

When you borrow or buy something *on time*, keep your eyes open for extra charges in addition to the interest charge for the use of the money. Some of these additional charges include credit life insurance, fees for credit investigations, loan-handling fees, and health and accident insurance. Often, the down payment and the monthly payments are the only figures stated.

Ask for the total charges in writing, including early repayment penalties and monthly rates. If you don't receive the amount in writing, you can figure it your self. First, find the total amount you will pay for the loan or the purchase. Then subtract the actual price of the goods from the total cost of the loan. The difference shows the total cost of credit. Taking the time to get the facts pays off.

### Credit Rating

Most people find it to their advantage to build a good credit rating. Some people object to buying anything on credit and insist on paying for everything in cash. They save until they have the cash to make a major purchase, and they often do get better buys for cash. However, a good credit rating is like money in the bank. When you have a good credit rating, it means that you pay your bills on time. Navy personnel usually have a good credit reputation and should have no problem getting a loan or credit when needed. A good credit rating can be priceless in an emergency, such as a medical crisis, fire, or death in the family.

You can establish a good credit rating by paying for time purchases according to the purchase agreement. Time purchases include items, such as furniture or cars and items bought on credit card accounts. You can also

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### Student Notes:

establish credit by repaying a loan from a bank or a credit union according to the loan agreement. Making these payments according to their agreements means that you pay the amount agreed upon by a certain date. You can then use these companies, banks, or credit unions as credit references if you apply for credit at any future time.

### **Use of Credit by Navy Personnel**

The Navy expects all its members to discharge their financial responsibilities in a timely manner. The Navy expects its members to be a credit to themselves and the naval service. Knowing about credit lets you handle your financial affairs better and often saves you money.

If Navy personnel are to use credit wisely, they need to know the cost of credit. They especially need to know how to avoid some of the problems young Navy men and women often have.

Credit plays an important part in the financial world. Use it wisely and carefully, and pay attention to the following principles:

- Use credit for those necessary goods that you can't afford with one or two paychecks.
- Use credit mainly for goods that have a useful life longer than the time needed to pay for them.
- Make as large a down payment as possible. This reduces the total amount spent because of interest charges.
- Know what your income will be. Set a spending limit equal to the smallest paycheck received to be sure of having enough money to meet the payment when due.
- Don't buy another item on credit just because you have finished paying for one.
- Avoid the temptation to use credit for splurging. For example, buying too much on credit at Christmas becomes a shock in January when you receive the bills.
- Check with consumer affairs offices about local credit regulations. For example, some states

allow up to 3 days to change your mind on a credit purchase or a loan received.

When using credit, remember the following facts about credit:

- Credit costs money, but many credit plans exist. Some plans are much less expensive than others. When you buy a car or furniture, you shop for the best bargain. Do the same when you shop for the best bargain in credit.
- Consider carefully before borrowing from finance companies. These companies often charge high interest rates on loans.
- The faster you pay off a debt, the less interest charges you'll pay.
- Use credit only for unforeseen emergencies and for higher-cost purchases, such as furniture, cars, or houses.

While buying on credit has advantages, you also need to recognize some of the disadvantages of using credit. The following are some of the problems you may encounter:

- Credit customers may overbuy.
- Credit customers may buy at the wrong time or place.
- Credit prices may be higher than cash prices.
- Credit ties up future income.
- Payments must be made on time.
- Because of the addition of interest charges to the price, the purchase costs more.

### **REVIEW 2 QUESTIONS**

- Q1. What is the safest and most convenient way to keep track of the money you spend?

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### ***Student Notes:***



- Q2. You have paid for an item with a check; however, you don't have enough money in your checking account to cover the check. What is the result of this action?
- Q3. You are having money taken out of your pay to make loan payments. What type of allotment are you making?
- Q4. What's the first thing you should plan for when making out a budget?
- Q5. The money charged for using borrowed money or using credit is known as—
- Q6. If total charges of a loan or purchases agreement are not listed, what is a simplest way to find the total cost of credit?
- Q7. How do you establish a good credit rating?

### **GOVERNMENT-SUPERVISED LIFE INSURANCE**

**Learning Objective:** When you finish this chapter, you will be able to—

- Recognize the purpose of life insurance.

The government has provided premium-free or low-cost life insurance for service members and veterans since World War I. Since 1919, various insurance programs have been offered as insurance needs have changed over the years.

### **SERVICEMEN'S GROUP LIFE INSURANCE**

Servicemen's Group Life Insurance (SGLI) is a low-cost group insurance program open to active-duty personnel without regard to special qualifications, such as disability. You may secure SGLI only in increments of \$10,000, up to a maximum of \$200,000. You are automatically issued the \$200,000 coverage, unless you choose a lower amount. The cost of SGLI is deducted automatically from your pay.

Unlike some commercial insurance policies, SGLI has no loan, paid-up, or cash-surrender value. In other words, you can't borrow money against this insurance; if you stop payment on the policy or cancel it, you will receive neither paid-up insurance nor cash.

SGLI coverage continues for 120 days after your separation. If you are separated for a disability, coverage may be extended up to 1 year after your separation date.

### **VETERANS GROUP LIFE INSURANCE**

The Veterans Insurance Act of 1974 established a program of post-separation insurance called Veterans Group Life Insurance (VGLI). That act provides for the automatic conversion of SGLI to a 5-year nonrenewable term policy at reasonable rates and with a "no physical exam" advantage. That is, you can have insurance coverage at reasonable rates for 5 years after you separate from the Navy. You can convert the policy at any time during that 5 years to a commercial insurance policy with the same amount of coverage without a physical examination. Like SGLI, the Office of Servicemen's Group Life Insurance (OSGLI) administers the VGLI program, and the Veterans' Administration supervises it.

You can get VGLI coverage in amounts equal to, but not exceeding, the amount of SGLI in force at the time of your separation. This insurance, like SGLI, has no cash, loan, paid-up, or extended insurance value.

### **REVIEW 3 QUESTIONS**

- Q1. You can secure SGLI in what increments?

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***Student Notes:***

Q2. What is the maximum amount of coverage for SGLI?

Q3. You have separated from the service. You will be covered by SGLI for up what maximum number of days after your separation?

- A negative affect on the efficient functioning and morale of military units.
- A bad reputation and loss of prestige of the military service in the civilian community.

The following information will help you understand what is meant by the term abuse.

**Victim.** An individual who is abused or whose welfare is harmed or threatened by acts of omission or commission by another individual or individuals.

**Emotional abuse.** Actions including, but not limited to active, intentional berating, disparaging, or other behavior towards the victim that adversely affects the psychological well-being of the victim.

**Spouse abuse.** Spouse abuse includes, but is not limited to, assault, battery, threat to injure or kill, or any other act of force, violence, or emotional abuse, or undue physical or psychological trauma, or fear of physical injury. This includes physical injury, sexual assault, intentional destruction of property, psychological abuse, and stalking.

**Stalking.** Actions of a person performed in a repeatedly harassing manner, including, but not limited to, following another person in a manner to induce, in a reasonable person, fear of sexual battery, bodily injury, or death of that person or that person's immediate family.

**Child abuse/neglect.** The physical injury, sexual abuse, emotional abuse, deprivation of necessities, or other abuse of a child by a parent, guardian, employee of a residential facility, or any person providing out-of-home care, who is responsible for the child's welfare, under circumstances that indicate the child's welfare is harmed or threatened. The term encompasses both acts and omissions on the part of such a responsible person. This term includes offenders whose relationship is outside the family and includes, but is not limited to, individuals known to the child and living or visiting in the same residence who are unrelated to the victim by blood or marriage, and individuals unknown to the victim. Child abuse/neglect includes the following:

- Physical abuse. In the case of child abuse, physical abuse includes, but is not limited to, acts that result in death or other physical injury that seriously impairs the health or physical well-being of the victim.

## YOU AND YOUR FAMILY

**Learning Objectives:** When you complete this chapter, you will be able to—

- Identify types of abuse to include spouse and child abuse.
- Recognize the effect of abuse on self, family, and the Navy.
- Identify procedures to follow to obtain help.

As part of the naval tradition of taking care of our own—it's the responsibility of each Sailor to ensure the safety, health, and well being of his/her family. The military family deals with the challenges posed by the demands of military life and family life. Sometimes, military life creates stress and friction within the family.

## WHAT IS ABUSE?

Stress and friction within the family can lead to abuse, either physical or emotional. Navy personnel are expected to show the Navy leadership core values of honor, courage, and commitment. Child and spouse abuse is unacceptable and incompatible with these high standards of professional and personal discipline. The result of abusive behavior by Navy personnel is—

- Destroyed lives.
- A detraction from military performance.

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## *Student Notes:*

- Sexual abuse. In the case of child abuse, sexual abuse is actions that include, but are not limited to, the employment, use inducement, enticement, or coercion of any child to engage in, or have a child assist any other person to engage in, any sexually explicit conduct or any simulation of such conduct. Actions include, but are not limited to, rape, molestation, prostitution, or other sexual activity between the offender or a third party and a child, when the offender is in a position or a power over the child.

## **WHAT CAN THE COMMAND AND THE FAMILY DO ABOUT ABUSE?**

Child and spouse abuse are serious behavioral, social, and community problems. These problems need a comprehensive, community-based response. The most effective response to family violence occurs when individuals, families, commands, and communities act as a community to keep the victim safe.

The Department of the Navy (DoN) has a Family Advocacy Program (FAP) that addresses child and spouse abuse. It involves the prevention, evaluation, identification, intervention, rehabilitation/behavioral education and counseling, follow-up, and reporting of child and spouse abuse. The Navy uses this program as a tool to assist victims and to reduce the occurrence of child and spouse abuse.

The five primary goals of the DoN FAP are as follows:

1. Victim safety and protection
2. Offender accountability
3. Rehabilitative education and counseling
4. Community accountability
5. Responsibility for a consistent appropriate response

A continuous effort to reduce and eliminate child and spouse abuse is actively pursued at every level of command. Each command has a Family Advocacy Program. The CO at each installation appoints a family advocacy officer (FAO). The CO also ensures that a family advocacy committee (FAC) and a case review committee (CRC) are established. The primary goal of the FAP is prevention of abuse. The FAP establishes

education, support, and awareness programs so that families and their command understand the risk factors of child and spouse abuse. Programs emphasize prevention, recognition, prompt notification and reporting, and availability of responsive services.

Early intervention involving cases of spouse or child abuse of any kind is very important. Victims can report incidents of abuse directly to the FAO, family service center, medical treatment facility, Chaplain, or the Ombudsman. The important thing is to report it.

## **STRESS MANAGEMENT**

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recognize factors that cause stress.
- Identify ways to combat stress.

Everybody experiences stress. It's the body's natural reaction to tension, pressure, and change. Most people think of stressors (or things that cause stress) as negative, such as traffic, a difficult job, or a divorce. However, stressors can be positive experiences. For example, having a baby, bowling a perfect 300 game, or completing a satisfying project. These are all changes that can cause stress.

Your body can't tell the difference between a good and a bad stressor. Both too much stress and too little stress are bad for you, while the right balance keeps you going. Positive, or good stress, can keep you going. It makes life more challenging and less boring.

Too much stress can be bad for you, both physically and mentally. Prolonged, unrelieved stress can lead to accidental injury, serious illness, or inappropriate behavior. For the sake of your health, safety, and happiness, you need to recognize and manage stress before it gets the best of you.

Stress occurs when there is an imbalance between the demands of our lives and the resources we have to deal with those demands. An imbalance may happen when there are changes in our lives. It's not the changes themselves that cause stress but our reaction to those changes or events.

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## ***Student Notes:***

Reactions to stress vary and can take their toll, both mentally and physically. Common stress symptoms include upset stomach, fatigue, tight neck muscles, irritability, and headaches. Some people react to stress by eating or drinking too much, losing sleep, or smoking cigarettes.

On-the-job pressures, changes in lifestyle, financial difficulties, and family tensions are stressful. All too often, people use alcohol or drugs to control the stress they feel. However, alcohol and drugs can increase both mental and physical stress. Regular use of alcohol and drugs can lead to dependency.

The first step to managing stress is to identify your stressors—what things make you react. Stressors aren't only events that cause you to feel sad, frightened, anxious, or happy. You can cause stress through your thoughts, feelings, and expectations. A key to dealing with the big and little everyday stressors is to cope with stress in a positive way. The following are some ways you can use to cope with stress:

**Acceptance.** Many of us worry about things that we have no control over. Learn to accept when things are beyond your control.

**Attitude.** Try to focus on the positive side of situations. By focusing on the positive, you'll find solutions come more easily and your stress level will be reduced.

**Perspective.** Too often, we worry or become upset about things that never happen. Keep things in perspective.

There are many healthy ways to combat stress. Regular exercise, proper diet, meditation, laughter, relaxation techniques, and involvement with outside activities can positively affect your attitude and enhance your life as well as reduce stress.

#### REVIEW 4 QUESTIONS

- Q1. When service members or their families are a victim of spousal or child abuse, what Navy program was established to help them?

- Q2. List some of the ways that the FAP can help a family.

- Q3. How does stress occur?

- Q4. What's the first step when dealing with stress?

- Q5. List some of the ways you can combat stress.

#### SUMMARY

Being a member of the Navy gives you various responsibilities, including that of your own financial management. Learn to use credit wisely and don't bite off more than you can chew. You can use your leave and earnings statement to help you develop a budget to keep from overextending yourself financially. The Navy takes matters of indebtedness very seriously. Therefore, take advantage of the programs available through the Navy to help you with money problems.

Trying to balance a military life with a family at best can be very challenging. Budgeting and preplanning for periods of long deployment can help lessen the strain. Through the Family Advocacy Program, families can get help in times of family distress.

Stress is like body temperature. If it's too low or too high, you can't survive; but, the right balance can keep you going strong. It makes sense to use stress energy positively, to meet life's challenges, experiences and goals. Stress is not all bad. In fact, positive stress can make life both rich and satisfying.

#### REVIEW 1 ANSWERS

- A1. The main difference between pay and allowance is that **pay is taxable income and allowance is nontaxable income.**

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*Student Notes:*

A2. The three types of pay are—

- a. **Basic**
- b. **Incentive**
- c. **Special**

A3. The Navy uses the **Direct Deposit System (DDS)** to deposit personnel paychecks.

A4. When you have served more than 4 years of active-duty service, you will receive a longevity raise every **2 years**.

A5. You receive your clothing maintenance allowance **once a year**.

A6. DELETE

A7. **You** are responsible for making sure your paycheck and LES are correct.

A8. You earn **30 days a year or 2.5 days** of leave per month.

A9. The CO may grant **3- or 4-day** special liberty periods.

#### REVIEW 2 ANSWERS

A1. A checking account is the **safest and most convenient way to keep track of the money you spend**.

A2. If you don't have enough money in your checking account to cover a check, you have **bounced a check**. You are usually charged a fee by the bank to process this check and charged a fee by the company you wrote the check to.

A3. When you have money taken out to make loan payments, you have a **voluntary allotment**.

A4. The first thing to do when making out a budget is to **start a savings plan—pay yourself first!**

A5. The money you're charged to use borrowed money is known as **interest**.

A6. The simplest way to find the total cost of credit is to **subtract the actual price of goods from the total amount of the loan**.

A7. You establish good credit by **paying loans or purchase agreements according to your contract and on time**.

#### REVIEW 3 ANSWERS

A1. SGLI is available in **increments of \$10,000 only**.

A2. The maximum amount of coverage under SGLI is **\$200,000**.

A3. Normally, you are covered for **a maximum of 120 days after separation from the service**.

#### REVIEW 4 ANSWERS

A1. The Family Advocacy Program was established **to help service members or their families when they are a victim of spousal or child abuse**.

A2. The FAP can help a family through—

- a. **Education programs**
- b. **Counseling**
- c. **Intervention in cases of abuse**

A3. Stress occurs when there's **an imbalance between the demands of our lives and resources we have to deal with those demands**.

A4. The first step to take when dealing with stress is to **identify your stressors; that is, find out what causes the stress**.

A5. Some of the ways you can combat stress are—

- a. **Exercise**
- b. **Diet**
- c. **Meditation**
- d. **Laughter**
- e. **Relaxation techniques**
- f. **Involvement with outside activities**





## CHAPTER 18

# SURFACE PRESERVATION

*Summer seas and a good ship—life has nothing better.*

—Mark Twain

Just about everyone has been involved in cleaning, preserving, and maintaining something. Painting the family home or washing and waxing your car are good examples. What you did was to protect a surface from the effects of weather or exposure, to extend its lifetime, and to improve its appearance.

The U.S. Navy has a far greater problem because all Navy ships operate in a much harsher environment than your home or car. Constant exposure to the sea and saltwater corrosion can quickly turn the exterior of a ship into a mass of rust. Interior spaces have their problems as well. Constant changes in the weather and in the surrounding water temperature cause moisture, humidity, and chemical reactions that affect electrical systems and machinery. To overcome these harsh conditions, the Navy expends a great deal of time, effort, and money applying surface preservatives. These preservatives range from detergent and fresh water to paint and lubricants. How well these preservatives work depends on you.

### CLEANING

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recognize the purpose of cleaning and preserving.
- Identify the cleaning bill.
- Recall the purpose of compartment cleaning, sweepers, cleaning process, field day, and zone inspections.

Maintaining clean conditions aboard ship and ashore is an important job. Cleaning involves practically every member, from the compartment cleaner to the inspecting officer. Navy life requires each of us to have a personal interest in our living and working areas, not only for the sake of appearance but for our health and safety as well.

### THE CLEANING BILL

Each area of the ship is divided into various departments for upkeep. The Cleaning, Preservation, and Maintenance Bill describes these areas and outlines the department that is responsible for them. This bill is carefully planned to make sure all interior areas and exterior areas of the ship's hull are assigned to personnel for upkeep and that no areas overlap or are left out. Each division within the department assigns its personnel to the spaces it's responsible for. Division personnel carry out the duties of cleaning, preserving, and maintaining.

### COMPARTMENT CLEANING

The term *compartment cleaner* generally applies to persons assigned to clean living or berthing compartments or spaces, such as passageways and heads. If you are assigned compartment cleaner duties, you will be responsible for keeping your spaces clean, preserved, and in good order. Newly assigned personnel are closely supervised to make sure they understand what to clean and how to clean it. Items, such as electrical and mechanical devices, might be unfamiliar to you. These types of items are located in almost every space aboard ship. With this in mind, caution must be observed at all times. Ask your supervisor to point out any hazardous items located in your compartment and observe all special cleaning instructions.

Cleaning gear is stocked in and issued from the first lieutenant's storeroom. Each division is periodically issued cleaning gear and is then responsible for its proper stowage and care. Because cleaning compounds and solvents are often flammable or toxic, or both, they must **never** be left unattended or improperly stowed. You should always read warning labels and follow their directions carefully. Gear, such as brooms and swabs (mops), must be cleaned after each use and placed in their stowage racks. Gear adrift, such as rags, clothing, or personal gear, must be "policed up" immediately. If left adrift, these items are a tripping or fire hazard—or

worse, they might clog up dewatering equipment if the space were flooded.

## **SWEEPERS**

“Sweepers” is piped shortly after reveille, before the end of the regular working day, and at other times as scheduled. At these times, all persons assigned as sweepers draw their gear and sweep and swab down their assigned areas. All trash and dirt are picked up in a dustpan and placed in a trash receptacle.

### **NOTE**

If dirt is swept over the side, the wind may blow it back on board or the dirt may stick to the side of the ship. In either case, additional work is necessary to clean the ship.

At this time you should empty all butt kits (make sure no butts are still burning) and trash receptacles as instructed. **Never** dump trash or garbage over the side of the ship without first obtaining permission from the officer of the deck. At times, all trash must be kept in a safe area aboard the ship until it can be properly removed.

## **CLEANING PROCESS**

Dirt, soil, and contamination all describe the same thing—a foreign material on a surface where it is not wanted. Soil includes grease, oil, tarnish, rust, food residue, and stains. Most exposed surfaces that have been soiled may be cleaned with the proper use of cleaning agents.

Detergents are materials that have the ability to remove contamination and soil. There are other ways of cleaning besides using detergents or cleaning compounds. These include purely mechanical processes, such as removing rust from steel by sand-blasting or cleaning decks by sweeping. For many cleaning problems, chipping, sweeping, sanding, or brushing may be needed. However, when detergent compounds are coupled with the mechanical action, a cleaner surface is usually produced with less time and work.

The steps used in most detergent cleaning operations are as follows:

1. **Wetting**—The soil and the surface of the object being cleaned must be wetted. If the surface is not wetted properly, cleaning results will be poor. Contrary to popular belief, water has very poor wetting properties. Its wetting ability, and therefore its cleaning ability, is improved by adding other materials, such as soap or synthetic detergents. Adding soap or synthetic detergents cause the water to flow into tiny crevices and around small particles of soil.

2. **Scrubbing**—Dirt is loosened by the mechanical action of rubbing or scrubbing. For example, oil droplets are emulsified; that is, they are coated with a thin film of soap and prevented from recombining, and then they rise to the surface. In a somewhat similar manner, solid particles are suspended in solution.

3. **Rinsing**—Rinsing is very important. Rinsing removes loosened dirt from the surface along with the cleaning material.

## **FIELD DAY**

Field day is cleaning day. Periodically, a field day is held. All hands “turn to” and thoroughly clean the ship inside and out, usually in preparation for an inspection. Fixtures and areas that sometimes are neglected during regular sweepdowns (overhead cables, piping, corners, spaces behind and under equipment, and so on) are cleaned. Bulkheads, decks, ladders, and all other accessible areas are scrubbed. Knife edges and door gaskets are checked; any paint, oil, or other substances are removed; all brightwork is shined; and clean linen is placed on each bunk. Field days improve the appearance and sanitary condition of the ship, aid in the preservation of the ship by extending paint life, and reduce the dirt intake caused by operating equipment.

Because of weather conditions, there are many days at sea when the ship’s topside areas can’t be cleaned. At the first opportunity, all topside surfaces are cleaned with freshwater and inspected for signs of rust and corrosion. If such signs are discovered, you should tend to the area immediately. A little work at that time will save you a lot of work later.

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## ***Student Notes:***

## DECK COVERS

Aboard ship, deck coverings get more wear than any other material. Unless deck coverings are properly cared for, costly replacement is required. There are several materials used for covering decks, but only two types are covered here. These are the resilient and the nonslip (nonskid paint) types.

**Resilient deck coverings** include vinyl tile, vinyl asbestos tile, and linoleum. These deck coverings do not need painting; however, daily sweeping and wiping away spills as soon as possible are required. Resilient deck covering is clamped down (cleaned with a damp swab) frequently, allowed to dry, and then buffed with a buffer. For more thorough cleaning when the deck is unusually dirty, apply a solution of warm water and detergent with a stiff bristle brush or buffer and rinse with clean water to remove residual detergent. Stubborn dirt and black marks left by shoes can be removed by rubbing lightly with a scouring pad, fine steel wool, or a rag moistened with mineral spirits.

After the deck covering is washed and dried, it can be polished (with or without waxing) with a buffer, or it may be given a coat of self-polishing wax and allowed to dry without buffing. Deck coverings can be buffed several times before rewaxing.

No wax should be applied to the deck when the ship is going out to sea or when heavy weather is anticipated. This is an added precaution against slipping, even though the approved floor waxes are designed to be slip resistant.

**Nonslip (nonskid paint) deck coverings** contain pumice, which provides a better footing. To clean a nonskid painted deck, use a cleaning solution of detergent and dishwashing compound. To make the solution, mix 1 pint of detergent and 5 tablespoons of dishwashing compound. You can mix this compound with freshwater to make 20 gallons of cleaning solution. Apply the solution with a hand scrubber, let it soak for 5 minutes, and then rinse with freshwater. **Don't** wax or paint nonskid deck coverings. Waxing or painting reduces their nonskid properties.

## NOTE

If it becomes necessary to spruce up the appearance of a nonskid deck cover, brush it with deck paint diluted with mineral spirits. The diluted paint should be as thin as possible so that the nonskid properties are not affected.

## ZONE INSPECTION

Frequent inspections are held to make sure that all spaces, machinery, and equipment are in a satisfactory state of operation, preservation, and cleanliness. One type of inspection, the zone inspection, divides the ship or station into various sections. Each zone is then assigned to an inspection party or team. Usually the CO will head one team, while an officer or chief petty officer will head each of the remaining teams. If you are assigned to present a compartment, you present the space to the inspecting officer by saluting and greeting the inspector in the following manner: "Good morning (afternoon), sir/ma'am; Seaman Apprentice Frost (your rank and name) standing by compartment (name or number), for your inspection, sir/ma'am." You will then stay with the inspecting officer during the inspection of your spaces to answer questions and provide assistance. Such things as stowage cabinets, lockers, and drawers should be unlocked before the inspection for easy access. Usually the inspecting officer will give an overall grade to the space; for example, a grade of outstanding would indicate that no new discrepancies were noted and all previous discrepancies have been corrected. You can be proud of an outstanding grade.

## REVIEW 1 QUESTIONS

- Q1. The responsibility for cleaning and maintaining certain spaces in the ship is listed in what publication?
- Q2. What person is generally assigned to clean living or berthing spaces?

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### *Student Notes:*

Q3. You should pick up and put away gear that has been left adrift for what reason?

Q4. True or False. When sweeping exterior decks, you can sweep dirt over the side.

Q5. List the three steps used in most detergent cleaning.

a.

b.

c.

Q6. List two types of deck covers.

a.

b.

heard a loud explosion. The reaction between the chlorine-based cleaner and granulated cleaner caused the explosion. Luckily, no one was hurt, but the head was a mess.

Solvents used in paints, adhesives, rubber and plastic materials, and degreasing solutions are hazardous to your health. Most solvents are toxic and, with a few exceptions, are flammable. Take the appropriate measures to reduce their toxic and flammable effects. In addition, solvents that come in contact with your skin can cause serious skin problems. When using solvents, always observe the following precautions:

- **Make** sure the space in which you are working has adequate ventilation.
- **Wear** protective clothing, goggles, respirators, gloves, and other appropriate equipment.
- **Make** sure accessible fire-fighting equipment is nearby.
- **Take** every precaution to prevent excessive vapors from contaminating the air.
- **Check** the labels on all containers of liquids.
- **Wipe** up spilled solvents immediately.
- **Avoid** contact with your eyes, skin, or clothing.
- **Never** swallow solvents.
- **Avoid** breathing the vapors.
- **Keep** solvent containers tightly closed when you are not using them.
- **Check** containers for leakage.
- **Transfer** solvents from a defective/leaking container to a new container.
- **Make** sure containers are empty before you discard them. You must observe the approved practices for disposal of solvents, cleaners, and their containers.
- **Label** all containers used to store solvents.

## CLEANING SOLVENTS

Learning Objectives: When you finish this chapter, you will be able to—

- Identify types of cleaning solvents.
- Recall the precautions to be followed when working with cleaning solvents.

No matter what the job, from paint removal to swabbing the decks, take precautions against carelessly using cleaning solvents. Look at the following example:

Seaman Joe Frost didn't read the labels on the chlorine-based cleaning material he was using to clean the commode. He decided to clean the drains at the same time and added a granulated drain cleaner to the chlorine-based cleaner. Then he left the head. A few minutes later he

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***Student Notes:***

- **Read** and comply with all instructions and precautions on the label.

## PRECAUTIONS

Always follow safety precautions when working with solvents. **Never** use solvents in an unventilated space under any circumstances. Special clothing requirements also must be observed when using some solvents. **Always follow safety precautions!** Carelessness on anyone's part could cause a mishap, resulting in injuries or even deaths. By observing safety precautions, you will reduce mishaps and save lives.

### Ventilation

When you think of ventilation, you usually think of air conditioning and cooling. However, when working with solvents, the term *ventilation* means providing fresh air and exhaust to the area in which you are working. Make sure the work area is properly ventilated. That includes topside areas of a ship because some topside areas are enclosed on three sides and will not allow proper ventilation.

When applying flammable coatings or using solvents, you **must** provide adequate ventilation, which will help prevent accidental ignition. You may have to use extra fans or local exhaust to ventilate a space, especially in spaces where pockets can develop. A *pocket* is the buildup of vapors and poisonous air in an area, causing an explosion. **Always follow safety precautions and make sure spaces are ventilated properly when solvents are used!** When in doubt, contact your supervisor for additional guidance.

### Preventing Excess Vapors

Any type of solvent will give off some type of vapor. These vapors may be toxic or flammable. Always use proper ventilation to prevent a buildup of vapors. As you have learned, some vapors can linger in pockets of spaces; therefore, make sure the complete work area is fully ventilated. Before starting a job, ask a gas free engineer to examine the area for toxic gases and ask for the proper ventilation plan for the space. Be sure to have the space checked frequently for excessive vapors. If vapors are found to be excessive, stop all work

immediately and have all personnel clear the area until it is safe to return.

## Protective Clothing

When working with solvents, you always face the risk of their contacting your skin through splatters or spills. Some caustic solvents will actually eat the skin off your body. Make sure that you have all the protective clothing needed for the job.

When working with solvents, you **must** wear adequate protective clothing and gloves to prevent skin contact with the solvents and cleaning materials. **Do not** wear jewelry or clothing with cuffs, loose pockets, rips, or loose ties. Observe the following safety precautions when working with solvents:

- Wear chemical splash goggles at all times.
- Wear acid-resistant aprons, face shield with goggles, gloves, and boots when handling acid or caustic cleaners.
- Wear nonskid rubber-soled shoes when working in enclosed spaces or when flammable vapors may be present (spark prevention).
- Never work in an enclosed space without using the buddy system.
- Respiratory protection, with either an organic vapor cartridge or supplied air, should be worn when dispensing, handling, or cleaning using solvents.

Using solvents for cleaning saves time; but, make sure you read all the labels before using the solvent. Many solvents are corrosive and can irritate or cause serious injuries to your eyes, skin, and lungs. **Always check the caution labels before using any solvents!**

## Fire-Fighting Equipment Required While Using Solvents

Nothing ruins a CO's day faster than receiving word that the ship is burning. A fire can cause injury and loss of life **and** take a ship off the line for a long time. When working with solvents, you have no room for error. If you're on a work detail that requires the use of solvents

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## Student Notes:



or solvent-based paint, make sure the proper fire-fighting equipment is located close to the work area. One little spark can set the vapors of some solvents into a roaring fire that can take life and destroy a ship. Proper equipment may include fire extinguishers, charged fire hoses, or foam. You always need to be prepared. An ounce of prevention goes a long way. Ask your supervisor to check the type of fire-fighting equipment you are going to use to see if more equipment or some other type is needed for the job at hand.

While working with people using solvents or solvent-based paint, make sure you know the location of the nearest fire alarm. Also, make sure all the people working know the nearest fire escape route. Always notify damage control central (DCC) when you are using flammable materials.

### **Wiping Up Solvent Spills**

When using solvents, be careful not to spill them on the deck or get them on anything except what you are cleaning. Solvents may cause paint to bubble and peel off surfaces. The corrosive nature of some solvents can damage equipment. When mixed with some tile compositions, solvents can form toxic vapors that can irritate your lungs and make you sick. If you spill solvent, clean it up as soon as possible. If you think the spill has caused some type of damage, contact your supervisor for guidance.

When a spill involves more than 5 gallons of solvent or presents a threat to the ship or the health of the crew, report it immediately to your supervisor, DCC, or the OOD. Each ship has a hazardous material response kit to handle such emergencies. Spilled material and contaminated clothing or rags become hazardous waste and must be treated as hazardous material (HAZMAT). Your supervisor will tell you the proper disposal procedures for your command.

### **Dangers**

Working with solvents is dangerous. Avoid inhaling vapors. Personnel with a history of chronic skin disease, allergies, or asthma should not be permitted to work with paint, solvents, and thinners.

When you handle a solvent, don't let it contact your skin. If a solvent does contact your skin, flush it with clear water as soon as possible. If solvent contacts your skin or eyes, report to the nearest medical facility as soon as possible for treatment.

When working with solvents, wear an approved respirator and protective clothing at all times. If you think that your respirator isn't working properly, request an air line mask. The safety department of your ship usually provides these items.

If you breathe some of the vapors given off by solvents, get to a doctor as soon as possible.

### **Respirators**

The National Institute for Occupational Safety and Health/Mine Safety and Health Administration (NIOSH/MSHA) must approve all respirators and pumps. Users must be medically qualified and fit-tested before wearing a respirator. The following text describes the air-purifying respirators and air-supplied or self-contained breathing apparatus (SCBA) approved for use by the Navy:

- Air-purifying respirators use a filter, a chemical cartridge, or a combination of the two to remove air contamination. Filters capture particles of dust or metal fumes. The cartridges may contain a chemical or carbon to absorb vapors or gases. A combination of filter and cartridge is used for a combination of hazards, such as spray painting. The filter captures the spray mist and the cartridge absorbs the paint vapors, protecting the wearer.
- Air-supplied or self-contained breathing apparatus (SCBA) provides fresh air when the vapor or gas concentration is too high or the area lacks oxygen. Air-supplied or SCBA is required for all internal shipboard spray painting operations. Air for supplied air masks is provided by certified breathing air compressors or breathing air pumps.

The use of proper equipment may save your life and the lives of your shipmates. If you are in doubt about the type of equipment to use, be sure to check with your supervisor.

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### ***Student Notes:***



## Keep Solvent Containers Tightly Closed

Most fires in paint and solvent storage areas are caused by a buildup of vapors. Usually, vapors escape from containers that are not closed tightly. It only takes a small spark to ignite these vapors. Since vapors can quickly displace the oxygen in a storage space, there may not be enough oxygen left to sustain life.

All containers **must** be tightly closed when not in use. Besides the danger of vapors accumulating, air can cause a chemical breakdown of some solvents. After a short time, the solvent may evaporate or decay to the point that it can't be used.

## Check Containers for Leakage

The Navy uses many types of corrosive materials that can eat through a container. You must make sure this doesn't happen. How can you do that? **Don't accept containers until they are inspected!** If you are inspecting the containers, check all the seams carefully for leaks or cracks. Check the sides of the containers for dents. If a container is dented, that means the side of the container may have been weakened and will eventually leak. Don't sign for material in damaged containers. If you are unsure of the condition of a container, ask your supervisor to inspect it.

If you discover a leaking container while inspecting your storage areas, find the name of the material or solvent on the label of the container. Then immediately inform your supervisor of the problem. The material or solvent in the container may be caustic and highly flammable. You and your supervisor should inspect the damaged container and the surrounding area. Then the material or solvent should be transferred to another container using a standard Navy transfer pump. This container must be equal to or surpass the storage requirements of the damaged container.

## Ensure Containers Are Empty Before Discarding

One of the most dangerous practices is to discard (throw away) a container partially filled with a solvent or some type of caustic or flammable substance. For example, several years ago a container of highly flammable liquid was discarded into a dumpster in Charleston, South Carolina. The dumpster was taken to

the trash disposal area where the driver, thinking that the dumpster only contained burnable trash, dumped the contents of the dumpster into a small fire. As the flammable liquid drained from the container, it ran into the fire and created an explosion that was heard for miles around. The dumpster and the truck were destroyed, and the driver was killed instantly.

Solvent containers are considered hazardous waste, so you **must** dispose of them according to local hazmat regulations. When at sea, **never** throw solvent containers over the side; they contaminate the seas. Stow containers in a disposal storage area until you reach your next port of call and then have them disposed of in the proper manner.

## Label All Containers

On board naval ships, paints and solvents are stored in a storeroom designated for flammable liquids. The storeroom should be neat, clean, cool, and dry. Make sure a label appears on the door of the space to show the space contains flammable liquids. Store paints or solvents in tightly sealed cans or containers. Mark the container with the name, formula number, solvent composition, Navy hazard identification label or Department of Transportation hazard identification label, and manufacture date of the paint or solvent it contains.

Inspect the contents of any paint or solvent container more than 2 years old. If the container is unfit, properly dispose of it. If you're not sure whether the paint or solvent is usable (particularly large quantities), send samples to the nearest laboratory for testing.

## Working in Closed compartments

Tests are performed with a combustible gas indicator (explosimeter), toxic gas detectors, and an oxygen indicator. Personnel who test a space are required to wear an oxygen-breathing apparatus (OBA) or air-line mask. If the atmosphere is found unsafe, the space is thoroughly ventilated and provided with adequate forced fresh air circulation. Only after the space has been retested and pronounced safe to enter can personnel without an OBA or air-line mask enter it. After personnel (other than testing personnel) have

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## *Student Notes:*

entered a declared safe space, periodic tests are made to determine that it is still safe. Upon the detection of an unsafe condition, an order must be given for all personnel to evacuate the space.

Because a space cannot be guaranteed to remain safe, you should be aware of the symptoms of bad air. Symptoms of bad air include the following:

- Labored breathing
- Excessive fatigue from slight exertion
- Headache
- Dizziness

If you feel any of these symptoms, warn others and get to fresh air immediately.

A more dangerous situation exists if a compartment has no, or very little, oxygen. If this happens, a person can lose consciousness almost immediately without warning. If such an incident occurs while you are in an area, **do not** enter the space without wearing an OBA or air-line mask; otherwise, you will become a casualty. Always summon (call for) help before making a rescue attempt. Also, have a person stationed at the entrance to maintain communications while watching to see that you are not overcome.

## TYPES OF SOLVENTS

As you have already learned, the Navy uses many types of solvents for many cleaning assignments. You also know that many of these solvents are highly toxic and some are highly flammable. Take special care when using many of these solvents; make sure you store them in cool, dry areas. Material Safety Data Sheets (MSDSs) list the storage requirements for solvents. You should refer to the MSDS for solvents you are using.

Most cleaning solvents contain toxic substances. These substances can cause injuries if they are inhaled, absorbed by the skin, or ingested. All toxic materials must be handled carefully to prevent injury. Many of them have additional hazards, such as flammability. The following paragraphs contain information about general categories of toxic cleaning solvents. If you have any questions about the solvent you are going to

use, check the Maintenance Requirement Cards (MRCs) for the task or ask your supervisor.

The three types of solvents covered in this section are chlorinated cleaning solvents, organic cleaning solvents, and fluorocarbon refrigerants and solvents.

### Chlorinated Cleaning Solvents

Chlorinated cleaning solvents can be highly toxic if used improperly. They may be irritating to skin and toxic if ingested. In confined spaces, in spaces with inadequate ventilation, or when the vapor concentration is increased by heating, toxic vapors may cause damage to the lungs, eyes, and nervous system. Solvents decompose at high temperatures and produce gases more toxic than the solvents themselves. Solvents react with alkalies, oxidizers, and powdered metals to produce toxic gases.

Common types of chlorinated cleaning solvents are trichloroethane (inhibited methyl chloroform), trichloroethylene, tetrachloroethane, and tetrachloroethylene (perchloroethylene, dry-cleaning solvent). Because of the extreme dangers involved, the Navy severely restricts the use of these solvents.

You should observe the following precautions when working with chlorinated cleaning solvents:

- Never stow chlorinated cleaning solvents near heat sources or open flames.
- Don't allow them to come in contact with hot surfaces.
- Make sure stowage areas are well ventilated and monitored regularly by the gas free engineer. Don't stow these solvents near incompatible materials. (**NOTE:** Incompatible materials include strong alkalies, such as sodium hydroxide; oxidizers, such as calcium hypochlorite and sodium nitrate; or powdered metals, such as aluminum.)

When handling chlorinated cleaning solvents, wear the following personal protective equipment (PPE):

- Neoprene gloves

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### *Student Notes:*

- Safety goggles that will protect against splashes, or a face shield
- A chemical cartridge respirator for protection against small amounts of organic vapors or for protection for a short duration; or an air-line respirator (or some other type of supplied-air respirator) if use is extensive or in a confined space
- Coveralls

Make sure work areas in which you use chlorinated cleaning solvents have proper ventilation. For enclosed spaces, an air change every 3 minutes is recommended. Consult the gas free engineer to determine if the ventilation is adequate.

### Organic Cleaning Solvents

Organic cleaning solvents include the following:

- Toluene
- Xylene
- Some alcohols
- Acetone
- Methyl ethyl ketone
- Ethyl acetate
- Dry-cleaning solvent
- Kerosene
- Petroleum
- Ether
- Turpentine
- Morpholine and other related compounds

These compounds are highly flammable and highly to moderately toxic. Some are also corrosive. Inhalation of concentrated vapors may cause dizziness, nausea, or vomiting.

Organic cleaning solvents should be stowed as follows:

- Stow organic cleaning solvents in a flammable liquid storeroom, ready service storeroom, or a flammable locker.
- Keep them away heat, open flames, or spark-producing devices.
- Stow them away from oxidizers, such as calcium hypochlorite, sodium nitrate, and hydrogen peroxide.

When handling organic cleaning solvents, wear the following PPE:

- Neoprene gloves
- Safety splash goggles
- Protective coveralls (recommended)

In addition, if vapors accumulate over 100 parts per million (ppm), wear an OBA and notify the gas free engineer.

### Fluorocarbon Refrigerants and Solvents

Fluorocarbon refrigerants and fluorocarbon solvents, such as trichlorotrifluoroethane (Freon 113, Freon TF, Genetron 113, R-113), are commonly found aboard ship. They are used in food storage compartments and air-conditioned spaces and as solvents in engineering spaces.

Fluorocarbon vapors have the following characteristics:

- They are colorless and almost odorless.
- They cannot be detected without special instruments.
- They are nonflammable and nonexplosive; however, exposure to flames or hot surfaces will cause these compounds to generate hydrogen chloride, hydrogen fluoride, and other poisonous gases.
- They aren't irritating, but contact may cause frostbite.

Operations involving trichlorotrifluoroethane (Freon 113) are considered hazardous. An industrial hygienist or a gas free engineer must evaluate and approve these operations to ensure the work process meets safety requirements.

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### *Student Notes:*

When exposed to the atmosphere, fluorocarbon vapors will accumulate in low spaces unless local ventilation is provided. Since these vapors are heavier than air, they can displace oxygen. Inhaling vapors at high concentrations (4,500 ppm or greater) will cause dizziness or narcosis. If fluorocarbon vapors displace oxygen, suffocation occurs.

When handling fluorocarbon refrigerants and solvents, wear the following PPE:

- Rubber gloves
- Safety splash goggles
- Protective clothing

In addition, if vapors accumulate over 1,000 ppm, wear an OBA or air-line respirator; and notify the gas free engineer.

## REVIEW 2 QUESTIONS

- Q1. When you are working with solvents, what does the term *ventilation* mean?
- Q2. List the protective equipment you should wear when handling acid or caustic cleaners.
- a.
  - b.
  - c.
  - d.
- Q3. How must the material and rags used to clean up a solvent spill be treated?
- Q4. List two types of respirators used by Sailors when handling solvents.
- a.
  - b.

Q5. What causes most fires in paint and solvent storage areas?

- Q6. List the symptoms personnel might have when working in a compartment having bad air?
- a.
  - b.
  - c.
  - d.

## PAINTING AND PRESERVATION

**Learning Objectives:** When you finish this chapter, you will be able to—

- Identify the equipment and procedures used for surface preparation.
- Identify types of paint and recognize their use.
- Recall fixtures, devices, and surfaces that should not be painted.
- Recall painting safety precautions.
- Recall methods used when painting to include care of brushes and rollers.

The Navy uses from 25 to 30 million gallons of all types of paint a year. Roughly 20 million gallons are used for preservation, some of which you will apply. Paintbrush purchases also run into millions of dollars. It is no exaggeration to state that millions of man-hours a year are expended in cleaning, chipping, and painting.

To paint a ship's exterior with one coat takes 20 gallons on a tugboat, 50 gallons on a submarine, and as much as 950 gallons on a carrier. The average basic

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### *Student Notes:*

paint requirements for preservation of a destroyer every 60 to 70 days are 270 gallons. All of this is a way of saying the Navy uses a lot of paint. The more attention you pay to the basic instructions, the less paint you will have to use.

The Navy uses paint primarily to preserve surfaces. It seals the pores of steel and other materials, prevents decay, and arrests (stops) rust and corrosion. Paint also serves several other purposes. It is valuable as an aid to cleanliness and sanitation because of its antiseptic properties and because it provides a smooth, washable surface. Paint is also used to reflect, absorb, or redistribute light. For example, light-colored paint on a ship's interior distributes natural and artificial light to its best advantage.

Learning to paint properly requires the selection of suitable paints for the surfaces to be covered, the proper preparation of the surfaces before painting, and the correct methods of applying paint. Though the selection of suitable paints won't concern you now, you should know how to prepare the surface and how to apply paint with a brush and roller. Improper surface preparation and paint application, in that order, are the greatest reasons for paint failure.

## PREPARING THE SURFACE

For paint to stick to a surface, all salt, dirt, oil, grease, rust, and loose paint must be removed completely, and the surface must be thoroughly dry. Salt and most dirt can be removed with soap or detergent and freshwater. Firmly imbedded dirt may require scrubbing with scouring powder. When scrubbing won't remove oil and grease, they may be removed with paint thinner or other approved solvents. After scrubbing or scouring, always rinse the surface with freshwater.

### Equipment and Procedures

The removal of rust, scale, and loose paint requires the use of hand tools or power tools, paint and varnish removers. Hand tools are usually used to clean small areas. Power tools are used to clean larger areas and for completely cleaning decks, bulkheads, and overheads covered with too many coats of paint. Paint and varnish removers are used to remove paint from wood.

**HAND TOOLS.**—The most commonly used hand tools are sandpaper, wire brushes, and hand scrapers.

**Sandpaper.**—Use sandpaper to clean corners and to feather paint. (**NOTE:** To feather paint, you taper the edges of chipped areas down to the cleaned surface so that no rough edges remain.) Paint will bond best to a clean surface that has been lightly sanded.

Sandpaper is graded from 12 to 600, which corresponds to the size of the abrasive grit on its surface. For example, the coarsest sandpaper is 12 grit and the finest is 600 grit. Very fine emery (a natural abrasive) paper is sometimes used to polish unpainted steel surfaces. However, **never** use abrasives, such as sandpaper, on unpainted galvanized metal (brass, copper, nickel, or aluminum) surfaces.

**Hand Wire Brush.**—A hand wire brush is a handy tool for light work on rust or on light coats of paint. You can also use hand wire brushes for brushing weld spots and cleaning pitted surfaces.

**Hand Scraper.**—Hand scrapers are made of tool steel. The most common type is L-shaped, with each end tapered to a cutting edge like a wood chisel. Hand scrapers are useful for removing rust and paint from small areas and from plating less than 1/4 of an inch thick when it's impractical or impossible to use power tools.

**Chipping (Scaling) Hammer.**—Occasionally, it's necessary to use a chipping or scaling hammer. However, take care to use only enough force to remove the paint. Too much force dents the metal, resulting in high and low areas. In painting, the paint naturally is thinner on the high areas. Therefore, if you leave high and low spots, rust will form on the high spots and, in time, spread under the good paint.

**PORTABLE POWER TOOLS.**—The most useful power tool is the portable grinder (fig. 18-1). Portable grinders are usually equipped with a grinding wheel that may be replaced by either the rotary wheel wire brush or the rotary cup wire brush. Light-duty brushes are made of crimped wire. Use them to remove light rust. Heavy-duty brushes are made by the twisting of several wires into tufts. Use them to remove deeply imbedded rust.

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## *Student Notes:*



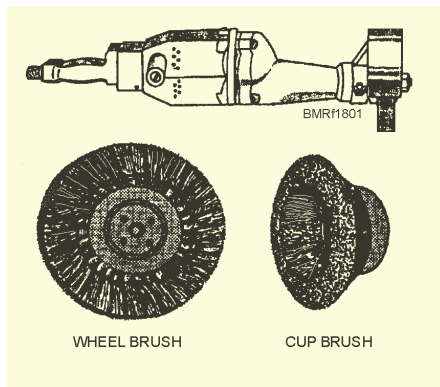


Figure 18-1.—Portable grinder and wire brush.

Scaling is done by using either tool shown in figure 18-2. A chisel is used with the pneumatic hammer and must be held so that the chisel strikes the surface at approximately a 45° angle. As with the hand scaling hammer, take care that you don't dent the surface. The rotary scaling and chipping tool shown in figure 18-2 (called a *deck crawler*) has a bundle of cutters or chippers mounted on either side. As it is pushed along the surface to be scaled, the rotating cutters do the work. This tool is particularly helpful on large deck areas.

The electric disk sander is another useful tool for preparing surfaces. However, it must be used with care. If too much pressure is applied or it is allowed to rest in one place too long, it will quickly cut into the surface, particularly wood and aluminum surfaces.

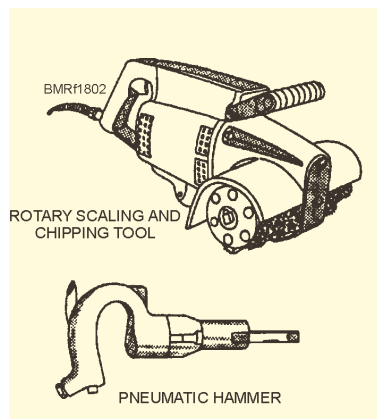


Figure 18-2.—Power scaling tools.

#### POWER TOOL SAFETY PRECAUTIONS.—

You must be trained and qualified before you operate portable power tools. You **must** observe the following safety precautions when working with electrical and pneumatic (air) tools:

- Wear eye and ear protection while chipping, grinding, sanding, or wire brushing. If dust is excessive, also wear a respirator. Do not wear jewelry or loose fitting clothing.
- Do not use defective tools. If you have any doubt about the condition of any tool, show it to your supervisor, who will have its condition determined.
- Make certain that electrical power tools are grounded properly. Every portable electrical power tool must be provided with a ground lead that connects the tool casing to the ship's structure and an up-to-date electrical safety tag.
- Give your full attention to your job.
- Give electricity the respect it is due—115 volts can and does kill.
- Do not operate power tools in areas where flammable vapors, gases, liquids, or exposed explosives are present.
- Do not allow power cords and air hoses to kink or come in contact with oil, grease, hot surfaces, or sharp objects.
- Do not lay power cords and air hoses over ladders, steps, scaffolds, or walkways in such a manner as to cause a trip hazard.
- Do not use compressed air to clean clothing being worn or to blow dust off the body.

#### PAINT

Paint consists of four essential ingredients:

- Pigment
- Vehicle (known as the *base*)
- Drier
- Thinner

**Pigment** provides the coloring, rust prevention (in primers), and the lasting quality of the paint. The most common pigments are made of metals, such as lead, zinc, or titanium.

#### *Student Notes:*



The vehicle is the liquid portion in a paint. It wets the surface being painted, penetrates into the pores, and ensures adhesion. Until recently, the base of most paints was oil, such as linseed oil, but few paints today contain oils. Some have vehicles of processed oils in combination with synthetic resins; others have vinyl chlorinated bases that are quick drying.

To add to the drying properties of paint, certain metallic compounds, called **driers**, are added to the paint. When mixed with oil, they act as conveyers of oxygen, which they take from the air and add to the oil, speeding up the drying process.

**Thinners** are used for thinning the paint to the proper degree for spraying, brushing, or rolling. They also increase the penetration of the paint into the surface and cut down the gloss. Too much thinner affects the durability of the paint. The most common type of thinner is made of mineral spirits, but the proper type to use depends on the paint base. **Never use diesel oil or kerosene to thin paint.**

### Types of Paint

Paints are of many different kinds, and the Navy constantly works and experiments to improve them. As a result, you are provided the best paints available for the type of surface to be covered. Most Navy paints are named according to color and/or use, such as exterior gray deck and pretreatment coating (primers).

**PRIMERS.**—Primers are base coats of paint that stick firmly to bare woods and metals, providing a smooth surface for finishing coats. They also serve to seal the pores, and those applied on steel are rust inhibitors as well.

A minimum of two coats of primer should always be used after the surface is cleaned down to the bare metal. A third coat should be added at all outside

corners and edges. At least 8 hours of drying time should be allowed between primer coats.

**SYNTHETIC PAINTS.**—Synthetic resin coatings, such as epoxies, urethanes, and inorganic zinc, are used for areas subject to severe service or exposure, such as bilges, tanks, and decks. The base coating is mixed with a converter (hardener) to cure or harden the paint film.

**EXTERIOR PAINTS.**—Vertical surfaces above the upper limit of the boot topping (waterline area, painted black) are given two coats of haze gray. Horizontal surfaces are painted with exterior deck gray (darker than haze gray) except the underside of deck overhangs, which are painted white.

A nonskid deck paint is used on main walkways, flight decks, and hangar decks. It contains a small amount of pumice, which helps to give a better footing. Top-hamper areas subject to discoloration from smoke and stack gases and the tops of stacks are painted black.

**INTERIOR PAINTS.**—Depending on the use of individual compartments, several colors are authorized or prescribed for interior bulkheads, decks, and overheads.

The choice of colors for berthing, messing, and recreation spaces usually is left to the individual ship. All other shipboard spaces are painted the color prescribed by the Naval Sea Systems Command. Deck paint colors, for example, are dark green in the ward-room and officers' quarters, dark red in machinery spaces, and light gray in enlisted personnel living spaces.

Some common bulkhead colors are green for offices, radio rooms, the pilothouse, and medical spaces; gray for the flag plot, the combat information center, and the sonar control room; and white for store-rooms and sanitary and commissary spaces. Overhead colors are either the same as the bulkhead or white.

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### *Student Notes:*

### REVIEW 3 QUESTIONS

Q1. List the most common hand tools used to remove paint and rust from small areas.

- a.
- b.
- c.

Q2. How should you prepare chipped edges of paint to make ready for painting?

Q3. List the two main reasons for a bad paint job.

- a.
- b.

Q4. List the four main essential ingredients in paint.

- a.
- b.
- c.
- d.

Q5. How many coats of primer should be applied to bare metal?

### WHAT NOT TO PAINT

**Never** paint the following items:

- Start-stop mechanisms of electrical safety devices and control switchboards on machinery elevators
- Bell pulls, sheaves, annunciator chains, and other mechanical communications devices

- Composition metal water ends of pumps
- Condenser heads and outside surfaces of condensers made of composition metal
- Sprinkler piping within magazines
- Exposed composition metal parts of any machinery
- Glands, stems, yokes, toggle gear, and all machined external parts of the valves
- Heat exchange surfaces of heating or cooling equipment
- Identification plates
- Joint faces of gaskets and packing surfaces
- Lubricating gear, such as oil holes, oil or grease cups, grease fittings, lubricators, and surfaces in contact with lubricating oil
- Lubricating oil reservoirs
- Machined metal surfaces (working surfaces) of reciprocating engines or pumps
- Metal lagging
- Rods, gears, universal joints, and couplings of valve operating gear
- Rubber elements of isolation mounts
- Ground plates
- Springs
- Strainers
- Threaded parts
- Zincs
- Working surfaces
- Hose and applicator nozzles
- Knife edges; rubber gaskets; dogs; drop bolts; wedges; and operating gear of watertight doors, hatches, and scuttles

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***Student Notes:***

- Electrical contact points and insulators
- The original enamel, lacquer, or crackle finish on all radio, electrical, and sound equipment, unless existing damage makes refinishing essential
- Decorative plastic, such as tabletops

## SURFACES TO PAINT

The Navy uses a variety of metal, metal compounds, and synthetic materials to build a ship or boat. Each type of surface requires special preparation and special primers and paint to extend its life cycle. In this section, you will learn about various surfaces and the procedures needed to maintain them properly.

### Aluminum Surfaces

Aboard ship, aluminum surfaces are a special problem. If they're not treated properly, corrosion results. Corrosion is greater when dissimilar metals (for example, aluminum and steel) are in contact with each other **and** are exposed to seawater. Seawater is an electrolyte (an electrical conductor). As such, the seawater causes an electrical current to flow between the steel and aluminum surfaces, resulting in galvanic corrosion of the aluminum. The first sign of aluminum corrosion is a white, powdery residue in the area where the two dissimilar metals make contact. Later, the aluminum surface is pitted and scarred. Finally, there is a complete deterioration of the aluminum area. Holes in aluminum plate enlarge and screws, bolts, or rivets pull out, or they may even disintegrate.

Before joining aluminum to another metal, give each surface a pretreatment formula and two coats of primer formula.

### NOTE

Never use red lead as a primer on aluminum.

If the joint is exposed to the weather, use insulation tape between the two surfaces, and fill the joint with caulking compound. When aluminum is joined to wood, give the wood one coat of phenolic varnish. Replace any missing fasteners (screws, bolts, rivets, and so on) with items of the original type. (**NOTE:**

Replacements of stainless or galvanized steel may be used.) When painted, the best way to prepare the aluminum surface for repainting is to use hand scrapers, hand and power wire brushes, or fine grit sandpaper. Be careful if you use a power sander to prepare the aluminum surface for repainting.

### NOTE

Never use scaling hammers on aluminum.

### Steel Surfaces

When painting a steel surface, preparation of the surface is important. Steel surfaces **must** be completely free of rust, loose paint, dirt, scale, oil, grease, salt deposits, and moisture before they are painted. Old paint in good condition is an excellent base for repainting. Smooth, thoroughly clean, and dry the surface before applying new paint.

In touch-up painting (when only small areas or spots need repainting), remove old paint to the edges of the spot or area until an area of completely intact paint is reached. (**NOTE:** This area must be free of rust or blisters underneath the paint.) Feather the edges of the remaining paint.

When completely reworking an old painted surface, take the old paint down to the bare metal. Then apply a primer before painting. Never leave a base metal surface exposed overnight. Always put on a primer coat before you secure for the day.

### Fillers

Fill holes, dents, and cracks in all surfaces and open-grained woods before they are finished. Putty, wood fillers, and even sawdust mixed with glue can be used on wood. Use epoxy fillers on steel and aluminum surfaces. The method you use varies with the type of filler. Therefore, follow the instructions carefully. Allow all fillers to dry and then sand them smooth before you apply the first finishing coat.

### Paint and Varnish Removers

Paint and varnish removers are most often used on wood surfaces. However, you can use paint and varnish

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## *Student Notes:*

on metal surfaces that are too thin to be chipped or wire brushed. The three types of removers generally used are flammable, nonflammable, and water-base alkali. They are hazardous materials, and you must strictly observe safety precautions when you use them. Use these removers only in well-ventilated spaces. Don't use the alkali type on aluminum or zinc because of its corrosive properties.

The procedures you follow when using paint and varnish removers are the same regardless of type. Wet the surface with a smooth coat of the remover and let it soak thoroughly until the paint or varnish is loosened. Then lift the paint off with a hand scraper. After the surface is cleaned, wet it again with the remover and wipe it off with a rag. Finally, wash the surface thoroughly with paint thinner or soap and water. The final rinse gets rid of any wax left by the remover and any acids that may have worked into the grain of the wood.

### **Paint and Varnish Remover Safety Precautions**

The following safety precautions should be observed when you use paint and varnish removers:

- Never use paint and varnish removers around an open flame. Some types are highly flammable.
- Do not use removers in confined spaces because their dangerous anesthetic or toxic properties can kill or cause injury if you are exposed to them for long periods.
- Do not use paint or varnish removers if you have an open cut or sore on your hand **unless** you wear rubber gloves.
- Do not let the remover touch your skin; watch out particularly for your face, eyes, and mouth. If paint or varnish remover should come in contact with the skin, wash it off immediately with cold water; seek medical attention as soon as possible if it gets into your eyes or mouth.
- Never use turpentine or mineral spirits as hand cleaners because they are absorbed through the skin pores. Gasoline also is dangerous and must never be used. To clean paint or varnish remover from your hands, use soap and water only.

### **PAINTING SAFETY PRECAUTIONS**

Painting can be dangerous if one is careless. Many paints are highly flammable, others are poisonous, and some are both flammable and poisonous. To increase your chances of remaining alive and healthy, observe the following precautions:

- Keep paint off your skin as much as possible. Wash your hands, arms, and face with soap and warm water before eating. Do not put your fingers, food, or cigarettes in your mouth if they are contaminated with paint.
- Be sure you have adequate ventilation, and wear an approved paint/spray respirator whenever there is reason to believe the ventilation is inadequate in the place you are painting. At the first sign of dizziness, leave the space and get to fresh air.
- Do not smoke, use an open flame, or use spark-producing tools in the vicinity of painting operations.
- Use only explosion-proof lights near painting operations.
- Do not wear nylon, orlon, or plastic clothing or covering. These materials generate static electricity, which may spark and ignite paint vapors.
- Do not carry matches or cigarette lighters or wear steel buckles or metal shoe plates. Too often one forgets and strikes a match or lights a cigarette lighter in areas filled with explosive vapors. Also, steel buttons, buckles, and tabs can strike sparks that are invisible to your eyes but are capable of igniting paint vapors.
- When pouring solvents, make sure the containers are touching each other to prevent sparks.
- Never paint during electrical storms.
- Keep food and drink away from areas being painted.

---

### ***Student Notes:***

- Do not use gasoline, turpentine, mineral spirits, or other solvents to remove paint from the skin, as the skin will absorb them.
- Follow the instructions of your supervisor carefully.

## PAINT ISSUE

Before paint is issued, several events must occur.

1. The division petty officer inspects the area to make sure all preparations have been made. The petty officer will check for the following:

- Are all items not to be painted properly identified or masked?
- Are all safety precautions understood and properly observed?
- Is the surface ready to be painted?

2. Having checked out these items, you must fill out the paint request; and describe the area to be painted, including the paint color, type, and approximately how much paint is needed. Completing the paint request chit reduces the waste of materials and time spent redoing a paint job. Your division officer may also inspect the area to be painted before signing the paint chit.

3. The next step is the approval of the request by the first lieutenant, who regulates the issue of paint.

As you can see, sometimes getting ready to paint takes longer than the actual painting. Remember, if you spill paint (oil, grease, and so on), you are responsible for cleaning it up. At the end of working hours, return all paint and brushes to the paint locker. Store the paint in its proper container, and clean all brushes and rollers.

## PAINTING

Three means of applying paint are used in the Navy—brush, roller, and spray. The majority of Sailors don't use paint sprayers; therefore, they aren't covered in this section. However, you will learn about using brushes and rollers to apply paint. Everyone in the Navy should be familiar with these items.

## Paint Application by Brush

Smooth and even painting depends as much on good brushwork as on good paint. There is a brush for almost every purpose. You should use the proper brush and keep it in the best condition.

The two most useful brushes are the flat brush and the sash tool brush. These brushes and some others commonly used aboard ship are shown in figure 18-3. With a flat brush, you can paint almost anything aboard ship. Flat brushes are wide and thick. They carry a large quantity of paint and provide a maximum of brushing action. Sash brushes are handy for painting small items, for cutting in at corners, and for hard-to-get-at spaces. The fitch brush also is useful for small surfaces. The painter's dusting brush is used for cleaning surfaces.

The following are hints to help you use a paintbrush properly:

- Grip the brush firmly, but lightly as shown in figure 18-4. Don't put your fingers on the bristles below the metal band (ferrule). The grip shown permits easy wrist and arm motion. To hold it otherwise restricts your movements and causes undue fatigue.
- When using a flat brush, don't paint with the narrow edge. This practice wears down the corners and spoils the shape and efficiency of the brush. When using an oval brush, don't revolve it too much or it soon wears to a pointed shape and becomes useless. Do not poke oversized brushes into corners and around moldings. Such a practice bends the bristles, eventually ruining a good brush. Use a smaller brush that fits into such odd spots.
- Dip the brush into the paint, but not over halfway up the bristles. Remove the excess paint by patting the brush on the inside of the pot. (Avoid overfilling the

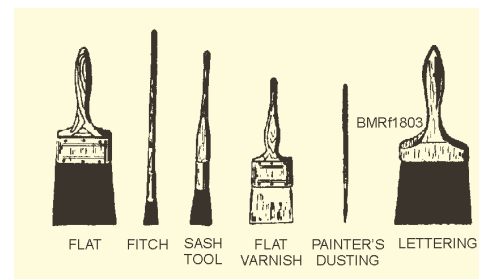
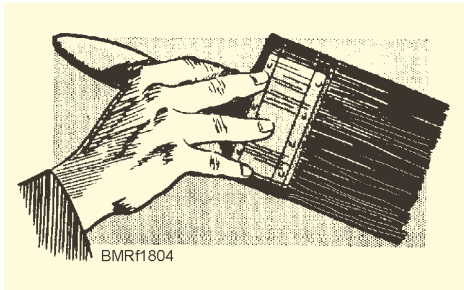


Figure 18-3.—Types of brushes.

## Student Notes:





**Figure 18-4.—Correct way to hold a brush.**

brush; otherwise, paint will drip on the deck or other surfaces and run down the handle.)

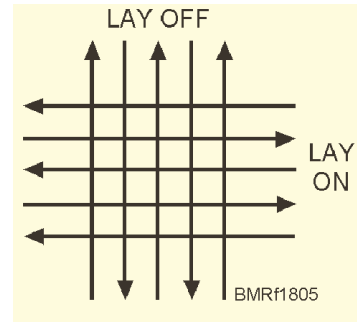
- Hold the brush at right angles to the surface being painted, with the ends of the bristles just touching the surface. Lift the brush clear off the surface when starting the return stroke. If the brush is not held correctly and is not lifted, the painted surface will be uneven, showing laps and spots and a daubed appearance. Also, a brush that is held at any angle other than a right angle will soon wear away at the ends.

For complete and even coverage, follow the Navy method and first lay on, and then lay off. “Laying on,” means applying the paint first in long strokes in one direction. “Laying off,” means crossing your first strokes. The proper method is shown in figure 18-5. By using the recommended Navy method and crossing your strokes, you can distribute the paint evenly and completely with a minimum amount of paint being used.

Always paint the overhead first, working from the corner that is farthest from the entrance of the compartment. By painting the overhead first, you can wipe drippings off the bulkhead without smearing the bulkhead paint.

When overhead surfaces are being painted, sections should normally be painted in a fore-and-aft direction; beams, in an athwartship direction. But where sections of the overhead contain many pipes running parallel with the beams, it is often difficult to lay off the paint in a fore-and-aft direction. In such situations, better results are obtained by laying off the paint parallel with the beams.

To avoid brush marks when finishing up an area you have painted, use strokes directed toward the last



**Figure 18-5.—Laying on and laying off.**

section finished, gradually lifting the brush near the end of the stroke while the brush still is in motion. Every time the brush touches the painted surface at the start of a stroke, it leaves a mark. For this reason, never finish a section by brushing toward the unpainted area. Instead, always end up by brushing back toward the area already painted.

When painting pipes, stanchions, narrow straps, beams, and angles, lay the paint on diagonally, as shown in figure 18-6. Lay off along the long dimension.

Always carry a rag for wiping up dripped or smeared paint. Carefully remove loose bristles sticking to the painted surface.

### Cutting In

After you master the art of using a paintbrush properly, learn to cut in. Cutting in is a simple procedure that you can learn in a short time.

Suppose you have to cut in the angle between an overhead and a bulkhead, as shown in figure 18-7. Start at one corner. Hold your brush at an angle of about 76° to 80° from the bulkhead and about 10° from the overhead. Draw your brush along in fairly long, smooth strokes. This is one job where working slowly does not produce better results. The slower you stroke, the wavier your line will be.

### Use of Rollers

The type of paint roller (fig. 18-8) used in the Navy is equipped with a replaceable cylinder of soft fabric over a solvent-resistant paper core. It rotates on the shaft of a corrosion-resistant steel frame.

## Student Notes:



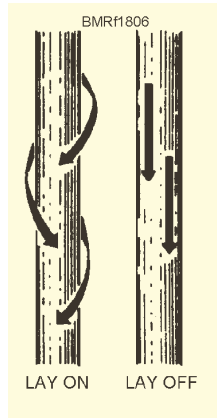


Figure 18-6.—Painting pipes and stanchions.

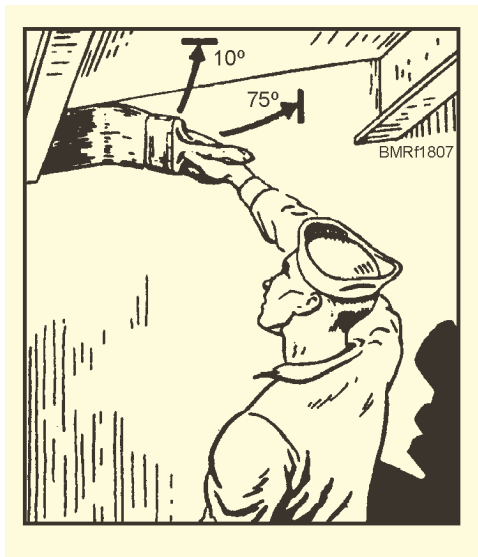


Figure 18-7.—Cutting in.

Large areas, such as ships' decks and sides (free of rivets, bolts, cable, pipes, and so on), can be covered with paint quickly by the roller method. The paint should be laid on and laid off the same way as when brushes are used. Apply a moderate amount of pressure to the roller to make sure the paint is worked into the surface. If pressure is not applied, the paint doesn't stick and soon peels off. When the paint roller is properly used, it will apply a more even coat and use less paint than with a brush.

### CARE OF BRUSHES AND ROLLERS

Unfortunately, too many good paintbrushes and rollers are ruined because painters have little or no idea how to care for them, or they are too lazy to clean them.

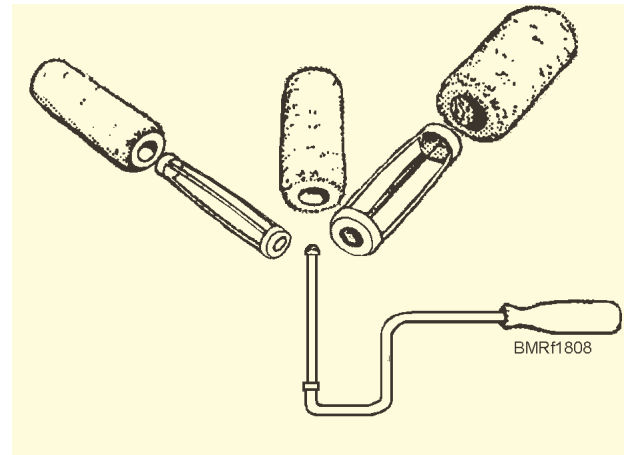


Figure 18-8.—Parts of a paint roller.

To avoid ruining paintbrushes and rollers, pay attention to the following hints. Treat applicators as though you paid for them yourself, and replace them when they no longer are usable.

- **Do not let a brush stand on its bristles in a pot of paint for more than a few minutes.** The weight of the brush bends the bristles, making it almost impossible to do a good job.
- **Never allow paint to dry on a brush.** If you intend to leave a paint-filled brush for long periods, as over the noon hour, fold wax paper or other heavy paper around the bristles and ferrule in such a way that air is kept away from the bristles. Twist the paper around the handle and secure it with rope yarn or sail twine. Cover your pot of paint, and place both it and the brush in a safe place. Before starting to paint again, stir the paint thoroughly with a paddle—not the brush.
- **At the end of the day, clean as much paint from the brush as possible by wiping it across the edge of the paint pot or mixing paddle.** Then turn in your paint and brush to the paint locker.

Ordinarily, the person or persons working in the paint locker will clean and stow the brushes turned in. Occasionally, though, they require help; and you may be detailed to the job. If so, follow instructions carefully; and do a thorough job of cleaning the brushes.

### *Student Notes:*

Paint lockers usually have containers with divided compartments for stowing different types of brushes (that is, paint, varnish, shellac, and so on) for short periods of time. These containers normally have tight covers and are equipped for hanging brushes so that the entire length of the bristles and the lower part of the ferrule are covered by the solvent or cleaner oil kept in the container. Brushes are suspended so that the bristles don't touch the bottom, preventing them from becoming permanently misshapen.

Brushes to be used the following day should be cleaned in the proper cleaner and placed in the proper compartment of the container. Those not to be used again soon should be cleaned, washed in soap or detergent and water, and hung to dry. After drying, they should be wrapped in heavy paper and stowed flat. Do not leave a brush soaking in water. Water causes the bristles to separate into bunches, flare, and become bushy.

The proper cleaners for paint applicators are shown below:

PAINT/FINISH	SOLVENT/CLEANER
Natural and synthetic oil-base paints and varnishes; chlorinated alkyd paints	Turpentine or mineral spirits
Latex emulsion paints	Water
Chlorinated rubber paints	Synthetic enamel thinner xylene
Shellac	Alcohol (denatured)
Lacquer	Lacquer thinner

Paint rollers are cleaned in a different fashion. After use, the fabric cylinder is stripped from the frame, washed in the cleaner recommended for the paint used, washed in soap and water, rinsed thoroughly in fresh water, and replaced on the frame to dry. Combing the pile of the fabric while it is damp prevents matting.

#### REVIEW 4 QUESTIONS

Q1. What is the first sign of aluminum corrosion?

Q2. True or False. Old paint in good condition makes an excellent base for repainting.

Q3. For painting small areas and cutting into corners, what type of paintbrush is best?

Q4. What method of painting does the Navy use to completely and evenly cover an area?

#### SUMMARY

We live close together aboard ship. The daily routine of cleaning the berthing compartment and head areas is not only beneficial for our own welfare but for our shipmates as well. It also makes those long cruises easier if we take the time to make our living spaces as pleasant as possible. The occasional zone inspection will help in keeping all our spaces up to speed. Looking for problems that exist, or ones that could arise in the future, will benefit us all.

We also discussed some of the more important aspects of surface preservation. Most of our ships serve for over 20 years, and in the case of carriers, over 30 years. That is testimony to how well the Navy cares for its ships. This care would not be possible without personnel having the proper equipment and materials, being properly trained in the correct application of these materials, and taking pride in doing a good job. Anyone can paint, but taking that extra step to ensure the assigned job is completed with the best possible results is the difference in a job that really looks sharp and one that just gets by.

#### REVIEW 1 ANSWERS

A1. To find the responsibilities for cleaning and maintaining spaces, you should refer to the **Cleaning, Preservation, and Maintenance Bill**.

A2. The **compartment cleaner** is responsible for cleaning living and berthing spaces

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*Student Notes:*

- A3. You should pick up and stow gear that has been left adrift. This **reduces tripping and fire hazards and keeps dewatering equipment from clogging.**
- A4. **False.** You should not sweep dirt and debris over the side.
- A5. The three steps used in most detergent cleaning are
- Wetting**
  - Scrubbing**
  - Rinsing**
- A6. The two types of deck covers are—
- Resilient**
  - Nonslip**

#### REVIEW 2 ANSWERS

- A1. When working with solvents, the term *ventilation* means **fresh air moving in and through the space with proper exhaust.**
- A2. When handling acid or caustic cleaners, you should wear the following protective equipment:
- Acid-resistant apron**
  - Face shield with goggles**
  - Gloves**
  - Boots**
- A3. Treat material and rags used to clean up a solvent spill as **HAZMAT material.**
- A4. The two types of respirators used by Sailors when handling solvents—
- Air-purifying**
  - Air-supplied**
- A5. Most fires in paint and solvent storage areas are caused by **vapor buildup.**
- A6. Personnel who work in a compartment having bad air might have one or all of the following symptoms.
- Dizziness**

- Headache**
- Labored breathing**
- Excessive fatigue**

#### REVIEW 3 ANSWERS

- A1. The most common hand tools used to remove paint and rust from small areas are—
- Sandpaper**
  - Wire brush**
  - Hand scraper**
- A2. To prepare chipped edges of paint for painting, you should **feather the edge of chipped paint with sandpaper.**
- A3. The two main reasons for a bad paint job are—
- Improper surface preparation**
  - Improper paint application**
- A4. The four main essential ingredients in paint are—
- Pigment**
  - Vehicle**
  - Drier**
  - Thinner**
- A5. **At a minimum, two coats of primer** should be applied to bare metal.

#### REVIEW 4 ANSWERS

- A1. The first sign of aluminum corrosion is a **white, powdery residue.**
- A2. **True,** old paint in good condition makes an excellent base for repainting.
- A3. When painting small areas and cutting into corners, you should use the **sash tool brush.**

- A4. To completely and evenly cover an area, you should use the Navy **laying on and the laying off method**.

## CHAPTER 19

# SAFETY AND HAZARDOUS MATERIALS

*I wish to have no connection with any ship that does not sail fast for I intend to go in harms way.*

—John Paul Jones

Naval warships are inherently dangerous. Crowded living conditions, confined working spaces, and long hours, often at night, are just a few reasons why you must use caution at all times. Some evolutions, such as underway replenishment, conducting flight operations, testing weapons systems, or just a change in weather conditions, greatly increase the dangers of being at sea. All Navy ships have a comprehensive shipboard safety program. This program was developed over many years to make life at sea safe. This program is designed to follow established procedures in conducting the day-to-day business aboard ship, and it places special emphasis on observing certain precautions.

The safety program stresses constant awareness of the hazards of being at sea. The word *mishap* is often used in referring to an incident that *just happened*. **Mishaps don't just happen; they are caused.** Most mishaps could have been prevented if the individuals involved had followed established procedures and safety precautions.

Most of the precautions discussed in this chapter are from a shipboard viewpoint, but many of them also apply ashore. Don't depend on memory to remember safety precautions. Almost every task you perform has safety precautions that must be followed. **Get the operator's manual, planned maintenance system (PMS) card, or technical manual and read these precautions.** If you don't understand them or can't find them, ask your supervisor for help. The few minutes you take to read and understand these safety precautions will make your job safer. Don't be one of the casualties reported during a mishap. It's better to be safe than hurt or possibly worse—**dead!**

### PERSONAL RESPONSIBILITY

**Learning Objective:** When you finish this chapter, you will be able to—

- Recognize that safety is a personal responsibility.

Your personal responsibilities for safety are as follows:

- Observe all safety precautions related to your work or duties.
- Report unsafe conditions. Do not walk around a ladder well with missing safety chains and forget it. Report it! If you use a piece of equipment that is damaged, report it!
- Warn others of hazards. If you see someone knowingly, or unknowingly, placing themselves or others in danger, say something. If that particular person will not listen, tell your supervisor.
- Protective equipment and clothing is issued to you for a purpose—use them.
- Wear eye and/or full-face protection. It's hard to explain to the chief that you had to go to sick bay to get something removed from your eye when you were given a full-face shield before you started working.
- Report all injuries or illnesses. If you should become injured or feel sick, tell your supervisor. A little scratch could become infected or your illness could be a sign of something more serious. A little time having the corpsman check you now is better than being in the hospital later.
- Remain alert. Look for any possibilities of danger. Be safety conscious.
- Don't rush into a job. Look at what you are supposed to do. Is the equipment you have suited to the job? Check the safety precautions for the equipment you were issued. Is the equipment in good condition?

A shipboard environment introduces factors affecting safety that are not found ashore. Danger exists in every naval operation and aboard every naval vessel. Going to sea involves working with powerful machinery; high-speed equipment; high-temperature, high-pressure steam; volatile fuels and propellants;

heavy lifts; high explosives; stepped-up electrical voltages; and the unpredictable forces of wind and waves.

Underway refueling, multiship exercises, storms, and other situations require personnel at sea to be constantly alert. A mishap (there's that word again) at sea can involve all hands in a matter of seconds. Therefore, you must be continually alert to hazardous conditions. If you observe unsafe practices or conditions, report them to your supervisors.

### REVIEW 1 QUESTIONS

- Q1. List some of the safety precautions that could save you and your shipmate's life.
- a.
  - b.
  - c.
  - d.
  - e.
- Q2. What are some shipboard environments that are dangerous?
- a.
  - b.
  - c.
  - d.
  - e.
  - f.
  - g.
  - h.

## SAFETY PRECAUTIONS AND HAZARDS TO SAFETY

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recall the purpose and use of Material Safety Data Sheets (MSDS).
- Recognize safety precautions when you are embarked in a small boat.
- Recognize the purpose of safety precautions when working around various equipment and working in spaces to include the following: steam; lifelines, ladders, and scaffolding; heavy weight and moving equipment; personnel aloft or over the side; antennas; flammable liquids, paints, and solvents; weapons, ammunition, and explosives; electrical and electronic equipment; compressed gases; fiber glass and asbestos; power tools; cutting and welding operations; liquids under pressure; rotating machinery; marine sanitation systems; high noise levels; lifting objects; shipyards and docks; aircraft and flight deck operations; when involved in sporting and recreational events; and operating motor vehicles.

The safety precautions and hazards discussed are of a general nature only. Following them will help you to avoid injury to yourself and others and to prevent loss of or damage to equipment.

### MATERIAL SAFETY DATA SHEET (MSDS)

Material Safety Data Sheets (MSDS) are technical bulletins that contain information about hazardous material (figs. 19-1 and 19-2). Manufacturers create MSDSs based on their testing and research of their products. **By law, manufacturers must provide the data to hazardous material users.** They tell users how to use, store, and dispose of hazardous material. According to OPNAVINST 5100.19, all hands are required to follow these guidelines. MSDSs must be in English and contain at least the following information about the material:

- Identity

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***Student Notes:***



ERG: 6505  
NIIN: 001538480  
Manufacturer's CAGE: 1BF21  
Part No./Indicator: A  
Ref Number/Trade Name: HYDROGEN PEROXIDE SOLUTION 0%.

General Information

Item Name: HYDROGEN PEROXIDE TOPICAL SOLUTION, USP  
Manufacturer's Name: MALLINCRDGT INC  
Manufacturer's Street:  
Manufacturer's P.O. Box: M  
Manufacturer's City: PARIS  
Manufacturer's State: KY  
Manufacturer's Country: US  
Manufacturer's Zip Code: 40361-0315  
Manufacturer's Emerg Ph #: 314-982-5000  
Manufacturer's Info Plink: 314-982-5000  
User/Sub/Vendor # 1: RUDER CHEMICAL CO, INC.  
Distributor/Vendor # 1 CAGE: 64220  
Distributor/Vendor # 2:  
Distributor/Vendor # 2 CAGE:  
Distributor/Vendor # 3:  
Distributor/Vendor # 3 CAGE:  
Distributor/Vendor # 4:  
Distributor/Vendor # 4 CAGE:  
Safety Data Action Codes:  
Safety Focal Point: D  
Record No. For Safety Entry: 001  
Tot Safety Entries This S&#t: 006  
Status: SE  
Date MSDS Prepared: 21 JAN 88  
Safety Data Review Date: 05 DEC 90  
Supply Item Manager: KX  
MSDS Preparer's Name:  
Preparer's Company:  
Preparer's St Or P.O. Box:  
Preparer's City:  
Preparer's State:  
Preparer's Zip Code:  
Other MSDS Number:  
MSDS Serial Number: BAFSH  
Specification Number:  
Spec Type, Grade, Class:  
Hazard Characteristic Code: P2  
Unit Of Issue: BT  
Unit Of Issue Container City: 1 PT  
Type Of Container: BOTTLE  
Net Unit Weight: 1.10 LBS  
NRC/State License Number:  
Net Explosive Weight:  
Net Propellant Weight/Amount:  
Coast Guard Ammunition Code:

Ingredient/Identity Information

Proprietary: NO  
Ingredient: HYDROGEN PEROXIDE, SOLUTION 3M  
Ingredient Sequence/Number: 01  
Percent: UNKNOWN  
Ingredient Action Code:  
Ingredient Focal Point: D  
MOSH (RTECS) Number: 100636M1  
CAS Number: UNKNOWN  
OSHA PEL: UNKNOWN  
ACGIH TLV: UNKNOWN  
Other Recommended Limit: NONE SPECIFIED

Physical/Chemical Characteristics

Appearance and Color: CLEAR, COLORLESS SOLUTION,  
ODORLESS  
Boiling Point: 215F/100C  
Melting Point: 32.0F/0.0C  
Vapor Pressure (MM Hg/70 F): NK  
Vapor Density (Air=1): NK  
Specific Gravity: NK  
Decomposition Temperature: UNKNOWN  
Evaporation Rate and Ret: NK  
Solubility in Water: INFINITELY  
Percent Volatiles By Volume: N/R  
Viscosity:  
pH: N/R  
Radioactivity:  
Form (Radioactive Matl):  
Magnesium (Milligrams):  
Corrosion Rate (MPY): UNKNOWN  
Autoignition Temperature:

Fire and Explosion Hazard Data

Flash Point: NK  
Flash Point Method: NK  
Lower Explosive Limit: NK  
Upper Explosive Limit: NK  
Extinguishing Media: MAY USE WATER SPRAY TO PUT OUT  
SURROUNDING FIRE & COOL EXPLODED CONTAINERS. WATER  
SPRAY WILL RELEASE FUME & IRRITANT GAS  
Special Fire Fighting Info: USE HIGH APPROVED SCBA WITH  
FULL POSITIVE PRESSURE FACE PIECE & CLOTHING. NOT  
COMBUSTIBLE, BUT LIQUID IS COOLING & MAY IGNITE/W  
REDUCING AGENTS/COMBUSTIBLES  
Unusual Fire and Expl Hazards: EXTREMELY VIOLENT  
COMBUSTION IF CONTACT WITH OXIDIZING SUBSTANCES.  
DRIED CONCENTRATED HYDROGEN PEROXIDE/COMBUST.  
MATERIAL ON CLOTHING MAY CAUSE FIRE OR EXPLOSION.

Reactivity Data

Stability: NO  
Cond To Avoid (Stability): HEAT. SPONTANEOUS COMBUSTION  
MAY OCCUR ON STANDING IN CONTACT WITH READILY  
FLAMMABLE MATERIALS.  
Materials to Avoid: REDUCING AGENTS, ORGANIC MATERIALS,  
DIRT, ALKALIES, RUST & MANY METALS.

Figure 19-1.—Material Safety Data Sheet (front).

Hazardous Decomp Products: DECOMPOSES TO WATER & OXYGEN WITH RAPID HEAT RELEASE. USE VENTED CONTAINERS. SOLUTION CAN DECOMPOSE RAPIDLY UPON HEATING

Hazardous Poly Occur: NO

Conditions To Avoid (Poly): NOT APPLICABLE

#### Health Hazard Data

LD50-LC50 Mixture: LD50 UNKNOWN

Route Of Entry-Inhalation: YES

Route of Entry-Skin: YES

Route of Entry-Ingestion: YES

Health Haz Acute and Chronic: ACUTE-EYES: IRRITATION. SKIN: INTACT SKIN, NONE. CONTACT ON BURN/OPEN SKIN MAY CAUSE IRRITATION. INHALE: UPON HEATING, MAY CAUSE IRRITATION TO MUCOUS MEMBRANES OF NOSE & THROAT. INGEST: IRRITATION TO MOUTH, THROAT & ABDOMEN. CHRONIC-NONE.

Carcinogenicity-NTP: NO

Carcinogenicity-IARC: NO

Carcinogenicity-OSHA: NO

Explanation Carcinogenicity: THIS PRODUCT IS NOT LISTED BY IARC, NTP, OR OSHA AS A CARCINOGEN.

Signs/Symptoms Of Overexp: EYE: REDNESS & PAIN. SKIN: STINGING PAIN. INHALE: IRRITATION TO MUCOUS MEMBRANES OF NOSE & THROAT. INGEST: BLISTERING TO MOUTH, THROAT & ABDOMEN. ABDOMINAL PAIN, VOMITING & DIARRHEA.

Med Cond Aggravated By Exp: NONE

Emergency/First Aid Proc: FIRST AID-INHALATION: REMOVE TO FRESH AIR. SEE DOCTOR IF NEEDED. EYES: WASH WITH PLENTY OF WATER FOR 15 MINUTES. SEE DOCTOR. SKIN: WASH WITH SOAP & WATER. IF IRRITATION PERSISTS, GET MEDICAL ADVICE. INGEST: GIVE SEVERAL GLASSES OF WATER TO DRINK TO DILUTE. GET MEDICAL ADVICE.

#### Precautions for Safe Handling and Use

Steps If Matl Released/Spill: VENT SPILL AREA. MAY REQUIRE PROTECTIVE CLOTHING. ABSORB SPILL WITH DRY ABSORBENT OR DILUTE WITH LARGE AMOUNTS OF WATER AND HANDLE AS NONHAZARDOUS WASTE. CONTAINERIZE UNSTABLE MATERIAL FOR DISPOSAL IN AN APPROVED WASTE FACILITY.

Neutralizing Agent: NOT APPLICABLE.

Waste Disposal Method: DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL LAWS.

Precautions-Handling/Storing: STORAGE-STORE IN A COOL, WELL-VENTILATED DARK AREA. ISOLATE FROM INCOMPATIBLE SUBSTANCES. PROTECT FROM PHYSICAL DAMAGE.

Other Precautions: NONE

#### Control Measures

Respiratory Protection: NONE

Ventilation: DILUTION VENTILATION IS SATISFACTORY. HOWEVER IF WORKER FEELS DISCOMFORT, LOCAL EXHAUST SYSTEM SHOULD BE USED.

Protect Gloves: RUBBER

Eye Protection: CHEMICAL SAFETY GOGGLES/FULL FACE SHIELD  
Other Protective Equipment: EYEWASH STATION & QUICK-DRENCH FACILITY.

Work Hygienic Practices: OBSERVE GOOD PERSONAL HYGIENE PRACTICES AND RECOMMENDED PROCEDURES.

Suppl. Safety & Health Data: NONE

#### Transportation Data

Transportation Action Code:

Transportation Focal Point: D

Trans Data Review Date: 90339

DOT PSN Code: ZZZ

DOT Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION

DOT Class: N/R

DOT Label: N/R

Limited Quantity: NO

DOT Mode Indicator:

Identification Number: N/R

Reportable Qty.-Trans File: NO

DOT/DoD Exemption Number:

IMO PSN Code: ZZZ

IMO Proper Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION

IMO Regulations Page Number: N/R

IMO UN Number: N/R

IMO UN Class: N/R

IMO Subsidiary Risk Label: N/R

IATA PSN Code: ZZZ

IATA UN ID Number: N/R

IATA Proper Shipping Name: NOT REGULATED BY THIS MODE OF TRANSPORTATION

IATA UN Class: N/R

IATA Subsidiary Risk Class: N/R

IATA Label: N/R

AFR 71-4 PSN Code: ZZZ

AFR 71-4 Prop. Shipping Name: NOT REGULATED FOR THIS MODE OF TRANSPORTATION

AFR 71-4 Class: N/R

AFR 71-4 Label: N/R

AFR 71-4 ID Number: N/R

AF MMAC Code:

Tech Entry NOS Shipping Name:

Additional Trans Data:

#### Disposal Data

Disposal Data Action Code:

Disposal Data Focal Point:

Disposal Data Review Date:

Rec # For This Disp Entry:

Tot Disp Entries This Stock#:

Landfill Ban Item:

Disposal Supplemental Data:

1st EPA Haz Wst Code UnUsed:

1st EPA Haz Wst Name UnUsed:

1st EPA Haz Wst Char UnUsed:

1st EPA Acute Hazard UnUsed:

2nd EPA Haz Wst Code UnUsed:

2nd EPA Haz Wst Name UnUsed:

2nd EPA Haz Wst Char UnUsed:

2nd EPA Acute Hazard UnUsed:

3rd EPA Haz Wst Code UnUsed:

3rd EPA Haz Wst Name UnUsed:

3rd EPA Haz Wst Char UnUsed:

Figure 19-2.—Material Safety Data Sheet (back).

- Hazardous ingredients
- Physical and chemical characteristics
- Physical hazards
- Reactivity
- Health hazards
- Precautions for safe handling and use
- Control measures
- Routes of entry into the body
- Emergency and first-aid procedures for exposure
- Date of preparation of the MSDS or last change
- Name, address, and phone number of a responsible party who can provide additional information on the hazardous material and appropriate emergency procedure

Manufacturers may use any format or arrangements of this information, but every MSDS must include all the items. Every hazardous material user must be trained on the precautions associated with that material. MSDSs must be available upon request to any user. If you have a question, check with your command's hazardous material/hazardous waste coordinator.

## REVIEW 2 QUESTIONS

- Q1. Manufacturers provide data to people who use hazardous materials. What publication contains information on using, storing, and disposing of hazardous materials?
- Q2. What instruction dictates that all hands are to follow Material Safety Data Sheets guidelines?

## BOAT SAFETY

The major concern of Navy personnel aboard small boats is safety—for passengers and crew members. This section covers safety precautions to follow aboard small

boats. Every Sailor should be thoroughly familiar with boat safety precautions. When you are on or boarding a boat, observe the following precautions:

- Obey all orders from the coxswain.
- Embark in a quiet, orderly manner and move as far forward as possible. Once embarked, stay in place.
- Keep all parts of your body in the boat; do not sit on gunwales.
- Don't engage in horseplay.
- Never distract the attention of crew members from their duties.
- Don't sit on life jackets; this will compress the filler and reduce buoyancy.
- When told to do so, don your life jacket immediately.
- Don't smoke in a boat.
- If told to embark or disembark, do so without argument. During heavy weather, boat loads will be reduced.
- If a boat swamps or capsizes, do not panic. Fear can spread quickly from person to person. A terrified person drowns easily. Stay with the boat or huddle with other passengers. A large group can be found much easier than individual swimmers.

## DECK SAFETY

Weather decks of ships at sea are extremely hazardous places, particularly aboard small ships. The ship may be level one minute and take a sharp roll the next. At any moment, a large wave could submerge the main deck to a depth of several feet, or a wave could come unexpectedly over the fantail.

Vigilance (alertness) is always a necessity aboard ship. In foul weather, you must be even more alert. If your duties don't require your presence on the main deck, don't go there. Use interior passageways or superstructure decks for moving about the ship. When

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## *Student Notes:*

you must be on the main deck in foul weather, wear your life jacket. You must always wear an inherently buoyant life jacket whenever you are handling lines or are otherwise involved in underway replenishment or transfer operations.

A ship's deck has many tripping hazards, such as cleats, bitts, and pad eyes, as well as larger obstacles, such as boat davits and winches. Learn their locations so that if you must go on deck at night, you will have a better chance of avoiding these hazards.

Don't sit or lean on lifelines. When the sea is unusually rough, a safety line may be rigged on the main deck. When you are moving along the deck, you should stay inboard of, and hold on to, the safety line.

The flight decks of aircraft carriers are particularly hazardous areas. **Beware of propellers and jet blast!** Often, propellers are invisible because of the speed at which they rotate. They can act just like a meat slicer; so you need to use extreme care when walking or working near propeller-driven aircraft.

Jet planes present other hazards—a person can be sucked into the jet's intake, be burned, or be blown overboard (or against an object) by its exhaust. Keep off the flight deck if you don't work there. Because of minimum lighting requirements, nighttime is especially hazardous on the flight deck. When working on the flight deck, always wear your ear protectors when jet engines are running. One other caution—Smoking is prohibited on the flight and hangar decks and in all fuel and ammunition-handling spaces.

In general, the same rules apply to ships with operating helicopters. Only authorized personnel are permitted in the landing area during helicopter operations. Those personnel must wear proper protective clothing and equipment. During vertical replenishment operations, keep out from under loads and stay clear of the unloading area until the helicopter has departed. Keep the landing area free from loose debris or "foreign object damage" (FOD) that may be blown about by the downwash from the rotor blades or sucked up by jet intakes.

During flight quarters, the flight deck of an aircraft carrier is a dangerous place. This deck, combined with the hangar deck, magazines, and shops, provides the equivalent operating facilities of a large airfield.

However, the hazards associated with aircraft operations are focused into a relatively small area. Therefore, personnel are exposed to a greater potential of danger.

### REVIEW 3 QUESTIONS

- Q1. List four boat safety precautions that every Sailor should know.
  - a.
  - b.
  - c.
  - d.
- Q2. If a boat swamps, what usually causes a loss of personnel?
- Q3. Why should you learn the location of cleats, bitts, and pad eyes on a ship's deck?
- Q4. What are two hazards found on flight decks of aircraft carriers?
  - a.
  - b.

### LIFELINES, LADDERS, AND SCAFFOLDING

Lifelines, as used here, refer to lines erected around the edges of weather decks. They are safety barriers to prevent personnel from falling or being washed over the side. Never sit, lean, or stand on any lifeline—if the ship takes a sudden roll while you are leaning against a lifeline, you could fall overboard.

Never remove lifelines without permission from the proper authority. When removing a lifeline,

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### *Student Notes:*

immediately rig a temporary line. Don't hang or secure any weight on a lifeline.

When working near a ladder, Sailors have the bad habit of placing paint cans, buckets, or tools on the steps to minimize bending over. This practice could cause a mishap. Because water will cause a ladder to become very slippery, you should be especially careful on rainy days. Paint drippings are equally dangerous for the same reason.

Never unship (take down) a ladder without permission. Rope off all open hatches and gangways leading to unshipped ladders.

The smooth deck of a ship does not provide a good hold for scaffolding. The base of scaffolding must be properly braced and lashed down to prevent it from sliding. The use of makeshift scaffolds is prohibited. Scaffolds must be erected only when needed to do a job and dismantled as soon as the job is completed.

You should not work on a scaffold in high winds or when the scaffold is covered with ice or snow. Never throw or drop objects from a scaffold; use handlines for raising or lowering objects. Do not paint scaffolds, because the paint might conceal defects. Use lifelines and safety belts when working on a boatswain's chair or on unguarded scaffolds above a height of 10 feet.

## HANDLING CARGO

Serious, sometimes long-lasting injuries can result from improperly handling heavy objects and from the failure to observe basic safety precautions. By observing the following precautions, you can prevent injury to yourself or to others and prevent damage to cargo and equipment:

- When lifting a heavy or bulky object, crouch close to the load with feet solidly placed and slightly spread. Get a good grip on the object and lift with your arm and leg muscles, keeping your back as nearly vertical as possible. If the load is bulky or heavy, don't feel embarrassed to ask for help.

- Don't throw articles from elevated places; lower them by a line or carry them.

- Wear appropriate safety clothing and equipment, such as safety shoes, a hard hat, gloves, and a life preserver, for the job at hand. Remove rings, wristwatches, and bracelets when handling cargo.

- Stow hatch covers and strongbacks in such a manner that they won't interfere with traffic or be knocked into the hatch or over the side.

- When steadying loads, don't stand between the load and a fixed object. Don't stand under a suspended load. Never ride loads. Use the nonworking side of a ship for fore-and-aft travel.

- Never stand in the bight of a line. Keep clear of lines under a strain. A line (particularly nylon) can part with a whiplike snapback, which can cause severe bruises, broken bones, amputations, or even death.

- Don't engage in horseplay.

- When going up or down a ramp with a hand truck, keep the load below you. Thus you pull the load up and push it down.

## WORKING ALOFT OR OVER THE SIDE

Before any work may be done aloft, permission must be obtained from the OOD. Before granting permission, the OOD makes sure that all power on appropriate radio and radar antennas is secured and that controls associated with the antennas are tagged "SECURED. PERSONNEL ALOFT." The OOD also notifies the engineer officer where the personnel will be working so that the necessary precautions can be taken to prevent operations such as the lifting of boiler safety valves or the blowing of tubes. After the work has been completed, a report is made to the OOD, who, in turn, will notify the appropriate officers.

When you are working aloft, wear a standard Navy-approved safety harness with a safety line attached. Radio and radar transmissions, even from another ship, can induce a charge in guy wires, stays, ladders, and other metal fittings. If you touch one, you may receive a shock. The shock itself may not be dangerous, but a natural reaction when shocked is to jerk away. Without a safety harness you could easily fall.

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## *Student Notes:*



Secure all tools and equipment with lanyards to prevent dropping them and injuring personnel below. Burning and welding or the presence of any open flame isn't permitted on a stage or boatswain's chair unless the suspension ropes and bridle are made of steel. Always check equipment for weakened or broken fittings before going aloft.

When working over the side, you must wear a standard Navy safety harness with a safety line attached and tended by someone on deck. You must also wear an inherently buoyant life jacket with a hole in the back. The hole in the life jacket will allow you to wear a safety harness. The line should be only long enough to permit freedom of movement.

Wear a life jacket when you work at underway replenishment stations, when you are in a lifeboat at sea, when you work on weather decks during heavy weather, or whenever you are directed to do so. While the ship is under way, you must be given permission by the CO to work over the side.

## **ANTENNAS**

Personnel aren't permitted to go aloft in the vicinity of energized antennas. The voltages set up in a ship's structure or section of rigging by electromagnetic radiation (EMR) can shock or burn you. When deck force personnel or others work on rigging, they must be familiar with the hazards that exist and know the precautions to be observed. Safety harnesses are used when working aloft to guard against falls.

The previously mentioned precautions should be observed also when other antennas in the immediate vicinity are energized by electronic transmitters, unless it is definitely known that no danger exists. Other antennas may be interpreted to mean any antennas on board another ship moored alongside or across a pier or at a nearby shore station.

Personnel aloft are in danger from falls caused by radar or other antennas that rotate or swing through horizontal or vertical arcs. Motor switches controlling the motion of radar antennas should be locked open and tagged before you go aloft to work in the vicinity of such antennas.

## **REVIEW 4 QUESTIONS**

- Q1. Handling cargo improperly can result in injury and death. What precautions should you follow in the following cases?
  - a. Working over the side
  - b. Lifting heavy objects
  - c. Steadying a load
- Q2. What person grants permission for any work done aloft?
- Q3. What precautions are taken before permission is given for personnel to work aloft?
- Q4. Describe the purpose of lifelines.
- Q5. Describe the equipment you should wear when working over the side.

## **STEAM**

Most accidents involving steam occur in engine rooms and firerooms. However, steam lines run throughout a ship; therefore, observe proper precautions at all times. Some practices can be applied to almost any situation regardless of the type of equipment, the steam pressure, or any other job-related condition.

Live steam is often invisible and it is always dangerous. If you are not familiar with a system or have not been trained for the task at hand, do not attempt the job.

Always drain lines before removing valves or otherwise opening the system. Close all associated

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## ***Student Notes:***



valves to isolate the system to be opened, and tag these valves to ensure they remain shut while you are working on the equipment. Wear proper protective clothing. Do not try to take shortcuts and do not skylark. Carelessness has been a factor in nearly all reported mishaps involving steam. Observe all appropriate precautions.

## **CLOSED COMPARTMENTS AND UNVENTED SPACES**

**Never enter a closed space until it is certified safe by a gas free engineer.**

Closed compartments may contain hidden dangers, both to yourself and to the ship as a whole. One possibility is toxic or explosive gases. After these spaces are opened, your gas free engineer will make sure that it is safe for you to work there.

If the ship's been damaged, other dangers may exist. The manhole access cover to a damaged tank or compartment might be all that's preventing flooding. Additionally, water entering a closed compartment pressurizes the air already there. Don't try to open a pressurized compartment or void without venting the pressure first. If you don't vent the pressure first, the hatch cover/access will fly open violently, possibly injuring you or a shipmate. Check with your supervisor for help in learning to recognize these and other hazards.

Consider all compartments dangerous if they've been closed for any length of time. If the bulkheads, deck, or overhead are rusted, they have absorbed oxygen from the air. This means there may not be enough oxygen left for you to breathe. If the compartment was painted before it was closed, the hardening paint has absorbed oxygen and given off carbon monoxide. Carbon monoxide is particularly dangerous because it gives no warning. If you're working in a compartment that's been closed and you notice a sudden feeling of weakness, drowsiness, or a slight headache, **call for help and get to fresh air.**

In storage compartments, several toxic gases may be generated by mildewing or rotting foodstuffs or by materials such as cloth, leather, and wood. Mildewing and rotting are speeded up when the space is warm and humid, such as when a ship is cruising in the Tropics or

when an area has been flooded as a result of damage or accident.

Carbon dioxide is frequently found in refrigerator spaces, even though the spaces are undamaged and the foodstuffs are still good. This condition results from lack of ventilation and the fact that foods slowly absorb oxygen and give off carbon dioxide. If personnel stay in such spaces longer than a few minutes at a time, they may be overcome and eventually suffocate.

Sulfur oxides are acrid, corrosive, poisonous gases produced when fuels containing sulfur are burned. For example, aboard ship the primary producer of sulfur oxides is fuel oil, which contains sulfur as an impurity.

Government agencies and industries have sought to reduce sulfur oxide emissions in three ways:

1. Switching to low-sulfur fuels (those with less than 1% sulfur).
2. Removing sulfur from fuels entirely.
3. Removing sulfur oxides from combustion gases.

To reduce the sulfur oxide problem on ships, the Navy developed a fuel oil called *Navy distillate fuel*.

Sulfur oxides produce an offensive odor and can cause eye and lung irritation. Tanks that have held petroleum products and compartments in which oil, gasoline, solvents, and organic products that have been spilled will contain the vapors of these products.

Tanks that have held petroleum products, and compartments in which oil, gasoline, solvents, and organic products have been spilt, will contain the vapors of these products.

You must assume that any closed space, double bottom, tank, cofferdam, pontoon, or void contains gases that can poison or suffocate you or can explode. (**NOTE:** Never enter any such space until it has been thoroughly ventilated and checked by a gas free engineer to make sure there is no danger of poisoning, suffocating, or igniting flammable gases.) Before entering a closed space, make sure that it's been ventilated for 24 hours. Also, the gas free engineer must certify the safety of the space and recertify it every 8 hours while personnel are working in the space. Always have a person stationed at the entrance to maintain

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## ***Student Notes:***

communications and to watch to see that you are not overcome.

Symptoms of bad air include the following:

- Labored breathing
- Excessive fatigue from slight exertion
- Headaches
- Dizziness

If you feel any of these symptoms, warn others and get to fresh air immediately.

A more dangerous situation occurs if there is very little or no oxygen in a compartment. In this case, a person can lose consciousness almost immediately and without warning. If this happens and you're tending the person, don't enter the space without wearing an oxygen breathing apparatus (OBA). If you do, you'll become a casualty yourself. Always summon (call for) help before making a rescue attempt.

Another hazard of working in closed compartments or connected spaces is the use of internal combustion engines in these spaces. For example, if a P-100 pump for fire fighting or dewatering is used in a closed compartment, the engine used to drive the pump takes in the air through the carburetor and exhausts poisonous carbon monoxide. If you need to use an internal combustion engine in a closed space, make sure the exhaust is carried (vented) to the open atmosphere.

### REVIEW 5 QUESTIONS

Q1. Where do most accidents involving steam occur?

Q2. Describe the reason why you should never enter a closed space until its certified by the gas free engineer.

Q3. List the symptoms caused by bad air.

- a.
- b.
- c.
- d.

### FLAMMABLES

Rules for preventing fuel fires were presented in chapter 13 of this manual. Our discussion here will include fire hazards and toxic hazards of flammable materials and applicable safety precautions.

The vapors of petroleum products cause anesthetic effects when inhaled. Breathing air where petroleum vapors have a concentration of only 0.1 percent by volume can result in the inability to walk straight after only 4 minutes. Longer exposure or greater concentration may cause unconsciousness or death. When lead is added to the fuel, toxicity is increased. The lead may be inhaled or it may be absorbed through the skin. Proper ventilation, therefore, must be provided at all times when personnel are working in fuel tanks. An air-line respirator is recommended when personnel enter such spaces.

Symptoms of exposure to toxic vapors are headache, nausea, and dizziness. If you are working in a space that formerly held oil, gasoline, or other fuels and you experience these symptoms, get to fresh air at once. Recovery is usually prompt in fresh air; but if you are overcome by the vapors, you may require immediate medical attention. First-aid measures are to prevent the victim from becoming chilled and to administer artificial ventilation if breathing has stopped.

All fuel spills must be wiped up immediately to prevent the spread of vapors to a possible ignition source. Never use gasoline for cleaning purposes, and avoid getting gasoline on the skin. Repeated contact causes drying, chapping, and cracking and may cause infection.

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***Student Notes:***

## OPEN FLAME AND NAKED LIGHT NEAR FUELS

The use of open flame, naked lights, or any apparatus that is likely to cause a spark is not permitted in spaces or areas where fuel is exposed or during fueling. The term *open flame* includes all forms of fuel or gas lanterns, lighted candles, matches, cigarette lighters, and so on. The term *naked lights* includes any unprotected electrical lighting device. Permanently installed electrical apparatus necessary for maintenance of power or services in the ship could produce sparks.

## PAINTS

Paints, varnishes, lacquers, cleaners, solvents, or other finishing materials contain flammable solvents that can ignite at comparatively low temperatures and, therefore, present a fire hazard. They also give off toxic vapors that are harmful when inhaled. When using paints and finishing materials, you should observe the following precautions:

- Do not smoke or use an open flame in areas where paint, varnishes, lacquers, and solvents are mixed or applied.
- Wipe up spilled paint or solvents immediately to reduce fire and vapor hazards.
- Place rags or other items used for cleaning up paint in a separate container with a closed top.
- Take care to prevent paint products from coming in contact with the eyes and skin.
- Wear goggles when chipping and cleaning surfaces to be painted.
- Wear gloves and a filter respirator when mixing paint and when painting.

## SOLVENTS

Solvents used in paints, adhesives, rubber and plastic materials, and degreasing solutions are hazardous to your health. Most solvents are toxic and, with a few exceptions, are flammable. Appropriate measures must be taken to reduce their toxic and flammable effects. In addition, exposure of the skin to

solvents can cause serious skin problems. Therefore, you should observe the following precautions when using solvents:

- Use adequate ventilation.
- Wear protective clothing, goggles, gloves, and other appropriate safeguards.
- Have readily accessible fire-fighting equipment nearby.
- Take every precaution to prevent excessive vapors from contaminating the air.
- Check all liquids before using. If in doubt of any cleaning fluids, consult the officer in charge.
- Wipe up spilled solvents immediately.
- Avoid contact with your eyes, skin, or clothing. Do not take solvents internally, and avoid breathing solvent vapors.
- Keep solvent containers tightly closed when not in use.
- Check containers for leakage; if a container is defective, transfer the solvent to a new container.
- Be sure containers are empty before they are discarded. Observe approved practices for disposal of solvents and cleaners and their containers.
- Label all containers in which solvents are to be stored.
- Store solvents in an appropriate solvent storage locker.

## REVIEW 6 QUESTIONS

- Q1. Define the following terms.
- a. Open flame—
  - b. Naked lights—

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***Student Notes:***

Q2. When storing solvents, what actions should you take?

- a.
- b.

## WEAPONS AND EXPLOSIVES

You should observe the following general precautions when handling any type of weapon:

- Consider every weapon loaded until you examine it and find it otherwise.
- Never point a weapon at anyone you do not intend to shoot or in a direction where an accidental discharge may do harm.
- Place a cartridge in the chamber only when you intend to fire the weapon.
- Whenever you handle a weapon, think about what you are doing. Accidents seldom “just happen.” They frequently are caused by persons ignorant of safety precautions. All too often they are caused by carelessness.
- Make sure the ammunition is suited to the type of weapon you intend to fire.

Ammunition is stowed aboard ship in specially constructed compartments called magazines, which are located as far as possible from firerooms and engine rooms. Each magazine is equipped with a sprinkler system, and many are equipped with a quick-flooding system for use in an emergency to prevent explosion of the magazine. Lighting is accomplished with vaportight fixtures. Naked lights, matches, or other flame-producing apparatus must never be taken into a magazine. Heel plates or other spark-producing materials are also forbidden. Magazines must be kept scrupulously clean and dry at all times. Particular attention must be paid to ensure that no oily rags, waste, or other materials that may cause spontaneous combustion are stored in magazines.

Extreme care must be exercised when handling ammunition. Remember, the purpose of ammunition is to cause destruction. Be sure the destruction is to the enemy and not to your own ship. Figure 19-3 shows the

tragic results of careless handling of ammunition. A ship was lost and over 150 persons were killed or injured.

An important part of ammunition handling is identifying the type of ammunition. Projectiles of 3-inch and greater diameter are color-coded to indicate the projectile type and the kind of bursting charge they contain. Armor-piercing, antiaircraft, illuminating, and chemical projectiles are identified by their own distinctive color markings. Whenever you are handling ammunition, keep projectiles of the same type (same color) together.

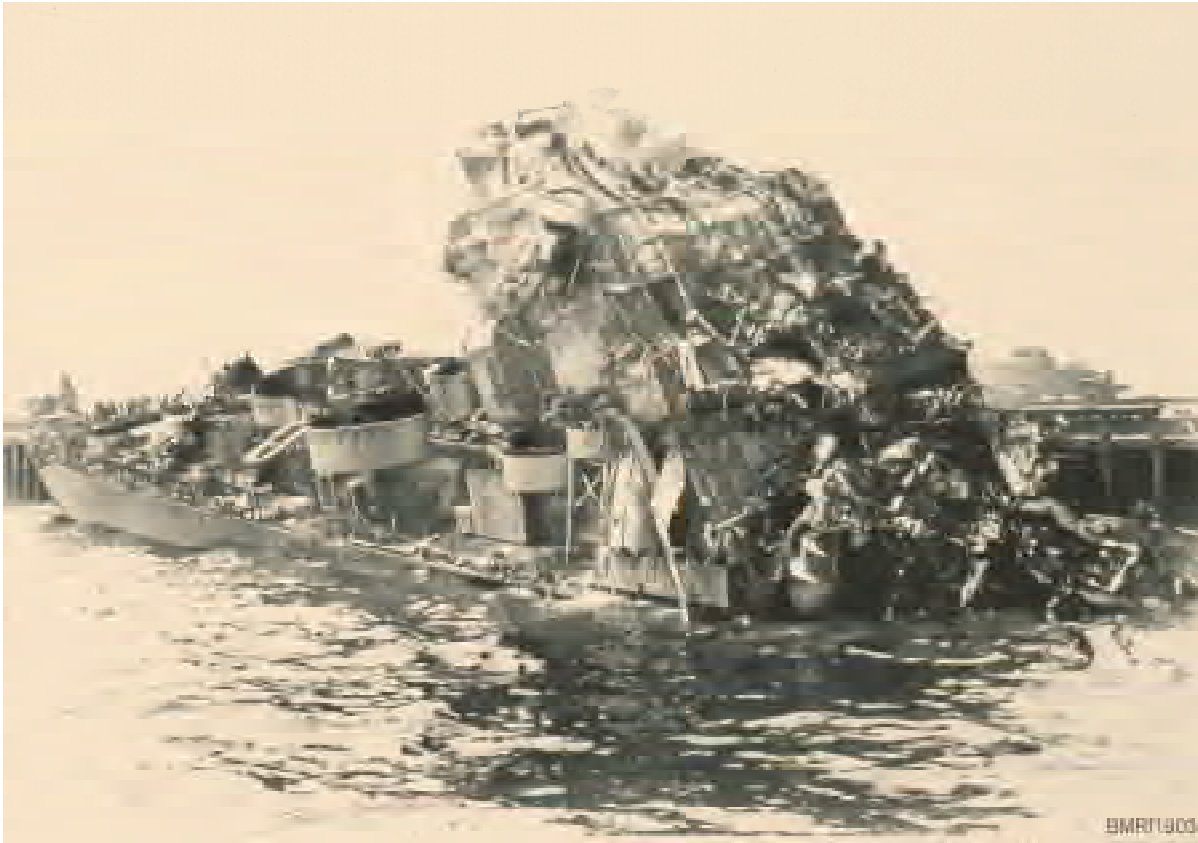
A few additional rules are given here for handling ammunition. These rules are general in nature and are not all-encompassing, but they apply to all types of ammunitions.

- Loading or unloading ammunition is not a contest. Racing against other handling parties only increases the possibility of a mishap.
- Be careful not to dent cartridge cases. Dented casings may jam in the bore. Some thin-cased explosives are known to have detonated when their casings were dented.
- Avoid obliterating (blotting out, blurring, etc.) identification marks.
- Grommets are used to protect the rotating bands of projectiles; don't lose the grommets.
- Don't smoke in magazines or in the vicinity of explosives-handling and explosives-loading operations.
- Unless you are involved, keep clear of ammunition-handling operations.
- Never tamper with explosive devices.
- Don't store drill charges in magazines with live ammunition.

All pyrotechnic materials are kept in special stowage spaces, usually located on topside decks. Any pyrotechnic material that shows signs of damage to its safety device is considered unserviceable and must be segregated for prompt disposal. Extreme caution must

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### *Student Notes:*



**Figure 19-3.—A result of carelessness.**

be taken to prevent accidental ignition of loose pyrotechnics made ready for disposal, because damaged material can be ignited by rough handling.

### **REVIEW 7 QUESTIONS**

- Q1. When handling a weapon, you need to think about what you're doing for what reason?
- Q2. Projectiles that have a 3-inch or greater diameter are color-coded. What information is shown by the color code?

### **ELECTRICAL AND ELECTRONIC EQUIPMENT**

All electrical and electronic equipment is hazardous; therefore, strictly observe all safety precautions. Most people treat high-voltage equipment carefully, but they tend to treat the common 115-volt equipment lightly. Yet, 115-volt equipment is the cause of more deaths than any other voltage. Cases of fatal shock have been recorded from the use of equipment such as portable grinders and drills, fans, movie projectors, and coffee makers. In most cases, death would have been avoided if proper grounding instructions had been observed. The precautions that follow must be observed by personnel working on or near other types of equipment:

- Most electronic equipment has a metal grounding strap connecting the equipment to the ship's hull. The straps keep the equipment's frame and the ship's hull at the same electrical potential. Never paint, loosen, disconnect, or

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***Student Notes:***



otherwise tamper with the straps without proper authority.

- Never replace or pull a fuse. Only authorized personnel are allowed to do such work.
- Motors and generators often have openings in their casings. Avoid dropping tools or other objects into the openings. Some machinery and electrical circuits generate magnetic fields, so be alert; don't let magnetic tools you are holding be drawn to such equipment.
- Electrical and electronic equipment and power cables are identified by nameplates, tags, or other markings. Never paint over such identification markings.
- Don't hang items on, or secure lines to, any power cable, antennas, wave guide, or other electrical or electronic equipment.
- Don't use personal electrical equipment aboard ship without the approval of the engineer officer.

## COMPRESSED GASES

Compressed gases includes air, oxygen, acetylene, carbon dioxide, and other gaseous or gas-forming compounds held under pressure in steel bottles, cylinders, or tanks. In general, three types of hazards are connected with compressed gases as follows:

1. Cylinders containing compressed gas are usually round and long. They are made of heavy steel. Unless secured to a structure, they can roll, tip over, or bang around. If not secured properly, they can roll around and cause damage by bumping into a person or an object.

2. The cylinders contain gas under pressure—often under very high pressure. A cracked cylinder can fly apart. Air or gas from a valve or hose connected to a cylinder can blow dirt into your eyes; or the hose can whip around and strike you, causing an injury. If you drop or mishandle an oxygen cylinder so that its valve breaks off, you may see the heavy steel bottle take off like a rocket—causing injury and damage.

3. The cylinders may contain gases that are poisonous, flammable, or explosive, and often all three. Acetylene cylinders are common aboard ship. If you ignite acetylene, it will blaze with intense heat; if it's mixed with air and a spark gets to it, it will explode. In fact, an acetylene cylinder can explode if it is overheated and then given a sudden blow. If oxygen comes into contact with oil or grease, you can be sure you will have a fire. CO<sub>2</sub> used in fire extinguishers is particularly dangerous; you will suffocate in a room filled with it. Also, CO<sub>2</sub> is extremely cold when it is discharged. It may cause painful blisters if it comes in contact with your skin.

You must handle, work with, and work around compressed gas cylinders with care and caution. The cylinders are heavy and can easily be tipped.

In general, weather-deck stowage will be provided for flammable and explosive gases. However, in specific cases, the approval of below-deck stowage depends on the particular type, mission, and arrangement of the ship. In such cases, these approved locations are shown on the ship's plans.

Compressed gases aboard all ships, except cargo ships, should be stowed in compartments designed for stowage of gas cylinders. In such cases, the following precautions must be observed:

- Take the necessary steps to prevent the maximum temperature of the stowage compartment from exceeding 130°F.
- When provisions are made for mechanical ventilation, operate this ventilation according to the damage control classification assigned.
- The classification for closure of this system is ZEBRA (Z), CIRCLE WILLIAM [(W)], and WILLIAM (W).
- In compartments designated for stowing flammable or explosive gases, the installation of portable electric wiring and equipment isn't permitted.

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## *Student Notes:*



- Flammable materials, especially grease and oil, must be kept out of the stowage space used for oxygen cylinders.
- Each cylinder must be securely fastened in the vertical position (valve end up) by using such means as metal collars. On cargo ships fitted especially for cylinder transport, other arrangements are approved.
- Oxygen and chlorine must be stowed in compartments separate from flammable gases. Inert or nonflammable gases may be stowed in compartments designated for compressed gas stowage.
- Compartments containing compressed gases must be ventilated for 15 minutes before entry if the ventilation has been secured; a suitable sign to this effect should be posted on the outside of the access door.

When compressed gas is stowed on the weather deck, the following additional precautions must be observed:

- Oxygen and chlorine cylinders must not be in close proximity to fuel-gas cylinders.
- Cylinders containing compressed gases should be stowed so that they will be protected. During the winter, cylinder valves must be protected against the accumulation of snow and ice. Warm water (not hot) should be used to thaw ice accumulations in cylinder valve caps and outlets. During the summer, cylinders must be screened from the direct rays of the sun. Every effort should be taken to prevent corrosion of threaded connections of cylinders in stowage for extended periods of time. The use of grease or flammable corrosion inhibitors on oxygen cylinders is not permitted.
- The stowage area should be as remote as practical from navigating, fire control, and gun stations.

## ASBESTOS

Asbestos is a fibrous material that is incombustible (doesn't burn), possesses high tensile strength, has good thermal and electrical insulating properties, and has

moderate to good chemical resistance. Because of these characteristics, the Navy has had many uses for asbestos. Asbestos was used as the primary insulation and lagging material for high-temperature machinery, boilers, and piping on board ships. Other applications included floor tile, tile underlayment (especially decks above engineering spaces), rope and pressed gaskets, brake and clutch facings, and expansion joints.

When intact and not disturbed, asbestos doesn't normally present a hazard. Problems arise when repair work causes the generation of asbestos dust. Inhaling asbestos fibers present in the dust may lead to various forms of asbestos-related diseases. Most symptoms of asbestos-related diseases do not show up until 10 to 45 years after exposure. Since the total removal of all asbestos materials on board Navy ships is not feasible, the Navy has instituted a program to control the use and replacement of asbestos with nonasbestos substitutes.

**Only specially trained and medically qualified personnel are authorized to remove asbestos.** When asbestos material is being handled, complex safety requirements and precautions are used. **Never enter a space that has been designated as an asbestos hazard area unless specifically told to do so.** For more detailed instructions on the hazards and control of asbestos, refer to *Navy Safety Precautions for Forces Afloat*, OPNAV 5100.19.

## FIBERGLASS

Reinforced plastic materials are currently being used by the Navy in—

- Boat hulls,
- Submarines,
- Minesweeping equipment,
- Protective coverings for wood and steel, and
- Many other types of equipment and materials.

Reinforced plastic is made of glass fibers, resin, and chemicals, which gives it the name *fiberglass*. The resin and activating chemicals bond the glass fibers together, producing a very tough and rugged material. Polyester or epoxy resins are used to make fiberglass.

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## Student Notes:

Fiberglass isn't totally safe to work with. Certain safety precautions must be observed when working with or around fiberglass. If fiberglass is cut or ground, a fine dust is produced. This dust is abrasive and can irritate your skin and eyes. Use a filter mask respirator when working in this type of atmosphere.

The chemicals used in making fiberglass and fiber glass patches are very flammable and toxic. Provide adequate ventilation to remove the fumes and dust particles. Most important, never smoke in areas where fiberglass work is being carried out.

### REVIEW 8 QUESTIONS

- Q1. What is the cause of many fatal shocks received from drills and fans?
- Q2. List the three types of hazards associated with compressed gases.
- a.
  - b.
  - c.
- Q3. True or false. Oxygen and chlorine are stowed in compartments separate from flammable gases.
- Q4. Why should you use a filter mask respirator when working with fiberglass?

### POWER TOOLS

During your career in the Navy, you may be required to use a variety of power tools. Whether these tools are electrical, pneumatic, or hydraulic, the same common sense safety precautions apply to all of them.

Before you use a portable electric tool for the first time, have it inspected and approved by the ship's electrical department for safety. If it has a current ship's inspection mark, visually examine the attached cable

for any cracks, breaks, exposed conductors, or a damaged plug. If any defects are found, turn the tool in to the ship's electrical shop for repair. Before plugging an electric tool into a receptacle, make sure the tool is turned off. When using portable electrical tools, wear safety glasses or goggles if the job involves danger from flying objects, such as paint or metal chips. You should also wear ear protection devices if the tool has a "Produces Hazardous Noise" label on it.

Metal-cased portable electric tools must have a three-pronged plug on the power cord. If an extension cord is used, it must be the three-pronged type with a three-pronged plug at one end and a three-pronged receptacle at the other end. When using an extension cord with an electric tool, you must first plug the tool into the extension cord and then the extension cord into the receptacle. When you are finished with the electric tool, switch it off, unplug the extension cord from the receptacle, and then unplug the tool.

Portable tools should be kept clean and in good repair. Arcing portable tools are not to be used in areas where flammable vapors, gases, liquids, or exposed explosives are kept.

### CUTTING AND WELDING OPERATIONS

The convenience of arc and gas welding and cutting allows the performance of repair jobs in almost any location. Failure to use proper safety precautions during welding or cutting operations presents a serious fire hazard. **Only properly trained personnel should operate gas welding or cutting equipment.** Because cutting and welding operations are continuously being performed throughout the ship, you may be called upon to stand a fire watch and must be familiar with the safety precautions of such operations. The following are some basic precautions to be taken during welding or cutting operations:

- The gases used in welding and cutting are explosive. When one of these gases is mixed with air, the mixture will burst into flames if a spark or flame is brought near it.

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### *Student Notes:*

- Remove all combustible materials, flammable or explosive, from the area where welding or cutting is to be done.

- When welding or cutting a bulkhead, deck, floor, or other structure, you should check both sides of the structure to ensure that no materials near the structure will be damaged or will become a possible fire hazard.

- Post fire watches on both sides of a deck or bulkhead before welding or cutting operations can be started. Personnel assigned fire watches should be thoroughly familiar with fire watch responsibilities and outfitted with the proper safety gear, such as gloves, proper eye protection (particularly when arc welding), and safety shoes. To make sure no fire hazards exist, personnel assigned to the duties of a fire watch must remain at the location at least 30 minutes after the job is completed.

- Keep approved fire-extinguishing equipment near welding and cutting operations. Usually, a CO<sub>2</sub> extinguisher is adequate. If the space is small or if the access is only a small opening, CO<sub>2</sub> is not the extinguishing agent to use. CO<sub>2</sub> could fill the small space, and the small opening would not allow for breathable air to enter. The small entry or exit may also hinder any rescue attempts should you be overcome by suffocation. If CO<sub>2</sub> is not recommended, the use of water spray from a fog nozzle is preferred. In the event the fire is caused by electricity, secure power before using the water spray.

- Welding or cutting operations aren't permitted in or on the outer surfaces of a compartment or tank that contains or has contained a flammable or explosive substance, unless applicable safety precautions are observed.

## **ROTATING MACHINERY**

The safe operation of rotating machinery and tools requires the operator to be thoroughly knowledgeable in the equipment operation. It also requires strict adherence to established operating procedures. The operators should be familiar with the safety precautions for their own particular machinery. However, when

operating rotating machinery, the following general safety precautions should be observed:

- Never place any part of your body into moving machinery. Never attempt to ride machinery that is not designed for human conveyance.

- Never wear jewelry, neckties, or loose-fitting clothing.

- Wear proper protective clothing and equipment suited to the operation being performed (hearing protection; eye, hand, and foot protection; dust and paint respirators; and so on).

- Before attempting to perform repairs or preventive maintenance on any equipment, ensure that it is de-energized and/or depressurized and properly tagged out of service before beginning to work.

- When working in the vicinity of electrical equipment or electrical cables, be alert to the presence of dangerous voltages and avoid striking such equipment with tools of any kind. Should such damage inadvertently occur, report it immediately to the ship's electrical officer.

- Don't use compressed air to clean parts of your body or clothing or to perform general space cleanup. Compressed air may be used to clean machinery parts that have been properly disassembled provided that the supply air pressure does not exceed 30 psi and a safety shield tip is used.

- Reinstall shaft guards, coupling guards, deck plates, handrails, flange shields, and other protective devices removed as interference immediately after removal of machinery, piping, valves, or other system components during maintenance to prevent injury to personnel.

- Inspect and/or test, according to scheduled PMS and other type commander (TYCOM) requirements, all installed safety devices, alarms, and sensors. Assign a high priority to repair of defective safety devices.

- Cleanliness of machinery and its spaces profoundly affects the safety of personnel and equipment. Correct oil leaks at their source. Wipe up spills of any kind immediately, and dispose of the

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## ***Student Notes:***

wiping rags immediately or store them in firesafe containers. Avoid trip hazards by maintaining proper stowage. Do not allow fire hazards to accumulate.

### REVIEW 9 QUESTIONS

- Q1. Before beginning work to repair a piece of equipment, you should take what action?
- Q2. What personnel are authorized to operate gas welding or cutting equipment?
- Q3. When working around rotating machinery, what types of clothing/equipment should you wear?

### LIQUIDS UNDER PRESSURE

Any liquid in a system that has been pressurized is to be considered dangerous until the pressure has been removed. For example, the ship's fire-main system uses salt water that has been pressurized to make the water available throughout the ship. The pressurized water in the system is not dangerous, but the misuse of it is. Therefore, you should observe the following safety practices when using the fire-main system or any other system that may have pressurized liquid in it:

- Never connect or disconnect a hose from the system until the pressure has been removed. This can be done by shutting off the valve on the fire-main system.
- Never use ruptured or worn hoses with any system that has pressure in it.
- Never point a charged (pressurized) fire hose at anyone.
- Spray paints, butane fluids, lacquers, and other aerosol products contain liquids under pressure. Be extremely careful with these containers.

Don't use these containers near a flame, throw them in a fire, or puncture the containers.

### ACIDS, ALKALIES, AND OTHER CHEMICALS

Acids and alkalies are used in the Navy in the form of pure compounds and mixtures. Acids and alkalies are hazardous because they're corrosive (cause chemical burns) when they come in direct contact with the skin, eyes, or other body tissues. They can cause breathing difficulties or injure respiratory organs if too much of the acid mist is inhaled. The acids and alkalies can also cause dangerous chemical reactions if not handled properly.

When handling acids, alkalies, or other chemicals, you should observe the following precautions:

- Wear chemically resistant rubber or plastic gloves.
- Wear chemically resistant rubber or plastic goggles. You may need to wear a plastic face shield in addition to the goggles.
- Wear chemically resistant rubber boots or overshoes with resistant soles. Wear trousers outside of the boots.
- Wear a rubber or plastic apron.
- Wear a respirator when indicated for the chemical you are working with.

Persons who have been exposed to acids or alkalies should seek medical attention immediately.

### MARINE SANITATION SYSTEMS

Sewage is a mixture of all liquid domestic wastes, especially human body wastes (fecal matter and urine). Sewage contains large numbers of microorganisms, some of which are disease bearing. Bacteria and viruses enter the human body through the mouth, nose, open sores, and so on. Therefore, you must observe the following basic precautions when working in sewage-handling areas.

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### *Student Notes:*

- Never take food or drink of any nature into sewage-handling areas.
- Never work on sewage-handling equipment if you have open cuts or sores.
- Maintain cleanliness of equipment at all times.
- Wash down any spilled sewage immediately (before it dries) with water and a good quality nonscented disinfectant. Don't use liquid soaps or scented disinfectants because they may temporarily disguise inadequate cleanup procedures.
- Always follow personal hygiene routines after working in a sewage-handling area or after being in contact with sewage-handling equipment.

### NOTE

Notify the medical department and the damage control assistant (DCA) on the status of any holding or other marine sanitation device (MSD) whenever the ship is threatened by hostilities, fire, flooding, or conditions that could turn the MSD into a biological hazard to the ship's crew. Each ship should have developed plans to eliminate or control the biological hazards from these occurrences.

### WARNING

Do not smoke in the vicinity of the sewage-handling equipment. Fuel leaks or spills can occur in the incinerator area where temperatures may exceed the flash point of the fuels used. Methane and hydrogen sulfide may be emitted by any tank or tank leaks. These gases are also flammable and under some conditions are explosive.

### REVIEW 10 QUESTIONS

- Q1. List the safety precautions to follow when working with systems having pressurized liquids.

- a.
- b.
- c.
- d.

- Q2. If you've been exposed to acids or alkalis, what action should you take?

- Q3. Why shouldn't you smoke near sewage-handling equipment?

### HIGH NOISE LEVELS

Continuous exposure to noise at a high level can cause temporary or permanent hearing loss. Electrical/electronic equipment, portable power tools, machinery, and weapons are a prime source of loud noise.

The Navy has different types of hearing protection for use in subduing noise, such as earplugs (regular and disposable), headband earplugs, and the circumaural muff. If the noise is too loud, you may need to wear the earplugs and the circumaural muff for double protection.

### RECREATION AND SPORTS

Participation in recreational activities is responsible for many injuries to personnel. Practically all sports involve some type of hazard. The principles of attack and retreat in body-contact sports arouse emotions that can lead to hazardous circumstances. When participating in sports, you should be familiar with and observe protective measures, rules, regulations, procedures, and applicable safety precautions.

When you engage in recreational activities, observe the following precautions:

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***Student Notes:***



- Don't engage in recreational activities unless you are physically able to do so without harm.
- Wear necessary and prescribed protective equipment and clothing.
- Avoid overexertion and excessive fatigue. Such conditions can lead to injuries.
- Don't engage in an activity if you have an old injury that may be aggravated by additional activity.
- Warm-up properly before engaging in any vigorous sport.
- Avoid horseplay. This is a common cause of accidental injuries.
- Obtain medical attention immediately if you are injured, feel faint, become dizzy, or ill.
- Alcohol and sports do not mix. Drinking while participating in sports increases your chances of injuries.
- Don't try to play a new game or practice new athletic skills unless you are under the direction of a qualified instructor. Don't take unnecessary chances.
- Always keep a safe distance from sporting equipment being thrown, such as the discus and bats.

Remember, when engaged in a recreational activity, you are responsible for protecting yourself from injury. Therefore, you must observe all rules and safety measures.

## MOTOR VEHICLES

You may be assigned duties as a driver. As a driver, you are responsible for the safe operation of the vehicle while it is assigned to you and for the safety of the passengers and cargo. **You (as a passenger or operator) are required to wear seat belts.** You are to make daily inspections of the vehicle assigned to you. If the vehicle is found to be unsafe, you aren't permitted or required to operate that vehicle until it has been

repaired. You must obey all local traffic laws and ordinances while operating a motor vehicle on and off duty.

Except under extreme emergencies when no relief is available, you should only drive for short periods of time. If you must drive for a long period of time or if you become fatigued (tired) or drowsy when driving, pull off the road and stop for a few minutes to rest. Never operate a vehicle if you have been drinking alcoholic beverages, if you are taking medication that will make you drowsy, or if you are sick or physically unfit to drive.

## LIFTING

Lifting is so much a part of our everyday jobs that we don't think about it, and most of the time we do it wrong. Results of improper lifting may be a painful hernia, a strained or pulled muscle, or a disk lesion. For the sake of your back, you should observe the following rules and precautions for lifting:

- **Don't lift an object if it is too heavy or too clumsy for good balance.** Get help, or use mechanical aids such as a dolly or hand truck.

- **Keep the load close to the center of your body.** The farther the load is from the small of your back, the greater the strain. That is the reason a heavy compact load is easier to lift than a bulky, lighter load—you just cannot get the bulky object close to you. The best way to handle a compact load is to squat down close to the load with one foot alongside it and the other foot behind it. With the feet comfortably spread, you will have better stability with the rear foot in the position for the upward thrust of the lift.

- **Pull the load toward you; then lift it gradually.** Avoid quick and jerky motions. Push up on your legs (fig. 19-4) while keeping your back straight. A straight back keeps the spine, back muscles, and other organs of the body in correct alignment. Tucking in your chin helps to align the spine. No matter what size the load, get as close to it as you can; then get a good grip by using the full palm and extending your fingers and hands around the object. Remember that your fingers

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## *Student Notes:*



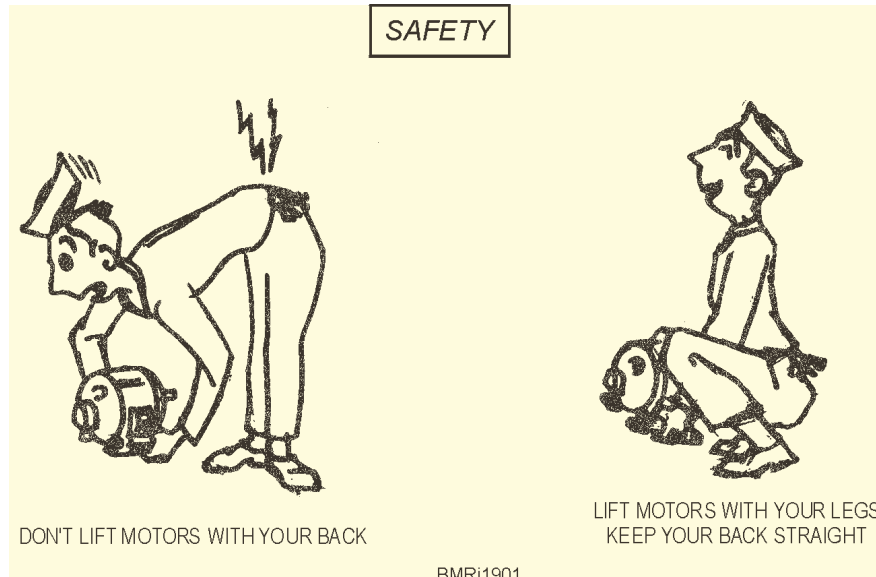


Figure 19-4.—Lift using your legs, not your back.

have very little power and need the strength of the entire hand. Keep your arms and elbows tucked in to the side of your body to help keep the body weight centered. Avoid twisting your body during the lift or while moving the load; change directions by moving your feet. Twisting your body during a lift is one of the most common causes of back injury.

- Be sure you have a clear vision over the load you are carrying.
- Don't change your grip while carrying the load.
- Face the spot where you intend to set the object; bend your knees, keeping your back as straight as possible and the weight of the object close to your body.
- Always allow enough room for the load to prevent injury to your toes and fingers.
- When you are placing a load on a table or bench, set it on the edge and push it forward with your arms and body.

**Remember, if the load is too heavy or too awkward for you to move alone, get help! Remember, also lift with your legs, not with your back!**

## SHIPYARDS AND DRY DOCKS

Sooner or later every ship in the Navy will enter a shipyard or dry dock, usually during a predetermined scheduled overhaul. At times, ships go into shipyards or dry docks between overhauls for necessary repairs.

Shipyards and dry docks are dangerous places to work. So much work is scheduled, normally in a limited time frame, that safety is sometimes sacrificed for expediency (speed doing the work). During these times, look at what's taking place around you. Notice things like missing lifelines on deck (it's a long way to the bottom of a dry dock) and hatch or manhole covers removed without warning barriers erected. Working inside previously sealed compartments, voids, or tanks can be extremely dangerous if the proper safety precautions are not followed.

Often a lot of different evolutions are going on in a confined space. Welding or cutting operations could and often are conducted in the same small space as heavy equipment removal and chipping and painting.

Sometimes all lighting in a compartment or passageway may be removed for various reasons. That presents several safety concerns. You may trip on equipment or tools someone has left behind or bang

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### *Student Notes:*

your head on wire runs or ventilation ducts hanging down where they shouldn't be.

Fire hazards are always a problem in shipyards. Often, there is a large amount of equipment removal or repairs that require welding or cutting, the repainting of spaces, or opening fuel tanks and voids. Therefore, the need to make sure that all flammable material is removed from the ship everyday is significantly increased.

You won't be able to stop all shipyard accidents; but, by following the prescribed safety precautions, you can make the shipyard environment a lot safer place to work. Every ship has a shipyard safety doctrine and conducts safety training before entering a shipyard. If you pay attention at safety lectures and read the safety doctrine, your ship's stay in the dry dock will be much safer.

### **AIRCRAFT STRESS AREAS**

Flight decks and hangars are dangerous, and the danger to personnel goes beyond the possibility of crashes. Engine exhaust tailpipes, engine-starting units, liquid oxygen (LOX) bottles, and connectors are all capable of causing severe injury. Engine-starting equipment (known as *huffers*) generate high temperatures that could severely burn personnel. If not sufficiently separate from the area where fuel tanks, ammunition, or other hazardous materials are being handled, they could cause fires or explosions. Jet engines also generate very high temperatures. Before attempting any type of repair or service work on these engines, make sure they have had enough time to cool down to avoid any possibility of burns.

Any area in which LOX is being used requires extra safety precautions. LOX in liquid form flows like water, but it also boils into gaseous oxygen at -297°F and is capable of immediately freezing any object it contacts. When LOX expands as a gas and is confined and allowed to warm, it exerts extremely high pressures (up to 12,000 psi), causing it to be very dangerous. Always keep clothing and tools free of oil and dirt. Never smoke or have any spark or flame-producing materials near an area where LOX is being handled. A spark or flame in this oxygen-rich atmosphere could be extremely dangerous with violent results. If your skin comes into

contact with LOX, get medical attention immediately. Once again, safety procedures and precautions must be followed when you work with aircraft and equipment. By following these procedures and precautions, you significantly reduce your chances of getting hurt.

### **REVIEW 11 QUESTIONS**

- Q1. List the three types of hearing protection.
- a.
  - b.
  - c.
- Q2. List the three major precautions that you should follow when lifting heavy loads.
- a.
  - b.
  - c.
- Q3. What precaution is taken before a ship enters a shipyard for dry dock work?
- Q4. LOX is dangerous and requires that you follow extra safety precautions. List two reasons why you should be careful when handling LOX.
- a.
  - b.

### **HEAT STRESS PROGRAM**

Heat stress is a combination of air temperature, thermal radiation, humidity, airflow, and workload that places stress on the body. The Navy's Heat Stress Program evaluates and monitors heat stress conditions

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### ***Student Notes:***

to establish safe work schedules in heat stress environments.

Aboard ship, heat stress conditions can occur in almost any space. The causes of heat stress conditions are steam and water leaks, ventilation system deficiencies, missing or deteriorated insulation, and weather conditions of high heat and humidity. Prolonged exposure to heat stress conditions can cause heat exhaustion or heatstroke. These injuries occur when the body temperature continues to increase. The first signs are—

- Increased body temperature causing fatigue
- Severe headache
- Nausea
- Reduced physical and mental performance

**If not immediately and properly treated, these injuries can be life threatening.**

The best way to control heat stress hazards is to follow recommended work practices and procedures. Every ship in the Navy has a heat stress monitoring program. This program is designed to assist personnel that may be required to work in a heat stress environment by limiting the time they spend in a high heat stress situation. Personnel required to work in a heat stress environment receive training at regular intervals. Heat stress not only affects personnel that work below decks or in confined spaces but also personnel that work topside. Read your command's heat stress instruction; it may help you work smarter and safer.

## **COLD WEATHER**

The Navy conducts operations in areas where weather is often a problem. You have already learned about the possible problems that you may meet in the Tropics. Now, you will learn about the problems you may face when the Navy operates in severe cold weather areas. These problem areas range from the Antarctic to the northern regions of the Pacific or Atlantic Oceans.

Your major health risk when working in these areas is hypothermia. Hypothermia results when the temperature of the body reaches subnormal levels. First aid for hypothermia, like that for heat stress, must be immediate. Other safety factors involved with operations in colder regions include ice accumulation on ships' decks and superstructures or when outside bulkheads or fittings become so cold that, when touched with bare skin, the skin sticks to these objects.

To protect yourself from hypothermia if you're working topside or go topside as part of your duties, you need to wear clothing designed to maintain body heat. You need to limit the amount of time you're exposed to such conditions. If you work topside and start to lose feeling on any part of your body, get inside and warm up. **Safety is paramount!**

## **REVIEW 12 QUESTIONS**

- Q1. Heat exhaustion and heat stroke are life threatening. List the signs of heat exhaustion and heat stroke.
- a.
  - b.
  - c.
  - d.
- Q2. What is the major health threat of cold weather?

## **GENERAL PRECAUTIONS**

The precautions that follow are general, all-around safety practices that don't fit into any particular category. Some apply to several situations. Failure to observe any one of these practices could result in a serious mishap.

- Use tools that fit the work being done. Screwdrivers aren't meant to be used as punches.

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## ***Student Notes:***

- If you are issued protective gear, wear it when performing work for which the gear was designed.
- Never overload electrical outlets.
- Keep file drawers closed when they are not in use. Avoid making files top-heavy and be sure drawer stops are operative.
- Don't hang extension cords where somebody can be snagged by them. Extension cords can become a trip hazard also. When using an extension cord, make certain it won't be cut by a closing hatch or door or by any other means while it is lying on the deck.
- Keep all tools in good condition.
- Don't watch a welder's arc if you aren't wearing dark goggles.
- Report defective equipment.
- When you open a hatch, always secure it open with the equipment provided.
- Secure all loose articles when heavy weather is expected.
- Take heed of all warning signs: HIGH VOLTAGE, STACK GAS, RF HAZARD, and so on.
- Never smoke in NO SMOKING areas, when the smoking lamp is out, when painting, or when handling ammunition or flammables.
- Follow good housekeeping practices at all times. Don't allow loose gear to accumulate where it might present a tripping hazard.
- Learn and follow all safety precautions for the job you are doing.

## EQUIPMENT TAG-OUT PROCEDURES

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the purpose and procedures of the Navy Tag-out System.
- Identify and interpret HAZMAT labels.
- Identify the purpose of hazardous materials labels, signs, and symbols.

Post DANGER tags, CAUTION tags, and instrument OUT-OF-COMMISSION or OUT-OF-CALIBRATION labels following the authorized procedures. Those tags and labels help ensure the safety of personnel and prevent improper operation of equipment. Don't remove or break posted safety tags without proper authorization.

Practically every day, you are involved with tagging out a piece of equipment. You tag out a switch or a motor to secure the equipment to perform planned maintenance.

Why do we have tag-out procedures? We have them because our ships are complex and personnel can get hurt because of improper equipment operation. For example,

A submarine was moored to a pier, where it was waiting for the local diving team to do some repair work on the hull. Since it was Saturday, only the duty officer, the duty chief, and the duty section were aboard. The diving tag-out had been written out and hung, and the diving team was waiting for the senior diver to get to the ship and check the tag out. Once that was done, the divers entered the water. The duty chief decided to check the tag outs in the torpedo room. The chief found the DANGER tags for the torpedo high-pressure air ejection system properly hung in place and second-checked—just like they were supposed to be. But, when the duty chief checked the position of the air valves, they were in the open instead of shut position. With the valves in the open position, the divers were subject to a blast of air of 5,000 pounds from the torpedo tubes. The duty chief immediately ordered the divers out of the water.

What happened? The persons who hung the tags hadn't changed the position of the air

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## *Student Notes:*

valves. That time, no one was hurt. The persons who had hung the tags were reprimanded, and the repairs were completed.

During your career, you will probably tag out some type of equipment. Be alert, do the job right, and you shouldn't have any problem. Take your time and do the tag out right the first time. Don't let anyone or anything distract you while you're hanging a tag or second-checking one. If you're not sure of a tag-out procedure, get a copy of your command's tag-out bill. The *Standard Organization and Regulations of the U.S. Navy*, OPNAVINST 3120.32, govern the Navy's equipment tag-out bill.

## **PURPOSE OF EQUIPMENT TAG-OUT BILL**

An equipment tag-out bill has three purposes—

1. To provide a procedure for personnel to use to prevent the improper operation of a component, piece of equipment, system, or portion of a system that is isolated or in an abnormal condition.

2. To provide a procedure for personnel to use in operating an instrument that is unreliable or not in a normal operating condition. (**NOTE:** This procedure is like the tag-out procedure, except that it requires the use of labels instead of tags to indicate instrument status.)

3. To provide separate procedures for personnel to use when accomplishing certain planned maintenance (PMS) actions. These procedures apply only to non-nuclear surface ships and craft and non-nuclear, non-propulsion areas of nuclear surface ships. PMS tag-out procedures aren't authorized aboard submarines, submarine tenders, submarine rescue vessels, in propulsion areas of nuclear surface ships, or within submarine support facilities.

All U.S. Navy ships and repair activities must use standardized tag-out procedures.

## **ORGANIZATION**

The CO or officer in charge heads the tag-out bill organization. Department heads are responsible for

making sure personnel in their departments understand and follow bill procedures.

When a repair activity performs repairs on a ship, the ship is responsible for and controls the tag-out system for the equipment being repaired. The repair activity is responsible for complying with (following) tag-out bill procedures.

### **Commanding Officer**

The CO or officer in charge is responsible for the safety of the entire command. The CO must make sure that all concerned persons know and comply with the applicable safety precautions and procedures of the tag-out system.

### **Officer of the Deck (OOD)**

The OOD may be the OOD or the ship's duty officer, depending on the ship's condition. The OOD keeps track of the systems being tagged out and the condition of readiness of the ship.

### **Departmental Duty Officer (DDO)**

The departmental duty officer (DDO) is designated (named) on the approved watch bill or in the plan of the day. The DDO is responsible for knowing the material condition of a department and the state of the readiness at all times. This officer must know what systems are tagged out for periodic maintenance or for repairs requiring long downtime.

### **Engineering Officer of the Watch (EOOW)**

The engineering officer of the watch (EOOW) keeps up with the status of the engineering plant at all times and whether a tag-out bill affects the readiness of the plant. Depending on the engineering plant conditions, the engineering duty officer may serve as the EOOW. The EOOW informs the proper persons of the status and readiness of the plant and when it will be repaired and returned to normal status.

### **Authorizing Officer**

The authorizing officer signs the final authorization placing a system or piece of equipment off line for

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## ***Student Notes:***



repairs or maintenance. The authorizing officer has the authority to sign tags and labels and the authority to cause tags and labels to be issued or cleared. The authorizing officer is always the officer responsible for supervising the tag-out log. The CO designates authorizing officers by billet or watch station.

### **Repair Activity Representative**

If a tag out has been requested by a repair activity, a representative (shop supervisor or equivalent) signs the tag-out record sheet. This person's signature indicates repair activity satisfaction with completeness of the tag out. The repair activity representative should check and sign each tag that has been hung as he or she makes sure each system is completely isolated. Only after taking that safety precaution should the representative sign the tag-out record. When verified, the tags alert personnel that the repair activity must approve removal of the tags. The repair activity representative approves removal of the tags by signing a tag-out sheet stating that the work is completed and no more work is to be done on the system(s).

### **Person Attaching the Tag**

The person who attaches the tag (along with the person who second-checks the tag) can make or break the tag-out system. The person hanging the tag actually shuts a valve or secures a switch that takes a piece of equipment off line for repairs or maintenance. When you secure a switch or shut a valve, you hang the danger or caution tag securely so that it won't fall off, then you sign it. By signing the danger or caution tag, you verify that you have secured the items that need to be secured and that they are secured.

### **Person Checking Tag**

As you know, the person checking the tag is an important person in the tag-out procedure. The process of checking a tag or label is called *second-checking*. The second-checker examines the tag or label to make sure it corresponds to the equipment that is supposed to be secured and checks the position of the switch or valve. If no mistakes are found, the second-checker signs the tag or label. The signature tells everyone concerned that "all is okay" with the tag or label and that the equipment is secured. If the second-checker finds something wrong,

he or she notifies the first person (person attaching the tag) and the authorizing officer that something's wrong. The person who tags a system and the second-checker have a big responsibility—the lives of their shipmates as well as their own rely on how well they do their jobs.

## **TAGS, LABELS, AND LOGS**

The various tags, labels, and logs used in the tag-out system have a definite purpose. The tags and labels indicate the equipment is out of order or unable to perform its normal functions. These tags are red and yellow, and both are used as warning tags.

- A red tag means a certain DANGER exists if the valve or equipment lineup is changed.
- A CAUTION tag is yellow and usually has a set of instructions printed on it about the operation of the equipment.
- Two labels are associated with the tag-out system—the OUT-OF-COMMISSION (red) and OUT-OF-CALIBRATION (orange) labels.

The tags, labels, and logs used in the tag-out system help to ensure personnel safety. Let's look at how you use each of them.

### **Caution Tag**

Use a yellow CAUTION tag, NAVSHIPS 9890/5 (fig. 19-5), as a precautionary measure to provide temporary special instructions or to show personnel that they must use extra caution in operating equipment. In the instructions, state the specific reason for the tag. Don't use phrases such as "Do not operate without EOOW permission." Personnel don't operate equipment on systems without permission from the responsible supervisor. Don't use a CAUTION tag if personnel or equipment can be endangered while performing evolutions using normal procedures. Use a DANGER tag in these circumstances.

### **Danger Tag**

Attach a red DANGER tag, NAVSHIPS 9890/8 (fig. 19-6), to prohibit operation of equipment that could jeopardize the safety of personnel or endanger equipment, systems, or components. Never operate or

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## ***Student Notes:***



remove equipment tagged with DANGER tags. Operating a piece of equipment tagged out because of an electric short could cause an injury or death. It could also cause damage to equipment that could stop a ship from operating.

### Out-of-Calibration Label

Many gauges and devices are used to monitor how equipment is operating. When regularly monitored, these gauges or devices tell us when something is wrong with the equipment. Check all monitoring devices periodically to ensure they are measuring accurately. Attach orange OUT-OF-CALIBRATION labels, NAVSEA 9210/6 (fig. 19-7), to identify instruments that give inaccurate measurements because they are out of calibration. This label means you must use the instrument only with extreme caution, if at all. When using an out-of-calibration label, mark the label with the magnitude sign (6 or 4) and units of the required correction or the word *overdue*.

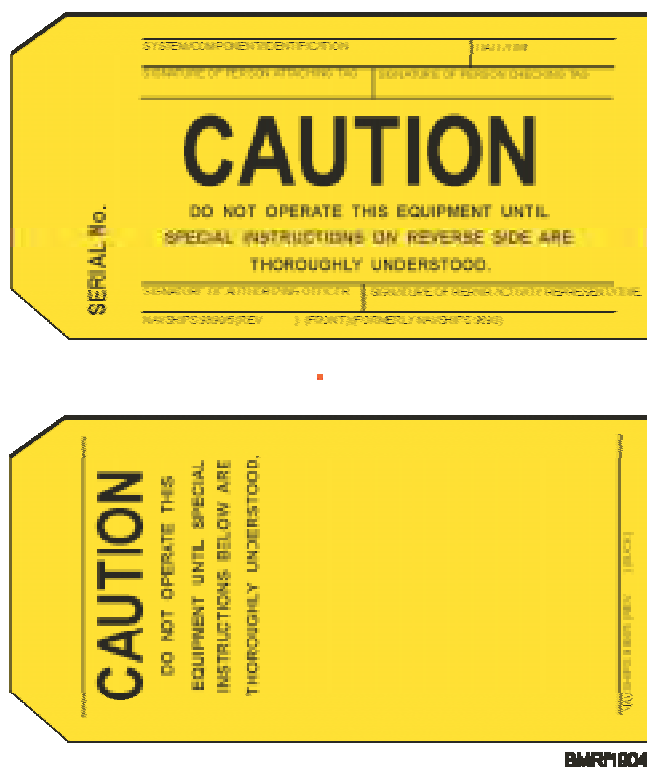
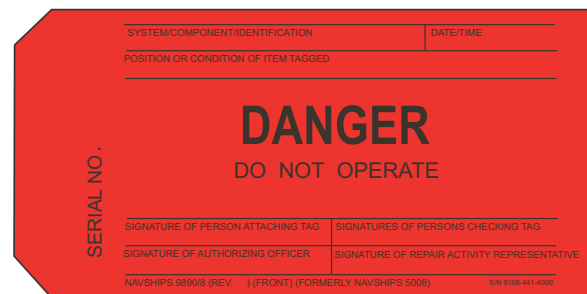


Figure 19-5.—Caution tag.



BMRF1905

Figure 19-6.—Danger tag.

### Out-of-commission Label

Use red OUT-OF-COMMISSION labels, NAVSHIPS 9890/7 (fig. 19-8), to identify instruments that give incorrect measurements because they are defective or isolated from the system. This label shows that you cannot rely upon the instrument or use it properly until it has been repaired and recalibrated or reconnected to the system.

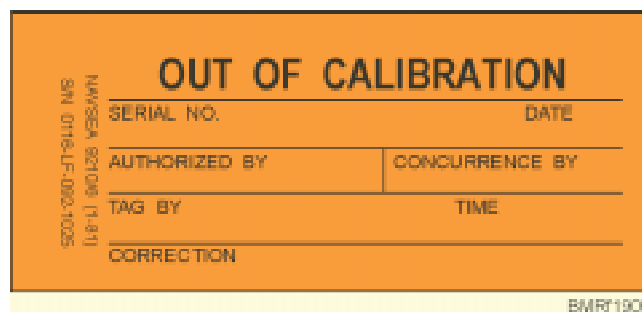


Figure 19-7.—Out-of-calibration label.

### Student Notes:



Figure 19-8.—Out-of-commission label.

## Tag-out Logs

Tag-out logs are used to control the entire tag-out procedure. The number of tag-out logs required depends on ship size. For example, a minesweeper may only require one tag-out log for the whole ship, while a major surface combatant may require a separate log for each department. Individual force commanders specify the number of logs various ship classes must maintain and what areas of the ship must maintain them.

On ships maintaining more than one tag-out log, authorizing officers must exchange information on tag-out actions. When a tag-out affects other authorizing officers, the initiating party obtains verbal permission from those officers to tag out the system or equipment in question before the tag out is authorized. Examples of systems that may require such coordination are ship service electrical distribution, hydraulics, air, ventilation, and air-conditioning chill water systems.

The tag-out log is a record of authorization of each effective tag-out action. It contains the following documents:

1. A copy of the main instruction and any other amplifying directives for administering the system. These documents are kept in the front of the log.
2. A DANGER/CAUTION tag-out index and record of audits (index/audit record). The index/audit record provides a sequential list of all tag outs and ensures serial numbers are sequentially issued. They are used in audits of the log as well to provide a ready reference of

existing tag outs. The cognizant department head may remove the index pages with all tag outs listed as cleared.

3. Cleared DANGER/CAUTION tag-out record sheets that have been cleared and completed. These sheets are kept in the log until received and removed by the cognizant department head.

Tags in a common system (for example, ship's radar or a fire-control system) are logged on one DANGER/CAUTION tag-out record sheet. Subsequent sheets on the same system are kept together.

## REVIEW 13 QUESTIONS

- Q1. List three purposes of the tag-out bill.
  - a.
  - b.
  - c.
- Q2. What person can make or break the tag-out system?
- Q3. A DANGER tag identifies equipment that is in what condition?
- Q4. What documents are contained in tag-out logs?
  - a.
  - b.
  - c.

## PERSONAL PROTECTIVE EQUIPMENT

**Learning Objective:** When you finish this chapter, you will be able to—

## Student Notes:

- Recall the procedures for use and maintenance of personal protective equipment.

Personal protective devices do nothing to reduce or eliminate hazards. They merely establish a “last line of defense.” Some devices that are not worn properly or that are subjected to improper maintenance may not work as designed. For this reason, proper equipment selection, maintenance, personnel training, and mandatory enforcement of equipment use are key elements in the use of personal protective equipment.

You should know what equipment to wear, when to wear it, and how to wear it. You should also know how to take care of the equipment. If you take care of the protective devices, they will take care of you.

The following paragraphs describe some of the protective equipment available to personnel and the procedures to follow in upkeeping this equipment:

- Eye protection includes such articles as personal eyeglasses, common-use goggles, and common-use face shields. These articles should be kept clean and disinfected. Personal eyeglasses are the responsibility of the owner/wearer. Eye protection should be stored where it will be protected from dust, moisture, and the weight of other objects placed directly on it. The best container is probably the box it was packaged in by the manufacturer.

- Respiratory protection, such as respirators, should be assigned to you for your exclusive use, if practical. Respirators should be cleaned and disinfected regularly. While cleaning, you should check for wear or deterioration. This type of protection should be stored in a container that will protect it from dust, moisture, and the weight of objects placed on top of it.

- Hearing protection includes articles such as circumaural protection and earplugs. Earplugs should be washed often (with the exception of the disposable plugs, of course). The circumaural protective devices should have the ear pads cleaned and disinfected periodically. Most small earplugs come in a small container especially made for them. The circumaural device can be hung from the headband.

- Foot protection includes steel-toed boots or shoes, which should fit properly. When they wear out, replace them.

- Head protection includes helmets and hats that are worn to protect the head from falling or flying objects and low overheads. Check these periodically for worn headbands or cracks in the shell.

- Electrical protective devices include rubber gloves, rubber mats, rubber hoods, rubber sleeves, and rubber blankets. Keep these items clean and free of moisture. Check these periodically for cracks or holes in the rubber material. When storing the gloves, return them to the box they came in and do not stack anything on them that would crush them.

## PROCEDURES FOR REPORTING SAFETY HAZARDS/VIOLATIONS

**Learning Objective:** When you finish this chapter, you will be able to—

- Recall the procedures for reporting safety hazards and violations.

The first part of this chapter explained your personal responsibilities. If you detect a safety hazard, you are required to report this hazard to your immediate supervisor. The supervisor will then have the hazard corrected or seek assistance from the ship’s safety officer on ways to correct it. *Navy Safety Precautions for Forces Afloat*, OPNAVINST 5100.19, contains the information on Navy safety.

## REVIEW 14 QUESTIONS

- Q1. List the personal protection equipment you should use in each of the following categories.
- Head protection
  - Electrical protective devices
  - Eye protection
  - Respiratory protection

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### *Student Notes:*

Q2. If you see a safety hazard, whom should you notify?

### SUMMARY

Throughout your Navy career you will continually hear the phrase “Think safety!” and rightfully so. As said at the beginning of this chapter, our profession is inherently dangerous. We can make our place of work considerably safer simply by paying attention to what goes on in our work space on a daily basis.

We have covered a wide variety of safety factors in this chapter. How to properly and safely embark and disembark a liberty boat was discussed. You learned how to use cleaning supplies and equipment properly to keep your berthing compartment shipshape. The proper use of paint and utensils to keep your ship looking good was also covered. How to use the tag-out system to repair or replace equipment, systems, or components to avoid hazards to personnel or equipment was stressed. Numerous evolutions conducted aboard ship on a daily basis would be safer if people would take a few minutes to observe what is going on. Hopefully, observing the safety precautions associated with doing a particular task will reduce mishaps.

Every job in the Navy has a set of safety guidelines. In their haste to get the job done, people sometimes cut corners. They do not realize that just around the corner lies an overlooked or disregarded safety precaution waiting to get us. Paying attention to what goes on around you and your shipmates and observing the proper safety precautions will reduce the number of mishaps considerably. Think safety!

### REVIEW 1 ANSWERS

- A1. Some safety precautions that could save lives include—
- a. **Observe all safety precautions**
  - b. **Report unsafe conditions**
  - c. **Warn your shipmates of hazards**

d. **Wear protective clothing and equipment**

e. **Stay alert**

A2. Being aboard ship is dangerous. Some dangerous shipboard environments you may work in or work around involve—

a. **Powerful machinery**

b. **High-speed equipment**

c. **High-temperature, high-pressure steam**

d. **Volatile fuels and propellants**

e. **Heavy lifts**

f. **High explosives**

g. **Electrical voltages**

h. **Wind and waves**

### REVIEW 2 ANSWERS

- A1. The publication that contains information on using, storing, and disposing of hazardous materials is the **Material Safety Data Sheets (MSDS)**.
- A2. According to **OPNAVINST 5100.19**, you should follow MSDS guidelines when handling hazardous materials.

### REVIEW 3 ANSWERS

- A1. The boat safety precautions that every Sailor should know include—
- a. **Obey all orders from the coxswain.**
  - b. **Embark in a quiet, orderly manner and move as far forward as possible. Once embarked, stay in place.**

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*Student Notes:*

- c. **Keep all parts of your body in the boat; do not sit on gunwales.**
  - d. **Don't engage in horseplay.**
  - e. **Never distract the attention of crew members from their duties.**
  - f. **Don't sit on life jackets; this will mat the filler and reduce buoyancy.**
  - g. **When told to do so, don your life jacket immediately.**
  - h. **Don't smoke in a boat.**
  - i. **If told to embark or disembark, do so without argument. During heavy weather, boat loads will be reduced.**
- A2. If a boat swamps, **don't panic!** Panic is easily spread from person to person causing people to lose their lives.
- A3. You should learn the location of cleats, bitts, and pad eyes on a ship's deck because they're **tripping hazards**; if you know where hazards are located, you stand a better chance of avoiding the hazard.
- A4. Two hazards found on flight decks of aircraft carriers are—
- a. **Propellers**
  - b. **Jet engines**
- c. When steadying a load, **use the nonworking side of a ship for fore-and-aft travel. Don't stand between the load and a fixed object; don't stand under a suspended load; and never ride loads.**
- A2. The **OOD** grants permission for any work done aloft.
- A3. Before permission is given for personnel to work aloft, the following precautions are taken:
- a. **Power is secured on radio and radar antennas and controls associated with antennas are tagged.**
  - b. **The engineer officer is notified to prevent operations such as lifting boiler safety valves or blowing tubes.**
- A4. Lifelines are **safety barriers to prevent personnel from falling or being washed over the side.**
- A5. When working over the side, you should wear the following equipment:
- a. **Standard Navy safety harness with safety line attached and tended by someone on deck**
  - b. **An inherently buoyant life jacket with a hole in the back, allowing you to wear a safety harness**

#### REVIEW 4 ANSWERS

- A1. Handling cargo improperly can result in injury and death. In the following cases you should take the indicated precautions.
- a. When working with line, **never stand in the bight of a line. Keep clear of lines under strain because a line under strain can break with a whiplike snap that can cause severe bruising, broken bones, amputations, or death.**
  - b. When lifting heavy objects, **crouch close to the load with feet spread. Grip the object and lift with your arm and leg muscles (not your back). If the load is too heavy for one person to lift, ask for help.**

#### REVIEW 5 ANSWERS

- A1. Most accidents involving steam happen in **engine rooms and firerooms.**
- A2. You should never enter a closed space until it's certified by the gas free engineer **because closed compartments contain unexpected dangers, including pressures, toxic gases, carbon monoxide, carbon dioxide, and possibly no oxygen.**
- A3. The symptoms caused by bad air include—
- a. **Labored breathing**
  - b. **Excessive fatigue**
  - c. **Headache**
  - d. **Dizziness**

## REVIEW 6 ANSWERS

- A1. Open flame and naked lights are defined as follows:
- a. The term *open flame* includes all forms of fuel or gas lanterns, lighted candles, matches, cigarette lighters, and so on.
  - b. The term *naked lights* includes any unprotected electrical lighting device.
- A2. You should take the following actions when storing solvents:
- a. **Label all containers used to store solvents**
  - b. **Store solvents in appropriate lockers**

## REVIEW 7 ANSWERS

- A1. When handling a weapon, you need to think about what you're doing **because accidents don't "just happen;" they're caused. In fact, they're often caused by personnel who don't follow safety precautions or who are careless.**
- A2. Projectiles that have a 3-inch or greater diameter are color-coded to **show the projectile type and the kind of bursting charge that they contain.**

## REVIEW 8 ANSWERS

- A1. **Treating common 115-volt equipment lightly** is the cause of many fatal shocks received from drills and fans.
- A2. Three types of hazards associated with compressed gases are—
- a. **Cylinders not secured**
  - b. **Cylinders under high pressure**
  - c. **Cylinders containing poisonous, flammable, or explosive material**
- A3. **True**, oxygen and chlorine are stowed in compartments separate from flammable gases.
- A4. You should use a filter mask respirator when working with fiberglass **because fiberglass dust is abrasive and an irritant to skin and eyes.**

## REVIEW 9 ANSWERS

- A1. Before beginning work to repair a piece of equipment, you should **make sure that the equipment is de-energized and/or depressurized and tagged out of service.**
- A2. **Only properly trained** personnel should operate gas welding or cutting equipment.
- A3. When working around rotating machinery, **you should remove jewelry and watches and you shouldn't wear loose fitting clothing; wear protecting clothing and equipment, such as hearing protection, eye, hand, and foot protection, dust and paint respirators, and so on.**

## REVIEW 10 ANSWERS

- A1. The safety precautions to follow when working with systems having pressurized liquids include—
- a. **Never connect or disconnect a hose from the system until the pressure has been removed.**
  - b. **Never point a charged (pressurized) fire hose at anyone.**
  - c. **Never use ruptured or worn hoses.**
  - d. **Don't use spray paints, butane fluids, lacquers, and other aerosol products near a flame; don't throw them into a fire; and don't puncture the container.**
- A2. If you've been exposed to acids or alkalis, **you should immediately seek medical attention.**
- A3. You shouldn't smoke near sewage-handling equipment for the following reasons:
- a. **Fuel leaks or spills can occur in the incinerator area where temperatures may exceed the flash point of the fuels used.**
  - b. **Methane and hydrogen sulfide may be emitted by any tank or tank leaks. These gases are also flammable and under some conditions are explosive.**

## REVIEW 11 ANSWERS

- A1. The three types of hearing protection are the—



- a. **Headband,**
  - b. **Earplugs,** and the
  - c. **Circumaural muff.**
- A2. List the three major precautions you should follow when lifting heavy loads.
- a. **Don't lift an object if it is too heavy or too clumsy for good balance.**
  - b. **Keep the load close to the center of your body.**
  - c. **Pull the load toward you; then lift it gradually.**
- A3. Before entering a shipyard for dry dock work, **every ship has a shipyard safety doctrine and conducts safety training before entering a shipyard.**
- A4. LOX is dangerous to handle because—
- a. **It freezes immediately on contact.**
  - b. **As a gas, it exerts extremely high pressure.**

#### REVIEW 12 ANSWERS

- A1. The symptoms of heat exhaustion and heat stroke include—
- a. **Increased body temperature**
  - b. **Severe headache**
  - c. **Nausea**
  - d. **Reduced mental and physical performance**
- A2. The major health threat of cold weather is **hypothermia.**

#### REVIEW 13 ANSWERS

- A1. Purposes of the tag-out bill include—
- a. **To provide personnel a way to prevent the improper operation of a component, piece**

**of equipment, system, or a part of a system that's isolated or in an abnormal condition.**

- b. **To give personnel a way to operate an instrument that's unreliable or not in a normal operating condition.**
  - c. **To give personal a way to accomplish certain planned maintenance system (PMS) procedures.**
- A2. The tag-out system is made or broken by the **person attaching the tag.**
- A3. A DANGER tag identifies equipment **whose operation is prohibited because its use could jeopardize the safety of personnel or endanger equipment.**
- A4. Tag-out logs contain—
- a. **A copy of the main instruction and any other amplifying directives for administering the system.**
  - b. **A DANGER/CAUTION tag-out index and record of audits (index/audit record).**
  - c. **Cleared DANGER/CAUTION tag-out record sheets that have been cleared and completed.**

#### REVIEW 14 ANSWERS

- A1. Personal protection equipment you should use in each of the following categories:
- a. Head protection      **Helmets and hats**
  - b. Electrical protective devices      **Rubber gloves, rubber mats, rubber hoods, rubber sleeves, and rubber blankets**
  - c. Eye protection      **Personal eyeglasses, common-use goggles, and common-use face shields**
  - d. Respiratory protection      **Respirators**

A2. If you see a safety hazard, you should **notify your immediate supervisor**

## CHAPTER 20

# SEA POWER

*Control of the seas means security. Control of the seas means peace. Control of the seas can mean victory. The United States must control the sea if it is to protect our security.*

—John F. Kennedy

The United States is in a position of world leadership. Maintaining that position is a never-ending task that becomes harder with each crucial world situation. The Navy has a vital role in protecting world freedom. We can only maintain this freedom through a Navy that has total dedication to that end. You are an important link in our Navy's commitment to freedom.

In the Navy, we, like our forefathers, must make many sacrifices to maintain our goals. That often means being away from our homes for long periods, standing long watches, or doing arduous work. The result is fulfilling the goal of keeping the world free.

As you study for advancement to petty officer, you should begin to realize your importance to the overall mission of the Navy. Advancement will be just one of the rewards you will receive for dedication and sacrifice.

### UNITED STATES SEA POWER

Learning Objectives: When you finish this chapter, you will be able to—

- Recognize the importance of sea power in relation to today's world.
- Identify the operational components of the U.S. Navy sea power.

Sea power as a concept means more than military power at sea. Sea power describes a nation's ability to protect its political, economic, and military interests through control of the sea. The principal parts of sea power are naval power, ocean science, ocean industry, and ocean commerce.

Sea power encompasses commercial rivalries in peacetime, diplomatic maneuvering and the clash of fleets in wartime. The concept of sea power has been valid whether the fleets were wooden men-of-war or mighty battleships. It remains sound today, although

technology has caused ship-to-ship battles to become part of history instead of part of contemporary tactics. Captain Alfred Thayer Mahan, USN, was the first person to use the term *sea power*. He used it in his principal work, *The Influence of Sea Power Upon History, 1660-1783*, published in 1890. Mahan proposed that there were six conditions required for a nation to have sea power:

1. An advantageous geographical position
2. Serviceable coastlines, abundant natural resources, and a favorable climate
3. Extent of territory
4. A population large enough to defend its territory
5. A society with an aptitude for the sea and commercial enterprise
6. A government with the influence to dominate the sea.

In the decades immediately following the Civil War, the primary role of the U.S. Navy was as coastal defender and commerce raider. The United States did not exercise sea power, but believed in the concept of national isolation. In effect, the nation stressed naval expansion within its own country. By 1890, however, the nation began naval expansion toward other countries; its concept of national isolation began to ebb.

Those groups in the Navy and in the government who believed in sea power endorsed Mahan's doctrine. They based their endorsement on the belief that history provides clues to achieving maritime supremacy. Mahan's concept, therefore, became the intellectual force behind the United States' development of its Navy into a sea power.

During World War II the emerging effects of aircraft, aircraft carriers, and radar meant we fought fewer battles with ships within sight of each other. In modern naval tactics, we employ gunfire for protection

against aircraft and missiles or for bombarding shore targets. If aimed at ships, the targets will most likely be small, fast, patrol craft. These crafts deliver missile or torpedo attacks in coastal waters.

Sea power today includes many aspects of the naval strength of a nation that did not exist in the last century. Sea power now encompasses maritime industry and marine sciences. These industries and sciences add to our national economy by exploring new resources for food, freshwater, minerals, and even living space.

Figure 20-1 shows a Carrier Task Group, one concept of sea power today. Sea power is a unique resource that nations can use in the oceans. We use it to reach political, economic, and military goals in times of peace and war.

The seas are our lifeline for survival. In addition to being a barrier between nations and a broad highway for ships, the seas are an important source of food, minerals, and metals. We use oceangoing craft to get to these riches. The development of these craft has resulted in the need to provide for their protection.

A well-established theory for the economic advantage of a nation is to produce goods and services

and exchange them with other nations. Throughout history, nations that have traded this way and conducted a strong foreign trade have prospered and grown in economic and political strength. Those that have failed in commerce have also failed as world powers. Throughout history, no country has ever become a world power without a strong foreign trade. All countries generally have raw materials, but they often have limited quantities. Countries then trade with each other to get needed materials. Modern nations with highly complex economies need more raw materials from other countries. We can often obtain many manufactured goods cheaper from other countries than we can produce them locally. As a matter of economic reality, most nations must trade or decline in strength.

Until recently, Americans believed that our raw materials would last forever and that we could live without help from any other nation. With our population growth and the advanced technology of the United States, this concept has changed. Today we rely heavily on trade with our world neighbors for raw materials. We need that kind of trade to keep our economy strong and our work force employed.



Figure 20-1.—U. S. naval sea power.

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### *Student Notes:*

The United States is not as independent as people think. We must import most of our raw materials. Actually, we import no fewer than 77 resources to maintain our present economy. As an example, we import 85 percent of the manganese we need to make steel. We use columbite to make nuclear reactors, stainless steel, rockets, and missiles; we import 90 percent of it. We also import bauxite (used to refine aluminum) and chromite (used to strengthen steel). More than 90 percent of the tin we need in this country we import. At one time, the U.S. consumed more than one-third of the entire world's supply of oil. However, through conservation efforts we have reduced that oil consumption. Half of the free-world mineral production goes into the industrial needs of the United States. Of all our needed minerals, only about 11 are found within our borders; the U.S. is a raw-material-deficient nation. The United States could not possibly produce enough aircraft to move all the goods that now travel by water. Our economy depends on waterborne commerce.

The United States, like all nations of the world, acknowledges freedom of the seas under international law. When fighting wars, nations do whatever is in their power to prevent the enemy from using the seas. They aim to cut commercial shipping lanes to prevent the enemy from receiving critical raw materials for the war effort. Throughout history, the great nations have been those which controlled the seas. From the ancient times of Persia to the World War II days of Japan, loss of sea power has caused many nations to fail.

Before World War I, we were a quiet nation and stayed mostly to ourselves. When we were drawn into World War I, we became the most industrialized nation in the world. Our economy slowed down after the war; when World War II started, we once more became highly industrialized. We have remained that way ever since. Our defense depends on a highly productive industrial system. We must keep the sea-lanes open so that the supply of essential raw material continues to flow in our direction. Halting the flow would be a great blow to the safety and economy of the United States. In the wars of this nation, we have managed to maintain a constant supply of raw materials. But, to keep our troops supplied, we have had to ship over 97 percent of our products overseas.

You should realize the importance of the United States' ability to maintain control of the seas for the use of the free world. To protect our national security and sustain our economy, our nation must continue to take the following actions:

- Import raw materials from throughout the world, convert them into manufactured goods, and export them to the world marketplaces by ocean shipping.
- Keep the sea-lanes open and secure in times of peace and tension, and deny them to the enemy in times of war.

Many areas of sea power are covered in the remainder of this chapter. Keep in mind that no matter where your station is, your job plays an important role in our nation's sea power. Your job helps keep us all free and secure.

## REVIEW 1 QUESTIONS

- Q1. What is sea power?
- Q2. List the principal operational components of our nation's sea power.
- a.
  - b.
  - c.
  - d.
- Q3. According to Alfred Mahan, there are six conditions required for a nation to have sea power. List these conditions.
- a.

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### *Student Notes:*

- b.
- c.
- d.
- e.
- f.

Q4. In today's world, what aspects of naval strength exist that didn't exist in the 19th century.

Q5. As this century closes, no nation is totally independent. To protect ourselves and to keep our economy going, this country must take the following actions:

- a.
- b.

### THE U.S. NAVY'S RESPONSIBILITY IN SEA POWER

Learning Objectives: When you finish this chapter, you will be able to—

- Identify the missions and functions of the U.S. Navy in wartime and peacetime.
- Identify the functions of the U.S. Navy to include strategic nuclear deterrence and security of sea-lanes communications.

At this point in your Navy career, if you haven't done so already, you may soon find yourself asking several questions. Why are we spread out far and wide from our shores? Why do we have a Navy? What is the purpose of this deployment? If you look at the goals of our nation, you will see what our mission is. First, you should understand why we need a strong Navy to

support our national objectives. Some of these reasons are as follows:

- Two of our states are outside the continental United States (Hawaii and Alaska).
- Four U.S. territories lie overseas (Puerto Rico, the Virgin Islands, Guam, and the Northern Marianas).
- Two of our allies (Canada and Mexico) border the United States; the rest of our allies, some 42 of them, are overseas.
- NATO countries and Japan, our principal allies, are highly dependent on U.S. support and imports, the bulk of which comes to them by sea.
- Ninety-nine percent of all U.S. overseas trade is transported by sea lines of communications (world trade routes).
- The U.S. industrial output depends on continued shipments of raw materials and energy-producing resources from overseas.
- Our ability to control the seas is essential in the deterrence of a general war and aggression against any nation or area vital to our interest.

Now, let's look at the primary functions of the Navy. The Navy and the Marine Corps organize, train, and equip Navy and Marine Corps forces to conduct prompt and sustained combat operations at sea. These operations involve sea-based aircraft and land-based naval air components. These forces have five primary tasks:

1. They must seek and destroy enemy naval forces
2. Suppress enemy sea commerce gain
3. Maintain general naval supremacy
4. Control vital sea areas
5. Protect vital sea lines of communications

The Navy's business is to clear the way for the operating forces to accomplish their task, whatever it is. The Navy must drive the enemy's fighting forces off the high seas, out of the air, and across the seas. The Navy

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### *Student Notes:*



must block the enemy's sea-lanes and sink its merchant ships and transports.

In recent years, we have exercised control of sea-lanes in the Middle East. During the 1987-1989 "tanker wars" in the Persian Gulf (fig. 20-2), the U.S. Navy protected merchant ships and oil tankers flying the U.S. flag. In 1990, we conducted a naval blockade of Iraq to enforce United Nations sanctions following Iraq's invasion of Kuwait.

The Navy also provides forces for joint amphibious operations. It trains all forces assigned to these operations in amphibious warfare as directed by the Joint Chiefs of Staff. It also conducts naval reconnaissance, antisubmarine warfare, mine laying and controlled mine-field operations, and protects shipping. Operation Desert Shield/Storm is a typical example. The Navy joins with the other services in defending the United States against air attack.

As you can see, the Navy's mission is very complex. As a result of that complexity, the United States is undertaking a massive modernization of Navy ships,

aircraft, and weapons in three forms. The first involves the speedup of research and development to find new weapons. The second entails the laying up of old ships to save operating and overhauling costs and the shifting of that money into new construction. The third consists of the "hi-low balanced mix" concept. That concept involves the purchase of a few highly effective aircraft and ships, such as nuclear propulsion aircraft carriers (CVNs) and submarines (SSBNs). At the same time, we are developing new classes of low-cost ships, such as guided-missile frigates and sea-control ships.

Our nuclear-age world has resulted in a nuclear-age Navy. Although the Navy uses nuclear weapons and guided missiles as its primary destructive weapons, it still maintains, and is improving, conventional weapons. Such weapons enable the Navy and Marines to rapidly deploy and to apply the necessary force to fight a limited war.

The Navy leads the way in scientific projects. In the area of navigation, Navy ships can navigate on and under the oceans for days at a time. They no longer rely on traditional sources such as landmarks and stars to fix



Figure 20-2.—U. S. ships blowing up an oil platform in the Persian Gulf.

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### *Student Notes:*

their position. The Navy continues to improve its propulsion systems. The Navy's continued improvements in propulsion systems allow Trident submarines to operate undetected beneath the oceans. The newer, faster, and quieter fast-attack submarines prowl the oceans at will. These ships have added a new dimension to the world of undersea warfare. We have made great strides in underwater acoustics, oceanography, and other scientific fields.

Throughout history, the shores of the enemy and the range of our ship's guns have limited the Navy's radius of action. Now with the development of long-range aircraft and ballistic missiles, the Navy's radius of action spans the world.

In the past, when ships sailed in a task force, they traveled together in formation. However, that tactic increased the number of losses during an attack. Today, ships are dispersed over a wide area, which increases their chances of survival in the event of a nuclear attack.

Although the tactics of our fleets have changed, the meaning of sea power and the need for sea power have remained constant. The Navy will always seek positive change, using weapons dictated by the times and situation, to protect our nation from enemy invasion. America's sea power will play a vital part in tomorrow's world and will have a great influence on peace.

Our nation and the other countries of our world rely on the U.S. Navy to guard their liberties. We must continue to guard these liberties as an instrument of peace, not as an instrument of terror or offensive threat. We must join with other free nations in promoting freedom throughout the world.

## **THE U.S. NAVY'S MISSION**

Today, the Navy, together with the Army and the Air Force, is a member of the National Military Establishment. Their mission is to be prepared to conduct prompt and sustained combat operations in support of the national interest. As part of the National Military Establishment, the U.S. Navy's mission is to assure continued maritime superiority for the United States. The National Security Act, passed by Congress in 1947, instituted the National Military Establishment. The aim of the National Military Establishment is the

coordination of the security of the United States under the Secretary of Defense.

You have an important part to play in the mission of the Navy. Your responsibility grows as you advance in rate. Before you start to take on that responsibility, you should be familiar with certain terms so that you can fully understand the mission of the Navy. They are national strategy, national interests, and national objectives, as stated in Naval Warfare Publication 1 (NWP-1). Naval Warfare Publication 3 (NWP-3) defines naval strategy. Those publications outline our commitment to the security of the United States.

### **National Strategy**

National strategy is that broad course of action designed to achieve national objectives in support of national interests. To satisfy that objective, the defense forces must have the capability to deter aggression and to prevent coercion. They must also have enough influence to shape world events in favor of U.S. interests. The United States maintains its defense forces to preserve its physical security and protect its political independence.

### **National Interests**

National interests are conditions that are to the advantage of our nation to pursue or protect. These conditions frequently are of a continuing nature. They range from the ultimate interest—national survival—to specific regional interests. Collectively, those interests determine the importance of a particular region to the security of the United States.

### **National Objectives**

National objectives are specific goals our nation seeks to advance, support, or protect. We primarily have political, economic, and security objectives.

### **Naval Strategy**

Naval strategy is our nation's use of naval forces (including naval aviation and Marine Corps forces) to achieve its naval objectives. National strategy determines our naval objectives. Our overall naval strategy objective is control of the seas and the denial of

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## ***Student Notes:***

an enemy's use of those seas important to our operations.

The Navy's job goes hand in hand with the national interest and the objectives of the rest of the U.S. armed forces. Title 10 of the U.S. Code states that the Navy is to be prepared to conduct prompt and sustained combat operations in support of the national interest. That means we must assure continued maritime superiority for the United States. We must be able to totally defeat any threat to the continued free use of the high seas by the United States. Therefore, we must maintain the ability to destroy hostile aircraft, surface ships, and submarines that threaten our seaborne forces and those of our allies. The national strategy determines the Navy's mission. We carry out that mission in joint coordination with the other armed forces and in combined planning with U.S. allies. In carrying out that mission, the Navy has two major functions—**sea control** and **power projection**.

## THE FUNCTIONS OF THE U.S. NAVY

**Sea control**, total control of the seas for the free movement of all, is the first function of the U.S. Navy. It means control of set air, surface, and subsurface areas,

when and where needed. Sea control is crucial to national strategy. It allows us to use the oceans as barriers for defense and as avenues to extend our influences overseas.

**Power projection** is the second function of the Navy. It is the ability to use sea power throughout the world in the timely and precise manner needed to accomplish a given goal. This covers a wide area. We accomplish power projection by using a broad spectrum of offensive naval operations. These operations include the tactical employment of carrier-based aircraft and the use of amphibious forces and naval gunfire support forces. They also include the strategic nuclear response by the fleet ballistic missile forces.

The functions of sea control and power projection are closely related. Depending on the type of force we are to use, we need some degree of sea control in the sea areas from which we are to project power. The United States developed the naval forces' capability to project power largely as one means of achieving or supporting control of the seas.

To carry out the functions of sea control and power projection in support of its mission, the U.S. Navy has three functions.

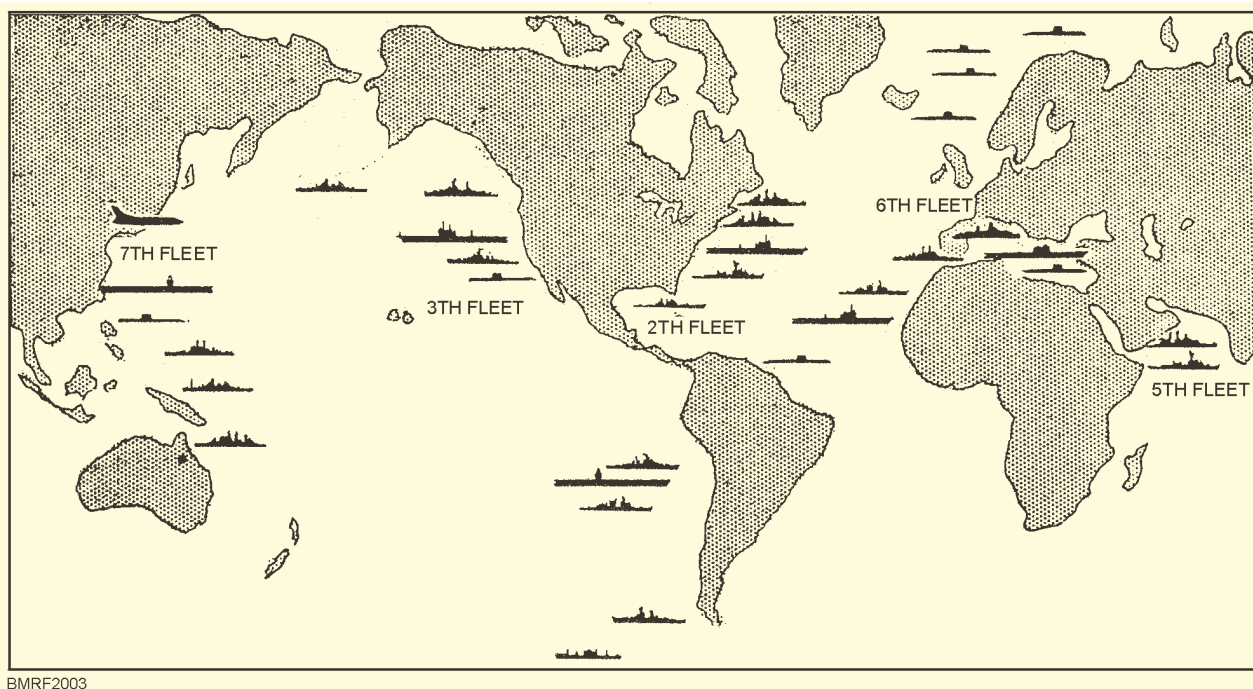


Figure 20-3.—U.S. naval presence throughout the world.

## Student Notes:

1. Strategic nuclear deterrence
2. A strong naval presence
3. Security of the sea lines of communications

### Strategic Nuclear Deterrence

The effectiveness of the submarine-launched ballistic missile provides the strongest deterrent in our strategic nuclear forces. Thus that deterrent is a stabilizing factor in the strategic nuclear balance.

### Naval Presence

To achieve naval presence, the Navy deploys operationally ready naval forces to various overseas locations throughout the world (fig. 20-3). From these locations, our forces can combat hostile forces and support forward-positioned U.S. ground and air forces as well as U.S. allies.

### Security of the Sea Lines of Communications

The success of a forward military strategy depends upon the Navy's ability to keep the sea lines of communications open. These lines are between the United States and its forward deployed forces, its allies, and those areas of the world essential for imports. The most vulnerable areas of these sea lines are those closest to potential hostile bases and farthest from friendly territory. Land-based air and patrol combatant craft aid in the protection of shipping in those areas. The protection of the most vulnerable sea areas requires that U.S. Navy forces be present in enough strength to defeat hostile air, surface, and submarine threats. One of the most demanding requirements upon the capabilities of U.S. naval forces is overseas deployment. The deployments place great demands upon both Navy personnel and our multipurpose combatant ships.

### REVIEW 2 QUESTIONS

- Q1. List the primary tasks of the Navy's operating forces.
- a.
  - b.

c.

d.

e.

- Q2. List three of the ways that the Navy uses to modernize its arsenal.

a.

b.

c.

- Q3. As determined by national strategy, what are the missions of the U.S. Navy?

a.

b.

- Q4. Navy missions are determined by national strategy. List some of the ways the Navy carries out their missions.

a.

b.

c.

### THE U.S. MERCHANT MARINE RESPONSIBILITY IN SEA POWER

Learning Objective: When you finish this chapter, you will be able to—

- Identify the missions and functions of the U.S. Merchant Marine in wartime and peacetime.

Our Navy evolved from the American merchant marine. Practically every Navy member of the

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### Student Notes:



American Revolution was an experienced merchant mariner. The merchant marines were volunteers at that time, as you are today. When it first came into being, the U.S. Navy converted merchant ships into fighting ships by adding cannons to the decks. Through determination and the skills these merchant mariners had learned on the high seas, we won a great war. Congress authorized the first six frigates of the Continental Navy on 27 March 1794. Ex-merchant mariners commanded and manned these frigates. Until World War II, the officers and personnel trained in the merchant marine formed the most important manpower reserve for the Navy.

With the threat of World War II in Europe and Asia, Congress enacted the Merchant Marine Act of 1936. That act provided for a strong merchant marine to service the fleet as a naval auxiliary during times of war and national emergency.

When World War II started, merchant ships were scarce. Since the United States needed to get ships quickly to supply the war effort, we seized the ships of the enemy in our ports. We also took possession of ships from foreign private operators in both domestic and foreign trade. We bought foreign ships and redoubled our U.S. shipbuilding efforts.

Within a year and a half after we entered the war in 1941, shipyards produced ships faster than the enemy could sink them. By mass-producing ships for the war effort, the Kaiser Shipbuilding Company produced a ship a day. Most shipyards built liberty ships that made only one trip to the war zone. If ships did come back, the Navy loaded them and sent them out again. Shipyards also mass-produced larger and faster ships—victory ships and tankers. Many of them were still in service 20 years later. We produced more than 6,000 merchant ships during World War II and somehow found and trained the crews to sail them.

The Army and Navy used many merchant ships as auxiliaries. We used them as hospital ships, repair ships, airplane carriers, and for other special uses. We devised and used new methods of loading and replenishment. Every inch of the ship's cargo holds and topside areas was loaded for increased carrying capacity.

The U.S. merchant marine plays an important part in the sea power of this country. Besides importing essential raw materials for defense of the free world, the

merchant marine transports Army and Air Force personnel during times of war or national emergency. It also transports large amounts of equipment, ammunition, fuel, and other supplies that must follow our forces. In previous wars, we moved most of our troops to the war zone by ship. Although we airlifted most of our forces to the war zone during the Vietnam conflict, the merchant marine transported about 97 percent of needed supplies. We must supply about 5 tons of supplies to take care of each person at the front during war. Getting those vital supplies to the right place is a major task. The experience gained from two World Wars and the Korean and Vietnam conflicts taught us how important the merchant marine is.

## PEACETIME MISSION

The merchant marine today consists of all commercial oceangoing vessels flying the U.S. flag. Although the U.S. merchant marine is not part of the armed forces, it serves with them in wartime. It is subject to unified control under the Maritime Administration during times of war. The merchant marine includes all waterborne transportation—combination cargo-passenger ships, tankers, dry-cargo vessels, river barges, and harbor tugs. We have restricted our discussion of the merchant marine in this chapter to oceangoing ships of 1,000 gross tons and over. Ships of that group include the liner fleet (ships operating on regular schedules). They also include ships contracted to carry cargo to all areas of the world and ships in domestic and foreign trade. The term *merchant marine* refers to all these ships and their crews.

## WARTIME MISSION

In a war, the mission of the U.S. merchant marine includes the following:

- Transport essential materials and cargo needed for the U.S. economy and needed to aid in supplying the economic needs of overseas allies
- Resupply American and allied military forces overseas
- Provide underway replenishment for wet or dry cargo and other direct services to Navy ships at sea

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### *Student Notes:*

- Increase combatant naval forces by being armed to carry out convoy, antiaircraft, or antisubmarine duties

In wartime or a national emergency short of war, our government can get much-needed ships to perform merchant marine tasks from several sources. These sources include merchant ships flying the U.S. flag or a foreign flag, the National Defense Reserve Fleet, and the Military Sealift Command (MSC).

### REVIEW 3 QUESTIONS

- Q1. Describe the peacetime mission of the U.S. Merchant Marines.
- Q2. List the wartime mission of the U.S. Merchant Marines.
- a.
  - b.
  - c.
  - d.

### THE U.S. COAST GUARD RESPONSIBILITY IN SEA POWER

Learning Objective: When you finish this chapter, you will be able to—

- Identify the missions and functions of the U.S. Coast Guard in wartime and peacetime.

The multimission nature of the Coast Guard makes it unique among the armed services of the United States. It has an operational peacetime role and is the only U.S. military service outside the Department of Defense.

The Coast Guard is the nation's oldest continuous seagoing service. It was set up in 1790 as the United States Revenue Marine (later renamed the Revenue Cutter Service). The United States Revenue Marine was

an arm of the Treasury Department, under then Secretary Alexander Hamilton. The Revenue Marine was primarily a law enforcement agency. Its responsibility was to collect custom duties from ships entering United States waters.

Although the original role of the service was law enforcement, revenue cutters took part in almost every conflict involving the United States. These involvements showed the military readiness of the service.

In the mid-1800s, Congress set up the U.S. Lifesaving Service, consisting of stations scattered along U.S. coasts. Shortly after the turn of the century, the Lifesaving Service and the Revenue Cutter Service merged to form the U.S. Coast Guard. That merger provided the Coast Guard with its traditional image—the *lifesavers*.

In 1939, the Coast Guard joined the Lighthouse Service and assumed responsibility for setting up and maintaining aids to navigation in U.S. waters. That responsibility has grown to such an extent that today the Coast Guard maintains nearly 50,000 navigational aids, including worldwide electronic navigation systems.

### PEACETIME MISSION

The modern-day mission of the Coast Guard is an interesting mixture of duties, including the following:

- Enforcement of maritime laws and treaties
- Search and rescue operations
- Enforcement of U.S. drug and contraband laws
- Installation and maintenance of aids to navigation
- Icebreaking operations that keep commercial vessel traffic moving in domestic waters and support scientific research in the Arctic and Antarctica

As the primary maritime law enforcement agency of the United States, the Coast Guard enforces the following maritime regulatory laws:

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### *Student Notes:*



- Safety regulations for all U.S. commercial vessels, offshore structures, and recreational boating
- Port safety and security, including ports, harbors, and their approaches
- The movement of vessels in ports and waterways during crisis situations
- Marine environmental protection to prevent and contain spills of oil and other hazardous substances

Finally, because the Coast Guard is a military service—one that has ships, planes, and boats—it also has a military readiness mission. The Coast Guard works closely with the Navy, undergoes regular refresher training for its major cutters, and participates in joint operational exercises.

The Coast Guard by itself is among the largest navies in the world, ranking 9th or 10th based on the number of armed vessels. Figure 20-4 shows a 378-foot Coast Guard cutter. The Coast Guard gives significantly to the nation's sea power.

The Coast Guard has continued to grow and shoulder additional responsibilities. In the last 30 years, it has gained responsibilities for polar and domestic icebreaking, cleanup and protection of the marine environment, and recreational boating safety.

## WARTIME MISSION

With the start of World War II, the Coast Guard assumed the responsibilities of in-port safety and security and commercial vessel safety. In 1967, the Coast Guard became part of the newly formed Department of Transportation.

In wartime the U.S. Coast Guard has always served with pride. Today, during a wartime condition, the U.S. Coast Guard operates directly under the Chief of Naval Operations. It still has the same mission as it did during World War II, plus added roles. The Coast Guard assumes convoy duties as well as antisubmarine warfare missions. Its cutters are well suited for convoy duties as they have a long cruising range and room for armament. The air search and rescue section of the Coast Guard flies rescue missions. It also flies reconnaissance and antisubmarine aircraft. The Coast Guard's mission in wartime will strain its limited assets.



Figure 20-4.—U.S. Coast Guard—an element of sea power.

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## *Student Notes:*

## REVIEW 4 QUESTIONS

- Q1. List the peacetime missions of the U.S. Coast Guard.
- a.
  - b.
  - c.
  - d.
  - e.
- Q2. List the wartime missions of the U.S. Coast Guard.
- a.
  - b.
  - c.

### U.S. MILITARY SEALIFT COMMAND (MSC) RESPONSIBILITY IN SEA POWER

Learning Objective: When you finish this chapter, you will be able to—

- Identify the missions and functions of the U.S. Military Sealift Command (MSC) in wartime and peacetime.

In 1949, the United States set up the Military Sealift Command (MSC) by combining the sealift missions of the Naval and Army Transport Services. (The MSC was originally called the Military Sea Transportation Service.) Today, the MSC is an operating agency within the Department of Defense.

MSC ships fall into two general classes—the nucleus fleet and privately owned ships under charter by MSC (fig. 20-5). The nucleus fleet consists of

government-owned ships and chartered tankers. All of these ships have the title United States Naval Ships (USNS). Most nucleus fleet ships have crews of civilian mariners who have civil service status. They enjoy the normal benefits of federal employees, but their pay and work rules stem from those of the commercial maritime industry. Private contractors with union crews operate some ships of the nucleus fleet (tankers). The bulk of the nucleus fleet consists of special project ships such as research vessels and those involved in direct support of the Navy fleet.

MSC transports dry and liquid cargo primarily aboard chartered ships and tankers of the nucleus fleet. MSC contracts most of these ships as voyage charters but occasionally contracts them as time charters. Voyage charters contract ships to carry specific cargo to a certain destination. Time charters contract for the use of an entire ship for months or years. All chartered ships are operated by their owners and manned with union seamen. This segment of the MSC fleet varies in size depending on the command's current requirements.

The ships of the Military Sealift Command fleet go where and when needed to support our armed forces. On any given day some ships may be operating in both polar regions or sailing to and from Alaskan military bases. At the same time other ships may be delivering cargo for military units in Europe and the Far East. In peacetime and wartime, the MSC fleet is ready to respond immediately if needed to support national, military, economic, and diplomatic policies.

### PEACETIME MISSION

In peacetime the Military Sealift Command relies heavily on the U.S. merchant marine. The MSC ships nearly 25 percent of all military cargo on privately owned U.S. flagships and other merchant marine vessels. The small size of the MSC-controlled fleet requires the MSC to add to its available sealift forces during United States involvement in armed conflict.

### WARTIME MISSION

During peacetime, the MSC supports the fleet by supplying fuel and supplies. During wartime, MSC ships used in moving troops and supplies to the war zone bear arms for protection. Besides moving troops to

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*Student Notes:*



Figure 20-5.—Civilian-operated MSC oiler refueling an LPH.

the front, these ships provide underway replenishment to allow Navy ships to stay on station. They carry Navy personnel to handle areas such as weapons and communications to allow the civilian crew to continue its normal work. The MSC ships travel alone or in convoys, but they go wherever the fleet goes during a war. They move vital supplies at the front as well as at sea.

### REVIEW 5 QUESTIONS

- Q1. What is the peacetime mission of the Military Sealift Command?
- Q2. What is the wartime mission of the Military Sealift Command?

### SUMMARY

Sea power is a nation's ability to use the oceans for its political, economic, and military interests to achieve its national objectives. Nations exercise sea power in times of peace and war.

Today, the United States depends on other nations for many goods and commodities needed to keep the economy strong and to keep people working.

The U.S. merchant marine, Military Sealift Command, U.S. Coast Guard, and the U.S. Navy make up the essential ingredients for U.S. sea power. Together they support the United States in its national strategy, interests, and goals. The mission of the Navy is to be prepared to conduct prompt and sustained combat operations. To accomplish its mission, the Navy must perform two main functions—sea control and power projection. Sea control is the basic function of the Navy. Power projection is the ability of the Navy to project military power from the sea worldwide.

To carry out these two functions in support of its mission, the Navy has three main functions: strategic nuclear deterrence, naval presence, and security of the sea lines of communications.

A balanced sea power is the essential ingredient of our national strategy. It is not limited to any one course of action and can meet any type of aggression from the most primitive to the most sophisticated. Today the very survival of our country and of our way of life depends on sea power.

### REVIEW 1 ANSWERS

- A1. Sea power is **a nation's ability to protect its political, economic, and military interests by controlling the seas.**
- A2. The principal operational components of our nation's sea power are—
- a. **Naval power**
  - b. **Ocean science**
  - c. **Ocean industry**
  - d. **Ocean commerce**
- A3. The six conditions required for a nation to have sea power according to Mahan are—
- a. **An advantageous geographical position**
  - b. **Serviceable coastlines, abundant natural resources, and a favorable climate**
  - c. **Extent of territory**
  - d. **A population large enough to defend its territory**
  - e. **A society with an aptitude for the sea and commercial enterprise**
  - f. **A government with the influence to dominate the sea**
- A4. In today's world, sea power includes **maritime industry and marine sciences.** Maritime industry and science add to our national economy by exploring new resources for food, fresh water, minerals, and new living spaces.

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### *Student Notes:*

- A5. To protect ourselves and to keep our economy going, this country must—
- a. **Import raw materials, convert them into manufactured goods, and transport them to marketplaces throughout the world via shipping**
  - b. **Keep sea-lanes open and safe in times of peace and tension, and deny sea-lanes to the enemy in times of war**

### REVIEW 2 ANSWERS

- A1. The primary tasks of the U.S. Navy's operating forces are to—
- a. **Seek out and destroy enemy naval forces**
  - b. **Suppress enemy sea commerce gains**
  - c. **Maintain general naval supremacy**
  - d. **Control vital sea areas**
  - e. **Protect vital sea lines of communication**
- A2. The Navy is modernizing its arsenal by—
- a. **Researching and developing new weapons**
  - b. **Laying up old ships to save the cost of operating and overhauling so money can be shifted to constructing modern ships**
  - c. **Purchasing highly effective aircraft and ships, such as nuclear propulsion aircraft carriers (CVNs) and ballistic submarines (SSBNs), and at the same time, developing new classes of cost-effective ships**
- A3. The missions of the Navy determined by our national strategy are—
- a. **Sea control**
  - b. **Power projection**
- A4. Navy missions, as determined by national strategy, are carried out by—
- a. **Maintaining a ready and capable submarine-launched variety of ballistic missiles**

- b. **Deploying operationally ready naval forces to various overseas locations throughout the world**
- c. **Maintaining an open and secure sea line of communication between the U.S. and its forward deployed forces allies and areas of the world essential for imports**

### REVIEW 3 ANSWERS

- A1. In peacetime, the U.S. Merchant Marines **transport essential materials to and from the United States for the defense of the free world.**
- A2. In wartime, the mission of the U.S. Merchant Marines is to—
- a. **Resupply American and allied military forces overseas**
  - b. **Provide wet and dry replenishments and other direct services to ships underway**
  - c. **Increase combatant naval forces by being armed to carry out convoy anti-aircraft, and antisubmarine duties**
  - d. **Transport essential materials and cargo needed for the U.S. economy and the economy of allies overseas**

### REVIEW 4 ANSWERS

- A1. The peacetime mission of the Coast Guard includes—
- a. **Enforcing maritime laws and treaties**
  - b. **Conducting search and rescue operations**
  - c. **Enforcing U.S. drug and contraband laws**
  - d. **Installing and maintaining aids to navigation**
  - e. **Icebreaking operations that keep commercial vessel traffic moving in domestic waters and support scientific research in the Arctic and Antarctic**
- A2. The wartime mission of the U.S. Coast Guard includes—
- a. **Maintaining in-port safety and security**

- b. **Maintaining commercial vessel safety**
- c. **Assuming convoy duties as well as antisubmarine warfare duties**

#### **REVIEW 5 ANSWERS**

A1. The peacetime mission of the Military Sealift Command is to **support the mission-ready ships at sea by providing fuel and other essential supplies.**

A2. The wartime mission of the Military Sealift Command is to—

- a. **Move troops, equipment, and other supplies**
- b. **Provide replenishment to ships on station and under-way**



## CHAPTER 21

# LEADERSHIP AND SUPERVISION

*To lead, you must first be able to follow; for without followers, there can be no leader.*

—Navy Saying

Today's Navy operates with fewer people and resources than before. Therefore, good leadership is more important than ever. You may think that because you are nonrated, leadership doesn't apply to you. You're wrong! Learn as much as you can about leadership. Your leadership skills will have a strong impact on your Navy career and your personal life. It doesn't matter whether you're an apprentice, a chief petty officer, a division officer, or a commanding officer; you will assume responsibility and exercise authority within the chain of command. As you advance to higher rates, you'll assume more authority and responsibility as a leader. Now is the time for you to learn about leadership.

### BASIC PRINCIPLES OF LEADERSHIP AND FOLLOWERSHIP

Learning Objectives: When you finish this chapter, you will be able to—

- Recognize the purpose of followership and leadership.
- Identify the fundamentals of leadership, including core values.

The Navy defines leadership as *the art of influencing people to progress towards the accomplishment of a specific goal*. Leadership occurs when one person influences other people to work toward a definite goal.

Leadership is based on personal example, good management practices, and moral responsibility. Every person in the Navy must set an example of military ideals and give personal attention and supervision to personnel below them in the chain of command.

You can determine your leadership ability by—

- Examining your conduct
- Reviewing your duties and responsibilities

- Determining how well you're performing

If you don't measure up to Navy standards, take steps to raise your performance level as well as the performance of the personnel who work for you.

### ELEMENTS OF LEADERSHIP

You've heard the expression "leaders are born, not made" or "that person's a born leader." Forget these phrases; no one is a "born leader." Many people are "natural" leaders because of their strong, magnetic personality or because of their natural ability to learn rapidly (fast). However, such people are the exception, not the rule. Because leaders aren't "born," they must be "made" (trained). There are three elements that make an effective Navy leader:

1. Moral principles
2. Personal example
3. Administrative ability

#### Moral Principles

Moral principles include honesty, integrity, and loyalty. These principles of human conduct provide direction, solidity, and consistency to leadership.

The key to leadership is the emphasis you place on personal moral responsibility. You show personal moral responsibility by being honest and loyal. Your shipmates see those traits as your moral character. And a strong moral character influences others in a positive manner.

#### Personal Example

Leading by personal examples goes along with moral responsibility. Effective leaders have many different leadership traits, such as know-how, sincerity, and courage. Which trait is the most important is a

matter of opinion. However, if you show weakness in any trait a worker thinks is important, you lose that person's respect.

Respect isn't automatically given to a leader because of authority. You have to earn respect and confidence of personnel working for you by setting a good example. Lead your workers; don't drive them.

### **Administrative Ability**

Administrative ability is more than maintaining logs, records, and other paper work. *Administrative ability* is another term for good management practices. Good management practices include the ability to organize, manage, and work with people. Learn to apply a personal touch in dealing with your workers. Always remember, everyone wants to be treated as an individual who has worth. Emphasize each person's importance in getting a job done.

### **Giving Orders**

When you're the leader of a group, part of your job is to give orders. Give orders that are simple, clear, and complete; and make sure that everyone understands what's to be done.

A good order makes the following facts clear:

- What's to be done.
- When to do it.

Then, as circumstances require or permit, you may add the following information:

- How to do it.
- Why it must be done.

How you give an order is important. The way you speak is important. Speak in a tone that shows you mean business. When you act as though you expect the job to be done well, it usually will be. With experience and when you closely follow the rules for giving an order, you'll develop an effective technique for giving orders.

### **Praise and Reprimand**

Learn when to praise and when to reprimand. Your workers do better work when they know that you appreciate their efforts. Tell them you appreciate their work; that's the only way they'll know. When a person does more than required, show your approval. If possible, show your approval in front of the other personnel.

At times, you'll have to reprimand. You probably don't like to do that, but warning and reprimanding are part of your responsibility as a leader. Remember, the purpose of a reprimand is to teach, not to embarrass. Therefore, give reprimands in private. Always be sure of your facts—the person may have a reason for the behavior that led to the reprimand. Tell the person what was wrong and why it was wrong. Then explain how the person can improve.

Remember to do the following:

- Praise in public.
- Reprimand in private.

### **Promoting Morale**

Morale means different things to different people. If you ask your shipmates about their morale, you'll get different answers. For example, a person who's just been promoted will tell you morale is high. However, a person who's just been restricted will tell you morale is low.

Keeping morale high helps accomplish the Navy's mission. The Navy realizes the need for high morale; therefore, several ongoing programs are conducted to meet the need. These programs include moral and spiritual guidance, educational opportunities, and personal affairs counseling. Encourage your shipmates to take advantage of these programs.

Organized recreation programs, such as ball games, organizational parties, picnics, and sightseeing tours, contribute to good morale. They bring members of the organization together. Let your people know about all of your organization's recreational programs and activities. Showing interest in your people's welfare and morale helps keep morale high.

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### ***Student Notes:***

**PRIDE.**—Many Navy units have an outstanding reputation for their professional ability and their ability to get the job done. Other units can't seem to do anything right. What makes the difference? The answer is simple—the outstanding outfit has *esprit de corps*. The members of the unit have pride in self, Navy, and their country!

Help your unit be a winner. Show your pride in self, Navy, and country. Wear your uniform proudly. Compliment personnel working for you on their sharp appearance and good work. By doing this, you help your unit become an efficient, tightly knit crew.

**KEEP PERSONNEL INFORMED.**—You can boost morale and promote *esprit de corps* and pride by keeping your personnel informed. Everyone likes to know what's going on. When will the ship get underway? What's the workload for tomorrow? When will the squadron deploy? This is the type of day-to-day information you can pass on to your personnel. Let them know about upcoming drills. Explain the reasons for the drills. Letting people know what to expect promotes good morale.

**INTEGRITY.**—Always be honest with yourself, your shipmates, and your superiors. Make promises only when you can keep them and only when you intend to keep them. Keeping promises earns you respect from your shipmates, and you must have their respect to be an effective leader.

## **FOLLOWERSHIP**

Everyone in the Navy is in a position of followership. No matter how high you go in the chain of command, you still report to someone higher. Even the President, as Commander in Chief, reports to the people of the United States. To be a good leader, you must know how to be a good follower. Always carry out your orders promptly, to the best of your ability, and as cheerfully as possible. Show your workers that even if an order is disagreeable or causes personal inconvenience, you still must carry it out. Loyalty, both up and down the chain of command, is essential to effective leadership.

## **Commands and Orders**

A good follower obeys all orders received from personnel higher in the chain of command. The Navy has two kinds of obedience—immediate and reasoned.

**COMMAND.**—Immediate obedience is an automatic response to a command. You must follow a command immediately and exactly as given without asking questions. For example, if you receive an order to make a turn while steering your ship, you do so immediately. If you didn't respond at once, you could endanger the ship.

**ORDER.**—Reasoned obedience is the proper response to an order. An order lets you ask questions if you don't understand. You can use your own judgment in carrying out an order. For example, if your leading petty officer (LPO) tells you to paint your living space, you decide the number of brush strokes to use. Reasoned obedience lets you obey an order while learning from your experience in carrying it out.

## **Followership Qualities**

To be a good follower, try to develop the following qualities:

**Loyalty**—Always be loyal to the personnel above you in the chain of command, whether or not you agree with them.

**Initiative**—Do what must be done without waiting to be told. Showing initiative demonstrates your ability to be a leader.

**Dependability**—Be dependable. The person in charge must have help in carrying out the mission. The leader must be able to depend on the followers to get the job done. Dependable followers increase the efficiency of the leader and the command.

## **CONTINUOUS IMPROVEMENT PROGRAM**

**Learning Objective:** When you finish this chapter, you will be able to—

- Identify the fundamental concept of the Continuous Improvement Program.

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## ***Student Notes:***

The primary goal of the Continuous Improvement Program is to increase productivity and produce better quality through leadership. The most important part of this program is the process, or, how the job gets done.

You might ask, “Who is the most familiar with the job?”

The answer should be, “The person doing the job.”

Often, the way the job gets done is complicated or just doesn’t work. In most workplaces, it’s almost impossible for workers to get management to change the way the job is done. Under the Continuous Improvement Program, supervisors make sure that job improvement suggestions are heard and, if practical, made part of the way the job is done.

### REVIEW 1 QUESTIONS

Q1. List the elements of a good Navy leader.

- a.
- b.
- c.

Q2. List the principles of conduct that give direction, solidity, and consistency to leadership.

- a.
- b.
- c.

Q3. What is another term used to describe administrative ability?

Q4. True or false. To be a good leader, you must know how to be a good follower.

Q5. List three followership qualities.

- a.
- b.
- c.

Q6. Describe the purpose of a reprimand.

Q7. List the ways you can help build morale.

- a.
- b.
- c.

Q8. What is the primary goal of the Continuous Improvement Program?

### SUMMARY

In this chapter, you were introduced to the concepts of leadership and supervision. You learned that in order to be an effective leader, you first need to be a good follower.

Also in this chapter, the idea behind the Continuous Improvement Program was presented. Through this program, valuable suggestions about the work place can be acted on.

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***Student Notes:***

## REVIEW 1 ANSWERS

- A1. The elements of a good Navy leader are—
- a. **Moral principles**
  - b. **Personal example**
  - c. **Administrative ability**
- A2. The principles of conduct that give direction, solidity, and consistency to leadership include—
- a. **Honesty**
  - b. **Integrity**
  - c. **Loyalty**
- A3. Another term for administrative ability is *good management practices*.
- A4. **True**, to be a good leader, you must know how to follow orders.
- A5. The three followership qualities are—
- a. **Loyalty**
  - b. **Initiative**
  - c. **Dependability**
- A6. The purpose of a reprimand is **to teach, not to embarrass; therefore, give reprimands in private**.
- A7. You can help build morale through—
- a. **Pride—being proud of what your personnel have accomplished**
  - b. **Integrity—being honest with yourself**
  - c. **Keeping personnel informed—making sure your personnel know what is happening**
- A8. The primary goal of the Continuous Improvement Program is **to increase productivity and produce better quality through leadership**.





## CHAPTER 22

# SECURITY REQUIREMENTS AND INTERNATIONAL AGREEMENTS

*There is no way of estimating how many battles have been lost, how many ships have been sunk, or how many lives have been sacrificed because someone intentionally or unintentionally betrayed a military secret.*

—Author unknown

Security is the safeguarding of classified information in the interest of national security. The safety of the United States in general and naval operations in particular depends on protecting classified material.

### SECURITY

**Learning Objectives:** When you finish this chapter, you will be able to—

- Recognize the basic security policies, requirements, and procedures for handling classified material and information to include security classification and protection.
- Recall the procedures and principles involved in applying for personnel clearances.
- Identify the various classified material markings.
- Recognize the purpose of downgrading and declassifying classified material.
- Recall the procedures used to transmit classified material.
- Identify the basic security requirements concerning classified information and material and their security levels.
- Identify the types of equipment/material covered by automated data processing (ADP) security.
- Identify the terms used to describe the compromise of classified material.
- Recognize the procedures used to report a suspected compromise or a security violation.
- Identify the basic personal censorship requirements concerning classified information and material.
- Identify the procedures for reporting subversive activities on station or in a leave or liberty status.
- Identify when and where terrorism can occur.
- Identify the most common forms of terrorism.
- Recognize the terms *bomb threat* and *bomb incident*.
- Recall the procedures to follow when a bomb threat is received.

Security involves more than safeguarding classified printed information, such as photographs, blueprints, manuals, and charts. Security also includes safeguarding communications, such as mail, visual signals, radio transmissions, ship movements, or telephones. It includes anything that affects the security of our government in domestic and foreign affairs. It involves protection against sabotage, subversion, or any other illegal acts designed to weaken or destroy the United States. It's important for you to understand what classified information is and how to safeguard it.

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***Student Notes:***

## SECURITY CLASSIFICATION LEVELS

All information or material considered vital to the safety of the United States is given a security classification level. Each security classification level indicates (tells) the amount of protection the information and material requires to safeguard it against unauthorized disclosure. There are only three security classification levels—Top Secret, Secret, and Confidential.

The Secretary of the Navy (SECNAV) or his/her designees have the authority to originally classify information as Top Secret, Secret, or Confidential. The SECNAV's designees are listed in the *Department of the Navy Personnel Security Program*, SECNAVINST 5510.30A and *Department of the Navy (DON) Information Security Program (ISP) Regulation*, SECNAVINST 5510.36.

### Top Secret

Top Secret is the classification level applied to information whose unauthorized disclosure could reasonably be expected to cause **exceptionally grave damage** to the national security. Some examples of information that could cause grave damage to national security include—

- Armed hostilities against the United States or its allies
- A disruption of foreign relations vitally affecting the national security
- The compromise of vital national defense plans
- The disclosure of complex cryptographic and communications intelligence systems
- The disclosure of sensitive intelligence operations
- The disclosure of significant scientific or technological developments vital to national security

### Secret

Secret is the classification level applied to information whose unauthorized disclosure could reasonably be expected to cause **serious damage** to the

national security. Some examples of information that could cause serious damage to national security include information that could—

- Disrupt foreign relations significantly affecting the nation's security
- Significantly impair a program or policy directly related to the national security
- Disclose significant military plans or intelligence operations
- Compromise significant scientific or technological developments relating to national security

### Confidential

Confidential is the classification level applied to information whose unauthorized disclosure could reasonably be expected to cause **damage** to the national security. Some examples of information that could cause damage to national security include information that could—

- Indicate ground, air, and naval forces (such as force levels and force dispositions)
- Reveal performance characteristics, such as design, test, and production data of U.S. munitions and weapons systems

### Controlled Unclassified Information

Controlled unclassified information is defined and governed by laws, international agreements, and regulations that address the identification, marking, protection, handling, transmission, transportation, and destruction of controlled unclassified information. Controlled unclassified information includes—

- For Official Use Only (FOUO) information under the Freedom of Information Act (FOIA)
- Department of State (DOS) Sensitive But Unclassified (SBU) information
- DOD and DOE Unclassified Controlled Nuclear Information (UCNI)

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### *Student Notes:*

- Drug Enforcement Administration (DEA) Sensitive Information
- Sensitive Information as defined by the Computer Security Act of 1987
- Unclassified information in technical documents requiring distribution statements and unclassified NNPI

## SECURITY CLEARANCES

Sailors in many Navy ratings require some access to classified information. The commanding officer (CO) determines your need for a security clearance. The CO bases your need for a security clearance on your assignment at his/her command or potential assignment on transfer. To apply for a security clearance, you must be a U.S. citizen. There is a security investigation made on each Sailor needing a clearance. This investigation determines the Sailor's potential to protect information during the course of his/her duties.

Security clearances are granted to Sailors when their conduct and behavior are such that they can be entrusted with classified information or they can be assigned to sensitive duties. These are Sailors who—

- are loyal to the United States,
- comply with laws,
- have demonstrated dependability in accepting and discharging responsibilities,
- demonstrate good social adjustment and emotional stability, and
- have the ability to exercise sound judgment in meeting adversity.

To receive and keep a security clearance, you must have and maintain a good record. Your commanding officer can suspend a clearance if you don't maintain a good record. According to *Department of the Navy Personnel Security Program*, SECNAVINST 5510.30A, your command must report any of the following to the DON Central Adjudication Facility (CAF) (the DON CAF grants or revokes clearances):

- Involvement in activities or association with people who unlawfully practice or advocate overthrow or alteration of the United States government by unconstitutional means
- Foreign influence concerns or close personal association with foreign nationals or countries
- Foreign citizenship (dual citizenship) or foreign monetary interests
- Bad conduct, such as excessive drinking, gambling, promiscuity, or illegal or improper drug use/involvement
- Conduct involving questionable judgment, untrustworthiness, unreliability or unwillingness to comply with rules and regulations, or unwillingness to cooperate with security processing
- Unexplained affluence or excessive indebtedness
- Apparent mental, emotional, or personality disorder(s)
- Criminal conduct
- Noncompliance with security requirements
- Engagement in outside activities that could cause a conflict of interest
- Misuse of information technology systems
- General inaptitude
- General disciplinary causes—habitual or accumulated discrepancy causes

A security clearance is granted on your need to know and your meeting the standards for the level of clearance required. To get a security clearance, you must undergo a background investigation by an approved federal government agency. The higher the level of security clearance required, the more thorough the investigation. During the investigation, you are asked questions about your military, civilian, and personal conduct. You must answer the background questions completely and correctly.

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## *Student Notes:*

Just because you have a clearance doesn't automatically mean you have access to classified information. Having a clearance means you may be granted access if your duties require access to the information. This is called the *need to know*.

Security clearances and access to classified information are based on a *need to know*. Only Sailors who have a real need to know are cleared for access to the appropriate classified material. The command that has the classified material determines who has the need to know.

If you're cleared to work with classified material, censor what you say by keeping what you know to yourself. The following guidelines will help you safeguard classified material:

- Never reveal (talk about) classified information just to show your shipmates how smart you are or to act important. If they don't need to know the information to carry out their duties, don't tell them.
- Don't talk about classified information to unauthorized persons, including family, friends, shipmates, and especially strangers. Classified information can be unintentionally revealed to unauthorized persons in many ways.
- Interest in your own job is natural and desirable, but it must not lead you to reveal classified information to unauthorized persons. Never add to a news story that's incomplete, no matter how much you may know. If you do, you may make public what the Navy has tried to keep secret.

The SECNAV has designated the Department of the Navy Central Adjudication Facility (DON CAF) as the single clearance granting authority for the Department of the Navy. The DON CAF issues final security clearances for civilian and military personnel at the request of DON commands and activities once it has determined that granting the clearance is clearly consistent with the interests of national security. Once issued, a security clearance remains valid provided the Sailor continues compliance with personnel security standards and has no subsequent break in service exceeding 24 months.

## SECURITY AREAS

Classified information is always protected at the level of control appropriate with its assigned security classification level. This policy encompasses all classified information, regardless of media.

Personnel who work with classified information, work with it only in a secure facility. They use an accredited automated information system (AIS) under conditions that prevent unauthorized persons from gaining access to the material. If you have classified material in your possession, you are responsible for protecting that information. Lock classified material in an appropriate security container or facility when you're not using it or when it's not under your direct control.

If you work with classified material, you must follow procedures so unauthorized persons do not gain access to the classified information. In a facility that contains classified material, access is restricted and movement is controlled so personnel without a need to know do not have access to classified material. **All personnel must comply with the *need-to-know* policy.**

If you are using classified material, you can't remove it from the designated office or working area except to perform official duties and under conditions providing the protection required by SECNAVINST 5510.36.

**Don't discuss classified material with any person that doesn't have a need to know.**

## STORING CLASSIFIED MATERIAL

The General Service Agency (GSA) sets and publishes minimum standards, specifications, and supply schedules for containers, vault doors, modular vaults, alarm systems, and associated security devices suitable for the storage and destruction of classified information.

When classified information isn't under the personal control or observation of a cleared person, it's guarded or stored in a locked GSA-approved security container or vault, modular vault, or secure room. For

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### *Student Notes:*

information about storage requirements, refer to SECNAVINST 1550.36.

## MARKING CLASSIFIED MATERIAL

Classified material is marked so that personnel know the classified nature of the material, to make sure the material receives the degree of protection required, and to help extract, paraphrase, downgrade, and declassify the material.

All classified material is marked so you know the following information about the material:

- The level of classification
- The part(s) that contain(s) or reveal(s) classified information
- How long the material is to remain classified
- Additional measures needed to protect the material

### Overall Markings

Material is marked so the security markings are easy to see and recognize. Classified documents are marked on their face and back cover and top and bottom center to show the highest overall classification level of the information they contain. (**NOTE:** Titles of classified documents are usually unclassified.) On documents, the classification level is marked or stamped in capital letters larger than the type used in the text to alert anyone handling the document that it is classified. Material is marked as follows:

**AUTOMATED INFORMATION SYSTEM (AIS).**—Removable AIS (fig. 22-1) storage media and devices used with AIS and word processors are marked using the appropriate SF label to indicate the highest overall classification level of information contained in the storage media.

**PHOTOGRAPHS, SLIDES, AND TRANSPARENCIES.**—The face of a classified photograph is marked with its highest overall classification level and associated markings. If this is not possible, these markings are placed on the back of the photograph.

These markings are stamped or permanently affixed by pressure tape, labels, or other similar means.

Slides or transparencies (fig. 22-2) are marked with their highest overall classification level and association markings on the image area, border, holder, or frame. Groups of slides or transparencies used and stored together as a set are marked with their highest overall classification level and associated markings. Associated markings “Classified by,” “Reason,” “Derived from,” and “Declassify on” are marked on the image area of the cover slide or transparency only.

**MOTION PICTURE FILMS, VIDEOTAPES, AND CONTAINERS.**—Classified motion picture films (fig. 22-3), videotapes, and their titles are prominently marked with the highest overall classification level and associated markings of the information they contain. The markings are visible when projected at the beginning and end of the production. Classified films, videotapes, and their containers are marked in the same manner.

**SOUND RECORDINGS AND CONTAINERS.**—Classified sound recordings (fig. 22-4) have an audible statement at the beginning and end of each recording. This statement identifies the highest overall classification level and associated markings of the recorded information. Containers of classified reels, cassettes, videotapes, and motion picture films are prominently marked with the highest overall classification level and associated markings of the information contained.

**ROLLED OR FOLDED DOCUMENTS.**—Rolled or folded blueprints, maps, charts, or other large items are clearly marked to show their highest overall classification level (fig. 22-5).

### Portion Markings

Each portion such as the title, section, part, paragraph, or subparagraph of a classified document is marked to show its classification level. By doing this, a document is marked so you **know** what part or parts contain or reveal protected information. The classification level of a part of a document is shown by a classification symbol—TS for Top Secret, S for Secret, C for Confidential, and U for unclassified. The symbol

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## Student Notes:



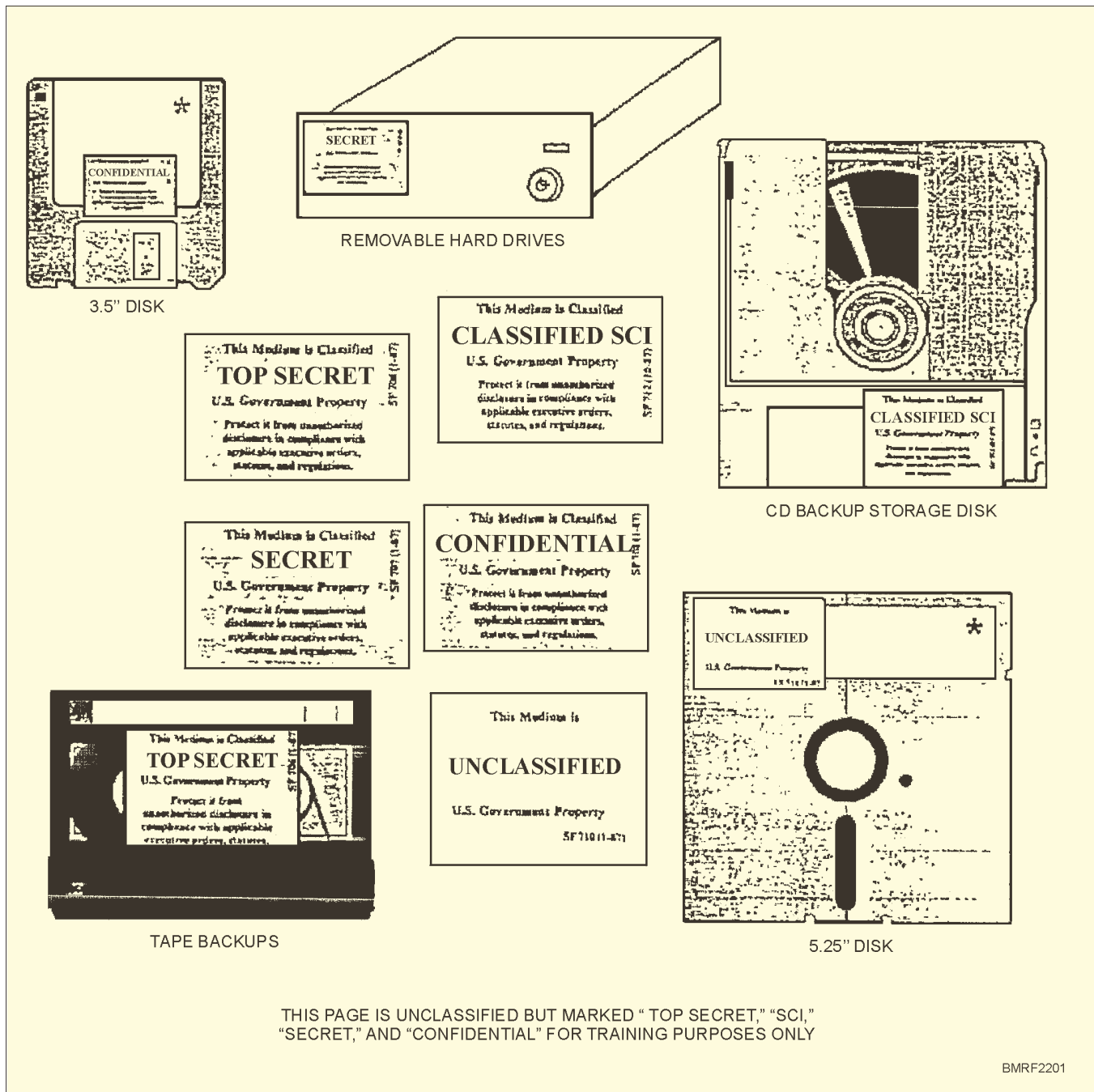


Figure 22-1.—AIS storage media.

is placed in parentheses immediately following the part letter or numbers. If there aren't any part letters or numbers, place the abbreviation immediately before the beginning of the portion.

1. (U) This introductory sentence is Unclassified.

A. (C) This subparagraph is Confidential.

(1) (S) This subparagraph is Secret.

Examples of portion markings are shown in figure 22-6.

## Student Notes:



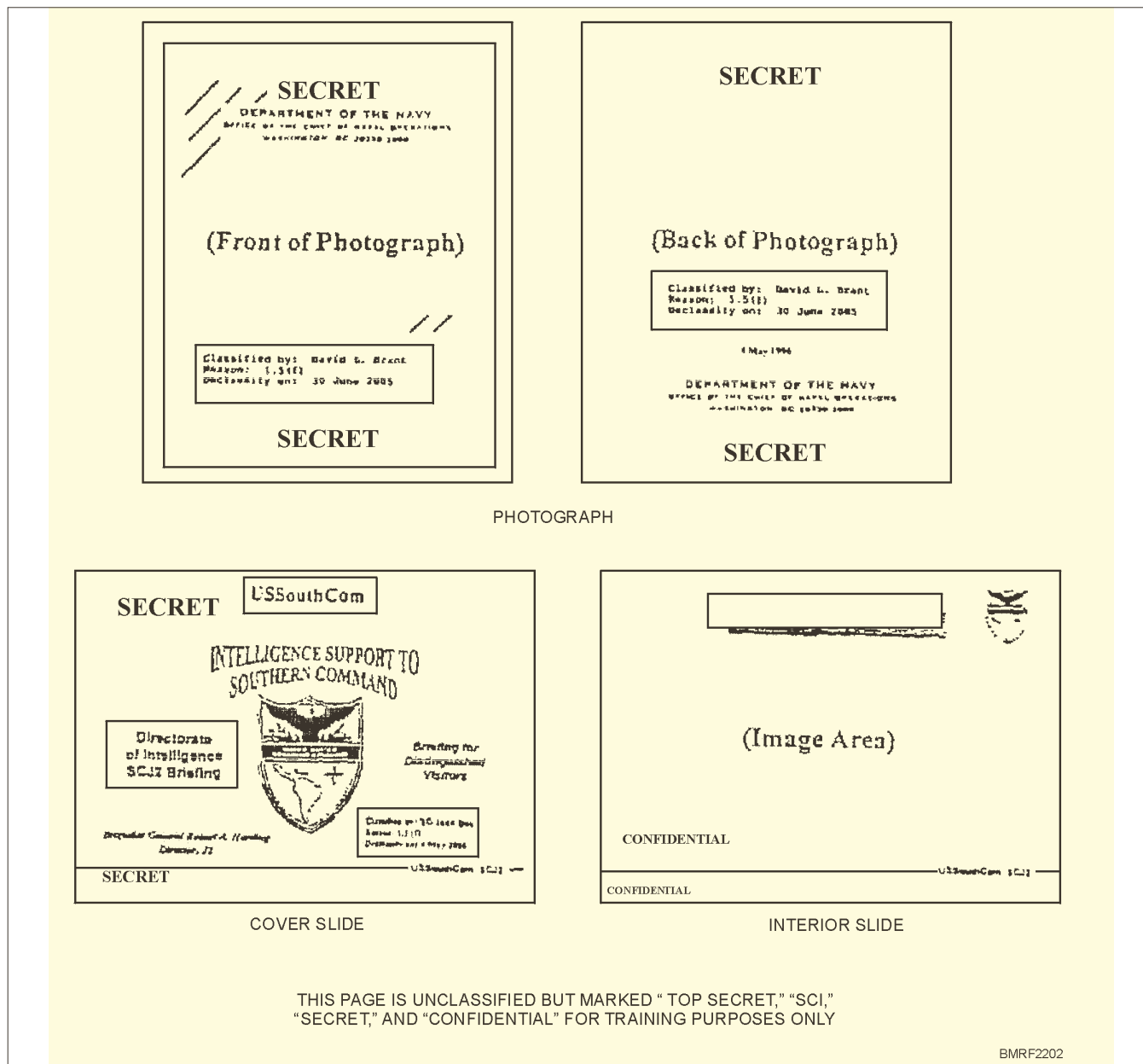


Figure 22-2.—Photographs, slides, and transparencies.

## Marking Messages

Messages are marked in a manner similar to documents. They are marked with the highest overall classification level of the information contained in the message. Classified messages are marked to indicate the following:

- The nature of the classification—original or derivative
- The source of classification
- Downgrading instructions (if applicable)
- Declassification instructions (if applicable)

## Student Notes:

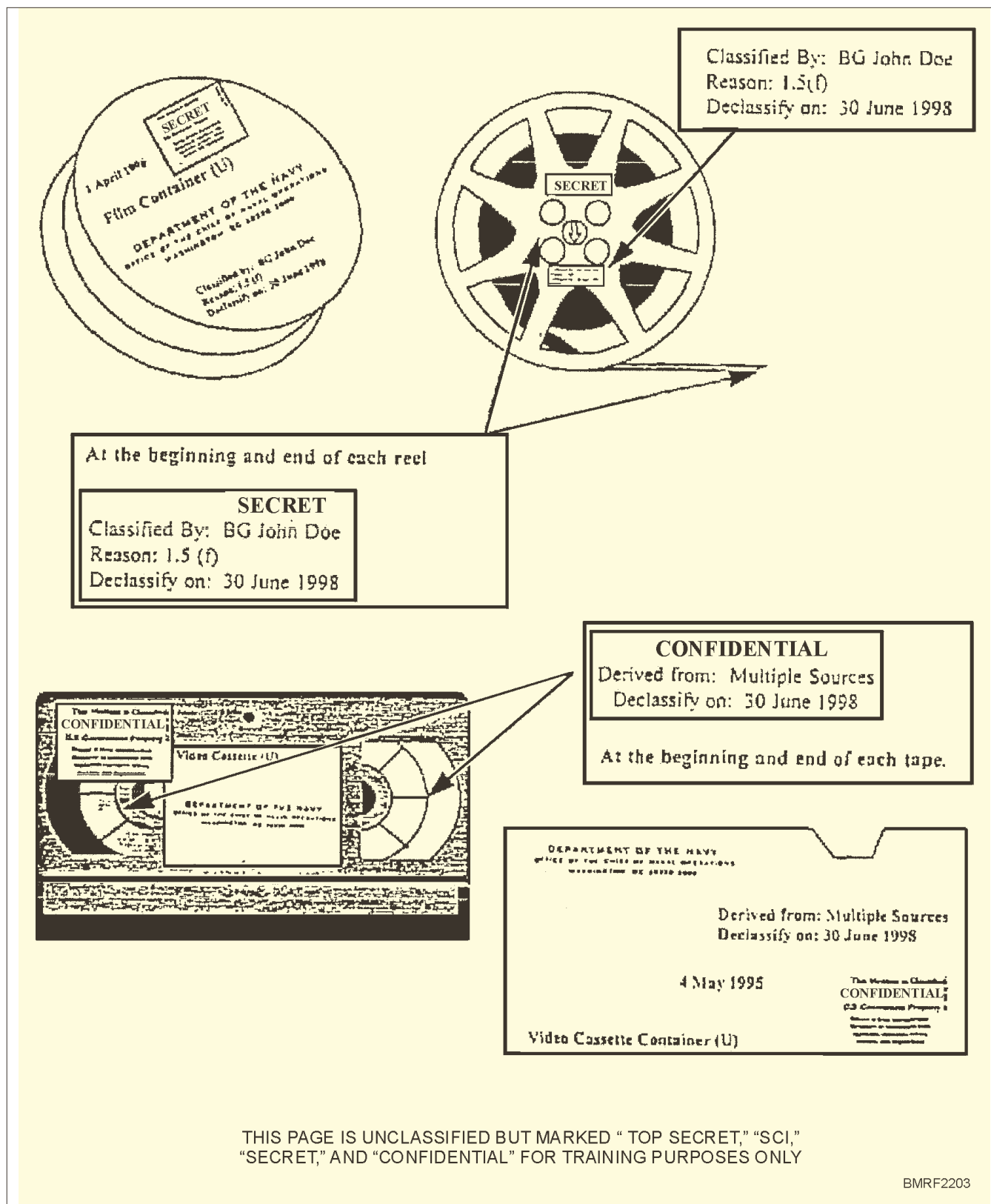
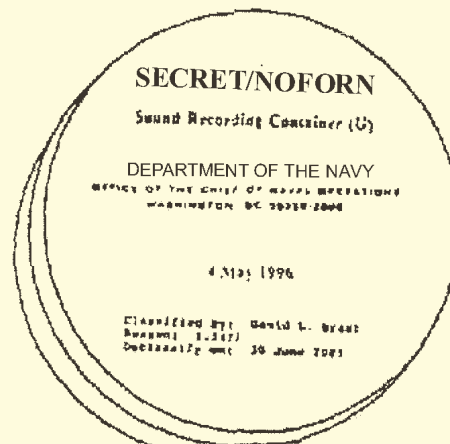
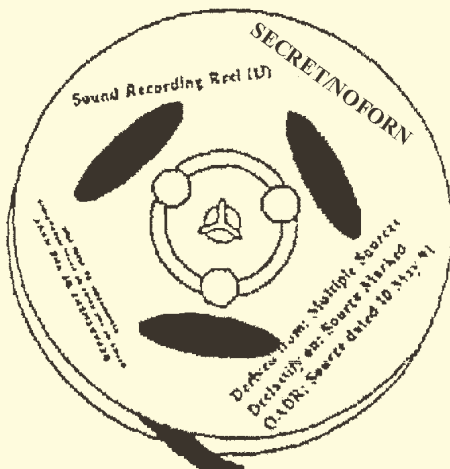
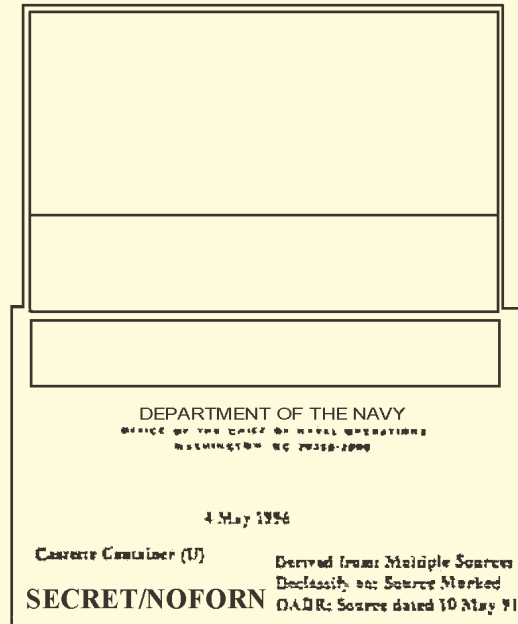
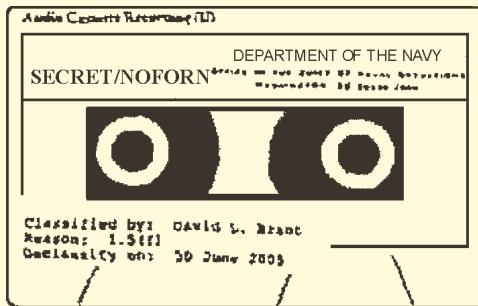


Figure 22-3.—Motion picture films, videotapes, and containers.

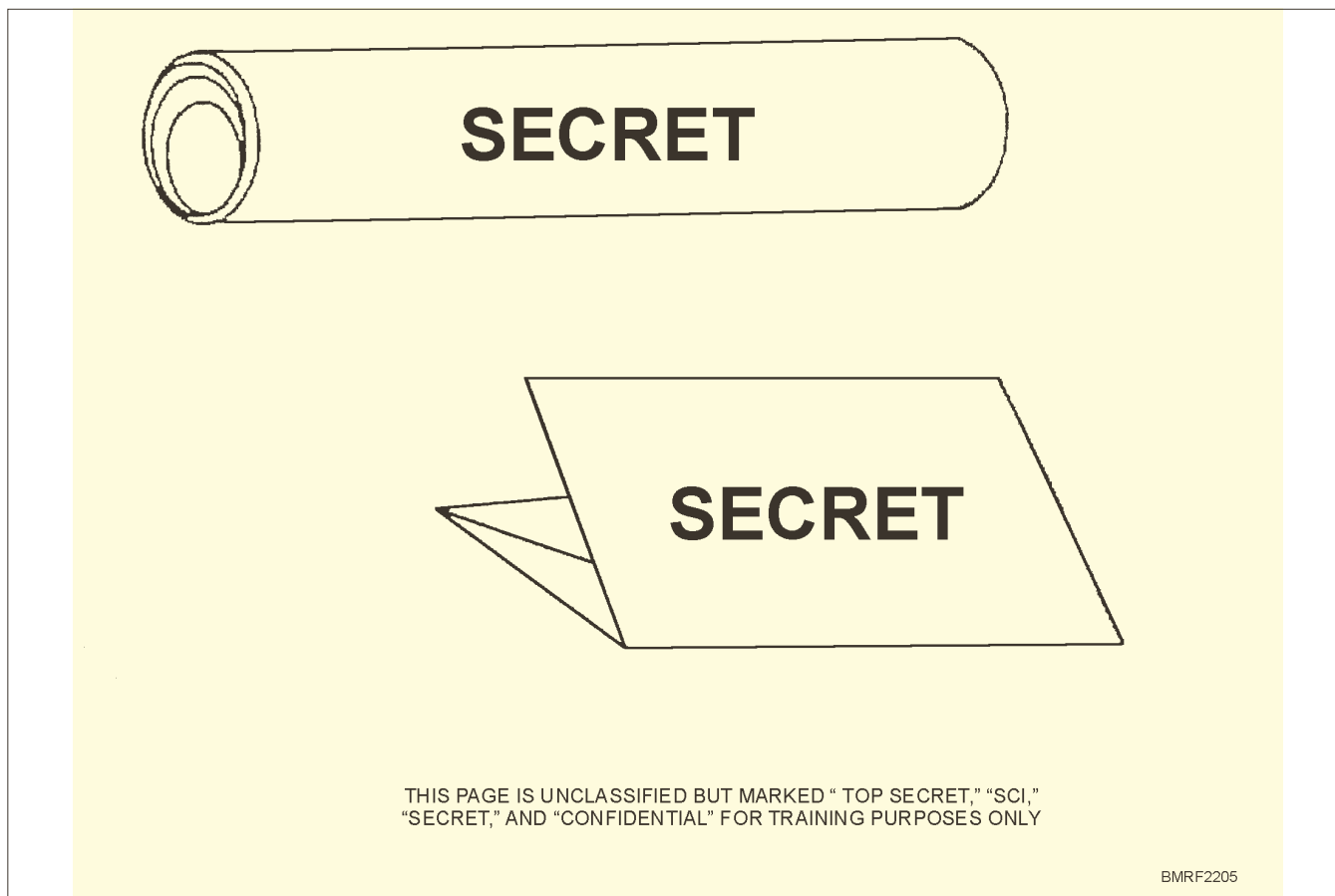
For more information on marking classified messages, refer to SECNAVINST 5510.36.



THIS PAGE IS UNCLASSIFIED BUT MARKED "TOP SECRET," "SCI," "SECRET," AND "CONFIDENTIAL" FOR TRAINING PURPOSES ONLY

BMRF2204

Figure 22-4.—Sound recordings and containers.



**Figure 22-5.—Rolled or folded documents.**

### **Miscellaneous Classified Material**

Materials such as rejected copies, typewriter ribbons, carbons, and other similar items used during the production of a classified document are handled in a way that protects the material. Destroy such material when you no longer need it. You don't need to mark this material as classified unless it's necessary to ensure its protection.

### **TRANSMITTING CLASSIFIED MATERIAL**

The rules for transmitting classified material can be found in the *Department of the Navy (DoN) Information Security Program*, SECNAVINST 5510.36. According to SECNAVINST 5510.36, commanding officers must make sure that only appropriately cleared personnel or carriers transmit, transport, escort, or hand-carry classified information. Unless a specific kind of transmission or transportation is restricted, the means

selected should minimize the risk of a loss or compromise while permitting the use of the most cost-effective mode of conveyance.

Classified telephone conversations are permitted only over secure communication circuits. These circuits must be approved for the classification level of the information being discussed. Every attempt must be made to make sure that the classified information is not compromised to unauthorized personnel.

### **COPYING CLASSIFIED MATERIAL**

U.S. classified information can be reproduced only to the extent required by operational necessity. However, the agency that originates the information may restrict reproduction of the material, or reproduction of the information may be restricted because of applicable statutes or directives.

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### ***Student Notes:***



**SECRET**

DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
Washington, DC 20350-2000

SECNAVINST 5510.36

OCT 16 1999

IN REPLY REFER TO

5510  
Ser NO9N2/9C1234556  
(Date)

SECRET-CONFIDENTIAL upon removal of enclosure (2)

From: Chief of Naval Operations  
To: Director, Special Programs Office

Subj: CLASSIFIED LETTER OF TRANSMITTAL, TRANSMITTING A  
CLASSIFIED ENCLOSURE (U)

Encl: (1) CNO ltr 5510 Ser NO9N2/7U123445 of 12 Oct 96  
(2) CNO ltr 5510 Ser NO9N2/7S12345 of 28 Sep 96

1. (U) A classified letter of transmittal shall be marked as any other classified document with all applicable associated markings.
2. (C) This classified letter of transmittal contains Confidential information and has a Secret enclosure, therefore, its highest overall classification level is Secret, but Confidential when the Secret enclosure is removed. Instructions to this effect are annotated on the face of the letter of transmittal, top let corner, as shown.
3. (U) The declassification instructions, bottom left, reflect the disposition of the Confidential information contained in the classified letter of transmittal after the classified enclosure is removed.

John Boat  
By direction

Derived from: OPNAVINST 5513.11B, enclosure (7)  
Declassify on: Completion of test or 1 Jan 00

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"SECRET," AND "CONFIDENTIAL" FOR TRAINING PURPOSES ONLY

**SECRET**

BMRf2206

Figure 22-6.—Portion markings.

## DESTROYING CLASSIFIED MATERIALS

Classified material is destroyed in accordance with procedures contained in SECNAVINST 5510.36. Burn bags are used to store classified information awaiting destruction at a central destruction facility.

## AUTOMATED DATA PROCESSING (ADP) SECURITY

Automated data processing (ADP) is a Navywide responsibility. It encompasses security aspects that contribute to the protection of the total ADP activity, office information system, or network. ADP security involves the following elements:

- Physical
- Administrative/operating procedures
- Hardware
- Software
- Data

Your command will have an automated data processing security officer (ADPSO) who reports to the CO on matters that concern the protection of electronically generated data. The ADPSO is responsible for the physical security of each computer workstation. The protection of each workstation involves physical security, physical access control, data file protection, and natural disaster protection. Seek out your ADPSO and make sure your workstation complies with Navy and command regulations for the protection of classified material.

### Levels of ADP Security

Data processed electronically have three levels of security: Level I, Level II, and Level III. If your command processes Level I and/or Level II data, it must provide a specific degree of protection. The following chart defines the three levels of data:

LEVEL	MEANING
Level I	Classified data

Level II	Classified; requires special protection, such as For Official Use Only and data covered by the Privacy Act of 1974
Level III	All other unclassified data

## Marking Removable Classified Automated Information System (AIS)

Pages or portions removed from AIS printouts (fig. 22-7) for separate use or maintenance are marked as individual documents. They are marked with the highest overall classification level and include all the required associated markings for all pages or portions that are removed.

Software used to produce classified material is programmed so that each classified file stored by the system is marked with the highest overall classification level and all associated markings. Also, the outside of AIS media storing classified files is programmed in a readily usable format with the highest overall classification level including all applicable warning notices and intelligence markings. AIS media that contains classified files not programmed in a readily accessible format are marked on the outside with the highest overall classification level and all applicable associated markings (normally a sticker or tag) or have marked documentation kept with the media.

The computer system and its associated peripherals require controlling and safeguarding at all times. This includes the disks, diskettes, disk drives, monitors, printer ribbons, and generated hard copy. Security procedures for electronic data is found in the *Department of the Navy ADP Security Manual*, OPNAVINST 5239.1.

### Marking Disks

As a general rule, the two types of electronic media are the working copy media and finished media. Working copy media is temporary information. It stays in your work area and under the control of your activity. After creating a working copy, retain it for 180 days before destruction. Finished media is permanent information. It can be released to other commands and activities. Finished media contains information that doesn't change or is pertinent for more than 180 days.

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### Student Notes:



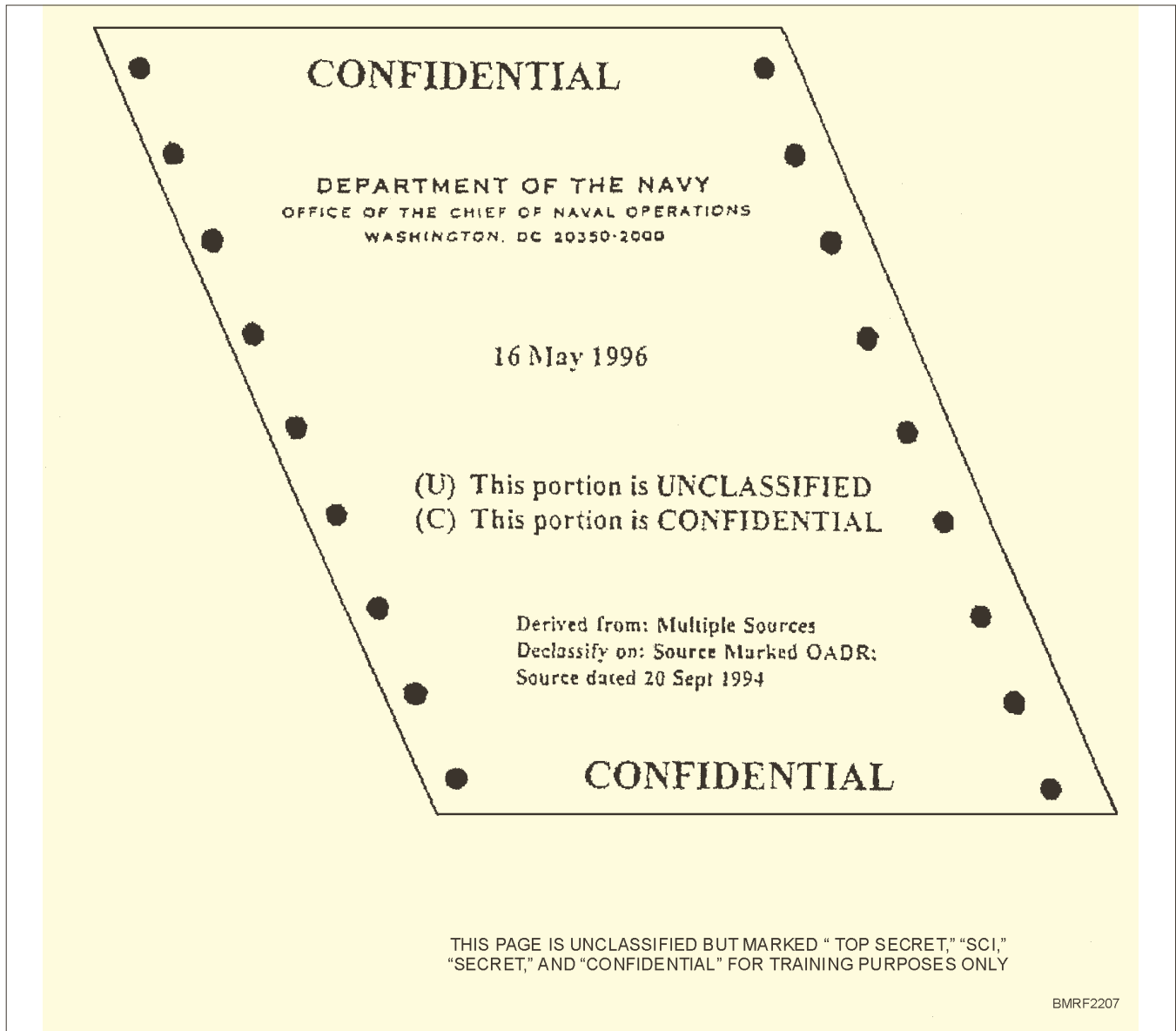


Figure 22-7.—Automated information system printout markings.

Electronic media is dated and the classification marked when it's created. Disks classified as Secret or Top Secret are assigned a sequential identification number so they can be tracked. Electronic media is controlled just like other classified material. Electronic media is protected according to the highest classification ever recorded on the disk.

Disks (see fig. 22-1) are marked with stick-on labels that identify the overall security classification and permanently assigned identification numbers.

The ADP security program protects ADP activities, office information systems, and networks. The management of the ADP security system is continuously monitored and reviewed for effectiveness. The *ADP Security Manual*, OPNAVINST 5239.1, contains a complete description of ADP security policies and procedures.

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### ***Student Notes:***

## COMPROMISE OF CLASSIFIED MATTER

According to SECNAVINST 5510.36, compromise is *An unauthorized disclosure of classified information to one or more persons who do not possess a current valid security clearance*. This means that material is compromised if someone loses, steals, captures, salvages, or sees the material without being cleared. The material is also compromised if a person who has seen the material defects.

The compromise of classified information threatens our national security. How much of a threat the compromise is depends on the nature and classification of the compromised material. If you know that material is compromised or subject to compromise, report the facts to your superiors right away. If you find classified documents where they don't belong, such as lying in the street or on a beach, turn the documents in to your superior or to the nearest military activity. While this doesn't seem possible, it has happened!

A security violation is defined as *any failure to comply with the regulations for the protection and security of classified material*.

If you find an unattended open or unlocked safe or container in which classified material is stowed, a security violation has been committed. You must report the discovery immediately to the senior duty officer. Then, guard the material until the duty officer arrives. After inspecting the material, the duty officer will lock the safe. If it's believed that the material is or may have been compromised, the duty officer will have the person responsible for the material make a detailed inventory.

## PERSONAL CENSORSHIP

One form of classified material that can't be physically safeguarded is the information you carry around in your head. You are the only person who can prevent its disclosure. Be constantly on guard to prevent revealing classified information—either by talking or by writing.

A World War II slogan that's still effective is "Loose lips sink ships." Loose talk, even to a person who has the same knowledge you have, may be overheard by unauthorized persons. All of us like to talk about our ships, our jobs, and our travels. However, when we do,

we should be sure we don't discuss classified information in our conversations.

Loose talk in public places can be especially damaging. Intelligence agents are trained to collect bits of seemingly harmless information. Putting all the bits together might produce a comprehensive file of classified information.

Never discuss classified information over telephones, as they constitute one of the least secure systems of communication. Telephones are subject to wiretapping—both physically and electronically. Long-distance circuits use microwave radio transmission, which is easily intercepted. The use of homemade or unauthorized codes, double-talk, or an attempt to talk around a classified subject provides no protection against trained intelligence personnel.

The methods used by foreign intelligence agents take many forms. An agent could be male or female, young or old, or of any national origin or background. Foreign agents exist in our everyday lives as ordinary people. They could blackmail you or make threats against you or members of your family. They may take the friendly approach and offer you friendship, money, or other things of value. They may even promise to assist your relatives living in a foreign country. They may offer any number of things in return for classified material or bits of information that seem unimportant to you. Always remember that people who deal in espionage are experts in dealing with people.

## REPORTING SUBVERSIVE ACTIVITIES

Whether you have access to classified material or not, you must report to your commanding officer, through your chain of command, anyone you suspect is involved with espionage, sabotage, or is compromising classified material. If a stranger approaches you asking inappropriate questions when you are on leave or liberty status and you cannot contact your chain of command, report this information to the nearest military activity.

Being security conscious and following security standards and requirements is a big responsibility. However, maintaining proper security can be accomplished if you realize that security really is a personal concern.

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### *Student Notes:*

## TERRORISM

Terrorism is the unlawful use or threatened use of force or violence against individuals or property. Terrorists intend to coerce (force) or intimidate governments or societies. Terrorism is used for political, religious, or ideological purposes. Acts of terrorism directed against naval personnel, activities, or installations can destroy critical facilities and injure or kill personnel. Terrorism can delay mission accomplishment and cause damage through adverse publicity and public perception (the way people see the action) of incident handling and results.

Terrorists use many methods of operation, which may include bombings, ambush, armed attack, sabotage, or taking hostages. The two most publicized terrorist methods are bombings and taking hostages. The terrorist method generally used toward military forces is bombing. However, at times, naval or military personnel have been taken hostage as a result of an aircraft hijacking or of hijacking personnel using some other means of transportation. Military personnel, and particularly naval personnel, are often stationed in or visit foreign countries. Some of these countries have significant levels of terrorist activity.

Indications and warnings of terrorist activity against naval installations or personnel are normally received from U.S. security authorities or through the security agencies of host countries. These warnings usually come in the form of threat conditions (THREATCONS). Threat conditions range from THREATCON ALPHA (the lowest degree of readiness) to THREATCON DELTA (the highest degree of readiness). Each threat condition contains several measures that must be adopted before that degree of readiness is fully set. When stationed in or visiting foreign countries, you will receive a brief concerning the threat condition in force at that time.

When visiting foreign countries, you must be constantly aware of what is going on around you. The actions of terrorist groups are rarely advertised. Terrorists normally choose places of business that have a high volume of target personnel present (such as nightclubs, restaurants, airports, and shopping centers). Be more careful at night, when the cover of darkness helps the terrorist hide his or her activities. Be alert and

notice anything out of the ordinary and report it to the proper authorities. You could identify a possible terrorist operation.

Although terrorist attacks within the United States aren't as common as in other countries, they have happened. The same levels of awareness that you practice when visiting foreign countries are necessary here as well. Being alert when you are on or around military installations could mean the difference between the success or failure of a terrorist operation, not to mention the lives of your shipmates.

## BOMB THREATS

When detonated or ignited, a bomb can injure or kill personnel and damage material. Bombs are classified as explosive or incendiary. An *explosive bomb* causes damage by fragmentation, heat, and blast. The heat produced often causes a secondary incendiary effect. An *incendiary bomb* generates fire-producing heat without substantial explosion when ignited. Bombing occurs when an explosive bomb detonates or an incendiary bomb ignites.

A bomb threat may happen anytime or anywhere. It can be made by a terrorist group or a disgruntled employee. Many bomb threats are unfounded (not real). False bomb threats make people complacent (at ease). Don't assume a bomb threat is a hoax (not real) until you're sure. **Safety is the major concern!**

*Bomb threat.* A bomb threat is a message delivered by telephone or letter. A bomb may be delivered through the mail as a letter or a suspicious package. A bomb threat may or may not contain the following information:

- The bomb's location
- The time for detonation/ignition
- An ultimatum related to the detonation/ignition or concealment of the bomb

*Bomb incident.* A bomb incident is the detonation/ignition of a bomb, discovery of a bomb, or receipt of a bomb threat.

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### *Student Notes:*

There are a few things you can do to reduce vulnerability of your ship or station to a bomb threat/incident. You can—

- Strictly comply with your command's procedures for personnel identification and access control procedures to department/division spaces,
- Be suspicious of all articles whose origin is unknown or obviously "out of place" within the space,
- Maintain tight control of locks and keys,
- Lock all rooms/spaces when not in use or manned by authorized personnel, and
- Immediately report suspicious personnel and their actions.

Each telephone at your command should have a copy of the Telephonic Threat Complaint, OPNAV Form 5527/8 (fig. 22-8). When a bomb threat is received by telephone, the person receiving the call should take the following actions:

- Try to keep the caller on the line and obtain as much information as possible. Complete the Telephonic Threat Complaint form while the caller is on the line or immediately thereafter.
- Record in writing the exact words of the caller.
- Try to identify the location of the bomb, the type of device, what it looks like, and the expected time of detonation.
- Attempt to determine the sex, approximate age, and attitude of the caller.
- Note any background sounds that may provide clues to the caller's location.
- Note any accent or peculiarity in speech that may help identify the person.

## REVIEW 1 QUESTIONS

- Q1. List the security classifications.
- a.
  - b.
  - c.
- Q2. What does FOUO stand for?
- Q3. Who is authorized to initiate a request for a security clearance and background investigation?
- Q4. A background investigation is required for what levels of security clearances?
- Q5. What does a letter in parentheses, such as (S), after a publication title tell you about the publication?
- Q6. How are classified material such as videotapes, cassettes, and computer disks marked?
- Q7. A publication contains Confidential material, except for one paragraph that contains Top Secret material. How is this publication marked?

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***Student Notes:***

DEPARTMENT OF THE NAVY  <b>TELEPHONIC THREAT COMPLAINT</b>		<b>IF BOMB THREAT, ASK THE CALLER</b> • WHEN IS THE BOMB TO GO OFF? • WHERE IS THE BOMB TO GO OFF? • WHAT KIND OF BOMB IS IT? • WHAT DOES THE BOMB LOOK LIKE? • WHERE ARE YOU CALLING FROM?
<b>1. COMMAND</b>		
a. Name & Address		b. Phone No
<b>2. COMPLAINANT</b>		
a. Name		
<b>3. PERSON RECEIVING CALL</b>		
a. Name		b. Date & Place of Birth
c. Command Name & Address		d. Phone Number (Work) (Home)
<b>4. TELEPHONE CALL RECEIVED ON</b>		
a. Phone Number (Included area code)		b. Location
c. Phone Number listed in ("x" all that apply) <input type="checkbox"/> Command Directory <input type="checkbox"/> Base Directory <input type="checkbox"/> Local Directory <input type="checkbox"/> Unlisted <input type="checkbox"/> Other (list)		
<b>5. DETAILS OF CALL</b>		
a. Date	b. Day of Week	c. Time
<b>6. CONTEXT OF CONVERSATION</b>		
a. Recipient		
b. Caller		
c. Recipient		
d. Caller		
e. Recipient		
f. Caller		
<b>7. BACKGROUND NOISES</b> (Describe street sounds, voices, music, etc.. If more space is needed, continue on reverse.)		
<b>8. INFORMATION ABOUT CALLER/VOICE CHARACTERISTICS</b>		
a. Sex	b. Age	c. Race
d. Accent		e. Educational Level
f. Attitude (Calm, Nervous, Serious)		g. Other
<b>9. WERE THERE ANY WITNESSES TO THE CALL?</b> <input type="checkbox"/> No <input type="checkbox"/> Yes (List name)		<b>10. DO YOU HAVE ANY SUSPICION AS TO THE IDENTITY OF THE CALLER?</b> <input type="checkbox"/> No <input type="checkbox"/> Yes (List name)
<b>11. NOTIFICATION OF AUTHORITY</b> ("x" all notified)		
<input type="checkbox"/> CO <input type="checkbox"/> XO <input type="checkbox"/> OOD <input type="checkbox"/> Security <input type="checkbox"/> NISRA <input type="checkbox"/> Telephone Company <input type="checkbox"/> EOD <input type="checkbox"/> Fire Dept		

OPNAV 5527/8 (12-82)

S/N 0107-LF-055-2740

BMRf2208

Figure 22-8.—Telephonic Threat Complaint, OPNAV Form 5527/8.

Q8. What type of area is used to keep classified material?

Q9. What type of material is safeguarded through ADP Security?

Q10. You are making your rounds as a roving security patrol and discover that the door to the radio room is unlocked and the room unattended. What action should you take?

Q11. The least secure system of communication should never be used to discuss classified material. What is the least secure communications means and why should it never be used to discuss classified material?

Q12. You are on leave away from your command. You meet someone who starts asking questions about your command and its mission. What should you do?

Q13. What are the two most publicized methods of terrorism?

a.

b.

Q14. Where is the likely spot for a terrorist bombing to occur?

Q15. What form is used to record bomb threats received over the phone?

Q16. If you receive a bomb threat over the phone, what should you do?

## INTERNATIONAL AGREEMENTS

**Learning Objectives:** When you finish this chapter, you will be able to—

- Identify the purpose of international agreements.
- Recall the general provisions of the Status of Forces Agreement, the Geneva Convention concerning treatment and rights of prisoners of war, and the Law of Armed Conflict.

Many agreements are made between the government of the United States and governments of other countries. Some of the agreements that directly affect you are discussed in this chapter. These international agreements are the Status of Forces Agreement (SOFA), the Geneva Convention, and the Law of Armed Conflict.

During your tour of duty in the Navy, you will have the opportunity to visit other countries. You may visit as a member of a ship's company, or you may be assigned to a duty station overseas. In either case, remember that you are a guest of the country you are visiting. A small percentage of people feel because they are members of the U.S. Navy, local laws don't apply to them. **That is not true.** If you are on leave or liberty in a foreign country, you must obey the laws of that country.

## STATUS OF FORCES AGREEMENT

It is the policy of the Department of Defense (DOD) to protect your rights as much as possible if you are subjected to criminal trial by foreign courts. To do that, the United States has entered into an agreement with several of our allied countries. That agreement is called the *Status of Forces Agreement (SOFA)*. The SOFA says, in part, that the host country will give up some of

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### *Student Notes:*



its jurisdiction to the visiting country in some criminal and civil cases. **The main purpose of the SOFA is to clearly define the status of military personnel of one country stationed in the territory of another.** Some of the topics covered by the Status of Forces Agreement are as follows:

- Freedom of troop movement within the host country
- Passport requirements
- Criminal jurisdiction
- Taxes
- Imposition of customs duties
- Regulations covering driver's licenses

These are just a few of the items covered by the SOFA. (Provisions of the SOFA vary from country to country.) Remember, when you are overseas, YOU are the foreigner. Many customs of the host country may seem strange to you, but you must follow them as well as the local laws. You should receive a briefing on the Status of Forces Agreement that pertains to the country you are visiting. If you have any questions concerning the SOFA while you are in a foreign country, consult your division officer.

## GENEVA CONVENTION

Prisoners of war (POWs) have certain rights and are required to observe certain rules, as established by the Geneva Convention of 1949. The Geneva Convention prescribes the following rights of POWs:

- To be treated humanely at all times
- To be protected against insults and public curiosity
- To have decent housing, nourishing food, and adequate clothing
- To be permitted to communicate with their families
- To be given medical care

- To be allowed to worship
- To be allowed to exercise and participate in sports and intellectual pastimes

The Geneva Convention prohibits punishment for refusing to answer questions other than your name, date of birth, rate, and social security number.

A prisoner must salute enemy officers and may be required to perform work if such work is not related to military operations. POWs are subject to the laws, regulations, and orders of the armed forces of the captors and may be punished for violating them. The Geneva Convention recognizes the prisoner's right to try to escape by limiting punishment for such attempts to disciplinary action only, which may consist of 2 hours extra duty daily, loss of half a month's pay (earned as a prisoner), stoppage of any extra privileges, and confinement. A prisoner may not be punished more severely for repeated escape attempts. Prisoners of war are prohibited from renouncing any of the rights to which they are entitled under the Geneva Convention.

Most countries of the world follow the articles of the Geneva Convention. North Vietnam agreed to the convention in 1957 but violated most of its provisions. In 1965, Hanoi violated the convention by announcing the execution of three American POWs in retaliation for the legal execution of Viet Cong terrorists. The Communists also paraded handcuffed Americans through the streets of Hanoi where the people subjected them to ridicule and humiliation. The Geneva Convention expressly forbids such actions. Evidence also indicates that Iraq violated some articles of the convention during the Persian Gulf crisis.

If you have contact with enemy prisoners of war, treat them according to the articles of the Geneva Convention, just as you would expect to be treated by them. If you should become a POW, you should conduct yourself according to the Code of Conduct as well as the Geneva Convention.

## LAW OF ARMED CONFLICT

Every nation calls upon its military personnel to defend its national interests by going to war. Our country believes those people involved in armed conflict during war are entitled to fundamental human

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## *Student Notes:*

rights regardless of their conduct or beliefs. Because of this belief, our nation has adopted the Law of Armed Conflict to govern the conduct of its military forces engaged in fighting.

Because naval operations frequently involve fighting between major units, you don't need a detailed knowledge of the Law of Armed Conflict. However, you need a basic knowledge of it since even in large-scale naval operations some people may violate the Law of Armed Conflict.

Small-scale operations require a more detailed knowledge of the Law of Armed Conflict by the naval personnel involved. You will receive this detailed knowledge if the need arises.

As a member of a military force, you are allowed during periods of hostilities to attack and even kill the lawful combatants of your enemy. Generally speaking, the term *lawful combatants* means members of the military force and civilian personnel engaged in hostilities.

Just as the Law of Armed Conflict permits certain hostile actions, it limits the way you may conduct these actions. It provides for the protection of certain targets in a war zone to safeguard people and property not directly involved with military activity. For example, it expressly forbids attacking or firing on nonmilitary targets not being used by the enemy for military purposes. The use of illegal techniques and tactics, such as rape, pillage, and plunder, is also prohibited. Unlawful techniques and tactics can backfire on the user because often they are dangerous in themselves. They are also likely to enrage the enemy, causing the enemy to fight harder or respond by using illegal methods, such as killing POWs. Personnel who violate the Law of Armed Conflict will find themselves in serious trouble, including the possibility of trial by court-martial upon return to the United States.

The fundamental terms of the Law of Armed Conflict are as follows:

- Fight only enemy combatants.
- Destroy no more than your mission requires.

- Do not attack enemy soldiers, sailors, airmen, or marines that surrender. Disarm them and turn them over to your superior.
- Never torture or kill prisoners of war and other detainees.
- Collect and care for wounded, sick, or shipwrecked survivors, whether friend or enemy, on land or at sea.
- Protect medical personnel and chaplains, medical and religious facilities, and medical transportation of the enemy. Treat them with respect and do not attack them.
- Treat all civilians humanely and respect their property. Do not attack them.
- Do your best to prevent any violation of these fundamental rules. Report any violations to the appropriate authority promptly.
- Do not violate these rules; an order to do so is illegal.

Discipline yourself to obey these rules during combat. Disobedience of the Law of Armed Conflict dishonors your nation, the Navy, and you. Far from weakening the enemy's will to fight, such disobedience strengthens it. Disobedience of the Law of Armed Conflict is also a crime punishable under the *Uniform Code of Military Justice*.

## REVIEW 2 QUESTIONS

- Q1. What is the main purpose of the SOFA?
- Q2. What document dictates the treatment of POWs?
- Q3. What is the purpose of the Law of Armed Conflict?

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### *Student Notes:*

## SUMMARY

Security of classified material is serious business. Potential enemies are always looking for a chance to gain access to our most guarded secrets. Just one day of failing to safeguard classified material could result in the compromise of extremely sensitive material. The security of classified material not only rests with the personnel that have access to it on a daily basis, but also includes every member of a command. We all have a duty to ensure that only the people requiring access to classified material are allowed to see or use it. The same is true of how we discuss our daily routine. Even if you don't have access to classified material on a daily basis, you could possibly have knowledge of certain exercises or deployment times that would be of benefit to potential enemies. Think carefully before you start talking about upcoming events. Every person in the room is not cleared to have this type of information. Putting pieces of information together to determine what is happening is easy for foreign agents. The same is true when talking on the telephone. Very few phones aboard ship and almost none in the civilian community are secure. Electronic eavesdropping is another way foreign agents collect intelligence data. Be careful of what you say; someone other than the person you called could be listening.

Terrorist activity, particularly when you are visiting a foreign country, should always be of concern. While you should not let it interfere with your enjoyment of visiting a foreign country, you must always be alert to what is going on around you. By taking an extra few minutes to survey your surroundings, you could identify a potentially hazardous situation.

The international agreements discussed were designed to protect members of the armed forces. The Status of Forces Agreement protects you when you are stationed in or visiting foreign countries. The Geneva Convention affords you protection if you become a POW. The Law of Armed Conflict protects you in the event of a war. The articles and rules of these agreements will only protect you if you conduct yourself according to U.S. and international law. You have a duty to conduct yourself in a manner that will not bring discredit upon your country, your service, or yourself.

## REVIEW 1 ANSWERS

- A1. The three levels of security are—
  - a. **Top Secret**
  - b. **Secret**
  - c. **Confidential**
- A2. FOUO means **For Official Use Only**.
- A3. **Commanding officers** are authorized to initiate a request for a security clearance and background investigation.
- A4. A background investigation is required for **Top Secret** and **Secret** clearances.
- A5. A letter in parentheses, such as (S), after a publication title tells you **the classification of that publication**.
- A6. Classified material, such as videotapes, cassettes, and computer disks, are **marked by tags, stickers, decals, and so on**.
- A7. Publications carry the security marking of the highest level of material contained in the publication; therefore, **this publication is marked Top Secret**.
- A8. **Security areas** are used to keep classified material.
- A9. ADP security is used to safeguard **data processing equipment (computers) including hardware, software, administrative and operating procedures, communications, and personnel and spaces**.
- A10. If you find an unattended room with an open and unlocked security container, you should **contact the senior duty officer to report a security violation**. Then, **stand guard over the space until the duty officer arrives**.
- A11. The least secure communications means is the **telephone**. **Never use telephones to discuss classified material because they can be physically and electronically wiretapped**.

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*Student Notes:*

- A12. If you meet someone who starts asking questions about your command and its mission, you should **report the incident to the nearest military activity.**
- A13. The two most publicized forms of terrorism are—
- a. **Taking hostages**
  - b. **Bombing**
- A14. Terrorists are likely to bomb **places of business that serve a high volume of people such as airports, nightclubs, and restaurants.**
- A15. To report a bomb threat made over the telephone, use **Telephonic Threat Complaint, OPNAV Form 5527/8.**
- A16. If you receive a bomb threat over the phone, you should—
- a. **Keep the caller on the line and get as much information as possible.**

- b. **Record in writing the caller's conversation.**
- c. **Ask caller where's the bomb, what type of bomb, time of detonation, and what it looks like.**
- d. **Try to determine sex, age, attitude of caller, and accents or speech impediments; try to remember background noises.**

## REVIEW 2 ANSWERS

- A1. The main purpose of the SOFA is to **define the status of military personnel of one country stationed in a territory of another.**
- A2. The treatment of POWs is covered by the **Geneva Convention.**
- A3. The purpose of the Law of Armed Conflict is **to govern the conduct of military personnel engaged in fighting.**

## APPENDIX I

# GLOSSARY

When you start a new job, you're usually faced with the task of learning the vocabulary of that job. The Navy has a language all of its own. One way to learn the vocabulary of the job is to look up terms in a glossary.

This glossary contains many terms used by the Navy. It's not all-inclusive; that is, not all terms are here. If you want to find out more about Navy terms, refer to *Naval Terminology*, Naval Warfare Publication 3 (Revision E).

**AA**—Antiaircraft.

**ABAFT**—Further aft, as “*Abaft* the beam.”

**ABEAM**—On a relative bearing of 90° (*abeam* to starboard) or 270° (*abeam* to port).

**ABOARD**—In or on a ship. Extended to use ashore, as *aboard* a naval station.

**ABREAST**—Same as abeam.

**ACCOMMODATION LADDER**—A ladder suspended over and inclining down the side of a ship to let people board the ship from boats.

**ADRIFT**—Loose from moorings and out of control. Applied to anything that is lost, out of hand, or left lying about.

**AFT**—Toward the stern. Not as specific as abaft.

**AFTER**—That furthest aft, as *after* fireroom.

**AFTERNOON WATCH**—The 1200 to 1600 watch.

**AGROUND**—When any part of a ship or boat is resting on the bottom. A ship runs *aground* or goes *aground*.

**AHOY**—A hail or demand for attention, as “Boat *ahoy*.”

**ALEE**—In the direction toward which the wind is blowing; downwind.

**ALIVE**—Lively, energetic.

**ALL FAST**—Tied or lashed down as necessary.

**ALL HANDS**—The entire ship's company.

**ALOFT**—Generally speaking, any area above the highest deck.

**ALONGSIDE**—By the side of the pier or ship.

**AMIDSHIPS**—An indefinite area midway between the bow and stern. Rudder *amidships* means that the rudder is in line with the ship's centerline.

**ANCHOR**—(1) Any device used to make a floating body fast to the bottom. (2) The act of so making fast. (3) The act of securing or fixing the lower end of a guy or stay or the lower end of a shore.

**ANCHORAGE**—An area designated to be used by ships for anchoring.

**ANCHOR BALL**—A black circular shape hoisted to indicate that the ship is anchored.

**ANCHOR BUOY**—A small float secured to the anchor by a light line to mark the position of the anchor.

**ANCHOR CABLE**—The line, wire, or chain that attaches a vessel to its anchor.

**ANCHOR WATCH**—A group of persons available to the OOD during the night for such duties as heaving in or paying out the cable.

**ARMAMENT**—The weapons of a ship.

**ARMORED DECK**—A deck, below the main deck, that provides added protection to vital spaces.

**ASTERN**—Directly behind a ship.

**ATHWART**—Across; at right angles to.

**AUXILIARY**—(1) Extra, or secondary, as *auxiliary* engine. (2) A vessel whose mission is to supply or support the combatant forces.

**AVAST**—Stop, as “*Avast* heaving.”

**AYE AYE**—Reply to a command or order, meaning “I understand and will obey.”



**BACK**—(1) To go backwards. (2) Act of the wind in changing direction counterclockwise.

**BACKSTAY**—Piece of standing rigging leading aft.

**BAIL**—(1) To rid a boat of water by dipping it out. (2) A rigid member supporting two end points, as the *bail* (handle) of a bucket or the support for an accommodation ladder.

**BALLAST**—Weight (solid or liquid) loaded into a ship to increase stability.

**BAR**—A long, narrow shoal across a harbor entrance.

**BARGE**—(1) A blunt-ended, flat-bottomed, waterborne craft, usually nonself-propelled, used to haul supplies or garbage. (2) A type of motorboat assigned for the personal use of a flag officer.

**BATTEN**—(1) A long strip of steel wedged against the edges of tarpaulins on a hatch to make the hatch watertight. (2) Removable wood or steel members used in ship's holds to keep cargo from shifting.

**BATTEN DOWN**—The act of applying battens to a hatch. Extended to mean the closing of any watertight fixture.

**BATTLE LANTERN**—A battery-powered lantern for emergency use.

**BEAM**—(1) The extreme breadth (width) of a vessel. (2) A transverse frame supporting a deck.

**BEAR**—The act of locating a particular point, or bearing, as “The lighthouse *bears* 45°.”

**BEAR A HAND**—(1) Provide assistance, as “*Bear a hand* with rigging this stage.” (2) Expedite, as “*Bear a hand* with readiness for sea reports.”

**BEARING**—The direction of an object from an observer, measured in degrees clockwise from a reference point. See MAGNETIC BEARING, RELATIVE BEARING, and TRUE BEARING.

**BECKET**—(1) An eye for securing one end of a line to a block. (2) A rope eye on a cargo net. (3) Shortened form of becket bend.

**BECKET BEND**—A knot used to tie two lines together.

**BELAY**—(1) To secure a line to a fixed point. (2) Order to disregard a previous order or to stop an action, as “*Belay* the last order,” or “*Belay* the small talk.”

**BELOW**—Downward, beneath, or beyond something, as to lay *below*; *below* the flight deck; *below* the horizon.

**BEND**—To join two lines together; the type of knot so used.

**BERTH**—(1) A bunk. (2) A duty assignment. (3) Mooring space assigned to a ship.

**BIGHT**—The middle part of a line or a loop in a line.

**BILGE**—(1) Bottom of the hull near the keel. (2) To fail an examination. (3) *Bilge* water is foul water, so to apply the term to something implies that it is worthless.

**BILLET**—Place or duty to which one is assigned.

**BINNACLE**—Stand containing a magnetic compass.

**BINNACLE LIST**—List of persons excused from duty because of illness.

**BITT**—Cylindrical upright fixture to which mooring or towing lines are secured aboard ship.

**BITTER END**—The free end of a line.

**BLOCK**—A frame containing a pulley, called a *sheave*, around which a line (known as a *fall*) is attached.

**BLOCK AND TACKLE**—See PURCHASE.

**BOARD**—(1) The act of going aboard a vessel. (2) A group of persons meeting for a specific purpose, as an investigation board.

**BOAT**—A small craft capable of being carried aboard a ship.

**BOAT BOOM**—A spar rigged out from the side of an anchored or moored ship to which boats are tied when not in use.

**BOAT FALLS**—Tackle used to hoist and lower a boat in davits.

**BOATHOOK**—A staff having a hook at one end. Used for fending a boat off, hooking a line, and so forth.

**BOATSWAIN'S CHAIR**—A seat attached to a gantline for hoisting a person aloft.

**BOATSWAIN'S LOCKER**—A compartment, usually forward, where line and other equipment used by the deck force are stowed.

**BOLLARD**—A strong, cylindrical upright fixture on a pier to which a ship's mooring lines are secured.



**BOOM**—A spar used for hoisting loads; usually movable.

**BOOT TOPPING**—Black paint applied to a ship's sides along the waterline.

**BOW**—The forward end of a ship or boat.

**BOW HOOK**—Member of a boat's crew whose station is forward.

**BREAK OFF**—To walk away with a line or run a line in; let go, return to the point from which the line is being hauled; take a new hold, and walk away again.

**BREAK OUT**—To bring out supplies or equipment from a storage space.

**BREAST LINE**—Mooring line leading from the ship to the pier at right angles to the ship.

**BRIDGE**—Area in the superstructure from which a ship is operated. *See* CONN.

**BRIDLE**—A span of rope, chain, or wire with both ends secured and the strain taken on the midpart.

**BRIG**—Naval term for jail.

**BROACH TO**—To get crosswise (without power) to the direction of wave travel; particularly dangerous near a beach.

**BROAD**—Wide, as *broad* in the beam.

**BROAD ON THE BOW**—Halfway between dead ahead and abeam.

**BROAD ON THE QUARTER**—Halfway between abeam and astern.

**BROADSIDE**—(1) The act of firing all main battery guns to one side at once. (2) Sidewise, as “The current carried the ship *broadside* toward the beach.” *Broadside to* is to have the side toward something, as “The ship hit the pier *broadside to*.”

**BROW**—Navy term for gangplank. Used as a crosswalk from one ship to another and from a ship to a pier.

**BULKHEAD**—A vertical partition in a ship; never called a wall.

**BULKHEADING**—Complaining or grumbling with the intention of being overheard by seniors.

**BULWARK**—Solid barrier along the edges of the weather deck that serves as a protection against the weather.

**BUOY**—An anchored float used as an aid to navigation or to mark the location of an object.

**CABIN**—Living compartment of a ship's commanding officer.

**CABLE**—A line, wire, or chain that connects a ship to its anchor.

**CAISSON**—Gate at the end of a drydock that keeps out the water.

**CALL**—(1) The boatswain's pipe. (2) A signal sounded on the boatswain's pipe.

**CAMEL**—Large float or rectangular structure used as a fender between a ship and the pier.

**CAN BUOY**—A navigational buoy, cylindrical in shape, that marks the port side of a channel from seaward; odd-numbered and painted green.

**CANOPY**—A cover fitted over part of a boat.

**CAPSTAN**—The part of a vertical shaft windlass around which a working line is passed; used for heaving in anchors and hawsers.

**CARRICK BEND**—A knot used for joining two lines. The single carrick bend isn't often used because it jams tight; instead, a double carrick bend is used, particularly for bending towing hawsers together.

**CARRY AWAY**—To break loose, as “The rough seas *carried away* the lifelines.”

**CAULK**—The act of stuffing the seams between wooden planking with oakum for watertightness.

**CHAFING GEAR**—Material used to protect lines from excessive wear.

**CHAIN LOCKER**—Spaces where anchor chain is stowed.

**CHAIN MARKINGS**—A series of turns of wire and stripes of paint on certain links of each anchor chain. They show the scope or amount of chain that has run out.

**CHAINS**—Area (a platform on large ships) where the leadsman stands when taking soundings with the hand lead.

**CHART**—Nautical counterpart of a road map, showing land configuration, water depths, and aids to navigation.

**CHECK**—(1) To slow or ease; to *check* a line is to pay out just enough line to prevent its parting when under a strain. (2) To investigate or examine something.

**CHEEK**—One of the sides of a block.

**CHOCK**—Deck fitting through which mooring lines are led.

**CHOW**—Feed.

**CHRONOMETER**—An accurate clock used in navigation.

**CLAMP DOWN**—To sprinkle the deck with water and dry it with a swab.

**CLEAT**—A metal casting with two projecting arms to which a line is belayed.

**COAMING**—Bulwark around a hatch opening.

**COFFERDAM**—A void between compartments or tanks of a ship for purposes of insulation.

**COIL**—To lay down a line in circular turns piled loosely on top of one another.

**COLLISION BULKHEAD**—A bulkhead, stronger than normal, located forward to control flooding in the event of a head-on collision.

**COLORS**—(1) The national ensign. (2) The ceremony of raising and lowering the ensign.

**COMBATANT SHIP**—A ship whose primary mission is combat.

**COMPANIONWAY**—Deck opening giving access to a ladder (includes the ladder).

**COMPARTMENT**—Interior space (room) in a ship.

**COMPLETE DECK**—Any deck that extends the length of a ship from side to side.

**CONN**—Station, usually on the bridge, from which a ship is controlled; the act of controlling the ship's movements.

**COURSE**—A ship's desired direction of travel, not to be confused with heading, which is the direction in which the bow is pointed at any given instant.

**COVER**—(1) To protect. (2) A shelter. (3) Headgear, and the act of donning same.

**COXSWAIN**—Enlisted person in charge of a boat.

**DARKEN SHIP**—To turn off all external lights and close all openings through which lights could be seen from outside the ship.

**DAVITS**—A crane or mechanical arms that project over the side of a ship and are used to lower or hoist a boat in or out of the water.

**DEAD AHEAD**—Directly ahead; a relative bearing of 000°. *Dead astern* is 180° relative.

**DEAD IN THE WATER**—A ship that has stopped and has no way on, or no movement through the water.

**DECK**—Horizontal planking or plating that divides a ship into layers.

**DECK SEAMANSHIP**—The upkeep and operation of all deck equipment.

**DEEP SIX**—To throw something overboard.

**DIP**—The act of lowering a flag partway down the staff as a salute to, or in reply to a salute from, another ship.

**DISTANCE LINE**—A line stretched between two ships engaged in replenishment or transfer operations under way. The line is marked at 20-foot intervals to help the conning officer in maintaining station.

**DIVISION**—(1) A main subdivision of a ship's crew (1st, E, G, and so forth). (2) An organization made up of two or more ships of the same type.

**DOCK**—Commonly refers to any pier or wharf; but, strictly speaking, it refers only to the space alongside a pier or in drydock.

**DOG**—(1) A lever or bolt and thumbscrews used for securing a watertight door. (2) The act of dividing a 4-hour watch into 2-hour watches.

**DOG DOWN**—To set the dogs on a watertight door.

**DOG WATCH**—The 1600 to 1800 and 1800 to 2000 watches.

**DOLPHIN**—(1) A cluster of piles at the end of a pier. (2) A porpoise.

**DOUBLE UP**—To double mooring lines for extra strength.

**DRAFT**—The vertical distance from the keel to the waterline.

**DRAFT MARKS**—The figures fastened to the stem and stern, the center of which indicates the draft of

the ship.

**DRIFT**—The speed at which a ship is pushed off course by wind and current.

**DROUGUE**—*See* SEA ANCHOR.

**DRYDOCK**—A dock from which the water may be removed for the purpose of inspecting or working on a ship's bottom; it may be either floating or built into the shore.

**EASE**—To relax, to slack.

**EASE HER**—Reduce the amount of rudder the ship is carrying.

**EBB, EBB TIDE, ON THE EBB**—A falling tide.

**EIGHT O'CLOCK REPORTS**—Reports received shortly before 2000 by the executive officer from the heads of departments.

**ENGINE-ORDER TELEGRAPH**—Electro-mechanical device that transmits orders to the engine room concerning the speed of the engines.

**ENSIGN**—(1) The national flag. (2) The lowest grade of commissioned officer.

**EYES**—The most forward part of the forecastle.

**FAIRLEAD**—A device, usually a block, for leading a line around a corner.

**FAIRWAY**—Thoroughfare for a ship.

**FALL**—A line, wire, or chain rove on a purchase.

**FANTAIL**—The after end of the main deck.

**FATHOM**—Unit of measurement equal to a depth of 6 feet.

**FENDER**—A cushioning device hung over the side of a ship to prevent contact between the ship and the pier or another ship.

**FID**—A long, tapered, wooden tool used to open the strands of a line for splicing.

**FIELD DAY**—A day devoted to general cleaning, usually in preparation for an inspection.

**FIREMAIN**—Piping system to which fire hydrants are connected.

**FIRST WATCH**—The 2000 to 2400 watch. Also called the evening watch.

**FIRST CALL**—A routine call sounded as a warning signal for roll call formations and many other

ceremonies; also sounded 5 minutes before morning and evening colors.

**FISHHOOK**—A broken end of wire protruding from a wire rope.

**FLAG OFFICER**—An officer of the rank of rear admiral or higher.

**FLAGSTAFF**—Vertical staff at the stern to which the ensign is hoisted when moored or at anchor.

**FLAT**—Partial deck (often a grating) to provide walking and working surfaces; used extensively in engineering spaces.

**FLEET**—An organization of ships, aircraft, marine forces, and shore-based fleet activities, all under one commander, for the purpose of conducting major operations.

**FLOOD**—(1) To fill a space with water. (2) A rising tide.

**FOC'SLE**—*See* FORECASTLE.

**FOGY**—(Pronounced fo-gee.) A longevity pay increase.

**FORE**—Forward.

**FORE AND AFT**—The entire length of a ship, as in "Sweep down *fore and aft*."

**FORECASTLE**—(Pronounced fok-sul.) Forward section of the main deck, generally extending from the stem aft to just abaft the anchor windlass.

**FOREMAST**—First mast aft from the bow.

**FORENOON WATCH**—The 0800 to 1200 watch.

**FOUL**—(1) Entangled, as "The lines are *foul* of each other." (2) Stormy.

**FOUNDER**—To sink because of being overwhelmed by the sea.

**FRAME**—The athwartship strength member of a ship's hull.

**FRAPPING LINES**—Lines passed around boat falls to steady the boat when hoisting or lowering.

**FREEBOARD**—Vertical distance from waterline to weather deck.

**GAFF**—A light spar set at an angle from the upper part of a mast from which the ensign is flown when a ship is under way.

**GALLEY**—Space where food is prepared. Never called a kitchen.

**GANGWAY**—(1) The opening in a bulwark or lifeline to provide access to a brow or an accommodation ladder. (2) Given as an order it means “Clear the way.”

**GANTLINE**—Line used for hoisting and lowering a boatswain’s chair.

**GENERAL ALARM**—A sound signal of a pulsating ringing tone used only on board ship for calling all hands to general quarters.

**GENERAL QUARTERS (GQ)**—The condition of full readiness for battle.

**GIG**—Boat assigned for the commanding officer’s personal use.

**GIRDER**—A longitudinal supporting a deck.

**GRANNY KNOT**—A bungled square knot.

**GRAPNEL**—A small, four-armed anchor used to recover objects in the water.

**GRIPE**—Device for securing a boat at its davits or in a cradle.

**GROUND TACKLE**—Equipment used in anchoring or mooring with anchors.

**GUNWALE**—(Pronounced gunnel.) The upper edge of the sides of a ship.

**GUY**—A line used to steady a spar or boom.

**HALF DECK**—A partial deck below the main deck.

**HALYARD**—A light line used to hoist a flag or pennant.

**HAND**—A ship’s crew member.

**HANDSOMELY**—Slowly and carefully.

**HARD OVER**—Condition of a rudder that has been turned to the maximum possible rudder angle.

**HASHMARK**—(Service stripe.) A red, blue, or gold diagonal stripe across the left sleeve of an enlisted person’s jumper or coat; each stripe indicates 4 years service.

**HATCH**—A square or rectangular access in a deck.

**HAUL**—To pull in or heave on a line by hand.

**HAUL OFF**—Changing a vessel’s course to keep clear of another vessel.

**HAWSEPIPE**—Opening through which the anchor cable runs from the deck out through the side of the ship.

**HAWSER**—Any heavy wire or line used for towing or mooring.

**HEAD**—(1) The upper end of a lower mast boom. (2) Compartment containing toilet facilities. (3) Ship’s bow.”

**HEADING**—The direction toward which the ship is pointing at any instant.

**HEAVE**—To throw.

**HEAVE AROUND**—(1) The act of hauling in a line, usually by means of a capstan or winch. (2) General term for “Get to work.”

**HEAVE IN**—Take in line or cable.

**HEAVE OUT AND TRICE UP**—Announcement given at reveille to persons sleeping in hammocks. It means “Get up and lash up your hammocks.” This term now applies to ships equipped with bunks.

**HEAVE TO**—Stopping or reducing headway of a vessel just enough to maintain steerageway.

**HEAVING LINE**—A line with a weight at one end that is heaved across an intervening space for the purpose of passing over a heavier line.

**HELM**—Mechanical device used to turn the rudder; usually a wheel aboard ship; a lever in boats.

**HELMSMAN**—Person who steers the ship by turning the helm.

**HIGHLINE**—The line stretched between the ships under way on which a trolley block travels back and forth for transfer of material and personnel.

**HITCH**—(1) Used to bend a line to or around a ring or cylindrical object. (2) Common term for an enlistment.

**HOLD**—Large cargo stowage space aboard ship.

**HOLDING BULKHEAD**—The innermost of a series of bulkheads that form the tanks and voids of the torpedo protection.

**HOLIDAY**—Space on a painted surface that the painter neglected to cover.

**HOOK**—Familiar term for the anchor.

**HORN**—One of the projections of a cleat.

**HOUSE**—The act of two-blocking (pulling up tight) an anchor in its hawsepipe.

**HULL**—The shell, or plating, of a ship from keel to gunwhale.

**HULL DOWN**—Refers to a ship that is so far over the horizon that only its superstructure or top hamper is visible.

**INBOARD**—Toward the centerline.

**INHAUL LINE**—Line used to haul the trolley back to the delivering ship during highline transfers.

**INLET**—A narrow strip of sea extending into the land.

**INSHORE**—Close to the shore.

**IRISH PENNANT**—Loose, untidy end of line left adrift. Also called a deadman or cow's tail.

**ISLAND**—Superstructure on the starboard side of the flight deck of an aircraft carrier.

**JACK**—Starred blue flag (representing the union of the ensign) flown at the jackstaff of a commissioned ship not under way.

**JACKSTAFF**—Vertical spar at the stem to which the jack is hoisted.

**JACKSTAY**—Any horizontal line or wire for the support of articles (such as seabags).

**JACOB'S LADDER**—A portable rope or wire ladder.

**JETTY**—A structure built out from shore to influence water currents or to protect a harbor or pier.

**JUMP SHIP**—The act of deserting ship.

**JURY RIG**—Any makeshift device or apparatus.

**KAPOK**—Material used to stuff life jackets and other lifesaving apparatus.

**KEDGE**—(1) A small anchor. (2) The act of moving a ship by hauling it ahead by heaving in on a line to a laid-out anchor.

**KEEL**—The lowermost longitudinal strength member from which the frames and plating rise.

**KEEL BLOCK**—One of a series of blocks along a drydock bed; used to support the keel of a vessel in drydock.

**KEELSON**—That part of a boat's keel that is inside the boat.

**KING POST**—One of a pair of short, strong uprights used to support the cargo booms of cargo vessels.

**KING SPOKE**—Spoke on the steering wheel that's upright when the rudder is amidships; usually distinctively marked, as with a Turk's head.

**KNOCK OFF**—Quit working.

**KNOT**—(1) A unit of measurement of speed equal to 1 nautical mile (6,080 feet) per hour. (2) A collective term for hitches and bends.

**LADDER**—A shipboard flight of steps.

**LANDING CRAFT**—Vessels especially designed for landing troops and equipment directly on a beach.

**LANDING SHIP**—A large seagoing ship designed for landing large numbers of personnel and/or heavy equipment directly on a beach.

**LANYARD**—(1) Any short line used as a handle or as a means for operating some piece of equipment. (2) A line used to attach an article to the person, such as a pistol *lanyard*.

**LASH**—To secure an object by turns of line, wire, or chain.

**LASHING**—Line, wire, or chain used to lash an article.

**LASH-UP**—An uncomplimentary term applied to a rig, device, or system meaning it's in disorder. For example, "What a *lash-up* they have there."

**LAUNCH**—(1) To float a vessel off the ways in a building yard. (2) A power boat, usually over 30 feet long.

**LAY**—(1) To go to a specific place, such as "*Lay aloft*." (2) To put something down, as to *lay tile*. (3) The direction of a twist of the strands in a line or wire.

**LEAD LINE**—A narrow block of lead weighing from 7 to 14 pounds attached to a marked line. Used by leadsman to determine depth of water.

**LEADSMAN**—Person who uses the lead line.

**LEE**—An area sheltered from the wind; downwind.

**LEE HELMSMAN**—A spare helmsman who usually operates the annunciator.

**LEE SHORE**—A shore that is leeward of the ship.

**LEEWARD**—(Pronounced loo-urd.) Side of the ship opposite to the direction the wind is blowing from.

**LIBERTY**—Permission to be absent from a ship or station for a short time.



**LIE OFF**—To heave to at some distance from shore.

**LIFE BUOY**—A buoyant ring or some other floating device, except a life jacket or life belt, designed to support a person in the water.

**LIFE JACKET**—A buoyant jacket designed to support a person in the water; a life belt fits only around the waist.

**LIFELINE**—(1) In general, the lines erected around the edges of weather decks, specifically, the topmost line. From top to bottom, the lines are named lifeline, housing line, and foot rope.

**LIGHTEN SHIP**—To make a ship lighter by removing weight.

**LIGHT SHIP**—The act of dispensing with blackout precautions.

**LINE**—Any rope that isn't wire rope.

**LINNER BOTTOM**—The inside bottom in a system of double bottoms.

**LOG**—(1) A ship's speedometer. (2) The act of a ship in making a certain speed, as "The ship *logged* 20 knots." (3) Book or ledger in which data or events that occurred during a watch is recorded.

**LOOK ALIVE**—Admonishment meaning "be alert" or "move faster."

**LOOKOUT**—Person stationed topside as a formal watch who reports all objects sighted and sounds heard to the OOD.

**LOOM**—The glow seen in the sky from a light that's below the horizon.

**LUBBER'S LINE**—Line engraved on the inside of a compass bowl, representing the ship's head, by which the ship's course is steered.

**LUCKY BAG**—Locker, under the charge of the master-at-arms, used to stow gear found adrift and deserters' effects.

**MAGAZINE**—Compartment used for stowage of ammunition.

**MAGNETIC BEARING**—The direction of the object measured on a magnetic compass.

**MAIN DECK**—The uppermost complete deck.

**MAINMAST**—Second mast aft from the bow.

**MAN**—To assume a station, as to *man* a gun.

**MAN-O-WAR**—*See* COMBATANT SHIP.

**MARLINE**—Two-strand, left-laid, tarred hemp.

**MARLINSPIKE**—Tapered steel tool used to open the strands of wire for splicing.

**MARLINESPIKE SEAMANSHIP**—The art of caring for and handling all types of line and wire.

**MASTER-AT-ARMS**—A member of a ship's police department.

**MASTHEAD LIGHT**—A 20-point, white running light located in the fore part of the ship. May or may not be on the foremast.

**MATE**—A shipmate; another Sailor.

**MEET HER**—Slow the swing of a ship by putting on opposite rudder.

**MESS**—(1) Meal. (2) Place where meals are eaten, as *mess* hall. (3) A group of personnel who take meals together, as the officers' *mess*.

**MESSENGER**—(1) A line used to haul another heavier line across an intervening space. (2) One who delivers messages.

**MIDWATCH**—The watch that begins at 0000 and ends at 0400.

**MIND YOUR RUDDER**—An order to the helmsman to steer the proper course.

**MONKEY FIST**—A complicated knot worked into the end of a heaving line to provide weight.

**MOOR**—(1) To anchor, using two anchors. (2) To make fast to a mooring buoy. (3) To make fast to a pier or another ship.

**MOORING BUOY**—A large, anchored float a ship may moor to.

**MORNING WATCH**—The 0400 to 0800 watch.

**MOTOR WHALEBOAT**—A double-ended powerboat.

**MUSTER**—(1) A roll call. (2) The act of assembling for a roll call.

**NEST**—(1) Two or more boats stowed one within the other. (2) Two or more ships moored alongside each other.

**NOTHING TO THE RIGHT (LEFT)**—Order given to the helmsman not to allow the ship to come to right (left) of the course because of some danger lying on that side of the course.



**NUN BUOY**—A navigational buoy, conical in shape, that marks the starboard side of a channel from seaward. Even numbered and painted red.

**OAKUM**—Tarred hemp fiber used to caulk seams in wooden decks and boats.

**OOD**—Officer of the deck.

**OFFSHORE**—Some distance off the shore, as contrasted to inshore.

**ON THE BEACH**—Ashore; also applied to a Sailor who is assigned to shore duty or is unemployed, retired, or otherwise detached from sea duty.

**OUTBOARD**—Away from the centerline.

**OVERBOARD**—Over the side.

**OVERHAND KNOT**—Simplest of all knots; made by passing one end of a line once around its standing part.

**OVERHAUL**—(1) To repair or recondition. (2) To overtake another vessel.

**OVERHEAD**—The underside of a deck forming the ceiling of the compartment below. Never called a ceiling.

**PAINTER**—Line used to make a boat fast by its bow. When used under way, the *painter* causes the boat to swing out from the side of the loop.

**PARCEL**—The act of wrapping a line with narrow canvas strips to provide waterproofing or to build up a symmetrical shape for further covering.

**PARTY**—A group having a common temporary assignment or purpose, as a working *party*, a line-handling *party*, or a liberty *party*.

**PASSAGEWAY**—A corridor used for interior horizontal movement aboard ship.

**PAY**—Monthly salary.

**PAY OUT**—To feed out, or lengthen, a line.

**PELORUS**—A gyrocompass repeater used to take bearings.

**PIER**—A structure extending from land out into the water to provide a mooring for vessels.

**PIER HEAD**—Seaward end of a pier.

**PIGSTICK**—Small staff from which the commission pennant is flown.

**PILOTHOUSE**—Enclosure on the bridge housing the main steering controls.

**PILOTING**—Branch of the science of navigation in which positions are determined by reference to visible objects on the surface or by soundings.

**PIPE**—The act of sounding a particular call on the boatswain's pipe.

**PITCH**—Vertical rise and fall of a ship's bow caused by head or following seas.

**PLAIN WHIPPING**—A whipping made without using a palm and needle.

**POLLIWOG**—A person who has never crossed the equator.

**PORT**—To the left of the centerline when facing forward.

**PROTECTIVE DECK**—*See* ARMORED DECK.

**PROW**—That part of the stem (bow) above the waterline.

**PURCHASE**—A machine that's a combination of one or more blocks rove with a line or wire. When rove with chain, called a chain fall.

**PYROTECHNICS**—Ammunition containing chemicals that produce smoke or a brilliant light when burning; used for signaling or for illumination.

**QUARTER**—Area between dead astern and either beam.

**QUARTERDECK**—Deck area designated by the commanding officer as the place to carry out official functions; the station of the OOD in port.

**QUARTERMASTER**—An enlisted assistant to the navigator.

**QUARTERS**—(1) Stations for shipboard evolutions, as general *quarter*, fire *quarters*, *quarters* for muster. (2) Living spaces.

**QUAY**—(Pronounced key.) A solid structure along a bank used for loading and off-loading vessels.

**RADAR**—A device that uses reflected radio waves to detect objects.

**RANGE**—(1) The distance of an object from an observer. (2) An aid to navigation consisting of two objects in line. (3) A water area designated for a particular purpose, as a gunnery *range*.

**RAT GUARD**—A hinged metal disk that can be secured to a mooring line to prevent rats from using the line to gain access to the ship.

**RAT-TAILED STOPPER**—A braided tapering line used on boat falls, mooring lines, and so forth.

**REDUCER**—Fitting applied to a fire hydrant to permit the attachment of a hose of smaller diameter than the hydrant outlet.

**REEF**—An underwater ledge rising abruptly from the floor of the ocean.

**REEVE**—To thread a line through a pulley.

**RELATIVE BEARING**—The angle between the ship's head and the object.

**RELIEF**—Person assigned to assume the duties of another.

**RELIEVE**—(1) To take the place of another. (2) To ease the strain on a line.

**RIDE**—A ship at anchor *rides* to its anchor as it swings on the chain attached to the anchor.

**RIDING LIGHT**—Light required to be shown by a vessel at anchor.

**RIG**—To set up any device or equipment, as *rig* a stage over the side.

**RIGGING**—Lines that support a ship's masts are called standing rigging; those used to hoist or otherwise move equipment are called running rigging.

**RISER**—A pipe leading from the firemain to fireplugs on upper deck levels.

**ROLLER CHOCK**—A mooring chock that contains a roller for reducing friction.

**ROPE**—General reference to both fiber and wire rope. Fiber rope usually is referred to as line; wire rope is called rope, wire rope, or just wire.

**ROPE YARN SUNDAY**—Free time given during a workday (usually an afternoon) to allow personnel to take care of personal business.

**RUDDER**—Device attached to a ship's stern that controls the ship's direction of travel.

**RUNNER**—A purchase containing one single-sheave movable block.

**RUNNING BOWLINE**—A slipknot made by tying a small bowline around a line's own standing part.

**RUNNING LIGHTS**—Navigational lights required to be shown at night by a vessel under way.

**SACK**—Bunk.

**SCUPPER**—The waterway along the gunwales.

**SCUTTLE**—(1) Round, watertight opening in a hatch. (2) The act of deliberately sinking a vessel.

**SCUTTLEBUTT**—(1) Originally a ship's water barrel (called a butt), which was tapped (scuttled) by the insertion of a spigot from which the crew drew their drinking water; now applied to any drinking fountain. (2) In the old days the scuttlebutt was a place for personnel to exchange views and news when they gathered to draw their water; hence the term *scuttlebutt* is applied to any rumor.

**SEA**—(1) The ocean in general. (2) The individual undulations (rolls) of the surface are called waves, but as a whole they are referred to as *seas*. Also, a ship takes a big *sea*, not a wave, over the bow.

**SEA ANCHOR**—A device streamed from the bow of a vessel for the purpose of holding end-on to the sea.

**SEAMANSHIP**—(1) The art or skill of handling a vessel. (2) Skill in the use of deck equipment, boat handling, and the care and use of line and wire.

**SEAWORTHY**—A vessel capable of withstanding normal heavy weather.

**SECOND DECK**—First complete deck below the main deck.

**SECURE**—(1) To make fast, as to *secure* a line to a cleat. (2) To cease, as to *secure* from fire drill.

**SERVICE FORCE**—The organization providing logistic support to the combatant forces.

**SET**—The direction toward which a ship is pushed by the effects of wind and current. See **DRIFT**.

**SETUP**—To tighten up, with particular reference to dogs and turnbuckles.

**SHAKE A LEG**—An admonishment to move faster.

**SHAKEDOWN**—The training of a new crew to develop efficiency in operating a ship.

**SHEAVE**—Pulley in a block around which the fall (line) runs.

**SHEER STRAKE**—The uppermost strake in a ship's side plating.

**SHEET BEND**—Same as a becket bend.

**SHELL**—A vessel's hull plating from the keel to the main deck; also called skin.

**SHELLBACK**—A person who has crossed the equator.

**SHIFT**—(1) The act of the wind in changing direction.  
(2) The act of moving a rudder with angle on it to the same angle on the opposite side.

**SHIFT COLORS**—To change the arrangement of the colors on getting under way or coming to moorings.

**SHIP**—(1) Any large vessel capable of extended independent operation. (2) To take on water unintentionally.

**SHIPOVER**—To reenlist in the Navy.

**SHIPSHAPE**—Neat, clean, taut, in fine shape.

**SHOAL**—Similar to a reef, but more gradual in its rise from the floor of the ocean.

**SHORE**—(1) The land in general, but usually refers to that part adjacent to the water. (2) A timber used in damage control to brace bulkheads and decks.

**SHROUD**—A line or wire that provides athwartship support for a mast.

**SICK BAY**—Shipboard space used as a hospital.

**SIDE BOY**—One of a group of seamen who form two ranks at the gangway as part of the ceremonies conducted for visiting officials.

**SIDE LIGHT**—One of the required running lights. The starboard *side light* is green and the port *side light* is red.

**SIDE PORT**—A watertight opening in a ship's side that is used as a doorway.

**SIGHT**—(1) To see for the first time, as to sight a ship on the horizon. (2) A celestial observation.

**SKYLARK**—To engage in irresponsible horseplay.

**SLACK**—(1) To allow a line to run out. (2) A *slack* ship is one that has little or no discipline.

**SLIP**—(1) To free a ship of its anchor by disconnecting the cable or by allowing its bitter end to run out. (2) A narrow space between two piers, or the space between two rows of piles that guide a ferryboat into its berth.

**SMALL CRAFT**—Any less-than-ship-sized vessel.

**SMALL STORES**—Personal needs for Sailors, such as articles of clothing.

**SMART**—Snappy, seamanlike, shipshape.

**SNAKING**—Netting stretched between the gunwales and footrope (see **LIFELINE**) to prevent objects from going over the side.

**SNUB**—The act of suddenly checking a line that is running out under a strain.

**SOPA**—Abbreviation for senior officer present afloat.

**SOUND**—(1) To determine the depth of water. (2) The act of a whale or similar creature in diving deep. (3) A body of water between the mainland and a large coastal island.

**SPANNER**—A wrench used for tightening couplings on a fire hose.

**SPAR**—A long cylindrical member of wood or metal, tapered at the ends; usually attached to a mast for use as a boom or for the attachment of equipment such as signal halyards. See **BOAT BOOM**; **YARDARM**.

**SPAR BUOY**—A buoy shaped like a spar. Usually indicates special areas, such as a quarantine anchorage (yellow) or normal anchorage (white), but may be used to indicate a channel (painted red or green, as appropriate).

**SPECIAL SEA DETAIL**—Personnel aboard ship assigned special duties connected with leaving and entering port.

**SPLICE**—The act of intertwining strands of lines or wires to join them together or to make an eye; the joint so made.

**SPRING**—A mooring line that leads forward (or aft) at an angle from ship to pier. Its purpose is to check the fore-and-aft movement of the ship.

**SPRING LAY**—Wire rope in which each strand consists partly of wire and partly of tarred hemp or similar fiber.

**SQUADRON**—Two or more divisions of ships or aircraft.

**SQUARE AWAY**—Put in proper order; make things shipshape.

**SQUARE KNOT**—Simple knot used for bending two lines together or for bending a line to itself.

**STACK**—Shipboard chimney.

**STANCHIONS**—Vertical posts used for supporting decks; smaller, similar posts used for supporting lifelines, awnings, and so forth.

**STAND BY**—To “prepare for” or “make ready to.”

**STANDING LIGHTS**—Red night-lights throughout the interior of a ship.

**STANDING PART**—The main part of a line, as distinguished from its ends.

**STARBOARD**—Direction to the right of the center line as one faces forward.

**STATEROOM**—A living compartment for an officer or for a small number of officers.

**STATION**—(1) An individual's place of duty. (2) Position of a ship in formation. (3) Location of persons and equipment having a specific purpose, as a gun control *station*. (4) Order to assume a post of duty, as "*Station* the special sea and anchor detail."

**STAY**—Any piece of standing rigging, except a shroud, providing support only.

**STEADY (STEADY SO) (STEADY AS YOU GO) (STEADY AS SHE GOES)**—Order to the helmsman to steer the ship on the course it is heading at the time the order is given.

**STEM**—The forward vertical extension of the keel.

**STERN**—The aftermost part of a vessel.

**STERN HOOK**—Member of a boat's crew whose station is aft.

**STERN LIGHT**—White navigation light that can be seen only from astern to 6 points on either quarter (total of 12 points, or 135°).

**STERNPOST**—The after vertical extension of the keel.

**STERN SHEETS**—The after passenger space in an open boat.

**STOP**—A short line attached to the edge of an awning, boat cover, and so forth; used to lash the cover to a support.

**STOW**—To store or pack articles or cargo in a space.

**STRAKE**—Fore-and-aft strip of plating in the shell or in a deck.

**STRAND**—(1) One of the main subdivisions of a line or wire. (2) The act of a vessel in going aground.

**STRINGER**—(1) A longitudinal frame providing strength to a ship's sides. (2) A long timber between piles at the edge of a pier.

**STRUCTURAL BULKHEAD**—Transverse-strength bulkhead that forms a watertight boundary.

**SUPERSTRUCTURE**—The ship's structure above the main deck, exclusive of the top hamper.

**SWAB**—The same as, but never referred to as a mop.

**SWAMP**—The filling of an open boat with water taken over the side.

**TACKLE**—See PURCHASE.

**TAFFRAIL**—The rail around the stern of a ship or boat.

**TARPAULIN**—Canvas used as a cover.

**TAUT**—Under tension. A ship noted for its high state of discipline and efficiency is known as a *taut* ship.

**TENDER**—(1) One who serves as a precautionary standby, as the line *tender* for a diver. (2) An auxiliary vessel that acts as a support ship for other ships, as a destroyer *tender*.

**THREEFOLD PURCHASE**—A tackle containing two three-sheave blocks.

**THWART**—Plank set athwartships just below the gunwales in an open boat; acts as a seat and provides support to the sides.

**TOPSIDE**—Generally refers to weather decks.

**TRANSVERSE FRAME**—Structural member that extends outward from the keel and upward to the main deck.

**TRICE UP**—To secure bunks by hauling them up and hanging them off (securing them) on their chains.

**TRUE BEARING**—The angular difference between lines drawn from the observer to true north and to the object.

**TRUNK**—The uppermost tip of a mast.

**TURNBUCKLE**—Device for setting up a tension, as in a lifeline, by turning a buckle into which two eyebolts are threaded.

**TURN OF THE BILGE**—Where the side meets the bottom.

**TURN IN**—(1) Retire to bed. (2) Return articles to the issue room.

**TURN OUT**—(1) Get out of bed. (2) Order out a working party or other groups, as to *turn out* the guard.

**TURN TO**—Start working.

**UP ALL LATE BUNKS**—An order to personnel entitled to sleep after reveille to get up.

**UPPER DECK**—The first deck above the main deck.

**VEER**—(1) To allow a line, wire, or chain to run out by its own weight. (2) To swerve. (3) Act of the wind in changing direction clockwise.

**VOID**—An empty tank.

**WAIST**—The amidships section of the main deck.

**WAKE**—Trail left by a vessel, or other object, moving through the water.

**WARDROOM**—Officers' messing compartment.

**WATCH**—(1) One of the periods (usually 4 hours) into which a day is divided. (2) A particular duty, as lifebuoy *watch*. (3) The act of a buoy or other marker in indicating the position of a sunken object.

**WATERTIGHT INTEGRITY**—The degree of quality of watertightness.

**WAY**—(1) Horizontal motion of a floating body. (2) Launching track in a shipbuilding yard.

**WEATHER DECK**—Any deck exposed to the elements.

**WET DOCK**—A basin formed by the construction of barriers with gates in a harbor of great tidal ranges to prevent ships from being stranded during low tides. Ships enter the basin at high tide, the gates are closed, and the water is retained in the basin when the tide ebbs.

**WHARF**—Similar to a quay, but constructed in the fashion of a pier.

**WHIPPING**—Binding on the end of a line or wire to prevent unraveling.

**WILDCAT**—That portion of a windlass that engages the links of the anchor chain so that the anchor can be heaved in.

**WINDWARD**—Toward the direction from which the wind is blowing.

**YARD**—Spar set athwartships across the upper part of a mast.

**YARDARM**—The port or starboard half of the horizontal crosspiece of the mast that is either the port or starboard yardarm.

**YAW**—The act of a vessel when its heading is thrown wide of its course by a force from astern, such as a heavy following sea.





## APPENDIX II

### BASIC READING LIST

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## APPENDIX III

# SHIP'S CLASSIFICATION

This appendix contains the types of Navy ships by class. It also identifies the abbreviation for each of the ships within the class.

UNITED STATES NAVAL SHIPS BY CLASS			
<b>Aircraft Carriers</b>		<b>Mine Warfare Ships</b>	
Aircraft carrier	CV	Mine countermeasures ship	MCM
Aircraft carrier (Nuclear)	CVN	Minehunter coastal	MHC
<b>Surface Combatant</b>		Minesweeper ocean	MSO
Guide missile cruiser	CG	Minesweeping boats/drones	MSB/MSD
Guided missile cruiser (nuclear)	CGN	<b>Amphibious Warfare Craft</b>	
Destroyer	DD	Landing craft, air cushion	LCAC
Guided missile destroyer	DDG	Landing craft, mechanized	LCM
Frigate	FF	Landing craft, Personnel, Large	LCPL
Guide missile frigate	FFG	Landing craft, Utility	LCPL
<b>Patrol Combatants</b>		Landing craft, Vehicle, Personnel	LSSC
Patrol combatant missile (hydrofoil)	PHN	Light Seal Support Craft	LSSC
<b>Submarines</b>		Amphibious Warping Tug	LWT
Ballistic missile submarine (nuclear)	SSBN	Medium Seal Support Craft	MSSC
Attack submarine (nuclear)	SSN	Swimmer Delivery Vehicle	SDV
Auxiliary submarine	SSAG	Side Loading Warping Tug	SLWY
<b>Amphibious Warfare Ships</b>		Special Warfare Craft, Light	SWCL
Amphibious command ship	LLC	Special Warfare Craft, Medium	SWCM
Amphibious assault ship (multipurpose)	LHA/LHD	<b>Patrol Craft</b>	
Amphibious cargo ship	LKA	Mini-Armored Troop Carrier	ATC
Amphibious transport dock	LPD	Patrol Boat (Coastal)	PB(C)
Amphibious assault ship (helicopter)	LPH	River Patrol Boat	PBR
Dock landing ship	LSD	Patrol Craft	PC
Logistic support vessel (Army)	LSV	Patrol Craft (Fast)	PCF
Tank landing ship	LST	Patrol Craft (Coastal)	PCC

UNITED STATES NAVAL SHIPS BY CLASS-continued			
Auxiliary Ships		Service craft	
Ammunition Ship	AE	Small Auxiliary Floating Dry Dock (NSP)	AFDL
Combat Store Ship	AFS	Medium Auxiliary Floating Dry Dock (NSP)	AFDM
Miscellaneous	AG	Barracks Craft (NSP)	APL
Deep Submergence Support Ship	AGDS	Auxiliary Repair Dry Dock (NSP)	ARD
Hydrofoil Research Ship	AGEH	Medium Auxiliary Repair Dry Dock (NSP)	ARDM
Miscellaneous Command Ship	AGF	Deep Submergence Rescue Vehicle	DSRV
Missile Range Instrumentation Ship	AGM	Deep Submergence Vehicle	DSV
Oceanographic Research Ship	AGOR	Harbor Security Boats	HSB
Ocean Surveillance Ship	AGOS	Submersible Research Vehicle	NR
Surveying Ship	AGS	Open Lighter (NSP)	YC
Auxiliary Research Submarine	AGSS	Car Float (NSP)	YCF
Hospital Ship	AH	Aircraft Transportation Lighter (NSP)	YCV
Cargo Ship	AK	Floating Crane (NSP)	YD
Vehicle Cargo Ship	AKR	Diving Tender (NSP)	YDT
Auxiliary Lighter	ALS	Covered Lighter	YF
Oiler	AO	Ferry Boat or launch	YFB
Fast Combat Support Ship	AOE	Yard Floating Dry Dock (NSP)	YFD
Gasoline Tanker	AO	Covered Lighter (NSP)	YFN
Replenishment Oiler	AOR	Large Cover Lighter (NSP)	YFNB
Transport Oiler	AOT	Dry Dock Companion Craft (NSP)	YFND
Transport	AP	Lighter (Special purpose) (NSP)	YFNX
Self-Propelled Barracks Ship	APB	Floating Power Barge (NSP)	YFP
Cable Repairing Ship	ARC	Refrigerated Covered Lighter	YFR
Salvage Ship	ARS	Refrigerated Covered Lighter (NSP)	YFRN
Submarine Rescue Ship	ASR	Harbor Utility Craft	YFU
Auxiliary Ocean Tug	ATA	Garbage Lighter	YG
Fleet Ocean Tug	ATF	Garbage Lighter (NSP)	YGN
Salvage and Rescue Ship	ATS	Salvage Lift Craft, Heavy (NSP)	YHLC
Guided Missile Ship	AVM	Drege	YM
Large Auxiliary Floating Dry Dock (NSP)	AFBD	Grate Craft (NSP)	YNG

UNITED STATES NAVAL SHIPS BY CLASS-continued			
Service craft (Continued)		Floating Dry Dock Workshop (Hull) (NSP)	YRDH
Fuel Oil Barge	YO	Floating Dry Dock Workshop (Machine) (NSP)	YRDM
Gasoline Barge	YOG	Radiological Repair Barge (NSP)	YRR
Gasoline Barge (NSP)	YOGN	Seaplane Wrecking Derrick	YSD
Fuel Oil Barge (NSP)	YON	Sludge Removal Barge (NSP)	YSR
Oil Storage Barge (NSP)	YOS	Large Harbor Tug	YTB
Patrol Craft	YP	Small Harbor Tug	YTL
Floating Pile Driver (NSP)	YPD	Medium Harbor Tug	YTM
Floating Workshop (NSP)	YR	Water Barge	YW
Repair and Berthing Barge (NSP)	YRB	Water Barge (NSP)	YWN
Repair, Berthing and Messing Barge (NSP)	YRBM		

\*NSP—Non self-propelled.

Letter prefixes to classification symbols may be added for further identification.

PREFIX	MEANING
E	Prototype ship in an experimental or development status
T	Assigned to Military Sealift Command
F	Being built for a foreign government
X	Often added to existing classifications to indicate a new class whose characteristics have not been defined
N	Denotes nuclear propulsion when used as last letter of ship symbols





## APPENDIX IV

# NAVY GOAL CARD

<p><b>FLEET GOALS</b></p> <p>I will complete my Warfare Specialty qualifications, if assigned to sea duty, by end of 1st enlistment.</p> <p>I will increase savings to _____ dollars per month.</p> <p>I will maintain a physical fitness program.</p> <p>I will advance to every paygrade as soon as my first eligibility: E3 _____ E4 _____ E5 _____ E6 _____</p> <p>I will go the education office (Navy Campus) to document college credits earned upon completion of Recruit Training, _____ school, and _____.</p>	<p><b>DEP GOALS</b></p> <p>I will attend all DEP meetings.</p> <p>I will save _____ dollars per month.</p> <p>I will advance to E2/E3 by encouraging others to visit recruiters and enlist.</p> <p>I will maintain a physical fitness program.</p> <p>I will earn my _____ diploma.</p> <p>I will not use illegal drugs or abuse alcohol.</p> <p>I will take personal responsibility for my future.</p> <p>Personal Goal: _____</p> <p>_____</p> <p>_____</p>
<p><b>PERSONAL PRIORITIES</b></p> <p>Education/Training</p> <p>Discipline</p> <p>Advancement</p> <p>Physical Fitness</p> <p>Saving Money</p> <p>Habits: Exercise often, avoid alcohol abuse, never use drugs, eat right, avoid smoking, study to earn ____ college credits every year.</p> <p>Personal Goals: _____</p> <p>_____</p> <p>_____</p>	<p><b>RECRUIT TRAINING GOALS</b></p> <p>I will report to Recruit Training on _____.</p> <p>I will complete Recruit Training in 9 weeks.</p> <p>I will save _____ dollars per month.</p> <p>I will pass the Navy's physical fitness Requirements.</p> <p>I will honor the Navy Core Values.</p> <p>Personal Goal: (Something else you want to accomplish: _____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p><b>NAME:</b> _____</p> <p>Successful Sailors have found that setting goals helps them achieve rewarding careers. Here are just a few examples of goals that will help you on your path to success.</p> <p><b>WELCOME ABOARD!</b></p> <p><b>NAVY CORE VALUES</b></p> <p><b>HONOR, COURAGE, COMMITMENT</b></p>	<p><b>SAILOR'S CREED</b></p> <p>I am a United States Sailor. I will support and Defend the Constitution of the United States of America and I will Obey the orders of those appointed over me. I represent the fighting spirit of the Navy and those who have gone before me to defend Freedom and Democracy around the world. I proudly serve my country's Navy combat team with honor, courage, and commitment. I am committed to excellence and fair treatment to all.</p>



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# *Assignment Questions*

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**Information:** The text pages that you are to study are provided at the beginning of the assignment questions.



# ASSIGNMENT 1

**Textbook Assignment:** Chapter 1 “*Policies and Programs*” and chapter 2 “*Military Conduct and Justice*.”

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1. Pollution can result when which of the following types of agents is/are introduced into the air, water, or soil?
  1. Biological
  2. Chemical
  3. Physical
  4. All of the above
2. Which of the following operations causes the most pollution?
  1. Industrial
  2. Municipal
  3. Transportation
  4. All of the above
3. Which of the following materials is the primary municipal pollutant?
  1. Raw or inadequately treated sewage
  2. Radioactive waste
  3. Petroleum products
  4. Acids
4. Which of the following modes of transportation creates most air pollutants?
  1. Trains
  2. Waterborne vessels
  3. Motor vehicles
  4. Aircraft
5. Which, if any, of the following effects of pollution is the most serious?
  1. Psychological
  2. Biological
  3. Physical
  4. None of the above
6. Steel erodes faster than normal when exposed to which of the following air pollutants?
  1. Pesticides
  2. Herbicides
  3. Zinc oxides
  4. Sulfur oxides
7. Most pesticides fall into which of the following categories?
  1. Selective
  2. Nonselective
  3. Preselective
  4. Control selective
8. What is the primary pollution concern of Navy personnel?
  1. Noise pollution
  2. Shore command wastes
  3. Shipboard wastes
9. Which of the following terms identifies abatement?
  1. Maintaining
  2. Raising
  3. Lowering
  4. Containing
10. Under the Clean Air Act, what government body has the primary responsibility for assuring air quality?
  1. Federal government
  2. Each state
  3. Local municipalities
  4. Department of Transportation
11. Virtually all Navy ships have some type of sanitation device installed. Which of the following types of systems retains sewage on board for discharge ashore or in waters where discharging is allowed?
  1. Direct discharge
  2. Positive flow
  3. Marine sanitation
  4. Collection, holding, and transfer
12. When operating sanitation devices in foreign waters, Navy ships comply with which of the following requirements?
  1. Status of Forces Agreement
  2. Coast Guard instructions
  3. NAVFAC guidelines
  4. All of the above

13. Vessels may not discharge unpulped trash within what minimum distance from the U.S. coastline?
  1. 20 nm
  2. 25 nm
  3. 30 nm
  4. 35 nm
14. Submarines may discharge negatively buoyant compacted trash not less than 12 nm from the U.S. coastline only if the water depth is greater than how many fathoms?
  1. 1,000
  2. 500
  3. 100
  4. 50
15. The Navy's land management program involves which of the following efforts?
  1. Migratory bird management
  2. Production and sale of forest products
  3. Soil and water conservation
  4. Use of off-road vehicles
16. From what part of the world does the U.S. import most of its crude oil?
  1. Southeast Asia
  2. Central Europe
  3. South America
  4. Middle East
17. What program provides information and support for Navy personnel who are guests in foreign lands?
  1. Navy Sponsor Program
  2. Overseas Duty Support Program
  3. Navy Assistance Program
  4. Navy Relocation Program
18. The Military Cash Awards Program (MILCAP) provides monetary recognition of up to what maximum amount?
  1. \$ 5,000
  2. \$10,000
  3. \$20,000
  4. \$25,000

19. The Navy's Health and Physical Readiness Program promotes health and fitness at the command level. As part of this program, naval personnel are required to undergo fitness testing at what interval?
  1. Biennially
  2. Annually
  3. Semiannually
  4. Quarterly

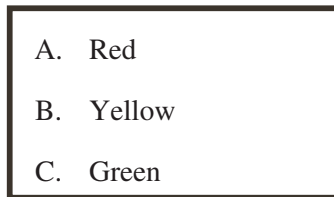
20. "Informing the public and members of the naval service about Navy operations and programs" is the mission of
  1. BUPERS
  2. CNO
  3. PAO
  4. SECNAV

IN ANSWERING QUESTIONS 21 THROUGH 23, SELECT THE TERM USED TO DEFINE THE QUESTION.

21. Extravagant, careless, or needless expenditure of government resources.
  1. Fraud
  2. Waste
  3. Abuse
  4. Mismanagement
22. Intentional misleading or deceitful conduct that deprives the government of its resources or rights.
  1. Fraud
  2. Waste
  3. Abuse
  4. Mismanagement
23. Intentional wrongful or improper use of government resources.
  1. Fraud
  2. Waste
  3. Abuse
  4. Mismanagement

24. You can report fraud, waste, abuse, and mismanagement to which of the following offices?
  1. The Navy hotline
  2. The chain of command
  3. The Naval Criminal Investigative Service
  4. All of the above
25. To maintain public confidence in its integrity, all naval personnel must comply with the Standards of Conduct and Professional Ethics.
  1. True
  2. False
26. If you disclose information about a person to unauthorized personnel, you could be fined up to what maximum amount?
  1. \$5,000
  2. \$3,000
  3. \$2,000
  4. \$1,000
27. The guidance and policy for making sure that equal opportunity works rests with what office?
  1. Command master chief
  2. Commanding officer
  3. Chief of Naval Operations
  4. Secretary of the Navy
28. Which of the following persons is responsible for making equal opportunity a reality with a command?
  1. Commanding officer
  2. Executive officer
  3. Operations officer
  4. Command master chief
29. Your performance evaluation does not reflect your attitude toward and your conduct in support of the Navy's equal opportunity program.
  1. True
  2. False
30. If a Sailor takes part in insensitive practices, he/she receives counseling on treating people equally. If counseling isn't effective, what action, if any, may take place?
  1. Administrative action only
  2. Disciplinary action only
  3. Administrative or disciplinary action
  4. None
31. On what basis should supervisors assign duties such as food service and compartment cleaning?
  1. Skills and abilities
  2. Seniority
  3. A fair, rotational basis
  4. Time in service
32. The Department of the Navy sets the requirements for advancement for paygrades E-1 through E-9. Which of the following is the determining factor in advancement?
  1. A vacancy
  2. Having a high multiple
  3. Passing the advancement-in-rate exam
  4. All of the above
33. Navy personnel are prohibited from taking part in a civil rights demonstration under which of the following circumstances?
  1. When the demonstration occurs during duty hours
  2. While they are in uniform
  3. When the demonstration occurs on a military reservation
  4. Each of the above
34. If you cannot resolve a complaint among the personnel involved, you can attach a written complaint to a special request chit and forward it through the chain of command. You must do this within 5 days?
  1. True
  2. False
35. Which of the following personnel can be victims of sexual harassment?
  1. Men only
  2. Women only
  3. Both 1 and 2 above
36. Which of the following phrases describes sexual harassment?
  1. Unwelcome sexual advances
  2. Requests for sexual favors
  3. Verbal or physical conduct that is sexual in nature
  4. Each of the above

37. Someone in a command position makes sexual advances towards you, making it impossible to do your job. You are being sexually harassed.
1. True
  2. False
38. Which of the following is a criteria for a person's behavior to be considered sexual harassment?
1. Unwelcome
  2. Sexual in nature
  3. Occur or impact your work
  4. Each of the above



**Figure A**

IN ANSWERING QUESTIONS 39 AND 40,  
REFER TO FIGURE A AND SELECT THE ZONE  
USED TO DESCRIBE THE QUESTION.

39. Sexually explicit pictures.
1. A
  2. C
  3. B
40. Suggestive posters, calendars, and off-color jokes.
1. A
  2. C
  3. B
41. What person has the responsibility of appointing the command ombudsman?
1. Commanding officer
  2. Executive officer
  3. Division officer
  4. Command master chief
42. What person determines the content and priorities of the command ombudsman program?
1. Commanding officer
  2. Executive officer
  3. Division officer
  4. Command master chief
43. Which of the following statements is a purpose of the Reenlistment Quality Control Program?
1. To provide a personnel management program to control rating manning
  2. To issue reenlistment criteria
  3. To establish standardized professional growth points
  4. All of the above
44. All first-term Sailors in paygrades E-1 through E-6 requesting reenlistment must be approved for reenlistment through what program?
1. CREO
  2. ENCORE
  3. HYT
  4. EEO
45. What person directs and supervises the Navy's voting program?
1. Chairman, Joint Chiefs of Staff
  2. Chief of Naval Operations
  3. Chief of Naval Personnel
  4. Chief of Naval Information
46. Which of the following are sources that set forth the basic disciplinary laws for the U.S. Navy?
1. *U.S. Navy Regulations*
  2. *Standard Organization and Regulations of the U.S. Navy*
  3. *Uniform Code of Military Justice (UCMJ)*
  4. Each of the above
47. Which of the following characteristics are traits of a good Sailor?
1. Puts the good of the ship and the Navy above personal likes and dislikes
  2. Obeys the rules of military courtesy and etiquette
  3. Demonstrates loyalty, self-control, honesty, and truthfulness
  4. All of the above
48. In what year was the Code of Conduct first prescribed?
1. 1965
  2. 1955
  3. 1945
  4. 1935



49. The Code of Conduct was adopted to provide guidance for service personnel in which of the following circumstances?
  1. When stationed on foreign soil
  2. When traveling at home and abroad
  3. When facing the enemy as prisoners of war
  4. All of the above
50. In what year was Executive Order 12633 issued amending the Code of Conduct to use neutral-gender language?
  1. 1987
  2. 1988
  3. 1989
  4. 1990
51. How many articles make up the Code of Conduct?
  1. Two
  2. Four
  3. Six
  4. Eight
52. When, if ever, may you voluntarily surrender to the enemy?
  1. If alone and completely isolated from friendly troops
  2. If no longer able to inflict casualties on the enemy
  3. If able to detain the enemy and let others escape capture
  4. Never
53. Who may be assigned shore patrol duties?
  1. Officers only
  2. Petty officers only
  3. Officers and petty officers
  4. All Navy personnel
54. In areas where different armed services are located, the military police from each service may be combined to form one unit. What term identifies this unit?
  1. Armed Forces Police Department
  2. Armed Forces Police Detachment
  3. Armed Forces Police Service
  4. Armed Forces Police Group
55. Aboard ship, the master-at-arms (MAA) force is headed by the chief master-at-arms (CMAA). The CMAA works directly for which of the following officers?
  1. Weapons officer
  2. Security officer
  3. Executive officer
  4. Administrative officer
56. Discipline training develops which of the following personal traits?
  1. Character
  2. Efficiency
  3. Self-control
  4. All of the above
57. Discipline is important to the Navy for which of the following reasons?
  1. To instill fear of punishment
  2. To decrease command responsibility
  3. To provide punishment for wrongdoers
  4. To enable personnel to function as a unit with a high degree of efficiency
58. Punishment is administered in the Navy for which of the following reasons?
  1. To serve as an object lesson to the wrongdoer and others
  2. To pacify those who have suffered a wrong
  3. To correct a wrong
  4. To avenge a wrong
59. What chapter of the *United States Navy Regulations* describes the rights and responsibilities of all Navy members?
  1. 12
  2. 11
  3. 10
  4. 9
60. What person is responsible for making sure that the *Navy Regs* conforms to the current needs of the Department of the Navy?
  1. The Secretary of the Navy
  2. The Judge Advocate General
  3. The Chief of Naval Operations
  4. The Commandant of the Marine Corps

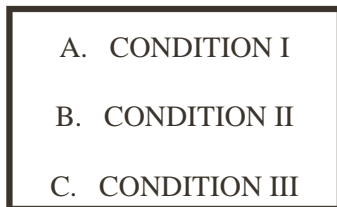
61. *Navy Regs* and changes to it are issued by the Secretary of the Navy after what person approves them?
  1. The President
  2. The Vice President
  3. The Attorney General
  4. The Chairman of the Joint Chiefs of Staff
62. Failure to obey any regulation subjects the offender to charges under what *UCMJ* article?
  1. 91
  2. 92
  3. 93
  4. 94
63. What article of the *Navy Regs* lists the publications that must be made available upon request by any active-duty person?
  1. 1020
  2. 1010
  3. 0917
  4. 0818
64. What article of the *Navy Regs* gives officers the authority necessary to perform their duties?
  1. 1021
  2. 1023
  3. 1025
  4. 1033
65. *Navy Regs*, article 1033, Authority in a Boat, provides which of the following officers the authority and responsibility over all persons embarked?
  1. The senior line officer eligible for command at sea
  2. The junior line officer eligible for command at sea
  3. The senior staff officer
  4. The junior staff officer
66. Which of the following *Navy Regulations* articles outlines the authority of a sentry?
  1. 1037
  2. 1038
  3. 1052
  4. 1053
67. You may not be ordered to active duty without the permission of which of the following persons?
  1. Commandant of the Marine Corps
  2. Commandant of the Coast Guard
  3. Chief of Naval Operations
  4. Chief of Naval Personnel
68. *Navy Regulations*, article 1104, Treatment and Release of Prisoners, prohibits cruel and/or unusual treatment. According to this article, prisoners must be checked on at what minimum interval?
  1. 10 hours
  2. 8 hours
  3. 6 hours
  4. 4 hours
69. During a Saturday duty day, one of your shipmates asks you to change watches with him/her. You agree but fail to get permission from proper authority. Under what article of *Navy Regs* could you be charged?
  1. 1138
  2. 1134
  3. 1133
  4. 1129
70. Sexual harassment is offensive and illegal. Under what article of *Navy Regs* may a person be charged with sexual harassment?
  1. 1166
  2. 1164
  3. 1162
  4. 1160

# ASSIGNMENT 2

**Textbook Assignment:** Chapter 3 “*Watch Standing*” and chapter 4 “*Communications*.”

---

1. A ship maintains a watch for which of the following reasons?
  1. Communications
  2. Security
  3. Safety
  4. All of the above
2. A ship’s plan for action is contained in what type of bill?
  1. Battle bill
  2. Admin bill
  3. Organization bill
  4. Watch, quarter, and station bill
3. Qualified personnel are assigned to stations by which of the following persons?
  1. Division officer and division chief
  2. Leading petty officer
  3. Leading chief petty officer
  4. Executive officer



**Figure A**

IN ANSWERING QUESTIONS 4 AND 5, REFER TO FIGURE A AND SELECT THE CONDITION USED TO DEFINE THE QUESTION.

4. General quarters—all battle stations are manned.
  1. A
  2. B
  3. C
5. Normal wartime cruising watch—4 hours on, 8 hours off.
  1. A
  2. B
  3. C

6. If you are scheduled to stand the second dog watch, you should report at which of the following times?
  1. 1745
  2. 1750
  3. 1755
  4. 1800
7. If you are told to report to your duty station at 0745 (24-hour clock), you should arrive at what time?
  1. 6:45 am
  2. 7:45 am
  3. 6:45 pm
  4. 7:45 pm
8. What watch are you standing between 2000 and 2400 hours?
  1. Midwatch
  2. Forenoon watch
  3. First dog watch
  4. Evening watch
9. Watches are split into port and starboard for what reason?
  1. For convenience
  2. For security
  3. To rotate personnel
  4. To allow extra liberty
10. What type of watch do most Sailors stand?
  1. Phone
  2. Security
  3. Admin
  4. Division
11. Which of the following is a type of a security watch?
  1. Sentry duty
  2. Barracks watch
  3. Fire watch
  4. Each of the above

12. Which of the following is a key assignment for officers in the watch organization?
  1. CDO
  2. OOD
  3. JOOD
  4. Each of the above
13. Which of the following is a duty of the QMOW?
  1. To maintain the ship's deck log
  2. To make sure all bells are correctly answered
  3. To stand watch in the bridge and deliver messages
  4. To line up and operate the steering engines
14. What person makes sure all deck watch stations are manned with qualified personnel and all watch standers from previous watches are relieved?
  1. BMOW
  2. QMOW
  3. JOOW
  4. JOOD
15. Where is the fog lookout watch usually stood?
  1. Helm
  2. Aftermast
  3. In the bow where approaching ships can be heard
  4. CIC
16. For what reason does the fog lookout watch normally consist of two Sailors?
  1. In case there is a man overboard
  2. To allow the lookout to work without having his/her hearing impaired by wearing sound-powered phones
  3. The two-man security rule
  4. To verify visual and sound contact
17. What type of watch is set when positive steering control must be maintained?
  1. Helmsman
  2. Lee helmsman
  3. After steering
  4. QMOW
18. What is the purpose of the security watch?
  1. To minimize damage to equipment
  2. To control contact with the CIC
  3. To increase the physical security of the ship
19. Which of the following is a duty of security watches and patrols?
  1. To be alert for fire hazards
  2. To check the security of weapons magazines
  3. To inspect damage control closures
  4. Each of the above
20. You are a member of a security patrol, and you detect a fire hazard that affects the safety of the ship. What action should you take?
  1. Note it on the security log
  2. Inform your LCPO
  3. Investigate it
  4. Report it to the OOD immediately
21. What is the purpose of a shipboard fire watch?
  1. To immediately extinguish fires caused by welding or burning operations
  2. To make sure the welder strikes the welding surface
  3. To relay messages from the work site
  4. To make sure there is a controlled burn of material at the work site
22. When standing a barracks security watch, you have which of the following responsibilities?
  1. Knowing and carrying out provisions of the fire bill
  2. Knowing and carrying out provisions of the emergency bill
  3. Knowing barracks regulations
  4. All of the above
23. When standing a barracks security watch, which of the following is the first action to take if there is a fire?
  1. Report the fire
  2. Spread the alarm
  3. Close doors and windows
  4. Fight the fire, if possible, if you have the proper equipment
24. Sentries are governed by what two types of orders?
  1. Understood and general
  2. Special and verbal
  3. General and special
  4. General and verbal

25. You are required to know the general orders of a sentry. How many general orders are there?
  1. 11
  2. 14
  3. 16
  4. 18
26. When aboard ship, you should refer to what publication for the procedures used to relieve an armed watch?
  1. SOP
  2. FOD
  3. Watch bill
  4. Battle bill
27. Which of the following is a precaution to follow when standing an armed watch with a pistol?
  1. When relieved, unload the pistol in a safe area
  2. Don't surrender the pistol to an unauthorized person
  3. Keep the pistol (which is loaded with one round in the chamber) in its holster unless you have to use it
  4. Each of the above
28. Under which of the following conditions can deadly force be used?
  1. To prevent the escape of a murderer
  2. To prevent sabotage
  3. To protect your life
  4. Each of the above
29. Why is a lookout posted?
  1. To prevent blind spots caused by metal objects
  2. To search for objects radar can't detect
  3. To detect objects low in the water
  4. To search for air attacks
30. The peacetime lookout organization has how many Sailors in each watch station?
  1. One
  2. Two
  3. Three
  4. Four
31. Which of the following is/are types of bearings?
  1. Relative only
  2. True only
  3. Magnetic only
  4. Relative, true, and magnetic
32. Which of the following is Navy phraseology for reporting a bearing of 038°?
  1. O, three, eight
  2. O, three, ate
  3. Zero, tree, ate
  4. Zero, tree, eight
33. Lookouts report what type of bearing?
  1. Magnetic
  2. Relative
  3. True
34. Which of the following statements describes a target angle?
  1. The magnetic north pole is used as the reference point
  2. True north is used as the reference point
  3. An object in the sky
  4. The relative bearing of your ship from another ship
35. A position angle can never be more than what number of degrees?
  1. 0°
  2. 45°
  3. 90°
  4. 180°
36. How are position angles reported?
  1. Three digits, spoken digit by digit
  2. Two digits, spoken digit by digit
  3. Three digits, spoken as a whole
  4. Two digits, spoken as a whole
37. How should you report objects that are low in the water?
  1. By feet above the surface
  2. By the object's approximate distance
  3. In feet from the ship
  4. From the object to the horizon
38. Ranges are reported in what unit of measurement?
  1. Feet
  2. Yards
  3. Rods
  4. Miles

39. When using binoculars, what adjustments should you make?
  1. One for focus
  2. Two for focus and one for proper distance between the lenses
  3. One for proper distance between the lenses
  4. Two for eyepiece and lens
40. When should you use binoculars?
  1. In foggy and rainy conditions
  2. When identifying objects at night
  3. When scanning sectors in the daytime
  4. Both 2 and 3 above
41. How long does it take for you to reach your best night vision?
  1. 10 minutes
  2. 15 minutes
  3. 25 minutes
  4. 30 minutes
42. What is meant by the term *dark adaptation*?
  1. The improvement of vision in dim light
  2. The inability to see in bright light
  3. The red light requirement
  4. Shadows that can't be seen clearly
43. When should you use "off-center vision"?
  1. Below decks
  2. When wearing glasses
  3. When it's dark
  4. In broad daylight
44. What information is contained in an initial report?
  1. The object only
  2. The object's bearing from the ship only
  3. The object and its bearing from the ship
  4. What the object might be
45. To report serial number 23NCI16 over the sound-powered telephone circuit, you would report the serial number in what way?
  1. Too, three, november, charlie, india, wun, six
  2. Too, tree, november, charlie, india, wun, six
  3. Two, tree, november, charlie, india, wun, six
  4. Two, tree, november, charlie, india, wun, sics
46. It's important for you to remember that the mouthpiece and earpiece of sound-powered telephones are interchangeable for which of the following reasons?
  1. Two people can talk at once
  2. They can be interchanged if a piece breaks
  3. Undesirable noises can be fed into the system
  4. Both 2 and 3 above
47. The headset of sound-powered telephones is picked up as a unit for which of the following reasons?
  1. To make sure you have all the parts
  2. To avoid breaking them
  3. Both 1 and 2 above
  4. In case the earpiece is missing
48. When using the mouthpiece of a sound-powered phone set to report contacts, how far from your mouth should you position the mouthpiece?
  1. 1/2 to 1 inch
  2. 1 to 2 inches
  3. 2 to 3 inches
  4. 3 to 4 inches
49. Why should you unplug a phone's headset when it's not in use?
  1. To keep the user costs down
  2. Earpieces will pick up noise and transmit it over the circuit
  3. Carbon will build up at the connectors
  4. Calls from other circuits won't go through
50. Aboard ship, there are how many categories of shipboard sound-powered phone circuits?
  1. One
  2. Two
  3. Three
  4. Four
51. What category of shipboard telephone circuits is designed to maintain vital communications and are preceded by the letter X?
  1. Primary system
  2. Auxiliary system
  3. Supplementary system
  4. Command circuit



52. Which of the following sound-powered phone circuits is used as the CO's battle circuit?
  1. JA
  2. JC
  3. JL
  4. 1JV
53. To keep the meaning of a message intact when standing duty as a telephone talker, what action should you take?
  1. Speak loudly
  2. Repeat the message word for word
  3. Paraphrase what you hear
  4. Speak rapidly to transmit the message quickly
54. Which of the following statements is a rule for circuit discipline?
  1. Transmit only official messages
  2. Keep the button in the OFF position when not transmitting
  3. Use only standard words and phrases
  4. All of the above
55. Which of the following elements is included when taking a message?
  1. Name of caller
  2. Message
  3. Time and date
  4. Each of the above
56. The IVCS has which of the following components?
  1. Terminals
  2. Accessories
  3. ICSCs
  4. All of the above
57. Within the IVCS, what is the purpose of the ICSCs?
  1. To perform switching actions
  2. To keep lines clear
  3. To give multi-access to lines
  4. To ensure automatic cutoff for security purposes
58. Which of the following shipboard announcing systems is called the general announcing system?
  1. 1MC
  2. 2MC
  3. 3MC
  4. 4MC
59. Which of the following shipboard announcing systems is used for intership communications?
  1. 5MC
  2. 6MC
  3. 7MC
  4. 8MC
60. Which of the following shipboard announcing systems is used for hangar deck damage control?
  1. 39MC
  2. 51MC
  3. 53MC
  4. 58MC
61. Which of the following persons is authorized to pass calls over the 1MC?
  1. OOD
  2. XO
  3. CO
  4. Each of the above
62. What is the purpose of the 20MC announcing system?
  1. Radio room announcing system
  2. Flag officer's command announcing system
  3. Combat information announcing system
  4. Captain's command announcing system
63. Which of the following types of flags and pennants is/are used by the Navy?
  1. Substitute flags
  2. Numeral pennants
  3. International alphabet flags
  4. All of the above
64. Aboard ship, a man overboard is indicated by what emergency/warning flag?
  1. Code Alfa
  2. Oscar
  3. November Charlie
  4. Bravo
65. What administrative flag is used to recall all personnel to the ship?
  1. Hotel
  2. Juliett
  3. Romeo
  4. Papa

66. What administrative flag is flown in port to indicate the ship has ready duty?
  1. Hotel
  2. India
  3. Romeo
  4. Quebec
67. When under way, the national ensign is normally flown from what location?
  1. The gaff
  2. The aftermast
  3. The flagstaff
  4. The jackstaff
68. Which of the following statements defines the term "colors"?
  1. Colors give recognition of codes
  2. Colors consist of our national ensign along with the union jack
  3. Colors are lights on the flagstaff
  4. Colors are the flags of foreign ships
69. When a naval ship is in port or at anchor, the union jack is flown from what location?
  1. The gaff
  2. The jackstaff
  3. The aftermast
  4. The flagstaff
70. The U.S. Navy flag is flown in which of the following situations?
  1. At official ceremonies or official public gatherings when the Navy is officially a participant
  2. In parades
  3. In official Navy occasions
  4. Each of the above
71. Which of the following flags are half-masted at the death of the CO?
  1. National ensign
  2. Union jack
  3. Commission pennant
  4. Each of the above
72. On small ships, personnel from what watch are responsible for hoisting and hauling down absentee pennants?
  1. Security watch
  2. Quarterdeck watch
  3. Roving watch
  4. DC central watch
73. On large ships, what person is responsible for making sure that special flags or pennants are displayed to indicate changing events aboard ship?
  1. Boatswain's mate
  2. Quarterdeck watch
  3. Duty signalman
  4. Topside watch
74. Where is a list of special flags and pennants normally posted as a ready reference for watch standers?
  1. Combat information center (CIC)
  2. After deck
  3. Quarterdeck area
  4. Half deck
75. An officer in command entitled to a personal flag is embarked in a boat on an official mission. Where should the pennant be flown?
  1. Amid ship
  2. In the bow
  3. In the stern
  4. Yardarm, port

# ASSIGNMENT 3

**Textbook Assignment:** Chapter 5 “*Naval History.*”

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1. What date commemorates the birthday of the United States Navy?
  1. 5 Sep 1774
  2. 13 Oct 1775
  3. 4 Jul 1776
  4. 14 Feb 1778
2. The Second Continental Congress approved the purchase of how many vessels?
  1. Eight
  2. Six
  3. Four
  4. Two
3. Which of the following were naval vessels in the early 19th century?
  1. Frigates
  2. Sloops of war
  3. Ships of the line
  4. All of the above
4. What category of ship carried the largest number of guns?
  1. Ships of the line
  2. Sloops of war
  3. Schooners
  4. Frigates
5. What type of ships did privateers typically sail?
  1. Ships of the line
  2. Sloops of war
  3. Schooners
  4. Frigates
6. What ship was the first warfare submarine?
  1. *Turtle*
  2. *Hornet*
  3. *Alfred*
  4. *Wasp*
7. Which of the following ships has the distinction of being the U.S. Navy’s first flagship?
  1. *Providence*
  2. *Hornet*
  3. *Alfred*
  4. *Wasp*
8. What country was the first to recognize the “Stars and Stripes”?
  1. Germany
  2. France
  3. Spain
  4. Portugal
9. John Paul Jones is often referred to as the “father of our highest naval traditions” because of the example he set as an officer during the Revolutionary War. He is also famous because of which of the following accomplishments?
  1. His appointment as the first U.S. Navy admiral
  2. His selection as the first commander in chief
  3. His victory over the HMS *Serapis*
  4. His capture of the HMS *Nancy*
10. At various times during the Revolutionary War, the U.S. Navy had 56 vessels. What was the peak number of vessels that were operating at any one time?
  1. 45
  2. 32
  3. 27
  4. 15

11. Approximately how many ships did the British lose to privateers?
  1. 1,000
  2. 1,500
  3. 2,000
  4. 2,500
12. What is the oldest U.S. Navy ship still in commission?
  1. *Lexington*
  2. *Constitution*
  3. *Constellation*
  4. *Bonhomme Richard*
13. Who was president when the U.S. Navy Department was established?
  1. George Washington
  2. Thomas Jefferson
  3. James Madison
  4. John Adams
14. When did the expression “Millions for defense, but not one cent for tribute” originate?
  1. During the Revolutionary War
  2. During the “Quasi” War
  3. During the War of 1812
  4. During the Barbary States War
15. Who led the naval forces into Tripoli Harbor and destroyed the captured US frigate USS *Philadelphia*?
  1. Stephen Decatur
  2. James Lawrence
  3. Thomas Truxtun
  4. Edward Preble
16. The War of 1812 was caused, in part, by the efforts to accomplish which of the following goals?
  1. Establishing a naval base in the Mediterranean
  2. Paying ransom payments to the Barbary States
  3. Stopping forced service of American seamen in the British navy
  4. Forcing France to establish trade relations with the United States
17. During the War of 1812, what ship earned the nickname “Old Ironsides”?
  1. *Chesapeake*
  2. *Constitution*
  3. *Constellation*
  4. *Enterprise*
18. On which of the following Great Lakes did Captain Oliver Hazard Perry defeat a British squadron, cutting British supply lines?
  1. Lake Superior
  2. Lake Michigan
  3. Lake Huron
  4. Lake Erie
19. What ship was one of the first ships-of-the line?
  1. *Constitution*
  2. *Enterprise*
  3. *Philadelphia*
  4. *North Carolina*
20. The first half of the 19th century saw a development that was to change navies all over the world. What was that development?
  1. Task forces
  2. Steam power
  3. Steel hulls
  4. Practical submarines
21. In 1843, what invention incorporated in the USS *Princeton* paved the way for progress in the development of propulsion systems?
  1. The screw propeller
  2. The diesel engine
  3. The coal-fired boiler
  4. The stern paddle wheel
22. In 1854, Commodore Perry signed a treaty that opened up what market to American trade?
  1. China
  2. Japan
  3. Russia
  4. India

23. Although neither side could claim victory, the battle between the USS *Monitor* and the *Virginia (Merrimack)* was important for which of the following reasons?
  1. Steam engines were used in battle for the first time
  2. The Dahlgren gun was used
  3. The battle began the era of the ironclads
  4. The Union and Confederate navies fought each other
24. The first true submarine attack was conducted against what Union ship?
  1. USS *New Ironsides*
  2. USS *Housatonic*
  3. USS *Hunley*
  4. USS *Custis*
25. During what Civil War battle was the order "Damn the torpedoes! Full speed ahead!" given?
  1. Vicksburg
  2. Mobile Bay
  3. New Orleans Orleans
  4. Kings Bay
26. What person defined sea power, showed the importance of knowing naval needs, and advocated a large, powerful Navy?
  1. Commodore Perry
  2. Admiral Farragut
  3. Andre Foote
  4. Alfred T. Mahan
27. What ship has been labeled as the first modern cruiser in the U.S. Fleet?
  1. USS *Boston*
  2. USS *Atlanta*
  3. USS *Newark*
  4. USS *Chicago*
28. "Remember the Maine," referring to the USS *Maine*, was the battle cry for which of the following wars?
  1. The Quasi War
  2. The Civil War
  3. The Spanish-American War
  4. World War I
29. In what year did the Navy accept its first operational submarine?
  1. 1895
  2. 1898
  3. 1900
  4. 1902
30. Construction of our first destroyer began in what year?
  1. 1895
  2. 1899
  3. 1902
  4. 1905
31. What ship was considered our first "first-class" battleship?
  1. USS *Indiana*
  2. USS *New York*
  3. USS *Texas*
  4. USS *California*
32. Who was the Navy's first aviator?
  1. Lt. Ellyson
  2. Lt. Towers
  3. Lt. Corry
  4. CAPT Chambers
33. Destroyers were first used effectively for antisubmarine warfare during what war?
  1. Civil War
  2. Spanish-American War
  3. World War I
  4. World War II
34. In what war did women first serve as members of the Navy?
  1. Civil War
  2. Spanish-American War
  3. World War I
  4. World War II
35. In what capacity did women first serve as members of the Navy?
  1. Nurse
  2. Yeoman
  3. Radio operator

36. What was the first aircraft carrier designed from the keel up?
  1. USS *Ranger*
  2. USS *Hornet*
  3. USS *Yorktown*
  4. USS *Enterprise*
37. What was the first naval battle of World War II in which two opposing fleets didn't see each other during combat?
  1. The Battle of Midway
  2. The Battle of Okinawa
  3. The Battle of Guadalcanal
  4. The Battle of the Coral Sea
38. What was the decisive battle of World War II that became the turning point of the war in the Pacific?
  1. The Battle of Midway
  2. The Battle of Okinawa
  3. The Battle of Guadalcanal
  4. The Battle of the Coral Sea
39. During World War II, the Japanese loss/losses of what island(s) heralded the end of the war in the Pacific?
  1. Philippines
  2. Solomons
  3. Guadalcanal
  4. Iwo Jima
40. During World War II, the Navy was heavily involved in which of the following Atlantic (European) actions?
  1. The invasion of Normandy
  2. The capture of Navarone
  3. The Battle of Britain
  4. The fall of Berlin
41. Which of the following were types of ships built during World War II?
  1. Net tenders
  2. Mine sweepers
  3. Repair ships
  4. All of the above
42. Which of the following combat systems came into full use during World War II?
  1. Radar
  2. Sonar
  3. Both 1 and 2 above
  4. SATNAV
43. During World War II, WAVES were eligible for how many ratings?
  1. 28
  2. 30
  3. 34
  4. 40
44. In what year was the Women's Armed Services Integration Act passed?
  1. 1942
  2. 1945
  3. 1948
  4. 1951
45. The first extensive use of jet aircraft and helicopters occurred during what war?
  1. World War I
  2. World War II
  3. The Korean Conflict
  4. The Vietnam Police Action
46. The first U.S. Navy nuclear-powered vessel was what type of ship?
  1. Carrier
  2. Submarine
  3. Merchant ship
  4. Guided-missile cruiser
47. In what year did the USS *Nautilus* make its history-making transpolar voyage?
  1. 1952
  2. 1955
  3. 1958
  4. 1961
48. In what year were the first nuclear-powered surface ships launched?
  1. 1952
  2. 1955
  3. 1958
  4. 1961



49. In what year was the first American satellite placed in orbit?
  1. 1952
  2. 1955
  3. 1958
  4. 1961
50. America's first suborbital flight was made by what Navy officer?
  1. Commander Conrad
  2. Commander Gordan
  3. Commander Shepard Jr
  4. Commander Kerwin
51. Which of the following warfare tactics was used during the Vietnam Police Action?
  1. Gunfire support
  2. Riverine operations
  3. Coastal interdiction
  4. Each of the above
52. Which of the following ships was the world's first nuclear-powered carrier?
  1. USS *Nimitz*
  2. USS *Carl Vinson*
  3. USS *Enterprise*
  4. USS *Abraham Lincoln*
53. What moon mission was completely manned by Navy personnel?
  1. *Apollo 5*
  2. *Apollo 7*
  3. *Apollo 11*
  4. *Apollo 12*
54. In what year was the *Alvin*, a deep diving vehicle, tested at 6,000-foot depths?
  1. 1961
  2. 1965
  3. 1969
  4. 1971
55. In what year was the first nuclear-powered, deep-submergence research and ocean-engineering vehicle launched?
  1. 1961
  2. 1965
  3. 1969
  4. 1971
56. Which of the following is/are principle development(s) of the Trident system?
  1. A nuclear-powered fleet ballistic missile submarine
  2. A strategic weapons system
  3. An integrated logistics support system
  4. All of the above
57. Which of the following are the most recent additions to the surface fleet?
  1. Ticonderoga-class cruisers
  2. Arleigh Burke-class destroyers
  3. Both 1 and 2 above
  4. LHAs
58. The Navy helped move approximately how many pounds of equipment and supplies during Dessert Shield/Desert Storm?
  1. 12.4 billion tons
  2. 15.8 billion tons
  3. 18.3 billion tons
  4. 21.6 billion tons

# ASSIGNMENT 4

**Textbook Assignment:** Chapter 6 “*Naval Organization*” and chapter 7 “*Basic Seamanship*.”

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1. Which of the following is NOT a DoD military department?
  1. Army
  2. Coast Guard
  3. Navy
  4. Air Force
2. By law, what person heads the Department of the Navy (DoN)?
  1. Secretary of Defense
  2. Joint Chief of Staff
  3. Secretary of the Navy
3. Title 10 of the U.S. Code states that which of the following actions is/are part of the Navy’s mission?
  1. Oversee construction, outfitting, and repair of naval ships, equipment, and facilities
  2. Station troops in forward positions
  3. Commands U.S. forces in CONUS
  4. Commander and chief of all sea commands
4. What are the three principal components of the DoN?
  1. The Navy Department executive offices, the operating forces including the Marine Corps, and the Shore Establishment
  2. The Navy Department executive offices, the operating forces excluding the Marine Corps, and the Shore Establishment
  3. The Navy Department excluding the executive offices, the operating forces excluding the Marine Corps, and the Shore Establishment
  4. The Navy Department excluding the executive offices, the operating forces including the Marine Corps, and the fleet commands
5. The operating forces are under the command of the
  1. Secretary of Defense
  2. Secretary of the Navy
  3. Chief of Naval Operations
  4. Chief of Naval Personnel
6. What is the purpose of the Shore Establishment?
  1. A last line of defense
  2. To provide support to the operating forces
  3. To provide a supply line
  4. To support the front line
7. Aboard ship, what publication contains information about the ship’s organization?
  1. *Standard Organization and Regulations of the U.S. Navy* only
  2. *Shipboard Organization and Regulations Manual* only
  3. *Standard Organization and Regulations of the U.S. Navy and Shipboard Organization and Regulations Manual*
  4. *Uniform Code of Military Justice*
8. A ready source of information about the duties, responsibilities, and authority of personnel assigned to a ship is stated in which of the following documents?
  1. *United States Navy Regulations*
  2. Watch, Quarter, and Station Bill
  3. *Standard Organization and Regulations Manual*
  4. *Ship’s Organization and Regulations Manual*
9. What are the two elements of a ship’s organization?
  1. Battle organization and damage control organization
  2. Battle organization and administrative organization
  3. Administrative organization and training organization
  4. Administrative organization and damage control organization
10. Each ship is organized into what minimum number of departments?
  1. Five
  2. Two
  3. Three
  4. Four

11. Which of the following is a responsibility of the operations department?
  1. Piloting the ship
  2. Forecasting weather
  3. Conducting and analyzing intelligence information
  4. Both 2 and 3 above
12. The damage control assistant is a member of what department on a ship?
  1. Deck
  2. Supply
  3. Operations
  4. Engineering
13. If a ship doesn't have a deck department, what department is responsible for inspection and maintenance of survival equipment?
  1. Supply
  2. Weapons
  3. Navigation
  4. Engineering
14. Which of the following officers is ultimately responsible for the safe navigation of the ship?
  1. Navigator
  2. Operations officer
  3. Executive officer
  4. Commanding officer
15. When a ship is abandoned, custom and regulation require which of the following actions by the commanding officer?
  1. To be the first person to leave the ship
  2. To be the last person to leave the ship
  3. To exert every effort to destroy the ship before it sinks
  4. To inform all personnel that they are on their own
16. What is the function of the command master chief?
  1. To take charge of and be responsible for the training of enlisted personnel
  2. To assign enlisted personnel to their duties according to their qualification
  3. To relieve the commanding officer of the responsibility for the welfare and morale of enlisted personnel
  4. To transmit ideas and recommendations directly to the commanding officer
17. Of the following duties, which is NOT one of the executive officer's?
  1. Assignment of personnel
  2. Coordination of ship's drills
  3. Assignment of punishment to offenders
  4. Coordination of policing and inspection of the ship
18. If the executive officer becomes incapacitated, what person normally takes over his/her duties?
  1. The next senior line officer assigned to the ship
  2. An officer appointed by the ship's captain
  3. The next senior staff officer on board
  4. The first lieutenant
19. For what reason do commanding officers and executive officers usually have separate battle stations aboard ship?
  1. To decrease the likelihood of their being disabled at the same time
  2. To maintain a high degree of control over personnel
  3. To provide maximum coordination of operations throughout the ship
  4. To divide the areas of responsibility between the executive officer and the commanding officer
20. The department head is responsible for which of the following functions within a department?
  1. General condition of equipment
  2. Administrative matters
  3. Operational readiness of the department
  4. All of the above
21. The division officer has the responsibility of carrying out which of the following duties?
  1. Making frequent inspections of division spaces, equipment, personnel, and supplies
  2. Maintaining copies of division orders and bills and displaying them conspicuously
  3. Training division personnel and preparing them for battle
  4. Each of the above

22. Most of the jobs that are done by the XO's assistants aboard ship are the responsibility of what department in an aircraft squadron?
1. Administrative department
  2. Maintenance department
  3. Operations department
  4. Safety department
23. Which of the following is a responsibility of the operations department of an aircraft squadron?
1. Overall maintenance of the ship's aircraft
  2. Operational readiness and tactical efficiency
  3. Squadron safety program
  4. All of the above
24. Which of the following is the definition of the term *job accountability*?
1. Taking command under duress
  2. Accepting credit for your job
  3. Answering to seniors in the chain of command for the way you do your job
  4. Answering only for personal mistakes
25. What is meant by *effective communications* in the chain of command?
1. The ability to speak clearly
  2. The use of proper terminology
  3. The proper use of reports, messages, and other types of correspondence
  4. The action of seniors informing juniors about matters that affect the juniors, and the action of juniors informing seniors of existing problems
26. You need help in solving a work-related problem. Which of the following personnel should contact first?
1. Your supervisor
  2. Your department head
  3. Your division officer
  4. Your executive officer

- |   |
|---|
| <p>A. DECK SEAMANSHIP</p> <p>B. BOAT SEAMANSHIP</p> <p>C. MARLINESPIKE SEAMANSHIP</p> |
|---|

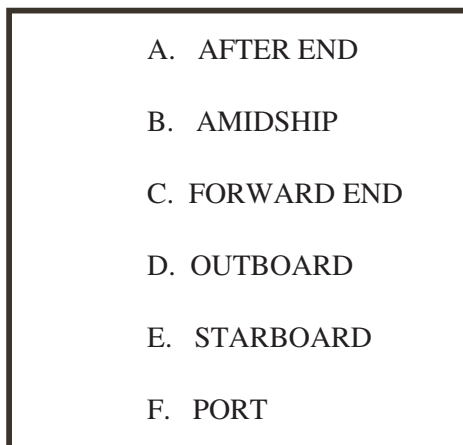
Figure A

IN ANSWERING QUESTIONS 27 THROUGH 30, REFER TO FIGURE A AND SELECT THE TERM USED TO DEFINE THE QUESTION.

27. General boat handling.
1. A
  2. B
  3. C
28. The general work on the ship's deck and the equipment used.
1. A
  2. B
  3. C
29. Anchoring, mooring, cargo handling, and towing are examples of this type of seamanship.
1. A
  2. B
  3. C
30. Care and use of line.
1. A
  2. B
  3. C
31. It is important for you to know shipboard equipment terminology for which of the following reasons?
1. Equipment changes all the time
  2. You will have to inventory the equipment once each month
  3. You will probably assist the deck force in various seamanship evolutions
  4. There are different names for the same equipment

32. What is ground tackle?
  1. Equipment bolted to the deck
  2. Equipment used to anchor and moor with anchors
  3. Equipment electrically connected to ground
  4. Equipment used to refuel the ship
33. Which of the following is/are the most commonly used anchors aboard Navy ships?
  1. Lightweight
  2. Stockless
  3. Both 1 and 2 above
  4. Locking pin
34. How long is a standard shot of anchor chain?
  1. 15 fathoms
  2. 20 fathoms
  3. 25 fathoms
  4. 30 fathoms
35. What device is used to secure shots of anchor chain together?
  1. Link pins
  2. Bending shackles
  3. Detachable links
  4. Securing shackles
36. What types of anchor windlasses are used for lifting the ship's anchor?
  1. Vertical shaft type only
  2. Horizontal shaft type only
  3. Vertical shaft and horizontal shaft types
  4. Lateral shaft type
37. What device engages the chain links when hauling anchors on board ship?
  1. Wildcat
  2. Capstan
  3. Gypsy heads
  4. Bending shackles
38. Which of the following platforms is/are used in the construction of an accommodation ladder?
  1. Middle platform
  2. Upper platform
  3. Lower platform
  4. Both 2 and 3 above
39. What is the Navy term for gangplank?
  1. Brow
  2. Ramp
  3. Platform
  4. Accommodation ladder
40. What lines are used to prevent the ship from drifting forward or aft?
  1. The bowline and the forward spring lines
  2. The stern line and after spring lines
  3. The forward and after spring lines
  4. The bow and stern lines
41. What means are used to protect the sides of a ship when it is alongside a pier?
  1. Doubled lines
  2. Camels only
  3. Fenders only
  4. Camels and fenders
42. What is the main purpose for deck fittings aboard ship?
  1. To secure mooring lines
  2. To connect electrical power
  3. To replace stanchions
  4. To secure the anchor
43. Which of the following is NOT a deck fitting found aboard ships?
  1. Bitts
  2. Cleats
  3. Bollards
  4. Pad eyes
44. Which of the following is the purpose of boat booms when ships are at anchor or moored to a buoy?
  1. To raise and lower supplies
  2. To moor their boats well clear of the side
  3. Both 1 and 2 above
  4. To raise and lower personnel
45. Which of the following is/are types of boats used by the Navy?
  1. Service craft
  2. Combatant craft
  3. Boats in general
  4. All of the above

46. A boat is defined as a non-commissioned waterborne vessel that isn't designated as a service craft. According to this definition, which of the following are types of boats?
1. Personnel boats
  2. Motor whaleboats
  3. Utility boats
  4. All of the above
47. Which of the following is a type of service craft?
1. Riverine craft
  2. Patrol craft
  3. Ship's boats
  4. Harbor tugs
48. Which of the following is a type of combatant craft?
1. Patrol craft
  2. Ship's boats
  3. Ferryboats



**Figure B**

IN ANSWERING QUESTIONS 49 THROUGH 53, REFER TO FIGURE B AND SELECT THE TERM DESCRIBED BY THE QUESTION.

49. When facing forward of the boat, your right-hand side is in this direction.
1. C
  2. D
  3. E
  4. F
50. The stern of the boat.
1. A
  2. B
  3. C
  4. D
51. The area furthestmost from the boat's centerline.
1. B
  2. C
  3. D
  4. E
52. When facing forward of the boat, your left-hand side is facing this direction.
1. A
  2. B
  3. E
  4. F
53. The bow of the boat.
1. B
  2. C
  3. D
  4. F
54. Nylon line is about how many times stronger than manila line of the same size?
1. 1 1/2
  2. 2 1/2
  3. 3 1/2
  4. 4 1/2
55. How is line termed *small stuff* identified?
1. By the length of the line
  2. By the number of threads in the line
  3. By the number of strands in the line
  4. By the number of cables twisted together
56. Under safe working conditions, nylon line will stretch what maximum fraction of its length?
1. 1/4
  2. 1/3
  3. 1/2
  4. 2/3



57. Nylon line will stretch what maximum percentage of its length before it will break?

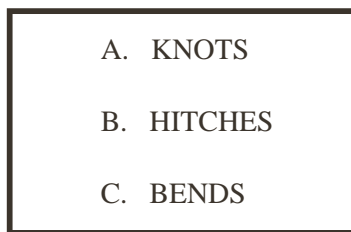
1. 20%
2. 33%
3. 50%
4. 66%

58. A wire rope designated as 5 by 12 has (a) what number of strands and (b) what number of wires per strand?

1. (a) 5 (b) 12
2. (a) 12 (b) 12
3. (a) 12 (b) 5
4. (a) 5 (b) 5

59. The most secure line whipping is made with which of the following pieces of equipment?

1. Small needle and palm
2. Wire cutters
3. Hammer
4. Pliers



**Figure C**

IN ANSWERING QUESTIONS 60 AND 61, REFER TO FIGURE C AND SELECT THE TERM DESCRIBED BY THE QUESTION.

60. Used to bend a line to or around an object.

1. A
2. B
3. C

61. Used to form eyes or to secure a cord or line around an object.

1. A
2. B
3. C

62. The square knot is also known as a

1. granny knot
2. seaman's knot
3. reef knot
4. top knot

63. The bowline can be used for which of the following purposes?

1. To form an eye
2. To bend two lines together
3. To secure a line to a pad eye
4. Each of the above

64. The main value of the becket bend is that it can be used to bend together two lines of different sizes.

1. True
2. False

65. If there is a great strain on a line, what type of bend should be used?

1. Becket bend
2. Double becket bend
3. Bowline
4. Double bowline

66. What type of hitch will hold as long as there's a strain on it?

1. Two half hitches
2. Two underhanded loops
3. Round and turn and two half hitches
4. Clove hitch

67. Which of the following actions would you perform to "coil down" a line?

1. Lay line in successive circles with the bitter end in the center
2. Lay line in circles, one on top of the other
3. Lay line in long, flat bights
4. Lay line out in full

68. Which of the following actions would you take to "flemish down" a line?

1. Lay line in successive circles with the bitter end in the center
2. Lay line in circles, one on top of the other
3. Lay line in long, flat bights
4. Lay line out in full

69. When making an eye splice, you should unlay what number of line strands?

1. 2 to 4
2. 4 to 6
3. 6 to 8
4. 8 to 10

70. Which of the following procedures is used to prevent the strands of synthetic line from frazzling after a splice has been made?

1. They are whipped
2. They are melted together
3. They are cut off even with the standing part
4. Each of the above

71. Which of the following is the purpose of using a short splice?

1. To temporarily join two lines together
2. To permanently join two lines together
3. To form an eye
4. Each of the above

# ASSIGNMENT 5

**Textbook Assignment:** Chapter 8 “*Ship/Aircraft Characteristics*” and chapter 9 “*Customs and Courtesies*.”

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1. Which of the following structural components is the backbone of a ship?
  1. Stringer
  2. Prow
  3. Stem
  4. Keel
2. Which of the following structural components divides the interior of a ship into compartments?
  1. Longitudinals
  2. Bulkheads
  3. Strakes
  4. Gunwales
3. Which of the following structural components form the ship’s hull?
  1. Longitudinals
  2. Bulkheads
  3. Strakes
  4. Gunwales
4. The vertical distance from the bottom of the keel to the waterline of the ship is identified by what nautical term?
  1. Freeboard
  2. Strake
  3. Draft
  4. Void
5. Which of the following structural components support decks?
  1. Athwartships deck beams
  2. Fore-and-aft deck girders
  3. Stanchions
  4. All of the above
6. The freeing ports that let water run off during heavy weather are identified by which of the following terms?
  1. Companionways
  2. Bulwarks
  3. Scuppers
  4. Flats
7. Which of the following terms defines the first complete deck below the main deck?
  1. First deck
  2. Second deck
  3. Third deck
  4. Fourth deck
8. The device that bears up tight on wedges and holds watertight doors closed is identified by which of the following terms?
  1. Dogs
  2. Scuttle
  3. Coamings
  4. Belaying pins
9. Which of the following terms defines the horizontal openings for access through decks?
  1. Hatches
  2. Doors
  3. Manholes
  4. Scuttles
10. Which of the following terms defines the solid part of a ship above the main deck?
  1. Superstructure
  2. Upper deck
  3. Forecastle
11. Which of the following is a type of mast?
  1. Mizzenmast
  2. Mainmast
  3. Foremast
  4. All of the above
12. What is the purpose of running rigging?
  1. For stays and shroud support
  2. To support stacks
  3. To hoist, lower, or control booms or boats
  4. To support the mast

13. Commissioned ships of the U.S. Navy fly a commission pennant that is secured to what point?
  1. The forecastle
  2. Aft of the fantail
  3. To a pigstick and hoisted to a truck
  4. Level adjacent to the bridge
14. What term identifies the port and starboard halves of a yard?
  1. Yardarms
  2. Pigstick
  3. Gaff
  4. Peak
15. The national ensign is flown from what part of a ship when it is anchored or moored?
  1. Jackstaff
  2. Flagstaff
  3. Pigstick
  4. Peak
16. What is the additional ship control space used by the squadron commander or admiral called?
  1. Signal bridge
  2. Main control
  3. Flag bridge
  4. Bridge wind
17. In what part of a ship is main control normally located?
  1. Chart house
  2. Secondary conn
  3. Combat information center
  4. Boiler or machinery spaces
18. Ships of the U.S. Navy are divided into how many categories?
  1. One
  2. Two
  3. Three
  4. Four
19. How many types of ships are included in the warship category?
  1. Five
  2. Six
  3. Seven
  4. Eight
20. What type of ship is the center of a modern naval task force or task group?
  1. Aircraft carrier
  2. Destroyer
  3. Cruiser
  4. Submarine
21. Approximately how many aircraft are embarked on Nimitz class CVs?
  1. 70
  2. 75
  3. 80
  4. 85
22. What class of cruiser is designated as battle force capable?
  1. Ticonderoga
  2. Spruance
  3. Arleigh Burke
23. Which of the following is a principle mission of a destroyer?
  1. Operate offensively against submarines and surface ships
  2. Operate defensively against submarines and surface ships
  3. Both 1 and 2 above
  4. Operate short-range attack against all aircraft
24. What class destroyer represents a return to all-steel construction?
  1. Kidd class
  2. Spruance class
  3. Arleigh Burke class
25. Which of the following is the mission of frigates?
  1. Protective screens
  2. Open ocean escort and patrol
  3. Defensive operations against surface ships
  4. Offensive operations against subsurface ships
26. What class of submarines has the quietest operation?
  1. Sturgeon
  2. Ohio
  3. Seawolf

27. The Ohio class ballistic submarine has how many Trident missile tubes?

1. 16
2. 20
3. 24
4. 26

28. The LHA carries what means of defense against surface and air attack?

1. 5-inch guns only
2. Mk 38 machine guns only
3. 5-inch guns and Mk 38 machine guns

29. How many troops can be embarked in, transported by, and landed by the Wasp class LHDs?

1. 1,500
2. 2,000
3. 2,500
4. 3,000

30. What is the purpose of dock landing ships?

1. To transport amphibious craft only
2. To transport vehicles only
3. To transport troops only
4. To transport a variety of amphibious craft and vehicles with embarked crews and troops

31. Which of the following means is/are used by Avenger class MCMs to find, classify, and destroy moored and bottom mines?

1. Sonar and video systems
2. Cable cutters
3. A mine-detonating device
4. Each of the above

IN ANSWERING QUESTIONS 32 THROUGH 34, SELECT THE TYPE OF AUXILIARY SHIP DEFINED BY THE QUESTION.

32. An ammunition supply ship.

1. AOE
2. ASR
3. AE
4. AO

33. Supply dry and refrigerated stores.

1. AOE
2. ASR
3. AE
4. AO

34. Combat support ship

1. AOE
2. ASR
3. AE
4. AO

35. Which of the following terms applies to the transfer of fuel, munitions, supplies, and personnel from one vessel to another while ships are under way?

1. Vertical replenishment
2. Horizontal replenishment
3. Replenishment at sea
4. Replenishment while under way

36. A separation of what approximate distance is maintained between the replenishment ship and the ship it's replenishing?

1. 50 feet
2. 75 feet
3. 100 feet
4. 125 feet

37. The AOE is designed to operate at what approximate distance between itself and the ship it's replenishing?

1. 150 feet
2. 175 feet
3. 200 feet
4. 225 feet

38. Most fleet tugs are operated by which of the following organizations?

1. U.S. Navy
2. U.S. Coast Guard
3. Army Corps of Engineers
4. Military Sealift Command

39. Combatant craft usually operate in what areas?

1. In open waters
2. In coastal waters
3. In intercontinental waters
4. In the deep sea

40. Support craft designations start with what letter?

1. S
2. T
3. Y
4. Z

41. Fixed-wing aircraft are divided into how many basic parts?
1. One
  2. Two
  3. Three
  4. Four
42. What is the primary lifting device of an aircraft?
1. Tail
  2. Wings
  3. Ailerons
  4. Fuselage
43. What are the three main parts of a helicopter?
1. Tail, rotors, and empennage
  2. Tail, rotors, and fuselage
  3. Main rotor, fuselage, and tail rotor
  4. Main rotor, empennage, and tail rotor
44. Attack class planes are used in which of the following roles?
1. Nuclear strikes
  2. Ground support
  3. Low-level bombing
  4. Each of the above
45. What class of aircraft is generally used to gain air superiority?
1. Attack
  2. Fighter
  3. Patrol
  4. Warning
46. The E-2C *Hawkeye* belongs to what class of aircraft?
1. Patrol
  2. Warning
  3. Antisubmarine
  4. Fighter
47. The S-3 *Viking* belongs to what class of aircraft?
1. Patrol
  2. Warning
  3. Antisubmarine
  4. Fighter
48. What helicopter is designated for ASW use?
1. Ch-46 *Sea Knight*
  2. SH-2 *Seasprite*
  3. SH-60B *Seahawk*
49. What helicopter operates and tows mine countermeasures devices?
1. CH-46 *Sea Knight*
  2. SH-60B *Seahawk*
  3. CH-53D *Sea Stallion*



# ASSIGNMENT 6

**Textbook Assignment:** Chapter 9 “*Customs and Courtesies*” and chapter 10 “*Uniforms and Formations*.”

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1. Which of the following characteristics define a custom?
  1. An act that is continued consistently over a long period of time
  2. A well-defined and uniformly followed act
  3. A generally accepted act not opposed to a statute, lawful regulation, or order
  4. All of the above
2. Of the following salutes, which one is the most common?
  1. Gun
  2. Hand
  3. Rifle
  4. Ruffles and flourishes
3. When in uniform, Navy personnel are required to salute when which of the following situations occurs?
  1. Meeting officers
  2. Hearing the national anthem
  3. Approaching the national ensign
  4. Each of the above
4. In a normal situation, how many paces from the person being saluted should the hand salute be rendered?
  1. Two
  2. Four
  3. Six
  4. Eight
5. You may salute with your left hand when which of the following situations occurs?
  1. When in civilian dress
  2. When in uniform but uncovered
  3. When in complete uniform and your right hand is injured
  4. Each of the above
6. Salutes are rendered to all officers of the U.S. and foreign armed services. Officers belonging to which of the following organizations are also entitled to salutes?
  1. Local police departments
  2. National Oceanic and Atmospheric Administration
  3. Public Health Service
  4. Both 2 and 3 above
7. When going aboard ship that's flying the national ensign, you must stop on the upper platform on the accommodation ladder or the shipboard end of the brow and take which of the following actions first?
  1. Face the national ensign and salute
  2. Face the brow of the ship and salute
  3. Face the officer of the deck and salute
  4. Face the petty officer of the watch and salute
8. While standing a sentry box, you are approached by an officer. What type of rifle salute should you render?
  1. Present arms
  2. At order arms
  3. At shoulder arms
9. You are not required to salute in which of the following situations?
  1. When standing and talking with an officer and a senior officer approaches
  2. When guarding prisoners and an officer passes within saluting distance
  3. When standing at a bus stop and a car passes carrying officers
  4. When walking and passing an officer going in the same direction

10. The term *honors* is defined by which of the following statements?
  1. Formal acts performed on public occasions
  2. Hand salutes rendered to high-ranking officials
  3. Forms of recognition and respect from one person to another
  4. Salutes rendered by a ship, unit, post, station, or an individual to high-ranking individuals, other ships, or nations
11. Passing honors for ships are exchanged when ships pass within what distance?
  1. 200 yards
  2. 400 yards
  3. 600 yards
  4. 800 yards
12. Passing honors for boats are exchanged when boats pass within what distance?
  1. 200 yards
  2. 400 yards
  3. 600 yards
  4. 800 yards
13. Your ship is about to render honors to another ship passing close aboard to starboard. In what order are the appropriate whistle signals given?
  1. One blast, one blast, two blasts, three blasts
  2. One blast, one blast, three blasts, one blast
  3. Two blasts, two blasts, two blasts, three blasts
  4. Two blasts, two blasts, three blasts, three blasts
14. A crew is paraded at quarters on which of the following occasions?
  1. When the ship is entering a U.S. port for an operational visit
  2. When the ship is returning from an extended deployment
  3. When the ship is entering home port from a local operation
  4. Each of the above
15. Gun salutes are normally fired at what time interval?
  1. 5 seconds
  2. 10 seconds
  3. 15 seconds
  4. 20 seconds
16. On which of the following special occasions is a 21-gun salute fired at 1-minute intervals?
  1. Memorial Day
  2. President's Day
  3. Independence Day
  4. Each of the above
17. Which of the following phrases defines the term *ceremony*?
  1. A regular, expected action
  2. A way of acting
  3. A formal act performed on a public occasion
  4. Each of the above
18. Aboard ship, how many minutes before morning and evening colors is the PREP pennant hoisted?
  1. 1 minute
  2. 3 minutes
  3. 5 minutes
  4. 7 minutes
19. On Navy ships not under way, where is the union jack displayed?
  1. The highest possible point
  2. The flagstaff on the stern
  3. The jack staff on the bow
  4. The gaff
20. A commissioning or command pennant is half-masted only under which, if any, of the following conditions?
  1. When passing Washington's tomb between sunrise and sunset
  2. When passing the Arizona Memorial
  3. When the commanding officer or unit commander dies
  4. None of the above

21. Which of the following naval customs is observed in the U.S. Navy by ships that are under way?
  1. Only the union jack is flown
  2. The national ensign is flown day and night
  3. Morning and evening colors are held each day
  4. Both the national ensign and the union jack are flown
22. The national ensign is hoisted and lowered in which of the following ways?
  1. Hoisted ceremoniously, lowered ceremoniously
  2. Hoisted ceremoniously, lowered smartly
  3. Hoisted smartly, lowered smartly
  4. Hoisted smartly, lowered ceremoniously
23. If you are in uniform and covered, how do you render honors when the national anthem is played indoors but the flag is not displayed?
  1. Face the music and uncover
  2. Stand at attention while facing the music
  3. Hand salute at attention while facing the music
  4. Face the music and hold your hat next to your left shoulder
24. When the national anthem is being played, Sailors in a boat must adhere to which of the following rules?
  1. All persons remain seated or standing and salute
  2. Only the coxswain salutes; all others remain seated but uncovered
  3. All persons standing salute; all others remain seated at attention
  4. Only the boat officer (or, if absent, the coxswain) salutes; all others remain seated at attention
25. What march does the Navy band play to honor the President of the United States?
  1. "Hail, Columbia!"
  2. "Admiral's March"
  3. "Hail to the Chief"
  4. "Stars and Stripes Forever"
26. Upon entering an area where Christian divine services are being held, you, as messenger of the watch, should take which of the following actions?
  1. Uncover only
  2. Remove you duty belt only
  3. Remove you duty belt and uncover
  4. Request permission from the chaplain to enter
27. An enlisted person and two officers are about to board a boat. Which of the following procedures should the enlisted person follow in entering the boat?
  1. Board first and sit aft
  2. Make way for the officers to board, then board and sit in the stern of the boat
  3. Make way for the officers to board, then board and sit in the bow of the boat
  4. Board first and sit forward, leaving room aft for the officers
28. The neckerchief is made from which of the following materials?
  1. Black silk
  2. Black acetate
  3. Both 1 and 2 above
  4. Black cotton
29. What kind of knot is used to tie a neckerchief?
  1. Granny knot
  2. Square knot
  3. Sheep shank
  4. Bowline
30. What material is used to make government-issue dress blue jumpers and trousers?
  1. Navy twill
  2. Wool serge
  3. Nylon
  4. Rayon
31. What material is used to make government-issue dress white jumpers and trousers?
  1. Navy twill
  2. Wool serge
  3. Nylon
  4. Rayon

32. Which of the following uniforms is/are considered working uniforms?
  1. Dungarees
  2. Winter blues
  3. Both 1 and 2 above
  4. Navy twill
33. When large medals are prescribed for wear with the dress blue uniform, the uniform is known as
  1. mess dress
  2. full dress
  3. field dress
  4. service dress
34. Which of the following uniforms is/are considered the working uniforms for female Sailors?
  1. Belted blue slacks and blue winter shirt
  2. Belted blue skirt and blue winter shirt
  3. Dungarees
  4. Each of the above
35. Enlisted Sailors, E-6 and below, are authorized to wear command or Navy ball caps with what type of uniform?
  1. Dungaree
  2. Navy twill
  3. Wool serge
36. Where can you find information on what is the prescribed uniform of the day?
  1. Plan of the Day (POD) only
  2. Plan of the Week (POW) only
  3. POD or POW
  4. Pass down log
37. Division officers are required to inspect the uniforms of nonrated personnel at regular intervals for what reason?
  1. As a part of PQS
  2. To justify clothing allowance
  3. To see if enlisted personnel know what uniforms are prescribed
  4. To make sure that each person has the prescribed uniform
38. Which of the following information is marked on uniforms?
  1. Name
  2. Social security number
  3. Both 1 and 2 above
  4. Rank
39. What is the largest size stencil authorized for marking clothing?
  1. 1/2 inch
  2. 1 inch
  3. 1 1/2 inches
  4. 2 inches
40. The transfer or exchange of enlisted personnel uniform items must be authorized by which of the following persons?
  1. Chief master-at-arms
  2. Division officer
  3. Executive officer
  4. Commanding officer
41. Military personnel may wear authorized military uniform articles of clothing with civilian clothing including shoes, gloves and the knit watch cap.
  1. True
  2. False
42. Occupational groups are identified by what means?
  1. A group mark, which is worn on all uniforms
  2. A rate mark, which is worn on the left sleeve of jumpers and white summer shirts
  3. A group mark, which is worn on the left sleeve of jumpers and white summer shirts
  4. A rate mark, which is worn on all uniforms
43. What is a striker mark?
  1. A specialty designator for seamen only
  2. A rating badge for emergencies
  3. A specialty mark of a particular rating, worn by personnel in paygrades E-1, E-2, and E-3 who have qualified for the rating
  4. A specific date for the air community
44. How many years of service must a person complete to be eligible to wear one service stripe (hash mark)?
  1. 5
  2. 2
  3. 3
  4. 4

45. How many years of continuous good conduct are required before a person becomes eligible to wear gold service stripes?
  1. 12
  2. 10
  3. 8
  4. 6
46. How can you determine whether an officer is a line officer or a staff corps officer?
  1. By title on the name tag
  2. A star is worn on the sleeve or shoulder board of the line officer
  3. By the collar devices
  4. A designator stripe for the rank
47. What insignia is worn by officers and enlisted personnel who have qualified in all phases of surface warfare?
  1. Surface warfare
  2. Submarine warfare
  3. Aviation warfare
  4. Special warfare
48. What insignia is worn by personnel who have qualified to serve in submarines?
  1. Surface warfare
  2. Submarine warfare
  3. Aviation warfare
  4. Special warfare
49. What insignia is worn by personnel qualified to serve in flight?
  1. Surface warfare
  2. Submarine warfare
  3. Aviation warfare
  4. Special warfare
50. There are how many broad categories of awards?
  1. Four
  2. Five
  3. Six
  4. Seven
51. In what year was the Purple Heart founded by President Washington?
  1. 1776
  2. 1780
  3. 1782
  4. 1786
52. Which of the following is an example of a campaign or a service award?
  1. Medical Scientific Societies
  2. Silver Life Saving Medal
  3. Good Conduct Medal
  4. Navy "E"
53. What is the maximum number of ribbons that may be worn in each row?
  1. Five
  2. Two
  3. Three
  4. Four
54. What means of identification must you carry with you at all times?
  1. Driver's license
  2. Armed forces identification card
  3. Liberty card
  4. Copy of present set of orders
55. Under which of the following circumstances may you surrender (give up) your ID card?
  1. To show a change in rank
  2. To correct an error
  3. To effect a name change
  4. Each of the above
56. Which of the following is the purpose of the armed forces ID card under article 17 of the Geneva Convention?
  1. As a means of identification and casualty reporting
  2. As a means of grave registration for members who die in a combat zone
  3. Both 1 and 2 above
  4. As a means of identification for POWs
57. While on active duty, you must wear your ID tags under which of the following conditions?
  1. In time of war
  2. When engaged in flight operations
  3. When prescribed by the CNO
  4. All of the above
58. What type of information is found on ID tags?
  1. Last name, first name, and middle initial
  2. SSN, blood type, and Rh factor
  3. Religious preference
  4. All of the above

59. According to grooming standards for men, how many rings per hand may be worn ?
  1. One
  2. Two
  3. Three
  4. As many as they wish
60. According to grooming standards for women, what is the maximum length of fingernails (as measured from the tip of the finger)?
  1. 1 inch
  2. 1/2 inch
  3. 3/4 inch
  4. 1/4 inch
61. Enlisted women, E-6 and below, are authorized to wear ball-type earrings of what (a) size and (b) what color?
  1. (a) 6mm (b) gold
  2. (a) 6mm (b) silver
  3. (a) 5mm (b) gold
  4. (a) 5mm (b) silver
62. When personnel are in ranks, the chest of one person and the back of the person ahead should be what distance apart?
  1. 20 inches
  2. 30 inches
  3. 40 inches
  4. 50 inches
63. A pace consists of a full step of what length for (a) men and (b) women?
  1. (a) 18 inches (b) 16 inches
  2. (a) 24 inches (b) 18 inches
  3. (a) 30 inches (b) 24 inches
  4. (a) 36 inches (b) 30 inches
64. Which of the following drill positions is the basic military position?
  1. Rest
  2. At ease
  3. Attention
  4. Parade rest
65. Talk is permitted when you are in which of the following formation positions?
  1. Rest
  2. Parade rest
  3. At ease
66. How many movements are used to perform the ABOUT FACE command?
  1. Five
  2. Two
  3. Three
  4. Four
67. When executing the command FALL IN, the squad forms in line on which of the following persons?
  1. Instructor
  2. Squad leader
  3. Standard bearer
  4. Company commander
68. Personnel in formation align themselves with which of the following persons?
  1. Guide
  2. Leader
  3. Each other
  4. Formation director
69. After the command DRESS RIGHT DRESS, a formation returns to the attention position on which of the following commands?
  1. Cover
  2. Extend
  3. Attention
  4. Ready, on the word FRONT
70. When the command CLOSE RANKS is given to members in formation, the fourth rank moves how many paces forward?
  1. One
  2. Two
  3. Three
  4. Four



# ASSIGNMENT 7

## Textbook Assignment: Chapter 11 “Small Arms.”

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1. Every firearm used by Navy personnel has some type of safety device built in.
  1. True
  2. False
2. Which of the following is the prime cause of accidental shootings?
  1. Faulty gun
  2. Faulty ammunition
  3. Alcohol or drug use by the user
  4. Negligence or carelessness of the user
3. Which of the following are acceptable ear protective devices?
  1. Insert type
  2. Circumaural type
  3. Both 1 and 2 above
  4. Cotton type
4. The M14 rifle is best described by which of the following groups of characteristics?
  1. Medium weight, recoil-operated, magazine-fed, and fully automatic
  2. Medium weight, gas-operated, clip-fed, and capable of semiautomatic and fully automatic fire
  3. Lightweight, recoil-operated, clip-fed, and semiautomatic
  4. Lightweight, gas-operated, magazine-fed, and capable of semiautomatic or automatic fire
5. Which of the following types of ammunition is used with the M14 rifle?
  1. 7.62-mm NATO cartridge
  2. 20-round magazine
  3. M76 grenade launcher
  4. Each of the above
6. What is the maximum range of the M14 rifle?
  1. 2,500 yards
  2. 3,250 yards
  3. 4,075 yards
  4. 5,250 yards
7. The M16A1 and M16A2 rifles are best described by which of the following groups of characteristics?
  1. Clip-fed, recoil-operated weapons
  2. Magazine-fed, recoil-operated shoulder weapons
  3. Magazine-fed, gas-operated shoulder weapons
  4. Clip-fed, gas-operated weapons
8. For what size cartridge is the M16A1 rifle chambered?
  1. .38 caliber
  2. .45 caliber
  3. 5.56 mm
  4. 7.62 mm
9. What is the maximum magazine capacity of the M16A1 rifle?
  1. 15 rounds
  2. 25 rounds
  3. 30 rounds
  4. 35 rounds
10. What is the muzzle velocity of the M16A1 and M16A2 rifles?
  1. 2,500 feet per second
  2. 3,000 feet per second
  3. 3,500 feet per second
  4. 4,000 feet per second
11. What means is used to adjust the rear sights of the M16A2 rifle?
  1. A windage drum
  2. A windage knob and an elevation knob
  3. A clip lever marked range
  4. A slide adjust to windage
12. What is the first step to take when handling any weapon?
  1. Point the selector lever toward SAFE
  2. Remove the magazine
  3. Visual check of the chamber
  4. Lock the bolt open

13. Why should the selector be on SAFE during assembly and disassembly?
  1. To prevent damage to the automatic sear
  2. To prevent damage to the firing pin
  3. To prevent the barrel from releasing
  4. To prevent the rear slide from disengaging
14. When the selection lever is in the burst position, the M16A1 rifle fires in what way?
  1. In short bursts of two rounds
  2. In short bursts of three rounds
  3. Four rounds each time the trigger is pulled
  4. Six rounds each time the trigger is pulled
15. The M16A1 rifle is clear when which of the following conditions are met?
  1. No case or round is in the chamber and the magazine is out
  2. The bolt carrier is to the rear
  3. The selector lever is on the SAFE position
  4. All of the above
16. When cleaning the barrel bore and chamber of the M16A1 rifle, you should not reverse the brush while in the bore for what reason?
  1. The barrel slide will be damaged
  2. The bore may jam
  3. The trigger pin will need to be replaced
  4. The bore cleaner will not work
17. What parts of the barrel bore and chamber should you lubricate after you've finished cleaning them?
  1. The locking lugs
  2. The extractor ejector
  3. The lugs in the barrel extension
  4. The magazine springs
18. When cleaning ammunition magazines, you need to make sure the magazine is dry for what reason?
  1. The magazine and ammunition can corrode and become dangerous to use
  2. The spring action will tighten up
  3. The ammunition will jam
  4. The magazine won't load
19. The .38-caliber revolver is best described by which of the following groups of characteristics?
  1. Cylinder-loading, single- or double-action, manually operated hand gun
  2. Semiautomatic, recoil-operated, magazine-fed hand gun
  3. Semiautomatic, cylinder-loading double-action hand gun
  4. Cylinder-loading, recoil-operated, manually operated hand gun
20. The .45-caliber service pistol is best described by which of the following groups of characteristics?
  1. Cylinder-loading, single- or double-action, manually operated hand gun
  2. Semiautomatic, recoil-operated, magazine-fed hand gun
  3. Semiautomatic, cylinder-loading double-action hand gun
  4. Cylinder-loading, recoil-operated, manually operated hand gun
21. The .45-caliber revolver has what maximum range and maximum effective range, respectively?
  1. 1,800 yards, 75 yards
  2. 1,500 yards, 50 yards
  3. 1,450 yards, 45 yards
  4. 1,250 yards, 30 yards
22. The magazine capacity of the 9mm service pistol can hold how many rounds in the magazine?
  1. 5 rounds
  2. 10 rounds
  3. 15 rounds
  4. 20 rounds
23. The 9mm service pistol is best described by which of the following groups of characteristics?
  1. Semiautomatic, recoil-operated, magazine-fed hand gun
  2. Semiautomatic, magazine-fed, recoil-operated, double-action pistol
  3. Semiautomatic, cylinder-loading double-action hand gun
  4. Semiautomatic, magazine-fed, single-action pistol

24. Which of the following are safety features incorporated in the 9mm service pistol?
  1. Ambidextrous safety
  2. Firing pin block
  3. Half cock notch
  4. All of the above
25. What safety feature of the 9mm pistol prevents accidental discharge?
  1. Firing pin block
  2. Half cock notch
  3. Muzzle pressure
  4. Rear trigger guard
26. The advantage of shotguns over pistols is that sight alignment is not as critical.
  1. True
  2. False
27. What maximum number of rounds of 12-gauge, 2 3/4-inch ammunition will the magazine of the M870 shotgun hold?
  1. One
  2. Two
  3. Three
  4. Four

QUESTIONS 28 THROUGH 33 REFER TO RIFLE FIRING TECHNIQUES.

28. When firing a rifle, what factors make up the sight picture?
  1. Rear sight
  2. Correct aiming point only
  3. Sight alignment only
  4. Correct aiming point and sight alignment
29. What is meant by the term "eye relief"?
  1. The different distance from the rear sight of your aiming eye, depending on your firing position
  2. The distance of your eye from the peep sight in any particular firing position
  3. The height of the rear sight
  4. The height of the front sight

30. What is meant by the terms "spot weld" or "anchor"?
  1. The distance of your eye from the peep sight in any particular firing position
  2. Holding your rifle in the exact same position to make sure your eye stays the same distance from the peep hole
  3. The distance of your eye from the peep sight, depending on your firing position
31. What is the focus for the eye?
  1. The front sight
  2. The rear sight
  3. The aiming point
  4. The sight picture
32. What is the correct aiming point on a type "A" target?
  1. 3 o'clock
  2. 6 o'clock
  3. 9 o'clock
33. What elements do you need to align to get a correct sight picture?
  1. The rear sight only
  2. The front sight only
  3. The bull's eye only
  4. The rear sight, front sight, and bull's eye
34. How many standard firing positions are taught in the Navy?
  1. Two
  2. Three
  3. Four
  4. Five
35. Which of the following firing positions is most useful when you are constantly firing and moving?
  1. Sitting
  2. Standing
  3. Kneeling
36. Which of the following firing positions is most useful when you are on level ground or firing uphill?
  1. Sitting
  2. Standing
  3. Kneeling

37. Which of the following firing positions is most useful when you are firing downhill?

1. Sitting
2. Standing
3. Kneeling

38. What is the key to trigger control?

1. Squeeze the trigger smoothly, gradually, and evenly straight to the rear
2. Placing the finger at the very tip of the trigger
3. Constant pressure on the trigger
4. Squeeze the trigger quickly and evenly straight to the rear

39. Remembering which of the following acronyms will help you remember correct shooting techniques?

1. AIM
2. RELAX
3. BRASS
4. SLACK

40. You should take a breath, let out a little air, and then hold your breath until you fire your rifle. However, if you haven't fired within 10 seconds, what should you do?

1. Breath normally and continue squeezing the trigger
2. Take another breath and start the aiming procedure over
3. Let out more air and firmly jerk the trigger
4. Continue holding your breath and start the aiming procedure over

QUESTIONS 41 THROUGH 43 REFER TO FIRING TECHNIQUES FOR THE 9mm SERVICE PISTOL.

41. What is a correct sight picture?

1. Correct sight alignment and correct aiming point
2. Off center to the target
3. Bottom of the picture
4. Top of the picture

42. The pistol can be accurately fired from how many positions?

1. Two
2. Three
3. Four
4. Five

43. Missing the target is most often caused by

1. sight misalignment
2. bent barrel
3. improper trigger squeeze
4. bad ammunition

# ASSIGNMENT 8

**Textbook Assignment:** Chapter 12 “*Damage Control.*”

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1. The damage control organization is divided into how many parts?

1. One
2. Two
3. Three
4. Four

QUESTIONS 2 THROUGH 13 REFER TO THE ADMINISTRATIVE ORGANIZATION OF DAMAGE CONTROL.

2. What person coordinates the efforts of repair parties to control damage?

1. The damage control assistant
2. The operations officer
3. The executive officer
4. The weapons officer

3. Which of the following are duties of the administrative organization of damage control?

1. Records and schedules for maintenance
2. Written doctrine and procedures relating to damage control
3. Ship's bills
4. All of the above

4. Which of the following are duties of the executive officer?

1. Ship's survivability training
2. Readiness to manage casualties
3. Control and recover from damage
4. Each of the above

5. What officer is designated as the ship's damage control officer?

1. The commanding officer
2. The executive officer
3. The engineer officer
4. The operations officer

6. The DCA is the primary assistant to the damage control officer. As such, the DCA has which of the following responsibilities?

1. Training the ship's DC personnel
2. Administration of the ship's DC organization
3. Maintain records of DC personnel PQS accomplishment for all hands
4. All of the above

7. What requirements must a petty officer have to be designated as the damage control petty officer (DCPO)?

1. Be a PO2 or above
2. Complete the PQS
3. Complete the fire-fighting school
4. Be designated by the LCPO

8. Normally, the job of DCPO is held for what period of time?

1. 12 months
2. 9 months
3. 3 months
4. 6 months

9. Which of the following is/are responsibilities of the DCPO?

1. Assist in the instruction of division personnel in damage control
2. Prepare and maintain damage control checkoff lists for their spaces
3. Make required reports
4. All of the above

10. What person is responsible for determining the safe entry of personnel into closed or poorly ventilated spaces?

1. The gas free engineer
2. The fire marshal
3. The DCA
4. The XO

11. What person is designated to aid the DCA train personnel and to prevent and fight fires?
  1. The gas free engineer
  2. The fire marshal
  3. The DCPO
  4. The LCPO
12. What action is taken if the fire marshal finds hazards that relate to poor housekeeping during a daily inspection?
  1. Record and advise the responsible division
  2. Submit discrepancy report to DCA with copies to XO and department head
  3. Have the division LCPO schedule corrective action
  4. Report the hazard to the safety department
13. The fire marshal has which of the following responsibilities?
  1. Submitting reports citing hazards and recommendations for their correction
  2. Setting up a fire watch team before regular overhauls
  3. Both 1 and 2 above
  4. Inspecting the engineering department

QUESTIONS 14 THROUGH 17 REFER TO THE BATTLE ORGANIZATION OF DAMAGE CONTROL.

14. What is the purpose of the ship's damage control battle organization?
  1. To stand at ready for the battle to be over
  2. To restore the ship to as near normal operation as possible
  3. To comfort injured crew members
  4. When directed, to take charge of the weapons
15. In the damage control battle organization, what person is responsible for controlling damage; fighting fires; CBR countermeasures; and control of stability, list, and trim?
  1. The DCPO
  2. The DCA
  3. The XO
  4. The CO

16. What are the primary damage control battle organization unit(s)?
  1. Repair parties
  2. Navigation crew
  3. Deck crews
  4. Engineering personnel
17. What is the nerve center of the directing force for directing the damage control organization?
  1. DCC or CCS
  2. Bridge
  3. Aft steering
  4. DC locker 5

IN ANSWERING QUESTIONS 18 THROUGH 21, SELECT THE REPAIR PARTY THAT IS IDENTIFIED BY THE FUNCTION USED AS THE QUESTION.

18. Main deck repair.
  1. Repair 1
  2. Repair 3
  3. Repair 5
  4. Repair 7
19. Propulsion repair.
  1. Repair 1
  2. Repair 3
  3. Repair 5
  4. Repair 7
20. Ordnance.
  1. Repair 2
  2. Repair 4
  3. Repair 6
  4. Repair 8
21. Electronic casualty control.
  1. Repair 2
  2. Repair 4
  3. Repair 6
  4. Repair 8
22. Each repair party should be capable of performing which of the following functions?
  1. Rigging casualty power
  2. Controlling flooding
  3. Extinguishing all types of fires
  4. Each of the above



23. When in port, the ship has which of the following duty section components available to respond to any type of casualty?
1. In port emergency teams
  2. Salvage teams
  3. Duty DC watch
  4. Deck department
24. The rescue and assistance detail must have which of the following qualifications?
1. Be qualified as an emergency team member
  2. Be qualified in first aid
  3. Both 1 and 2 above
  4. Have passed the PRT
25. General quarters is an all hands evolution—it is the highest state of readiness of the ship.
1. True
  2. False
26. Which of the following statements describes a correct GQ route to follow?
1. Forward in the passageways and down ladders on the starboard side
  2. Aft in the passageways and down ladders on the port side
  3. Forward in the passageways and up ladders on the port side
  4. Aft in the passageways and up ladders on the starboard side
27. Which of the following is an emergency damage control communications system?
1. 2JZ
  2. 6JZ
  3. X40J
  4. X24J
28. What system signals override microphone control stations to notify the ship's crew of imminent danger?
1. Alarms for collision, chemical attack, general, and flight crash
  2. General announcing system
  3. DC controls
  4. Bridge alarms

- |  |
|--|
| <p>A. COLLISION</p> <p>B. CHEMICAL ATTACK</p> <p>C. GENERAL</p> <p>D. FLIGHT CRASH</p> |
|--|

Figure A

IN ANSWERING QUESTIONS 29 THROUGH 31, REFER TO FIGURE A AND SELECT THE TERM USED TO DEFINE THE QUESTION.

29. This alarm is sounded by the OOD or PreFly notifying ship's company of a pending or actual flight deck emergency.
1. A
  2. B
  3. C
  4. D
30. This alarm is sounded when there is a possibility that the ship will be struck by another waterborne unit.
1. A
  2. B
  3. C
  4. D
31. When this alarm is sounded, all hands report to their preassigned stations and set material condition ZEBRA.
1. A
  2. B
  3. C
  4. D
32. Which of the following means of communications is used when all other methods have failed?
1. Messengers
  2. Sound-powered telephones
  3. Morse Code
  4. Bullhorn
33. All Navy ships have how many material conditions of readiness?
1. One
  2. Two
  3. Three
  4. Four

34. What material condition provides the least degree of watertight integrity?
  1. ZEBRA
  2. YOKE
  3. XRAY
35. What material condition sets the highest degree of watertight integrity?
  1. ZEBRA
  2. YOKE
  3. XRAY
36. Which of the following fittings are closed when condition ZEBRA is set?
  1. DOG Z fittings
  2. Circle X fittings
  3. Y fittings
  4. All of the above
37. What means, if any, is used by repair parties to find damage control fittings and closures in each compartment?
  1. Master alfa list
  2. Compartment checkoff lists
  3. DC compartment checks
  4. None
38. The Damage Control Closure Log is maintained in which of the following locations?
  1. DCC
  2. Quarterdeck
  3. Both 1 and 2 above
  4. Engineering spaces
39. Which of the following logs is a list of all DC-related fittings that don't work properly?
  1. Damage Control Closure Log
  2. Fire marshal pass down log
  3. Inoperative Fittings and Closures Log
  4. Bridge log
40. What fittings are secured when the ship is set for "darken ship"?
  1. WILLIAM
  2. Circle WILLIAM
  3. DOG ZEBRA
  4. Circle ZEBRA
41. The emergency escape breathing device (EEBD) supplies breathable air for what maximum period of time?
  1. 10 minutes
  2. 15 minutes
  3. 20 minutes
  4. 25 minutes
42. With training, you should be able to activate the EEBD within what maximum period of time?
  1. 10 seconds
  2. 20 seconds
  3. 30 seconds
  4. 40 seconds
43. Which of the following breathing devices should NOT be worn for fire-fighting purposes?
  1. OBA
  2. SEED
  3. SCBA
44. Which of the following is the primary fire fighting tool for respiratory protection?
  1. EEBD
  2. SEED
  3. OBA
  4. SCBA
45. From the time it is activated, each cylinder used in the self-contained breathing apparatus (SCBA) will last approximately what length of time?
  1. 15 minutes
  2. 30 minutes
  3. 45 minutes
  4. 60 minutes
46. Which of the following substances must be present to start a fire?
  1. Oxygen
  2. Heat
  3. Fuel
  4. All of the above

47. In the fire tetrahedron, how many components are necessary for combustion?
1. One
  2. Two
  3. Three
  4. Four
48. Flammable materials give off vapors. What is the lowest temperature that these vapors burn when a spark is applied?
1. Ambient temperature
  2. Room temperature
  3. Flash point
  4. Ignition point
49. What term is used to describe the lowest temperature at which spontaneous combustion occurs?
1. Flash point
  2. Ignition point
  3. Ambient temperature
  4. Room temperature
50. Heat from fire can be transferred by how many methods?
1. One
  2. Two
  3. Three
  4. Four
51. What method of heat transfer occurs when heat moves from one body to another by direct contact?
1. Conduction
  2. Convection
  3. Radiation
  4. Reflection
52. What method of heat transfer occurs through the motion of smoke, hot air, and heated gases?
1. Conduction
  2. Convection
  3. Radiation
  4. Reflection
53. What type of heat transfer occurs when heat moves in all direction unless blocked?
1. Conduction
  2. Convection
  3. Radiation
  4. Reflection
54. Which of the following agents should be used to extinguish a class B fire?
1. Water
  2. AFFF
  3. PKP
  4. Both 2 and 3 above
55. Which of the following agents should be used to extinguish class A or D fires?
1. Water
  2. AFFF
  3. PKP
  4. Both 2 and 3 above

# ASSIGNMENT 9

**Textbook Assignment:** Chapter 13 “*Chemical, Biological, and Radiological (CBR) Defense.*”

---

1. Which of the following are weapons of mass destruction?
  1. Chemical weapons
  2. Biological agents
  3. Nuclear weapons
  4. All of the above
2. Which of the following warfare agents are used to kill or disable personnel by affecting their blood, nerves, lungs, or stomach?
  1. CW
  2. BW
  3. Nuclear
  4. All of the above
3. Generally, antipersonnel agents are divided into how many types?
  1. Five
  2. Two
  3. Three
  4. Four
4. Cramps, breathing difficulty, nausea, headache, convulsions, and contractions of the pupils are all symptoms of which of the following types of contamination?
  1. Tear agent
  2. Nerve agent
  3. Choking agent
  4. Blister agent
5. Burns from exposure to mustard vapor will be more serious in which of the following body areas?
  1. Neck
  2. Groin
  3. Armpits
  4. All of the above
6. A person exposed to a blood agent may experience respiratory paralysis within what length of time?
  1. Seconds
  2. Minutes
  3. Hours
7. Atropine and 2-PAM C1 oxime are used to counteract the effects and relieve the symptoms of which of the following agents?
  1. Nerve
  2. Blood
  3. Blister
  4. Choking
8. What type of agents are used to produce temporary misery and harassment?
  1. Blister
  2. Choking
  3. Riot control
  4. Nerve
9. Which of following agents can be used in BW operations?
  1. Living organisms
  2. Toxins
  3. Microtoxins
  4. All of the above
10. Which of the following diseases can be spread as part of a BW attack?
  1. Cholera
  2. Anthrax
  3. Both 1 and 2 above
  4. Mumps
11. In its early stage, which of the following is/are symptoms of BW attack?
  1. Fever
  2. Inflammation
  3. Malaise
  4. Each of the above
12. Nuclear weapons have the capability of destroying areas in which of the following ways?
  1. Blast
  2. Shock
  3. Nuclear radiation
  4. All of the above

13. Nuclear explosions are divided into how many classes?
1. Five
  2. Two
  3. Three
  4. Four
14. What would be the most effective type of nuclear strike to use against a battle group at sea?
1. High altitude blast
  2. Air blast
  3. Surface blast
  4. Subsurface burst
15. What type of nuclear strike would be used to destroy satellites and interrupt communications systems through the effects of EMP?
1. High altitude blast
  2. Air blast
  3. Surface blast
  4. Subsurface burst
16. In what type of nuclear strike would the shock wave near ground zero be greater than the blast wave?
1. High altitude blast
  2. Air blast
  3. Surface blast
  4. Subsurface burst
17. What are the effects of nuclear weapons?
1. Blast waves only
  2. Incendiary only
  3. Radiation only
  4. Blast waves, incendiary, and radiation
18. If a nuclear blast at night causes you to experience flash blindness, you can expect your vision to recover in what length of time?
1. 15 minutes
  2. 2 hours
  3. 3 hours
  4. 45 minutes
19. What type of radiation hazard must enter the body through ingestion or cuts to cause bodily harm?
1. Alpha particles
  2. Beta particles
  3. Gamma rays
  4. Neutrons
20. What is TREE?
1. The absorption of EMP by electrical conductors
  2. Interference of passive sonar systems
  3. The affect of gamma or neutron radiation on shipboard electronic systems
  4. Interference of radio transmission through ion fields
21. A survey team is made up of what minimum number of personnel?
1. Five
  2. Two
  3. Three
  4. Four
22. What person is in charge of a survey team?
1. Monitor
  2. Recorder
  3. Messenger
  4. Exec
23. Areas contaminated by CW, BW, or nuclear agents are identified by markers having what shape?
1. Triangular
  2. Hexagonal
  3. Circular
  4. Square
24. Dose rate is expressed in roentgens, which are gamma ray measurements only.
1. True
  2. False
25. What does the acronym *radiac* stand for?
1. Radiation decontamination and control
  2. Radiological activity detection and computation
  3. Radioactivity defense, identification, and instrument calibration
  4. Radioactivity detection, indication, and computation
26. The nonself-reading, high-range casualty dosimeter measures what maximum amount of gamma radiation?
1. 5 roentgens
  2. 200 roentgens
  3. 600 roentgens
  4. 200 milliroentgens

27. What kit is used to check areas suspected to have been contaminated by CW agents?
  1. M248A2 kit
  2. M256A1 kit
  3. M258A1 kit
  4. M262A2 kit
28. Which of the following actions should personnel topside take if an airburst occurs?
  1. Close their eyes
  2. Drop to the deck
  3. Cover as much exposed skin as possible
  4. All of the above
29. Which of the following pieces of protective equipment is/are the most important in protecting you against CBR agents?
  1. Coveralls
  2. Protective mask
  3. Both 1 and 2 above
  4. Steel-toed shoes
30. Protective masks serve how many functions?
  1. One
  2. Two
  3. Three
  4. Four
31. You should be able to don and adjust your protective mask in what maximum amount of time?
  1. 10 seconds
  2. 20 seconds
  3. 30 seconds
  4. 40 seconds
32. The MCU-2/P protective mask has how many voice emitters?
  1. One
  2. Two
  3. Three
  4. Four
33. The chemical protective overgarment consists of how many parts?
  1. One
  2. Two
  3. Three
  4. Four
34. The chemical protective overgarment can be used for protection against radiological contamination.
  1. True
  2. False
35. Which of the following statements best describes the purpose of the mission oriented protective posture (MOPP)?
  1. Provides a means to establish levels of readiness
  2. Provides a method for identifying agents
  3. Provides a means to prevent contaminants from entering the ship
  4. Provides a method for cleansing the ship of CBR agents
36. At what MOPP level would all protective equipment be worn with the hood up and secured?
  1. 1
  2. 2
  3. 3
  4. 4
37. How many levels of decontamination are there?
  1. One
  2. Two
  3. Three
  4. Four
38. A decontamination team usually consists of how many people?
  1. Five
  2. Two
  3. Six
  4. Four
39. What is the most effective way to decontaminate biological agents?
  1. Burning
  2. Using dry heat
  3. Using steam under pressure
  4. Using a chemical disinfectant
40. Aboard ship, a decontamination station has how many parts?
  1. One
  2. Two
  3. Three
  4. Four



41. Showering will destroy nuclear and biological agents.

1. True
2. False

42. The Collective Protection System (CPS) consists of how many protection zones?

1. One
2. Two
3. Three
4. Four

43. Which of the following CPS levels provides the maximum operational protection envelope?

1. Level I
2. Level II
3. Level III
4. Level IV

# ASSIGNMENT 10

**Textbook Assignment:** Chapter 14 “*First Aid and Health*” and Chapter 15 “*Survival*.”

---

1. First aid has which of the following objectives?
  1. To save lives
  2. To limit infection
  3. To prevent further injury
  4. Each of the above
2. In administering first aid, you are responsible for performing which of the following tasks?
  1. Stop bleeding
  2. Maintain breathing
  3. Prevent or treat for shock
  4. All of the above
3. Under which, if any, of the following circumstances should you touch an open wound with your fingers?
  1. To replace bulging abdominal organs
  2. To remove a protruding foreign object
  3. Only when absolutely necessary to stop severe bleeding
  4. None of the above
4. A person who has stopped breathing is considered dead.
  1. True
  2. False
5. What is the purpose of artificial ventilation?
  1. To restore the function of the heart
  2. To provide a method of air exchange
  3. To clear an upper air passage obstruction
  4. To clear a lower air passage obstruction
6. When using the mouth-to-mouth technique for administering artificial ventilation, how often should you force air into the victim’s lungs?
  1. Once every 3 seconds
  2. Once every 4 seconds
  3. Once every 5 seconds
  4. Once every 6 seconds
7. The mouth-to-nose technique for administering artificial ventilation is effective on which of the following victims?
  1. The victim who is breathing very slowly
  2. The victim who is very young
  3. The victim who has extensive facial injuries
  4. Both 2 and 3 above
8. When using the back pressure/arm lift technique for administering artificial ventilation, you should repeat the cycle how many times per minute?
  1. 10 to 12
  2. 8 to 10
  3. 6 to 8
  4. 4 to 6
9. Cardiopulmonary resuscitation (CPR) should be started within how many minutes of the onset of cardiac arrest?
  1. 6
  2. 5
  3. 3
  4. 4
10. When administering CPR, you should place your hands on what area of the victim’s chest?
  1. On the upper part of the sternum
  2. About 1 inch below the sternum
  3. Above the tip of the sternum
  4. On the tip of the sternum
11. When using the one-rescuer CPR technique, you should administer how many compressions per minute?
  1. 60 to 80
  2. 40 to 60
  3. 20 to 40
  4. 10 to 20

12. When using the one-rescuer CPR technique, you should give how many ventilations after each set of compressions?
  1. One
  2. Two
  3. Three
  4. Four
13. When using the two-rescuer CPR technique, you should use what ratio of compressions to ventilations?
  1. 1 to 5
  2. 5 to 1
  3. 10 to 4
  4. 4 to 10
14. Which of the following is one of the most reliable indications of a blocked airway in a conscious person?
  1. Inability to speak
  2. Cherry red skin color
  3. Profuse sweating of the face
  4. Partially digested food in the mouth
15. You are assisting a person who is choking. What is the first action you should take?
  1. Apply the standing chest thrust to the victim
  2. Apply the standing abdominal thrust to the victim
  3. Clear the victim's mouth of any food or foreign objects
  4. Sharply slap the victim on the back between the shoulder blades
16. What minimum amount of blood loss usually causes a person to go into shock?
  1. 1 pint
  2. 2 pints
  3. 3 pints
  4. 4 pints
17. How is arterial bleeding from a cut near the surface of the skin indicated?
  1. Spurting dark red blood
  2. Steady flow of dark red blood
  3. Steady flow of bright red blood
  4. Gushing spurts of bright red blood
18. To control bleeding, which of the following methods should you try first?
  1. Direct pressure
  2. A tourniquet
  3. A battle dressing
  4. Pressure points
19. What is meant by the pressure points in the human body?
  1. A place where the artery is protected on all sides by bone or muscle
  2. A place where the main artery is close to the skin surface and over a bone
  3. A point where an artery crosses between the heart and the wound
  4. A point where an artery crosses a joint
20. If the use of a battle dressing is required, who should loosen/remove it?
  1. The on-scene leader
  2. The repair locker leader
  3. A person qualified in first aid
  4. Medical personnel
21. Shock will never be serious enough to cause death.
  1. True
  2. False
22. At which of the following times should you start treatment for shock?
  1. As soon as possible after an injury occurs
  2. Only when symptoms indicate severe shock
  3. Only after other injuries have been treated
  4. As soon as unconsciousness occurs
23. What is the basic position for treating shock?
  1. Putting the head and feet at the same level
  2. Putting the head lower than the feet
  3. Putting the feet lower than the head
24. Which of the following Navy personnel are the most frequent victims of suicide?
  1. Males between the ages of 25 to 37 in paygrades E-6 and E-8
  2. Males between the ages of 17 to 24 in paygrades E-1 to E-6
  3. Females between the ages of 25 to 37 in paygrades E-6 to E-8
  4. Females between the ages of 17 to 24 in paygrades E-1 to E-6

25. Which of the following are actions to take if you believe someone you know is thinking about suicide?
  1. Take all threats seriously
  2. Don't leave the person alone
  3. Get professional help
  4. All of the above
26. Which of the following burns is considered the most serious?
  1. First degree
  2. Second degree
  3. Third degree
27. A closed fracture is one where the skin is intact and an open fracture is one where the skin is broken.
  1. True
  2. False
28. When choosing a material to use as a splint, you should choose material that has which of the following characteristics?
  1. Light weight
  2. Fairly rigid
  3. Strong
  4. All of the above
29. Which of the following is/are symptoms of a broken bone?
  1. Swelling
  2. Deformity
  3. Inability to use the part
  4. Each of the above
30. Which of the following is/are symptoms of a sprain or a strain?
  1. Swelling
  2. Inability to use the part
  3. Each of the above
31. What is one of the easiest ways to carry an unconscious person?
  1. Arm carry
  2. Fireman's carry
  3. Tied-hands crawl
  4. Lift and drag
32. In compartments with access hatches that are too small to permit the use of regular stretchers, you would remove an injured person using what type of stretcher?
  1. Neil Robertson
  2. Gaylord
  3. Stokes
33. Aboard ship, keeping yourself and your spaces clean and orderly has which of the following advantages?
  1. Improves morale
  2. Contributes to the well-being of the crew
  3. Both 1 and 2 above
34. What common dental condition(s) can be prevented by making sure you develop the habit of good oral hygiene?
  1. Tooth decay
  2. Gum and bone disease
  3. Reddening of the gums
  4. All of the above
35. Sexually transmitted diseases may be spread through the use of inanimate objects, such as toilet seats, bed linens, or drinking glasses.
  1. True
  2. False
36. If left untreated, syphilis may cause which of the following conditions?
  1. Heart disease
  2. Mental illness
  3. Blindness
  4. All of the above
37. Sterility is the result of leaving which of the following sexually transmitted diseases untreated?
  1. Syphilis
  2. Gonorrhea
  3. Acquired Immune Deficiency Syndrome
  4. Herpes
38. Use of condoms offers some protection from Acquired Immune Deficiency Syndrome.
  1. True
  2. False

39. If time permits during abandon-ship preparation, a message announced over the 1MC will give which of the following information?
  1. Water temperature
  2. Sea and wind conditions
  3. Bearing and distance to the nearest land
  4. All of the above
40. If you have to go over the side and the ships' propellers are turning, you should leave from what point on the ship?
  1. The windward side, if possible
  2. The lee side, if possible
  3. From the bow
  4. From the stern
41. Personnel have the greatest chance for survival in the water if they meet which of the following swimmer requirements?
  1. First class
  2. Second class
  3. Third class
42. If you have to swim through flames, which of the following is a procedure to follow?
  1. Use your life preserver as a raft
  2. Keep your face above the surface of the water as much as possible
  3. Both 1 and 2 above
  4. Swim underwater until you are clear of the oil
43. If you must abandon ship into oily water that is not burning, which of the following precautions should you take?
  1. Use your life preserver as a raft
  2. Keep your face above the surface of the water as much as possible
  3. Both 1 and 2 above
  4. Swim underwater until you are clear of the oil
44. You can use which of the following items to help you stay afloat?
  1. Seabags
  2. Pillow cases
  3. Mattress covers
  4. All of the above
45. The Navy uses a maximum of how many types of life preservers?
  1. One
  2. Two
  3. Three
  4. Four
46. Which of the following benefits does the collar on the vest-type life preserver provide?
  1. Additional insulation against chill in cold water
  2. Additional buoyancy to keep the head upright
  3. A place to store survival equipment
  4. A place to attach a retrieving line
47. The wooden toggle and line of an inflatable life preserver are used to
  1. permit easy removal of the preserver
  2. make the preserver fit snugly around your body
  3. attach yourself to a life raft or another person
  4. provide a means for retrieving you out of the water
48. When using a pin-on, battery-operated light on a life preserver, you should replace the battery at what minimum interval?
  1. 18 months
  2. 12 months
  3. 3 months
  4. 6 months
49. You may launder the fibrous glass pads in addition to the outer cover of the inherently buoyant preserver.
  1. True
  2. False
50. In addition to inspecting your inflatable life preserver each time you wear it, you should also inspect it for air leaks at what minimum interval?
  1. Daily
  2. Weekly
  3. Monthly
  4. Quarterly

51. The survival kits in large lifeboats are designed to sustain 15 to 20 people on regular rations for what maximum number of days?
  1. 20
  2. 15
  3. 10
  4. 5
52. You can identify the red flare end of a Mk 13 Mod 0 distress signal kit in the dark by which of the following indicators?
  1. A metal pull ring
  2. Beadlike projections
  3. The absence of beadlike projections
  4. The absence of a metal pull ring
53. Under good weather conditions, the dye marker will retain some color for what maximum length of time?
  1. 1 hour
  2. 2 hours
  3. 3 hours
  4. 4 hours
54. In a lifeboat, what piece of survival equipment is provided to assist you in filling containers with freshwater?
  1. Rain catcher tube
  2. Rain cistern
  3. Rain bucket
  4. Funnel
55. In a lifeboat, continuous exposure to the elements will not harm which of the following pieces of survival or signal equipment?
  1. Sponges
  2. Knives
  3. Flashlights
  4. Signal mirrors
56. In a lifeboat, you may survive on as little as how much water a day?
  1. 10 ounces
  2. 8 ounces
  3. 6 ounces
57. People are known to live for 4 weeks or longer in a survival situation if a sufficient amount of water is available.
  1. True
  2. False
58. Which of the following forms of sea life or birds should NEVER be eaten?
  1. Sharks
  2. Jellyfish
  3. Seabirds
  4. Sea turtles
59. Which of the following sea birds is/are edible?
  1. Albatrosses
  2. Gannets
  3. Terns
  4. All of the above
60. At what minimum water temperature are you at risk for a serious condition called *hypothermia*?
  1. 75°F
  2. 80°F
  3. 85°F
  4. 95°F
61. What means should you use to treat frostbitten hands and fingers?
  1. Rub them
  2. Exercise them
  3. Place them in cold water
  4. Place them in contact with a warm part of your body
62. Assume that you have just fallen overboard. What is the most important survival technique for you to remember?
  1. Remain calm and try to stay afloat
  2. Swim after the ship and call for help
  3. Remove your shoes and other heavy clothing
  4. Keep moving your arms and feet for protection from sharks
63. Helicopters use a maximum of how many basic devices for recovering personnel in the water?
  1. One
  2. Two
  3. Three
  4. Four



64. If you fall overboard and sharks are in the area, you should take which of the following actions?
  1. Swim away from the area
  2. Assume the jellyfish position and try to remain motionless
  3. Float on your back and use as little arm and leg movement as possible
  4. Tread water and make wide sweeping movements with your arms to splash water
65. In a group survival situation, good leadership will lessen the effects of which of the following emotional states?
  1. Panic
  2. Confusion
  3. Disorganization
  4. All of the above
66. At least how many quarts of water are required each day to maintain your efficiency?
  1. 1
  2. 2
  3. 3
  4. 4
67. Liquids obtained from vines are undrinkable if they have which of the following characteristics?
  1. White sap
  2. Very dark in color
  3. Both 1 and 2 above
  4. Slightly pink color
68. In a survival situation with less than 1 quart of water per day, you should avoid eating what type of food?
  1. High-carbohydrate
  2. Highly flavored
  3. Excessively sweetened
  4. High-protein
69. Under survival conditions, you would obtain the most food value from which of the following sources?
  1. Nuts
  2. Tubers
  3. Insects
  4. Animal flesh
70. To kill any parasites scavenger birds such as buzzards and vultures might carry, you should boil the birds for what minimum length of time?
  1. 5 minutes
  2. 10 minutes
  3. 15 minutes
  4. 20 minutes
71. When selecting a route for evasion travel, you should always choose the easiest route.
  1. True
  2. False
72. Which of the following sources is best for determining directions under survival conditions?
  1. The position of the stars and the sun
  2. The growth of moss on trees and rocks
  3. The direction of movement of birds and animals
  4. The direction of water flow in streams and rivers
73. During evasion, if you can no longer proceed on your own because of illness, which of the following actions should you take?
  1. Seek help from friendly natives
  2. Display a white flag or other white object
  3. Surrender to enemy troops by walking toward them with raised arms
  4. Select a hiding place and stay there until you are well enough to travel
74. After evading the enemy and returning to an area with friendly forces, you should take which of the following actions?
  1. Fire your weapon three times and give your name
  2. Arouse their attention by shouting at them
  3. Display a white flag or other white object
  4. Try to get through their lines at night
75. You should give friendly frontline troops which, if any, of the following information about your evasion experiences?
  1. All information they request
  2. Immediate tactical information
  3. A description of the methods you used during evasion
  4. None of the above

# ASSIGNMENT 11

**Textbook Assignment:** Chapter 16 “*Career and Education Information.*”

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1. Which of the following information is contained in the Navy Goal Card?
  1. Navy Core Values
  2. Rating and advancement career information for each new recruit
  3. The Sailor’s Creed
  4. All of the above
2. In fleet and shore stations, who is responsible for maintaining the two-page Goal Card?
  1. First term Sailors
  2. Second term Sailors
  3. Newly recruited Sailors
3. Which of the following goal-setting areas is included in the Pocket Goal Card?
  1. Navy core values and recruit training goals
  2. The Sailor’s Creed and personal priorities
  3. DEP goals and fleet goals
  4. All of the above
4. Which of the following is a purpose of the Professional Development Board?
  1. To advise Sailors on the necessity of completing PQS
  2. To give Sailors a chance for greater responsibility
  3. Both 1 and 2 above
5. Which of the following personnel make up the Professional Development Board?
  1. Command master chief
  2. Command career counselor
  3. Educational service officer
  4. All of the above
6. What is the objective of the enlisted advancement system?
  1. To keep Sailors from stagnating
  2. To provide qualified petty officers to operate the Navy’s ships, squadrons, and shore stations
  3. To train Sailors for fleet commands
  4. To provide equal opportunity to lower enlisted
7. The enlisted rating structure provides paths of advancement for personnel in paygrades E-1 through what maximum paygrade?
  1. E-9
  2. E-7
  3. E-6
  4. E-4
8. Which of the following is an apprenticeship designation?
  1. AT
  2. EM
  3. FN
  4. MM
9. Ratings are divided into how many categories?
  1. One
  2. Two
  3. Three
  4. Four
10. What is a general rating?
  1. An identification of special skills not related to any occupational field
  2. An identification of general skills within a broad occupational field
  3. An occupational field having different qualifications and duties
  4. A broad occupational field requiring the same general qualifications and includes similar duties
11. Which of the following statements defines a designated striker?
  1. Any Sailor in paygrade E-1 through E-3
  2. A Sailor in paygrade E-1 through E-3 who is technically qualified for a specific rating
  3. A Sailor who wants to become qualified for a specific rating
  4. Each of the above

12. What is the difference, if any, between naval standards and occupational standards?
  1. Naval standards only affect paygrades E-1 through E-3, while occupational standards affect all paygrades
  2. Naval standards are the technical standards for a particular paygrade, and occupational standards are the military requirements for a particular paygrade
  3. Naval standards are the military requirements for a particular paygrade, and occupational standards are technical standards for a particular paygrade
  4. None
13. To be eligible for advancement to E-2 or E-3, you must meet which of the following requirements?
  1. Have a certain time in rate
  2. Be recommended by your CO
  3. Complete *Basic Military Requirements*, NAVEDTRA 12018
  4. All of the above
14. What is the purpose for the *Bibliography for Advancement-in-Rate*?
  1. To train Sailors for advancement
  2. To help Sailors study for advancement-in-rate exams
  3. To show what publications are current
  4. To give answers to the tests
15. For you to become eligible for advancement, what person must recommend you?
  1. CO
  2. XO
  3. Division officer
  4. Division LCPO
16. You are an E-2 and are eligible for advancement. What person advances you?
  1. Secretary of the Navy
  2. Chief of Naval Personnel
  3. Commanding officer
  4. Executive officer
17. What factor limits the number of Sailors who can be advanced to petty officer?
  1. The number of vacancies that exist on board the ship
  2. The number of vacancies that exist in each rate and rating
  3. The ability of the Sailors to pass the advancement exam
  4. Each of the above
18. Which of the following are categories of the final multiple that determines which personnel are promoted to paygrades E-4 through E-6?
  1. Merit rating
  2. Personnel testing
  3. Experience
  4. All of the above
19. Which of the following factors are considered in the final multiple computation?
  1. Performance mark average and examination score
  2. Length of service and service in paygrade
  3. Awards and PNA credit
  4. All of the above
20. In the Navy, there are how many types of duty?
  1. One
  2. Two
  3. Three
  4. Four
21. Which of the following statements describes sea duty?
  1. Duty performed in commissioned vessels or activities home ported/home based in CONUS that operate away from the home port/home base in excess of 150 days per year
  2. Duty performed in overseas land-based activities that are credited as sea duty for rotational purposes
  3. Duty in activities normally designated as shore duty but that require members to be absent 100 to 150 days year

22. What form should you submit to indicate your duty preference?
  1. Special request
  2. Personnel requisition
  3. NAVPERS 1306/63
  4. NAVPERS 1170
23. You have just arrived at your first duty station. You should submit a duty preference form after what period of time?
  1. 1 month
  2. 3 months
  3. 6 months
  4. 12 months
24. What is the most significant personnel management tool in your service record?
  1. List of Navy schools
  2. The Evaluation Report and Counseling Record
  3. The Enlisted Duty Preference Form
  4. Commands attached
25. Which of the following is the **main** purpose of the Evaluation Report and Counseling Record?
  1. For continuation of service
  2. For assignment to special duties
  3. For BUPERS to use when making advancement-in-rate assignment decisions
  4. All of the above
26. What is meant if you are assigned a 3.0 on an evaluation?
  1. Your performance exceeds standards
  2. Your performance is above standard
  3. Your performance meets standards
  4. Your performance is progressing
27. How many traits are evaluated on the Evaluation Report and Counseling Record?
  1. Three
  2. Five
  3. Seven
  4. Nine
28. An evaluation for which of the following traits is NOT required for paygrades E-1 through E-3?
  1. Leadership
  2. Teamwork
  3. Personal job accomplishment
  4. Military bearing
29. At what interval are Evaluation Report and Counseling Records for E-3 and below submitted?
  1. Yearly only
  2. Yearly and when transferred
  3. Biyearly only
  4. Biyearly and when transferred
30. Once you have signed your Evaluation Report and Counseling Record, it is sent to what agency?
  1. CINCPAC/LANT FLT
  2. CINC
  3. BUPERS
  4. CNO
31. How many different forms are contained in the Enlisted Service Record?
  1. 7
  2. 9
  3. 13
  4. 15
32. Which of the following data is contained in Page 2 of your Enlisted Service Record?
  1. An application for dependency allowances
  2. An up-to-date record of emergency data
  3. Both 1 and 2 above
  4. Your civilian education
33. What page of your Enlisted Service Record contains information on your occupational training and awards you've received?
  1. Page 1
  2. Page 2
  3. Page 4
34. Where would you find information about your civilian education before you entered the Navy?
  1. Page 1
  2. Page 2
  3. Page 4
35. What type of documents require the CO's signature?
  1. Those that establish policy
  2. Those that deal with aspects of military justice
  3. Those required by law
  4. Each of the above

36. Which of the following is/are objective(s) of the 3-M Systems?
  1. To maintain equipment at maximum operating efficiency
  2. To reduce equipment downtime
  3. To reduce cost of maintenance in money and man-hours
  4. Each of the above
37. Which of the following is a requirement for qualifying for a particular watch station?
  1. Completing a PQS
  2. Completing a PAR
  3. Passing an advancement-in-rate exam
  4. Each of the above
38. What section of the PQS standards deals with the major working parts of an installation?
  1. Fundamentals
  2. Systems
  3. Watch Stations
39. What person/office is your point of contact for all the Navy's training and education programs?
  1. LCPO
  2. ESO
  3. XO
  4. CO
40. What type of training do you receive during daily operation and maintenance situations?
  1. OJT
  2. GMT
  3. NMT
  4. "A" school
41. What training is an important part of the Navy's leadership continuum?
  1. OJT
  2. GMT
  3. "A" school
  4. "C" school
42. What Navy school provides you with advanced skills and knowledge for a particular job or billet?
  1. Class "A" school
  2. Class "C" school
  3. Class "F" school
  4. Class "R" school
43. What publication contains the list of current training manuals?
  1. *Naval Occupational Standards List*
  2. *Catalog of Nonresident Training Courses*, NAVEDTRA 12061
  3. *Military Rate Training Guide*
44. What activity provides support to the voluntary education programs of all the military services?
  1. Tuition assistance
  2. Navy Campus
  3. DANTES
  4. EEAP
45. What program allows an enlisted person to complete a baccalaureate degree within 2 years while receiving full pay and allowances and be commissioned upon graduation?
  1. Enlisted Commissioning Program
  2. Naval Reserve Officer Program
  3. NROTC Scholarship Program
  4. BOOST Program
46. There are how many types of discharge?
  1. Five
  2. Four
  3. Three
  4. Two
47. If you meet the requirements for the Navy Good Conduct Medal, you also meet the requirements for
  1. reenlistment only
  2. overseas duty only
  3. commissioning programs only
  4. reenlistment, overseas duty, and commissioning programs

# ASSIGNMENT 12

**Textbook Assignment:** Chapter 17 “*Financial Management and Stress Management.*”

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1. How many types of pay may you receive?
  1. One
  2. Two
  3. Three
  4. Four
2. As a Sailor, what action must you take in order to get paid?
  1. Open a savings account only
  2. Open a checking account only
  3. Open a savings or a checking account

IN ANSWERING QUESTIONS 3 AND 4, SELECT THE TERM USED TO DEFINE THE QUESTION.

3. Pay you get for certain types of duty that are usually considered hazardous.
  1. Basic pay
  2. Incentive pay
  3. Special pay
4. The pay you get that's based on your paygrade and length of service.
  1. Basic pay
  2. Incentive pay
  3. Special pay
5. You are getting a selective reenlistment bonus. What type of pay are you receiving?
  1. Incentive pay
  2. Basic pay
  3. Special pay
6. What is an allowance?
  1. Money used to reimburse you for expenses necessary for you to do your job
  2. Money used to pay you for expenses unnecessary for you to do your job
  3. Money paid for services rendered
  4. Money paid for longevity

7. You are entitled to an annual clothing maintenance allowance after you have been on active duty for what length of time?
  1. 12 months
  2. 6 months
  3. 3 months
  4. 9 months
8. Which of the following offices can provide you information about the types of allowances to which you're entitled?
  1. Education services office
  2. Disbursing
  3. Personnel
  4. Both 2 and 3 above
9. How is your housing allowance shown on the leave and earnings statement (LES)?
  1. BAQ only
  2. VHA only
  3. BAQ and VHA
  4. BAH
10. An allotment is money you have withheld from your pay and paid directly to someone else. There are how many categories of authorized allotments?
  1. Six
  2. Five
  3. Three
  4. Four
11. What office should you notify if you think that you're being overpaid?
  1. Division
  2. Disbursing
  3. Admin
  4. ESO
12. By looking at your LES, you can find the amount of allowances you have earned.
  1. True
  2. False



13. Leave and liberty are times you're authorized to spend away from work and off duty. They are combined on the LES.
  1. True
  2. False
14. You earn a certain number of leave days each year you serve on active duty. What is the maximum number of days of leave you can earn in a year?
  1. 10
  2. 20
  3. 30
  4. 40
15. Regular liberty is usually granted as a 4-day period.
  1. True
  2. False
16. Under certain circumstances, what is the maximum number of days special liberty a CO can grant?
  1. 1 day
  2. 2 days
  3. 3 days
  4. 4 days
17. Which of the following types of leave is NOT charged to your earned, annual, or excess leave account?
  1. Authorized regular leave
  2. Convalescent leave
  3. Sick leave
  4. Recovery leave
18. What form should you use to request either regular or emergency leave?
  1. NAVCOMPT Form 3065
  2. NAVCOMPT Form 3180
  3. BUPERS Form 3065
  4. BUPERS Form 3180
19. The safest and most convenient way for you to keep track of your money is to open a checking account.
  1. True
  2. False

20. Which of the following is one way you can avoid bouncing a check?
  1. Only use debit cards
  2. Balance your checkbook
  3. Always pay cash
  4. Get a second job
21. Which of the following is/are types of voluntary allotments?
  1. Life insurance payments
  2. Mortgage payments
  3. Payment to family members
  4. All of the above
22. Which of the following is/are types of involuntary allotments?
  1. CFC pledges
  2. Purchase of U.S. savings bonds
  3. Garnishment of pay
  4. All of the above
23. Which of the following is the key to money management?
  1. Using a budget
  2. Using an ATM
  3. Using a checking account
  4. Each of the above

IN ANSWERING QUESTIONS 24 THROUGH 27, SELECT THE TERM USED TO DEFINE THE QUESTION.

24. The amount of money taken from pay for income taxes, Social Security, SGLI, and so forth.
  1. Allotments
  2. Deductions
  3. Fixed expenses
  4. Net income
25. The money taken from gross income to pay debts to the United States.
  1. Allotments
  2. Gross income
  3. Fixed expenses
  4. Net income
26. The money paid to a member after all deductions and allotments are paid.
  1. Deductions
  2. Fixed expenses
  3. Gross income
  4. Net income

27. Expenses that are the same each month.
  1. Allotments
  2. Deductions
  3. Fixed
  4. Net income
28. Of the following expenses, which one is a fixed expense?
  1. Clothes
  2. Rent
  3. Savings
  4. Food
29. You are planning a budget. What is the first thing for which you should plan?
  1. Clothes
  2. Rent
  3. Savings
  4. Food
30. According to the U.S. Department of Labor, approximately what percentage of your income should be budgeted for housing costs?
  1. 15%
  2. 20%
  3. 25%
  4. 30%
31. Credit is buying now and paying later at no extra cost.
  1. True
  2. False
32. What method, if any, can you use to find the total amount you will pay for a loan?
  1. Add the price of the purchase to the total amount of the loan
  2. Subtract the price of the purchase from the total amount you will pay for the loan
  3. None
33. Good credit is priceless for which of the following reasons?
  1. Buying a house
  2. In emergencies
  3. Making big purchases
34. Which of the following are principles of using credit?
  1. Don't use credit for splurging
  2. Make as large a down payment as possible
  3. Use credit to purchase goods that will last for a long time
  4. Each of the above
35. What is the maximum life insurance coverage under the Serviceman's Group Life Insurance (SGLI) program?
  1. \$100,000
  2. \$150,000
  3. \$200,000
  4. \$250,000
36. Who is responsible for the safety, health, and well-being of your family?
  1. Yourself
  2. The Navy
  3. Your spouse
  4. The government
37. What is the result of abusive behavior of Navy personnel?
  1. Destroyed lives
  2. Negative morale of the military unit
  3. Bad reputation of the military in the civilian community
  4. All of the above
38. What program, if any, was established to help families in distress?
  1. Case Review Committee (CRC)
  2. Family Advocacy Program (FAP)
  3. Family Advocacy Committee (FAC)
  4. None
39. Victims of spouse or child abuse can report incidents directly to which of the following persons/activities?
  1. FAO
  2. FSC
  3. Medical treatment center
  4. All of the above
40. Stress happens when there is an imbalance between the demands of our lives and the means we have to deal with those demands.
  1. True
  2. False
41. What are the three means we can use to deal with stress?
  1. Acceptance, attitude, and perspective
  2. Attitude, avoidance, and perspective
  3. Acceptance, avoidance, and perspective
  4. Acceptance, avoidance, and rejection

# ASSIGNMENT 13

**Textbook Assignment:** Chapter 18 “*Surface Preservation.*”

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1. Your department is responsible for cleaning all the areas listed on which of the following documents?
  1. The compartment checkoff list
  2. The Watch, Quarter, and Station Bill
  3. The Maintenance and Material Management System
  4. The Cleaning, Preservation, and Maintenance Bill
2. Cleaning gear is stocked and issued from what area?
  1. The supply department
  2. The first lieutenant’s storeroom
  3. The aft deck storeroom
  4. The common gear locker
3. When using cleaning agents, such as detergents, you should take which of the following steps to ensure good cleaning results?
  1. Wetting and rinsing only
  2. Wetting, scrubbing, and rinsing
  3. Scrubbing and drying only
  4. Scrubbing, wetting, and drying
4. Which of the following is the definition of a *field day*?
  1. The day before an important personal inspection
  2. A period set aside for the maintenance of personal clothing
  3. A day designated by the captain for participation of all hands in organized sports
  4. A period when all hands thoroughly clean the ship inside and out
5. Field days accomplish which of the following functions?
  1. Reduce the dirt intake caused by operating equipment
  2. Aid in the preservation of the ship by extending paint life
  3. Improve the appearance and sanitary condition of the ship
  4. All of the above
6. Vinyl deck coverings should be given what care frequently?
  1. Scrubbed, waxed, and buffed with an electric buffing machine
  2. Clamped down, dried, and buffed with a buffer
  3. Buffed with scouring pads and mineral spirits
  4. Swabbed with detergent and waxed with self-polishing wax
7. What material is added to nonslip deck coverings to provide better footing?
  1. Pieces of sandpaper
  2. Small pebbles
  3. Pumice
8. What type of inspection is taking place when the ship or station is divided into sections?
  1. Cruise inspection
  2. Zone inspection
  3. Captain’s inspection
  4. Shakedown inspection
9. Solvents should NEVER be used in un-ventilated spaces under any circumstances.
  1. True
  2. False

10. When using solvents, proper ventilation must be provided in which of the following areas?
  1. In voids only
  2. In exterior spaces only
  3. In interior spaces only
  4. Each of the above
11. Which of the following precautions will reduce the possibility of vapor buildup in an area?
  1. Wearing protective clothing, goggles, and gloves
  2. Keeping oxygen and first-aid equipment nearby
  3. Using extra fans for ventilation
  4. All of the above
12. When working with solvents in an enclosed space, you must take which of the following precautions?
  1. Wear an OBA at all times
  2. Always use the buddy system
  3. Ensure that the installed CO system is operational
  4. Have damage control personnel present to assist with spills
13. When using solvents, you must make sure that your personnel know the nearest escape route in case of fire and the location of the
  1. head
  2. nearest fire alarm
  3. roving patrol
  4. gas free engineer
14. Before starting a job that involves working with solvents, you should take which of the following precautions?
  1. Secure the roving patrol
  2. Have the area checked by the gas free engineer
  3. Obtain the ventilation plan for the space involved
  4. Both 2 and 3 above
15. If you are told by the gas free engineer that harmful vapors have increased to unsafe levels in the area in which your detail is working, you should take which of the following actions?
  1. Stop work immediately and clear the area until it is safe to return
  2. Notify damage control central and await guidance
  3. Evacuate the area after the second warning
  4. Have each member of the detail don an OBA
16. Solvents spilled on some types of tile may cause what type of problem?
  1. Radiation poisoning
  2. Lung irritation
  3. Skin disease
17. A spill must be reported if it presents a threat to the ship, the health of the crew, or involves more than what amount of solvent?
  1. 1 quart
  2. 1 gallon
  3. 5 quarts
  4. 5 gallons
18. A Sailor with a history of which of the following medical problems should not be permitted to work with paint, solvents, and thinners?
  1. Asthma
  2. Allergies
  3. Both 1 and 2 above
  4. Diabetes
19. If a solvent makes contact with a person's skin, the skin should be immediately flushed with which of the following liquids?
  1. Clear water
  2. Hydrogen peroxide
  3. Sodium chloride solution
  4. Sodium hydroxide solution

20. If someone has breathed vapors from solvents, which of the following actions should you take?
  1. Relieve the Sailor from the work detail
  2. Get the Sailor to a doctor as soon as possible
  3. Place the Sailor on report for unsafe work habits
  4. Make the Sailor wear an OBA for the remainder of the work detail
21. With reference to a self-contained breathing apparatus (SCBA), which of the following statements is correct?
  1. It contains a cartridge that may contain a chemical or carbon
  2. It filters out spray mist and absorbs vapors
  3. Both 1 and 2 above
  4. It is used in areas that lack oxygen
22. In addition to the possibility of fire, which of the following safety hazards may result if paint and solvent containers are not kept tightly closed?
  1. The area may become oxygen rich, causing light-headedness
  2. The paints and solvents may evaporate, causing loss of inventory
  3. The fumes and vapors may react with the deck tile, causing it to become slippery
  4. The oxygen in the area may be displaced, causing a shortage that will not sustain life
23. While inspecting containers of corrosive material being loaded aboard ship, you notice a dented can. What action should you take?
  1. Refuse to accept the damaged container
  2. Sign for the shipment but note the condition of the can on the bill of lading
  3. Sign for the material, but store the damaged container in a locker designed for flammable materials
  4. Circle the dent on the can with an international orange marker and use the can first
24. If you discover a leaking solvent container while inspecting your storage area, which of the following actions should you take?
  1. Check for the type of solvent by reading the contents label
  2. Immediately inform your supervisor
  3. Both 1 and 2 above
  4. Post a hazardous materials warning outside the area and notify the officer of the deck
25. When transferring solvents from one container to another, which of the following types of equipment should you use?
  1. An electric transfer pump using 110 volts ac or less
  2. An electric transfer pump using 28 volts dc or less
  3. A battery-operated transfer pump
  4. A standard Navy transfer pump
26. When at sea, which of the following methods is approved for handling and disposing of empty solvent containers?
  1. Retain all solvent containers onboard to facilitate transfer in the event of damage to a stored container
  2. Stow the containers in a disposal storage area until your next port of call; then dispose of them properly
  3. Puncture and discard the containers over the fantail once outside the 12-mile limit
  4. Puncture and discard the containers over the fantail once outside the 3-mile limit
27. You are inspecting stored paint and solvents. If you're unsure whether a large batch of paint is suitable for use, you should take what action?
  1. Return paint over 2 years old to the manufacturer
  2. Forward a sample to the nearest Navy testing laboratory
  3. Paint a test area and observe the results
  4. Use the paint

28. If you have which of the following symptoms, the compartment you're working in might have bad air?
  1. Headache
  2. Dizziness
  3. Labored breathing
  4. All of the above
29. While working in a closed space, a Sailor has lost consciousness. You should immediately enter the space to help your shipmate.
  1. True
  2. False
30. To find the storage requirements for solvents, you should refer to what document?
  1. PMS
  2. MRC
  3. MSDS
31. Which of the following protective equipment should be worn when working with chlorinated cleaning solvents, organic cleaning solvents, and fluorocarbon refrigerants and solvents?
  1. Neoprene gloves
  2. Rubber gloves
  3. Safety splash goggles
  4. All of the above
32. Painting the exterior of an aircraft carrier requires about how many gallons of paint?
  1. 950
  2. 1,000
  3. 1,250
  4. 1,500
33. Paint consists of a total of how many essential ingredients?
  1. One
  2. Two
  3. Three
  4. Four
34. Paint pigment provides the coloring, rust prevention, and lasting quality of paint. Pigment is made from which of the following metals?
  1. Lead
  2. Zinc
  3. Titanium
  4. All of the above
35. What ingredient is the most common one used to make thinners?
  1. Denatured alcohol
  2. Mineral spirits
  3. Linseed oil
  4. Water
36. Which of the following petroleum products must NEVER be used to thin paint?
  1. Kerosene
  2. Diesel oil
  3. Both 1 and 2 above
  4. Mineral spirits
37. What minimum number of coats of primer should be used on a surface cleaned to bare metal?
  1. One
  2. Two
  3. Three
  4. Four
38. What is the minimum amount of drying time required between primer coats?
  1. 24 hours
  2. 12 hours
  3. 8 hours
  4. 4 hours
39. What color paint is used to paint the underside of deck overhangs?
  1. White
  2. Black
  3. Haze gray
  4. Deck gray
40. The deck of the machinery spaces is painted what color?
  1. Haze gray
  2. Deck gray
  3. Dark red
  4. Dark green
41. Feathering the paint edges of chipped or scraped areas should be done with which of the following tools?
  1. Scraper
  2. Sandpaper
  3. Chipping hammer
  4. Hand wire brush



42. What tool should you use to remove deeply embedded rust?
  1. A power-operated heavy-duty wire brush
  2. An electric disk sander
  3. A rotary chipping tool
  4. A pneumatic hammer
43. You would use a rotary scaling and chipping tool on which of the following jobs?
  1. To chip a bulkhead
  2. To chip up old tile
  3. To chip a large deck area
44. The most important safety precaution to follow when using portable tools is to make sure they are properly grounded.
  1. True
  2. False
45. What is the first sign of galvanic corrosion on aluminum?
  1. Disintegration of the rivets or bolts holding the aluminum
  2. Loose rivets, screws, or bolts holding the aluminum
  3. Pitting and scaling of the surface
  4. Appearance of a white powdery residue
46. Which of the following tools should be used to chip painted aluminum surfaces?
  1. Hand scraper
  2. Wire brush
  3. Sandpaper
  4. Each of the above
47. If you have a cut on your hand, what precaution, if any, should you take when using paint remover?
  1. Use a simple dressing
  2. Put a bandage over the cut
  3. Wear gloves
  4. None
48. How many methods does the Navy use to apply paint?
  1. One
  2. Two
  3. Three
  4. Four
49. What are the two most useful brushes to use when painting?
  1. Flat brush and fitch brush
  2. Flat brush and sash tool brush
  3. Sash tool brush and painter's dusting brush
  4. Sash tool brush and fitch brush
50. What is meant by the terms laying on and laying off?
  1. Double coat, going from left to right
  2. Applying strokes first in long strokes in one direction and then crossing your first strokes
  3. Spraying 10 inches away and then misting
51. What type of remover should you use to remove natural oil-based paints?
  1. Turpentine
  2. Water
  3. Alcohol
  4. Xylene

# ASSIGNMENT 14

**Textbook Assignment:** Chapter 19 “*Safety and Hazardous Materials.*”

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1. When performing maintenance or upkeep on equipment or machinery, you would find applicable safety precautions in which of the following publications?
  1. Planned maintenance system (PMS) cards
  2. Operator’s manuals
  3. Technical manuals
  4. Each of the above
2. Which of the following safety actions should you take?
  1. Observe all safety precautions
  2. Report unsafe conditions
  3. Warn others of hazards
  4. Each of the above
3. What type of information is contained in Material Safety Data Sheets?
  1. Supply codes
  2. Information about hazardous material
  3. Transfer dates
  4. The age of the materials
4. Which of the following is the major concern of Navy personnel aboard small boats?
  1. Crew safety
  2. Passenger safety
  3. Both 1 and 2 above
  4. Other vessels
5. When handling lines or taking part in underway replenishment, you must always wear what article of safety equipment?
  1. Inherently buoyant life jacket
  2. Inflatable life jacket
  3. Safety glasses
  4. Ear plugs
6. Which of the following hazards is/are associated with jet aircraft on flight decks?
  1. Being blown overboard
  2. Being burned by jet exhaust
  3. Being sucked into jet intakes
  4. Each of the above
7. Besides fuel and ammunition handling spaces, smoking is prohibited in which of the following areas?
  1. Flight deck
  2. Hangar deck
  3. Both 1 and 2 above
  4. Crew lounge
8. Lifelines are used for which of the following purposes?
  1. To prevent personnel from being washed overboard
  2. To provide a place to hang heavy weights
  3. To give personnel on deck a place to sit
  4. To provide a neater appearance
9. You should not paint scaffolding for which of the following reasons?
  1. Paint conceals defects
  2. Paint makes scaffolds slick
  3. Paint is too hard to keep clean
  4. Paint makes scaffolds too heavy
10. Which of the following safety items should you use when handling cargo?
  1. Safety shoes
  2. Hard hat
  3. Gloves
  4. All of the above
11. When using a hand truck to move loads on a ramp, you should move the hand truck in what way?
  1. Push the load up, pull the load down
  2. Pull the load up, push the load down
  3. Pull the load both up and down
  4. Push the load both up and down
12. When working aloft, you can receive a shock from which of the following pieces of gear?
  1. Ladders
  2. Guy wires
  3. Metal fittings
  4. All of the above

13. When working over the side, you must wear which of the following pieces of safety equipment?
  1. Inherently buoyant life jacket
  2. Inflatable life jacket
  3. Deck shoes
  4. Gloves
14. Accidents involving steam usually occur in what working spaces?
  1. Engine rooms only
  2. Firerooms only
  3. Engine rooms and firerooms
  4. Galley
15. A person overcome by carbon monoxide has which of the following symptoms?
  1. Sudden feeling of weakness
  2. Headache
  3. Drowsiness
  4. All of the above
16. If you are in a closed compartment and think you're being affected by carbon monoxide, you should take which of the following actions?
  1. Call for help
  2. Get to fresh air
  3. Both 1 and 2 above
  4. Stay where you are and relax
17. What person is authorized to certify that a closed space is safe to enter?
  1. Work center supervisor
  2. Gas free engineer
  3. Division officer
  4. Division chief
18. When using an internal combustion engine in a closed space for de-watering or fire fighting, you should take which of the following actions to ensure personal safety?
  1. Make sure the engine is clean
  2. Make sure the engine is fully fueled
  3. Make sure the exhaust is carried to the open atmosphere
  4. Make sure the exhaust is confined to one section of the compartment
19. During fueling operations, the word is passed "the use of open flame devices is prohibited." Which of the following devices is/are considered an open flame?
  1. Matches
  2. Lighted candles
  3. Cigarette lighters
  4. All of the above
20. Projectile-type ammunition that is 3 inches or greater in diameter can be identified by what method?
  1. Shape
  2. Color code
  3. Storage container
  4. Label
21. You should NEVER take which of the following items into a magazine?
  1. Naked lights
  2. Matches
  3. Both 1 and 2 above
22. Aboard ship, where are pyrotechnic materials usually stored?
  1. In interior passageways
  2. In machinery spaces
  3. In stowage spaces on topside decks
  4. In magazines
23. What person must approve the use of personal electrical equipment before you can use it aboard ship?
  1. The division officer
  2. The engineer officer
  3. The department head
  4. The division chief
24. Compartments used to store compressed gas cylinders should not be allowed to rise above what maximum temperature?
  1. 130°F
  2. 135°F
  3. 140°F
  4. 145°F
25. On noncargo ships, in what position should compressed gas cylinders be stored?
  1. Vertically, valve up
  2. Vertically, valve down
  3. Horizontally, valve up
  4. Horizontally, valve down

26. Compartments that contain compressed gases are ventilated for what length of time if ventilation has been secured?
  1. 5 minutes
  2. 10 minutes
  3. 15 minutes
  4. 20 minutes
27. Oxygen and chlorine cylinders may be stored in close proximity (near) to fuel or gas cylinders.
  1. True
  2. False
28. Only trained and medically qualified personnel are authorized to remove asbestos.
  1. True
  2. False
29. A tool is classified as power-driven if it has which of the following power sources?
  1. Pneumatic
  2. Hydraulic
  3. Electrical
  4. Each of the above
30. Personnel assigned to a fire watch during a welding operation must remain at their location for what minimum length of time after the job is completed?
  1. 10 minutes
  2. 20 minutes
  3. 30 minutes
  4. 40 minutes
31. When operating rotating machinery, you should never wear which of the following items?
  1. Jewelry
  2. Neckties
  3. Loose-fitting clothes
  4. All of the above
32. Compressed air can be used to clean disassembled machinery parts provided the pressure doesn't exceed how many pounds per square inch (psi)?
  1. 30 psi
  2. 45 psi
  3. 60 psi
  4. 75 psi
33. Sewage wastes contain bacteria and viruses. They can enter your body through which of the following means?
  1. Your nose
  2. Your mouth
  3. Open sores
  4. All of the above
34. You should not use liquid soaps or scented disinfectants to clean up spilled sewage for what reason?
  1. They cause too many suds
  2. They have poor cleaning characteristics
  3. They may temporarily disguise inadequate clean-up procedures
35. You shouldn't smoke around sewage-handling equipment for what reason?
  1. Germs found in the sewage can be inhaled
  2. Smoke adds to the odor
  3. Gases found around equipment and given off by sewage are explosive
36. Continuous exposure to high-level noises could cause which of the following kinds of hearing loss?
  1. Temporary
  2. Permanent
  3. Both 1 and 2 above
37. When working in machinery rooms and repair shops, you may be required to wear double-hearing protection.
  1. True
  2. False
38. When driving or riding in a Navy vehicle, you are required to wear seat belts.
  1. True
  2. False
39. Which of the following precautions should you follow when lifting heavy objects?
  1. Keep the load close to the center of your body
  2. Pull the load toward you; then lift gradually
  3. If too heavy to lift alone, get help
  4. All of the above

40. Heat stress is caused by which of the following factors?
1. Workload
  2. Humidity
  3. Air temperature
  4. All of the above
41. Prolonged exposure to heat stress conditions causes which of the following medical emergencies?
1. Heat stroke
  2. Heat exhaustion
  3. Both 1 and 2 above
  4. Euphoria
42. What is the major health risk to personnel who are exposed to severe cold weather?
1. Snow blindness
  2. Hypothermia
  3. Sunburn
  4. Flu
43. Which of the following documents standardizes tag-out procedures aboard ship?
1. NAVSHIPS 9890/3
  2. NAVSHIPS 9890/5
  3. OPNAVINST 3120.32
  4. OPNAVINST 4450.2
44. Under the tag-out procedures, what person has the authority to place a system off line for repairs or maintenance?
1. Authorizing officer
  2. Repair activity rep
  3. Person attaching the tag
  4. Person checking the tag
45. How many different tags are authorized for use in identifying defective instruments or pieces of equipment?
1. One
  2. Two
  3. Three
  4. Four
46. What color is used to identify a danger tag?
1. Yellow
  2. Green
  3. Red
47. What color identifies a caution tag?
1. Yellow
  2. Green
  3. Red
48. What means are used to control an entire tag-out procedure?
1. DC fitting closure tag
  2. Tag-out logs
  3. Engineer boiler log
  4. First lieutenant's deck log
49. Which of the following publications contain information on Navy safety?
1. OPNAVINST 4450.2
  2. OPNAVINST 5100.19
  3. NAVPERS 4450.2
  4. NAVPERS 5100.19

# ASSIGNMENT 15

**Textbook Assignment:** Chapter 20 “*Sea Power*,” Chapter 21 “*Leadership and Supervision*,” and Chapter 22 “*Security Requirements and International Agreements*.”

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1. Sea power is a nation’s ability to protect which of the following interests?
  1. Political
  2. Economic
  3. Military
  4. All of the above
2. What are the principle parts of sea power?
  1. Naval power, ocean science, ocean industry, and ocean commerce
  2. Ocean science, ocean industry, ocean commerce, and ASW warfare
  3. Ocean industry, ocean commerce, ocean science, and nuclear propulsion aircraft carriers
  4. Naval power, ocean industry, ocean commerce, and ballistic missiles
3. In peacetime, what does sea power encompass?
  1. Clash of fleets
  2. Commercial rivalries
  3. Diplomatic maneuvering
  4. Both 2 and 3 above
4. What person coined the phrase “sea power”?
  1. Secretary Alexander Hamilton
  2. John Paul Jones
  3. Admiral David Farragut
  4. Captain Alfred Thayer Mahan
5. Which of the following is a requirement for a nation to have sea power?
  1. Serviceable coastlines
  2. Favorable climate
  3. Abundant natural resources
  4. Each of the above
6. Immediately after the Civil War, the primary role of the U.S. Navy was to defend the coast and as a commerce raider.
  1. True
  2. False
7. During World War II, fewer battles were fought between ships within sight of each other for which of the following reasons?
  1. There were fewer ships in sea battles
  2. Submarines were usually used to fight battles
  3. The effects of aircraft, aircraft carriers, and radar began to emerge
  4. The convoy system kept enemy ships away from allied battle groups
8. Today, sea power involves which of the following industries?
  1. Marine science
  2. Maritime industry
  3. Both 1 and 2 above
9. The seas are our lifeline for survival. Which of the following factors make this a true statement?
  1. A barrier between nations
  2. A broad highway for ships
  3. A source for food, minerals, and metals
  4. All of the above
10. An economic advantage for a nation is to produce goods and services and to exchange them with other nations. Those that have failed in commerce have also failed as world powers.
  1. True
  2. False
11. What is the determining factor in the United States that changed our point of view about raw materials?
  1. Population growth and advanced technology
  2. Interrelationships between countries
  3. Growing isolationist policy
  4. Increased loss of farmland



12. What amount of minerals does the United States produce?
  1. 4 minerals
  2. 11 minerals
  3. 33 minerals
  4. 48 minerals
13. The United States acknowledges freedom of the seas under what law or treaty?
  1. Federal law
  2. Treaty of Versailles
  3. International law
  4. Treaty of Zurich
14. Which of the following actions must our country take to protect our national security and sustain our economy?
  1. Import raw materials, manufacture goods, and export goods to world marketplace
  2. Keep the sea lanes open
  3. Both 1 and 2 above
15. What states are outside the continental United States (CONUS)?
  1. New Mexico and Alaska
  2. Hawaii and Alaska
  3. New Mexico and Guam
  4. Alaska and Puerto Rico
16. There are a total of how many overseas U.S. territories?
  1. Two
  2. Three
  3. Four
  4. Five
17. The primary functions of the Navy and Marine Corps forces is to seek and destroy enemy naval forces, suppress enemy sea commerce gain, maintain general naval supremacy, control vital sea areas, and protect sea lines of communication.
  1. True
  2. False
18. When did the “tanker wars” occur in the Persian Gulf?
  1. 1986 to 1988
  2. 1987 to 1989
  3. 1988 to 1990
  4. 1989 to 1991

19. Operation Desert Shield/Desert Storm is an example of what type of exercise?
  1. Army operation only
  2. Air Force operation only
  3. Joint amphibious operations
20. What is meant by the term “hi-low balanced mix”?
  1. Speeding up research and development of new weapons
  2. Purchasing highly effective aircraft and ships and developing new classes of low-cost ships
  3. Laying up of old ships to save money
  4. Training personnel in high and low technology areas

- |   |
|---|
| <p>A. NAVAL STRATEGY</p> <p>B. NATIONAL INTERESTS</p> <p>C. NATIONAL STRATEGY</p> <p>D. NATIONAL OBJECTIVES</p> |
|---|

**Figure A**

IN ANSWERING QUESTIONS 21 THROUGH 23 SELECT THE TERM FROM FIGURE A THAT DESCRIBES THE QUESTION.

21. A broad course of action designed to achieve national objectives.
  1. A
  2. B
  3. C
  4. D
22. Conditions that are to the advantage of our nation to pursue or protect.
  1. A
  2. B
  3. C
  4. D
23. Use of naval forces to achieve naval objectives.
  1. A
  2. B
  3. C
  4. D

24. Which of the following objectives would fall under the term “national objective”?
  1. Political
  2. Security
  3. Economic
  4. Each of the above
25. Sea control and power projection are the Navy’s mission in support of
  1. naval strategy
  2. national interests
  3. national strategy
  4. naval objectives
26. Which of the following functions allows the Navy to control the sea and project power?
  1. Strategic nuclear deterrence
  2. Strong naval presence
  3. Security of the sea lines of communications
  4. Each of the above
27. On what date did Congress authorize the first six frigates of the Continental Navy?
  1. 27 Mar 1794
  2. 4 Feb 1776
  3. 20 Aug 1775
  4. 19 Jul 1773
28. In what year did Congress enact the Merchant Marine Act?
  1. 1916
  2. 1926
  3. 1936
  4. 1946
29. During World War II, the U.S. built and manned more than how many merchant ships?
  1. 3,000
  2. 4,500
  3. 6,000
  4. 7,500
30. In wartime, the Merchant Marine is responsible for which of the following missions?
  1. Transporting essential materials and cargo
  2. Resupplying allied military forces overseas
  3. Providing underway replenishment to Navy ships at sea
  4. All of the above
31. In peacetime, which of the following military services is not controlled by the Department of Defense?
  1. U.S. Navy
  2. U.S. Marine Corps
  3. U.S. Coast Guard
  4. U.S. Naval Reserve
32. The U.S. Coast Guard was established as the United States Revenue Marine in what year?
  1. 1760
  2. 1776
  3. 1785
  4. 1790
33. What is the traditional image of the U.S. Coast Guard?
  1. Watchful
  2. Vigilant
  3. Lifesaver
  4. Benefactor
34. Which of the following are modern-day Coast Guard duties?
  1. Enforcement of maritime laws and treaties
  2. Search and rescue operations
  3. Enforcement of drug and contraband laws
  4. Each of the above
35. During wartime, the Coast Guard operates directly under the
  1. Chief of Naval Operations
  2. Secretary of the Navy
  3. Joint Chiefs of Staff
  4. Secretary of Defense
36. Which of the following organizations was established by combining the sealift missions of the Naval and Army Transport services?
  1. Merchant Sea Transportation Service
  2. Department of Transportation
  3. Military Sealift Command
  4. U.S. Coast Guard
37. Military Sealift Command ships use which of the following titles?
  1. United States Naval Ships (USNS)
  2. United States Charter Ships (USCS)
  3. United States Coast Guard Ships (USCGS)
  4. United States Transportation Service Ships (USTSS)

38. In peacetime, the Military Sealift Command ships nearly what percentage of all military cargo on privately owned U.S. flagships and other merchant marine vessels?
  1. 14%
  2. 25%
  3. 35%
  4. 45%
39. What are the essential ingredients for U.S. sea power?
  1. Merchant Marine, Military Sealift Command, Coast Guard, and the Navy
  2. Navy, Marine Corps, Coast Guard, and the Military Sealift command
  3. Merchant Marine, Coast Guard, Military Sealift Command, and the Marine Corps
  4. Navy, Marine Corps, Coast Guard, and the Merchant Marine
40. Which of the following qualities should Navy leadership exhibit?
  1. Administrative ability
  2. Moral principals
  3. Personal example
  4. Each of the above
41. When followed, which of the following moral principals provides direction and consistency to leadership?
  1. Integrity
  2. Loyalty
  3. Honesty
  4. All of the above
42. To make sure an order to a job will get it done, orders need to be given so they can be followed. Orders should be given in what way?
  1. Simple only
  2. Clear only
  3. Simple, clear, and complete
  4. Complex
43. To be a good leader, you need to carry out your orders in which of the following ways?
  1. Promptly
  2. Cheerfully
  3. To the best of your ability
  4. Each of the above
44. Immediate obedience is an automatic response to a command.
  1. True
  2. False
45. Reasoned obedience lets you obey an order while learning from your experience while carrying it out.
  1. True
  2. False
46. What is the primary goal of the Continuous Improvement Program?
  1. Increased productivity only
  2. Produce better quality through leadership only
  3. Increase productivity and produce better quality through leadership
47. How many security classifications does the Navy use to identify classified material?
  1. One
  2. Two
  3. Three
  4. Four
48. Which of the following security classifications is used for information or material that requires the highest degree of protection?
  1. Top Secret
  2. Secret
  3. Confidential
  4. For Official Use Only
49. Having a security clearance automatically grants you access to classified material.
  1. True
  2. False
50. To get a security clearance, you must be a United States citizen.
  1. True
  2. False
51. Which of the following infractions will cause a Sailor's CO to report that infraction to DON CAF?
  1. Criminal conduct
  2. General inaptitude
  3. Noncompliance with security requirements
  4. All of the above

52. Classified material is assigned a security classification for which of the following reasons?
  1. To ensure personnel are aware of the classified nature of the material
  2. To ensure the material receives the degree of protection required
  3. To assist in extracting, paraphrasing, downgrading, and declassifying actions
  4. All of the above
53. If a publication contains unclassified, FOUO, Confidential, Secret, and Top Secret information, what security classification is assigned?
  1. Top Secret
  2. Secret
  3. Confidential
  4. For Official Use Only
54. If you need to find the rules for transmitting classified material, you should refer to what SECNAV instruction?
  1. 5510.36
  2. 5510.30A
  3. 5510.3
  4. 5510.3A
55. Classified information is not transmitted over the telephone except when authorized on approved, secure communications circuits.
  1. True
  2. False
56. Which of the following is a concern of ADP security?
  1. Hardware
  2. Software
  3. Admin procedures
  4. All of the above
57. What term defines classified material that is lost, stolen, captured, salvaged, or seen by unauthorized personnel?
  1. Secure
  2. Abandoned
  3. Compromised
58. What type of communications is one of the least secure communications system?
  1. Registered U.S. mail
  2. Telephone
  3. U.S. mail
  4. Courier Service
59. What action, if any, should you take if you suspect someone you know is compromising classified material?
  1. Confront the individual
  2. Report it to the command security officer
  3. Report it to your CO through the chain of command
  4. None
60. Terrorists try to force governments or societies to take certain actions for political, religious, or ideological purposes.
  1. True
  2. False
61. The greatest publicity is given to which of the following terrorism methods?
  1. Taking hostages
  2. Bombing
  3. Both 1 and 2 above
  4. Sabotage
62. Which of the following threat conditions affords the highest degree of readiness?
  1. ALPHA
  2. BRAVO
  3. CHARLIE
  4. DELTA
63. The Status of Forces Agreement covers which of the following topics?
  1. Taxes
  2. Criminal jurisdiction
  3. Passport requirements
  4. All of the above
64. In what year did the Geneva Convention establish certain rights for prisoners of war?
  1. 1948
  2. 1949
  3. 1950
  4. 1951

65. The Law of Armed Conflict prohibits which of the following techniques or tactics?

1. Rape
2. Pillage
3. Plunder
4. All of the above

66. The Geneva Convention recognizes a prisoner's right to try to escape. Which of the following disciplinary actions may be taken when a prisoner is caught in an escape attempt?

1. Stoppage of extra privileges
2. Confinement
3. Both 1 and 2 above
4. Torture

