CHAPTER 6

SAFETY AND SURVIVAL

LEARNING OBJECTIVES

Upon completion of this chapter, you should be able to do the following:

1. Identify the responsibilities of the division safety petty officer.
2. Explain mishap prevention education and training.
3. Describe the three types of safety observations and when to use them.
4. Describe the purpose of a job safety analysis.
5. Explain the purpose of the enlisted safety committee.
6. Explain the Navy's Occupational Safety and Health (NAOSH) Program.
7. Identify the responsibilities of the Hazardous Waste/Material petty officer.
8. Describe the safety precautions used when working with industrial equipment and hazardous materials.
9. Describe the types of respirators and their uses.
10. Describe the Navy's Hearing Conservation, Noise Abatement, and Sight Protection Programs.
11. Describe the Navy's Equipment Tag-Out Program (tag-out log audit).
12. State the different types of survival situations and the responsibility of the senior petty officer.
13. State the methods of survival.

> The object of the safety program is to enhance operational readiness by reducing the number of deaths and injuries to personnel and losses and damage to material from accidental cause.
>
> —OPNAVINST 3120.32B

As a junior petty officer, your role in the command safety program involved practicing safe work habits and reporting safety discrepancies to your leading petty officer. As a senior petty officer, you still have these primary responsibilities; however, you also have the task of ensuring that your division is safety conscious.

Mishaps are unplanned events. However, the potential for a mishap is predictable. The event or sequence of events that lead to an unplanned event can be anticipated through safety awareness. Proper safety knowledge and corrective action can prevent the unplanned mishap. Since people cause mishaps, such preventive actions must be directed at individuals.

Studies conducted by the National Safety Council, based upon 60 years of data, reveal that the basis of fundamental mishap prevention is to eliminate the small mishap. A definite relationship exists between mishaps involving minor property damage or minor injury and major damage or severe injury

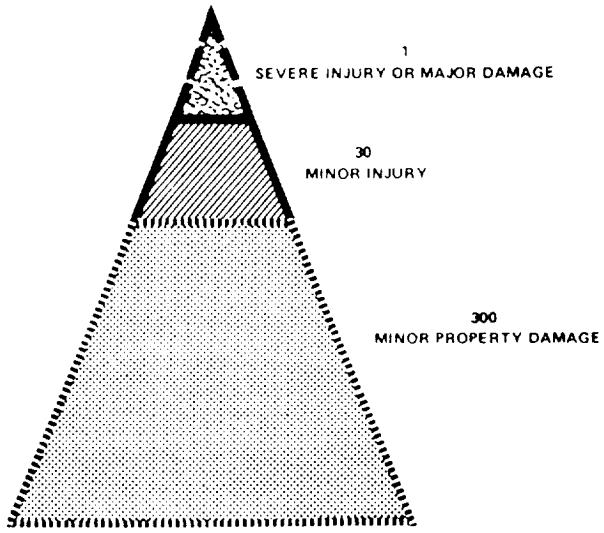

Figure 6-1.—Mishap-injury ratio.

(fig. 6-1). For every 300 minor property damage mishaps and every 30 minor injuries, 1 major property damage mishap and 1 severe injury occur. Preventing minor mishaps can reduce or eliminate major mishaps. Therefore, you should not only be concerned with serious mishaps, but you should investigate all mishaps to find what caused them. In this way, you can prevent repeats of mishaps, correct unsafe conditions or acts, and avoid major accidents.

Investigate each mishap, no matter how minor, to determine its cause. Then take corrective action to prevent it from happening again. Similarly, treat the near mishap as an actual mishap. Capitalize on its value as a warning to help prevent a real mishap. In your investigation of each mishap and near-mishap case, you will find facts that can help you determine what potential exists for a recurrence. Investigations also help to determine the required corrective action to remove the potential hazard. The key concept of mishap prevention is that the potential for a mishap exists, not necessarily that a mishap will occur.

Your task as a senior petty officer is to motivate and train personnel to recognize and understand mishap causes and to encourage them to take preventive action. In this chapter, we will discuss some of the responsibilities and authority you will have in regard to safety. We will also discuss what you can do to ensure all hands make safety awareness a part of their daily work habits.

DIVISION SAFETY PETTY OFFICER

When you act as the safety petty officer, you are not tasked with finding all safety discrepancies by yourself. All division personnel share the responsibility of watching for safety violations. One of your primary responsibilities is to train each person in your division to notice those violations.

SAFETY DUTIES

As division safety petty officer, you must increase your own safety awareness in addition to training division personnel in mishap prevention. Always maintain records of safety training conducted within your division. If you have recommendations about the safety programs, be sure to give them to your division officer. As safety petty officer, you must help conduct safety investigations as directed and act as a technical adviser about mishap prevention within your division. Additional duties include helping to carry out the safety duties of the division officer and serving as the division representative to the command's safety committee.

SAFETY INFORMATION

To be an effective safety petty officer, you should become familiar with all safety directives and precautions concerning your division. Since safety instructions vary from command to command, we cannot give you an accurate listing of manuals and instructions with which you should be familiar. If you are assigned as a division safety petty officer, first obtain command safety instructions and review them. Then review the references used in developing command or local safety instructions. The following manuals and instructions will help guide you in making your duty station a safer place to work.

- *Navy Occupational Safety and Health (NAVOSH) Program Manual,* OPNAVINST 5100.23B—Encompasses all safety disciplines such as aviation safety; weapons/explosives safety; off-duty safety (recreation, public, and traffic); and occupational safety as well as occupational health
- Electronics Installation and Maintenance Book, *General,* section *3,* NAVSEA SE 000-00-EIM-100—Contains information concerning electrical/electronic safety precautions

- *NAVOSH Manual for Forces Afloat,* OPNAVINST 5100.19B—Provides general shipboard safety precautions
- *Standard Organization and Regulations of the U.S. Navy,* chapter 7, OPNAVINST 3120.32B—Outlines the safety program and the safety organization
- *Navy Traffic Safety Program,* OPNAVINST 5100.12F—Provides policy and guidance for motor vehicle safety
- *Naval Safety Supervisor,* NAVEDTRA 10808-2—Gives basic guidance to personnel stationed in safety billets ashore and afloat

These are not all the safety resources available to you. However, these sources give you a good starting point on which you may expand your knowledge of safety procedures. The *Naval Safety Supervisor,* NAVEDTRA 10808-2, a nonresident training course, is also a very good resource for strengthening your awareness of safety procedures.

MISHAP PREVENTION EDUCATION AND TRAINING

As discussed earlier in this chapter, one of the most important tasks you will have as a division safety petty officer is educating personnel in your division. This training will help them to become effective safety monitors. Remember, one person cannot ensure safe working habits and conditions. An all-hands effort is required to achieve mishap-free working conditions.

SAFETY EDUCATION

The command's training program and each departmental training program should include a systematic approach to promote mishap prevention. In your division, make effective use of educational materials received from outside sources, such as Navy training films, safety notes, and various publications issued by the Naval Safety Center. Use these resources as aids in your division training. Display in your work spaces as many resources as are applicable to your command to increase personnel interest in safety. Make safety lectures or demonstrations part of your division's training program to ensure maximum safety awareness.

ON-THE-JOB TRAINING

By monitoring safety precautions during routine work situations, you can detect unsafe practices and take immediate action to provide training to correct those practices. Monitoring serves as an evaluation of the training provided on a continuing basis by supervisory personnel. It evaluates the effectiveness of training in all aspects of everyday life aboard your command, such as the planned maintenance system (PMS), weapons systems operations, damage control, fire fighting, and general housekeeping. It even evaluates the effectiveness of the tactical employment of the command.

To be an effective safety petty officer, you will have to become familiar with all aspects of safety associated with your division's responsibilities.

SAFETY OBSERVATIONS

One of the basic principles of effective mishap prevention is the quick detection of unsafe practices through safety observations. A safety observation is the act of watching and analyzing your people as they do their normal job. You can use safety observations as a powerful tool to prevent mishaps and to determine if your people are performing their jobs safely. You can use three kinds of safety observations: INCIDENTAL, DELIBERATE, and PLANNED.

INCIDENTAL SAFETY OBSERVATION

An incidental safety observation occurs when you notice safety hazards without deliberately taking time to look for them. You generally notice them as you go from place to place during your daily routine. Keep your eyes and ears open with safety in mind. Don't become so wrapped up in your thoughts that you overlook safety problems. Note the troubled sound of a machine as you go by, take a quick look at the work practices of a new person, or make a mental note of housekeeping conditions. That kind of casual and incidental looking helps spot many unsafe practices.

DELIBERATE SAFETY OBSERVATION

The deliberate safety observation goes a step beyond the incidental safety observation. In a deliberate safety observation, you intentionally

pause in whatever you are doing to see if a person does some part of a job safely. You watch strictly from a safety standpoint.

You may make a deliberate safety observation for a number of reasons. You may want to check the work of a new person, the job may be a particularly hazardous one, or the worker may have a reputation for unsafe work. Whatever the reason, your observation is deliberate; it is more than a casual glance at a person doing a job.

THE PLANNED SAFETY OBSERVATION

A planned safety observation is when you deliberately schedule a time to watch for safety violations by a person performing a specific job. It is usually a part of a continuing program of safety observation. It is designed to check regularly on how safely all hazardous jobs are performed.

When making a planned safety observation, decide in advance which one of your workers and what specific job you will observe. Correct any unsafe practices you observe at that time. If you observe no unsafe practices, compliment the person. Always make a record of whom you observed and what job they were doing; that information will help you in future planned observations.

To do a good job of detecting unsafe practices, you need to use all three types of safety observations—each supplements the others. Together they accomplish the maximum detection of unsafe practices.

WHAT JOBS TO OBSERVE

You cannot, and need not, observe every job a person does. Not all jobs are equally hazardous. Some jobs rarely or never produce mishaps; others have a reputation for producing mishaps. As a supervisor you have limited time for safety observations because you have many other tasks. Therefore, concentrate on observing the jobs most likely to produce mishaps. Put priority on observing jobs known to be hazardous and those which have the greatest potential for producing serious injury or loss.

JOB SAFETY ANALYSIS

A job safety analysis (JSA) is the study of a job to (1) identify possible hazards or potential mishaps and (2) develop solutions to eliminate, nullify, or prevent them. A JSA serves as a special tool for making jobs safer. The basic principles of mishap prevention are (1) to spot potential mishap causes and (2) eliminate potential mishap causes.

The four basic steps of a JSA are as follows:

1. Select the job to be analyzed.
2. Break down the job into steps.
3. Identify the hazards or potential mishaps.
4. Develop solutions to prevent hazards or potential mishaps.

You gain the maximum benefits of JSAs only when you use the analysis and when you invariably learn more about the jobs you supervise as a result of doing them. When a supervisor asks workers to help develop a JSA, their attitudes improve. As a result, they often generate cost-reducing improvements for safer working conditions. All those are valuable benefits of the JSA. However, the major safety benefits are those which come from *using* the completed JSA. You can make good use of the JSA in the following areas:

- Initial job safety training
- Regular safety contacts
- Pre-job safety instructions
- Cost-reduction studies

Fill out a Workplace Monitoring Plan, OPNAV 5100/14 (fig. 6-2), when making safety observations and job analyses; or make your own form appropriate to your specific work place.

ENLISTED SAFETY COMMITTEE

Your command's Enlisted Safety Committee makes recommendations concerning the command safety program. These recommendations are submitted to the safety council (at the department head level) where they are reviewed for appropriate action. Your command safety committee convenes to exchange information; improve communications; review conditions, mishaps, and injuries; and suggest improvements. It also convenes to make written safety recommendations to the safety council and the commanding officer. These meetings should convene monthly in an effort to enhance interdepartmental

WORKPLACE MONITORING PLAN

WORKPLACE INFORMATION

Organization:

Shop or Work Center:

Location:

Supervisor: | Phone:

No. of Workers: | Male: | Female:

Shop Operations:

Potential Hazard	Intermittent or Continuous	Workers Involved	Controls

EXPOSURE ASSESSMENT

Are employees potentially exposed to toxic chemicals or harmful physical agents? Yes _____ No _____

If no, provide rationale:

Signed: | Date:

Title:

OPNAV 5100/14 (4-83)

MONITORING PLAN

Potential Hazard	No. of Measurements	Method of Measurement [1]	Location of Measurement [2]	Frequency (Per Year)	Man-Hours (Per Year)

[1]Use the following codes:

DR - Direct reading instrument
IT - Indicator tube
AT - Absorption tube (charcoal, silica gel, etc.)
B/I - Bubbler/Impinger
F - Filter
PD - Personal Dosimeter
O - Other (specify)

[2]Use the following codes:

GA - General area
BZ - Breathing zone or personal
SZ - Source zone
O - Other (specify)

OPNAV 5100/14 (4-83) BACK

Figure 6-2.—Workplace Monitoring Plan.

communication in mishap prevention at division and work center levels. Committee membership is as follows:

1. Command safety officer (senior member)
2. Division safety petty officer
3. Chief master-at-arms
4. Recorder

The ideas shared in safety committee meetings can broaden your own knowledge about mishap prevention and increase your ability to identify potential mishap areas.

MAA/SAFETY FORCE

The Master At Arms (MAA)/Safety Force is another vital link in the safety program. You may be a member of the safety force as a senior petty officer.

The MAA/Safety Force acts as a roving inspector for hazards and risks (unsafe work practices) that could result in injury to personnel or damage to equipment. The force also assists the safety officer in making the safety program visible to all personnel and ensuring it is a workable system.

A good safety program is made possible through the MAA/Safety Force inspections and through a system of internal reporting; the inspections and reports focus command attention on material deficiencies and operating practices that jeopardize personnel and equipment. Figure 6-3 shows the form used for such reports. Make every effort to support the MAA/Safety Force in its duties. When assigned to the MAA/Safety Force, you can make a difference in safety at your command. The safety force is the key to an effective safety program and to a safe working environment.

MAA/SAFETY FORCE SECTION

Issued by:		To:	
Date:	Time noted:	☐ Urgent ☐ Priority ☐ Routine	
Location of Hazard:			
Nature of Hazard:			

DIVISION OFFICER SECTION

Corrective Action Taken:	
Recommended Additional Action by Seniors:	
Date forwarded:	Signature:

DEPARTMENT HEAD SECTION

☐ Above Action Adequate, or	☐ Additional Action Taken/Required as Follows:
Date Forwarded:	Signature:

	Initials	Date	Comments:
Safety Officer			
Executive Officer			
Commanding Officer			OPNAV Form 5102/or 5102/2 required ☐ Yes ☐ No

INSTRUCTIONS

This form (to be reproduced locally) is to be issued by any member of the safety force and delivered to the division officer concerned. Deliver duplicate copy to the safety officer. Division officer forward with action taken/recommended within one working day. Use reverse side if additional space is required for any section.

Figure 6-3.—Safety hazard report.

SAFETY ENFORCEMENT

The safety organization must continually monitor measures taken to ensure the command meets established safety standards and criteria. The best policing system is one of self-policing by both supervisory personnel and workers.

To evaluate safety enforcement, monitor the adequacy of inspections of mishap prevention measures, the supervision of routine work, and special command evolutions. Monitor your division's adherence to prescribed operating and maintenance procedures. Also monitor the correction of inspection discrepancies, the submission of work requests, and the full use of the 3-M systems.

As shown by the following quotation, complacency, haste to complete a job, and the "it-can't-happen-to-me" attitude all tend to oppose an effective self-policing safety program. Although many people may be familiar with that quotation, its safety message is one *all* should know.

THE ENEMY

I am more powerful than the combined armies of the world. I have destroyed more men than all the wars of all nations. I massacre thousands of people every year. I am more deadly than bullets, and I have wrecked more homes than the mightiest guns.

In the United States alone, I steal over 500 million dollars each year. I spare no one, and I find my victims among the rich and poor alike, the young and old, the strong and weak. Widows know me to their everlasting sorrow. I loom up in such proportions that I cast my shadow over every field of labor.

I lurk in unseen places and do most of my work silently. You can be warned against me, yet, you heed me not. I am relentless, merciless and cruel. I am everywhere—in the home, on the streets, in the factory, at railroad crossings, on land, in the air, on the sea.

I bring sickness, degradation and death yet few seek me out to destroy me. I crush, I maim, and I will give you nothing and rob you of all you have. I am your worst enemy—I am CARELESSNESS.

—Author Unknown

NAVY OCCUPATIONAL SAFETY AND HEALTH (NAVOSH) PROGRAM

The Navy's Occupational Safety and Health (NAVOSH) Program covers all Navy safety areas. Those areas include aviation; weapons and explosives; off-duty safety (recreation, public, and traffic); and occupational safety as well as occupational health. The NAVOSH Program specifically addresses the maintenance of safe and healthful conditions in the work place. All levels of command within the naval ashore and afloat establishments must begin and manage a NAVOSH Program based on OPNAVINST 5100.23B. Each Navy member must comply with all NAVOSH standards and applicable rules, regulations, and orders. Violators of NAVOSH regulations or instructions are subject to disciplinary action based on the *Uniform Code of Military Justice (UCMJ).* Personnel must report to their supervisor all observed work place hazards, injuries, occupational illnesses, or property damage resulting from an accident.

INDUSTRIAL EQUIPMENT SAFETY PRECAUTIONS

Industrial equipment includes all fixed or portable electric-, electronic-, pneumatic-, and hydraulic-powered tools used in repairing, maintaining, calibrating, or testing equipment.

Before assigning personnel to operate or repair industrial equipment, make sure they have demonstrated a practical knowledge of its operation or repair and of all applicable safety precautions. Before allowing personnel to operate industrial equipment, make certain the equipment is in good working condition and all installed or attached safety features are in place and working. Do not allow personnel to operate defective equipment until it is suitably repaired. Disconnect any equipment requiring repair from its power source and tag it out, following OPNAVINST 3120.32B, until repair is completed. To minimize possible injuries, post operating instructions and safety precautions at each piece of equipment and locate warning plates where everyone can see them.

PNEUMATIC TOOLS

Only allow authorized and trained personnel to operate pneumatic tools, and make sure those personnel wear and use personal protective devices.

Do not allow personnel with arthritis, neuritis, or circulatory diseases to use vibrating tools such as hammers, tampers, riveters, or caulkers.

PROTECTIVE CLOTHING AND SAFETY EQUIPMENT

Based on *NAVOSH Manual for Forces Afloat,* OPNAVINST 5100.19B, you must see that your personnel know and observe safety precautions. Before allowing personnel to begin work, you must make sure the work site is safe and that personnel are properly outfitted with protective clothing and equipment.

To comply with NAVOSH requirements, inspect your people before allowing them to operate rotating machinery. Make sure they are not wearing loose or torn clothing, neckties, neck chains, unbuttoned long sleeve shirts, rings, beads, or bracelets. When your people operate power-driven industrial tools or equipment, ensure they wear approved safety glasses with side shields, goggles, or face shields. If they are working in foot-hazardous areas, require them to wear safety shoes with a built-in protective steel toe. Do not allow them to wear shoes made of materials that can easily melt or catch fire when in hot-work areas. Require them to wear the following special safety footwear as follows:

1. Semiconductive safety shoes to dissipate static electricity
2. Molders' "congress" style safety shoes when handling molten metal and oxygen or nitrogen plant operations
3. Rubber or synthetic material safety-toe boots for protection against acids, caustics, and other liquid chemical hazards

Check to see that personnel wear proper hand protection. For example, they should wear leather gloves when handling sharp materials or hot work. They need to wear electrical-grade insulating rubber gloves when handling electrical circuits or caustic or toxic chemicals. Personnel also must wear proper ear protection when working with tools or machinery that produces hazardous noise levels.

HAZARDOUS MATERIALS

While personnel in confined and limited spaces aboard ship can use hazardous materials safely, they must use extra precautions in handling and storing them. Handling, storing, or using hazardous materials can present a danger to personnel, property, or the environment. Hazardous materials mishaps can result in fires or in the release of poisonous vapors in unventilated spaces. The use or storage of the following materials is prohibited aboard all ships except in authorized areas such as medical department pharmacies, clinical and chemical laboratories, and cargo spaces:

- Trichlorethylene (Used only by ships having equipment designed for its use)
- Benzene (benzol)
- Beta naphthylamine
- Carbon tetrachloride
- DDT xylene emulsion
- Hydrocyanic acid gas
- Insecticides or DDT
- Methyl bromide
- Plastic trash cans
- Tetrachloroethane
- Dry-cleaning solvent (Stoddard solvent), Type I, of FED SPEC P-D-680

HAZARDOUS WASTE/MATERIAL PETTY OFFICER

As a senior petty officer, you maybe assigned as the hazardous waste/material petty officer. As the hazardous waste/material petty officer, you are responsible for the proper labeling, handling, and storage procedures of hazardous material and hazardous waste. You are also responsible for training division personnel in the proper handling and use of hazardous materials and hazardous waste disposal. You must always be on the lookout for hazardous material/waste safety violations.

ASBESTOS

For many years, the Navy used asbestos as the primary insulation (lagging) material in high-temperature machinery, boilers, and the piping of boiler plants at shore facilities. Asbestos is now recognized as a major health hazard. Inhaling asbestos fibers can result in a lung disease known as asbestosis. Asbestos exposure has also been associated with cancer of the lung. Aboard ship, many pipes and boilers are still insulated with asbestos. However, the Navy has instituted a program to use less harmful materials, such as fibrous glass, for pipe and boiler insulation. Asbestos insulation cannot be removed except for an emergency as approved by the commanding officer.

CONTROL MEASURES FOR ASBESTOS REMOVAL

If you or your people are required to rip out asbestos insulation, take the following control measures:

1. Arrange for each person assigned to a rip-out team to receive a special physical examination.
2. Make certain each rip-out team consists of three qualified persons, including one supervisor.
3. Provide each person on the team with the following complete set of protective clothing: special overalls, head covering, gloves, and booties. Make certain each person tapes gloves and booties to the sleeves and legs of the coveralls.
4. Provide each member of the team with a continuous-flow air-line respirator with full faceplate.
5. Make sure members wet the asbestos insulation before removing it. Provide portable vacuum cleaners designed with special filters for use during the rip out and cleanup. Make sure members put all scraps in special bags and attach caution labels to the bags.

For more detailed information on protective measures, refer to Naval Ships' Technical Manual (NSTM), chapter 635, *Thermal, Fire and Acoustic Installation.*

RESPIRATORY PROTECTION

Many repair and maintenance operations generate air contaminants that can be dangerous if inhaled. See that your people are properly protected from such contaminants. These contaminants may be in the form of dust, fumes, gas, or mist or fog from sprays and spray painting.

The commanding officer of each unit designates a program manager for respiratory protection, usually the unit's safety officer or gas-free engineering officer. The program manager trains safety petty officers (SPOs) or damage control petty officers (DCPOs) in selecting, fit-testing, and maintaining respirators. The designated department/division SPO or DCPO does the following:

1. Provides annual training on respirator selection, use, care, and maintenance
2. Issues respirators appropriate for protection against the hazardous exposure
3. Monitors the use, cleaning, and reissue of respirators and provides the program manager with a monthly program report
4. Assures continuing availability of the required respiratory protection

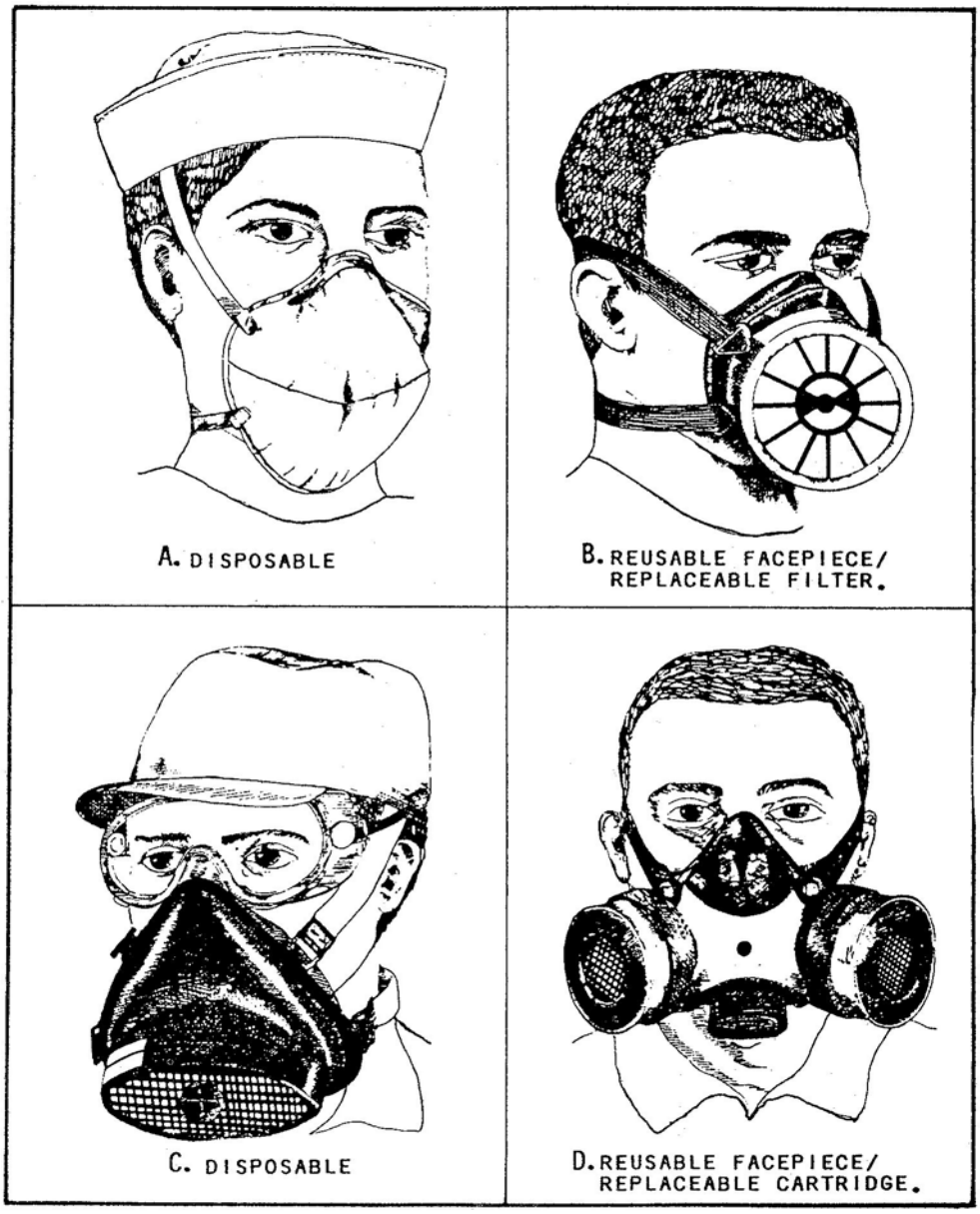

Figure 6-4.—Types of respirators.

TYPES OF RESPIRATORS

You should be familiar with three basic types of respirators: AIR-PURIFYING, SUPPLIED-AIR, and SELF-CONTAINED BREATHING APPARATUS (SCBA).

The air-purifying respirators (views A through D, fig. 6-4) remove air contaminants by filtering or absorbing them as the air passes through the cartridge. These respirators may be disposable or have a disposable prefilter on a cartridge.

The supplied-air respirator (fig. 6-5) is used when insufficient oxygen is present, when the contaminant has no odor, or when the contaminant is of such high concentration or toxicity that a cartridge filter is inadequate. This respirator is not used in immediately dangerous to life or health situations (IDLH) areas. IDLH areas are those in which death or

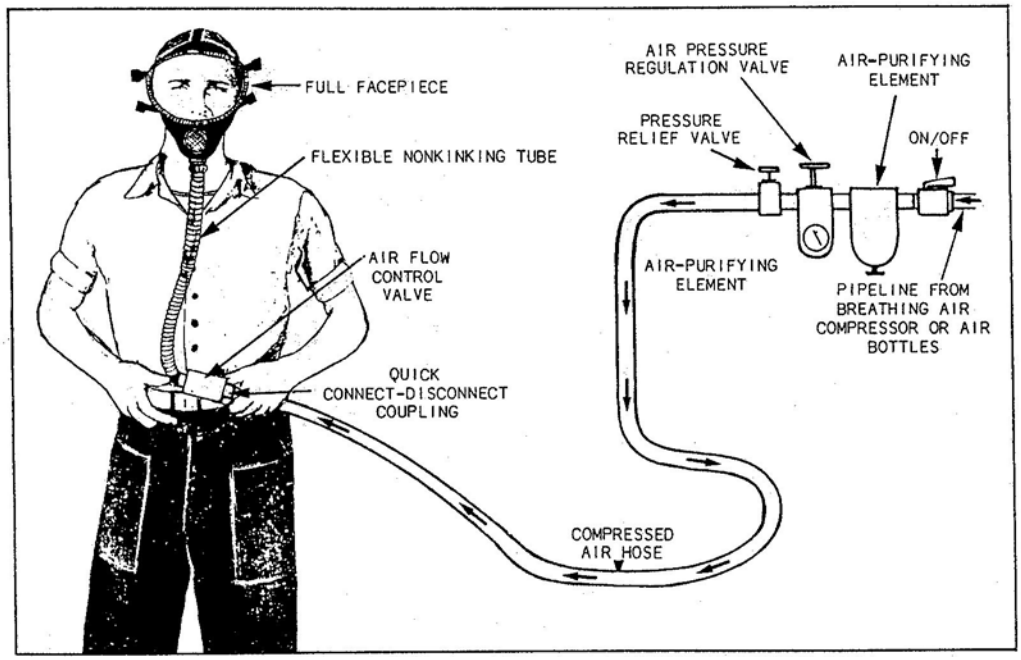

Figure 6-5.—Supplied-air system.

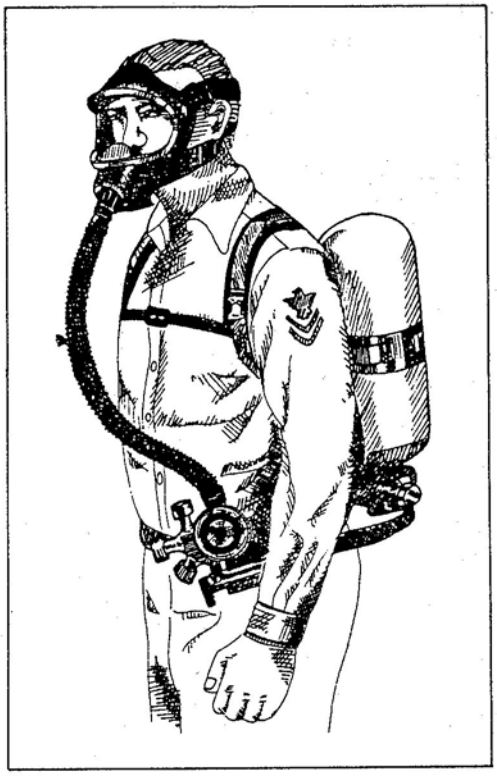

Figure 6-6.—Self-contained breathing apparatus (SCBA).

injury may result if the respirator or its air line fails.

The self-contained breathing apparatus (SCBA) (fig. 6-6) provides protection in oxygen-deficient environments or other environments dangerous to life or health. Since the SCBA is the most complex respirator in use today, use it only after receiving proper training in its use. Use the oxygen breathing apparatus (OBA) only in emergency situations. Use Mark V gas masks only for protection against chemical warfare agents and high airborne radioactivity levels. Surgical masks are for medical use only; never use them in place of a filter respirator.

IDENTIFICATION OF RESPIRATOR CARTRIDGES AND GAS MASK CANISTERS

Each air-purifying respirator cartridge type is designed specifically for the class of contaminant it removes. Federal regulations require each cartridge type to be color-coded. The color-coding may be in the form of an affixed label or a colored plastic cartridge case. To identify the type to be worn for protection against a

particular atmospheric contaminant, refer to table 6-1.

NOTE: When labels only are colored, the cartridge or canister will either be gray or a natural metallic color. The National Institute for Occupational Safety and Health (NIOSH) must approve all cartridges.

The color-coded label also specifies the maximum contaminant concentration level against which the cartridge or canister provides protection. For example, a label may read as follows:

> DO NOT WEAR IN ATMOSPHERES IMMEDIATELY DANGEROUS TO LIFE. MUST BE USED IN AREAS CONTAINING AT LEAST 20% OXYGEN. DO NOT WEAR IN ATMOSPHERES CONTAINING MORE THAN 1/10% ORGANIC VAPORS BY VOLUME. REFER TO COMPLETE LABEL ON RESPIRATOR OR CARTRIDGE CONTAINER FOR ASSEMBLY, MAINTENANCE, AND USE.
>
> NOTE: The 20% oxygen requirement cited above does not apply to submarines, which may operate with an atmosphere of as low as 18.5% oxygen.

HEARING CONSERVATION AND NOISE ABATEMENT

Hearing loss is recognized as an occupational hazard related to certain trades. For example, gunfire and rocket fire produce high-intensity impulse or blast noises, which can cause hearing loss. Hearing loss can also result from the continuous or intermittent noises of aircraft and marine engines and industrial activities. Hearing loss has been and continues to be a serious concern. Therefore, the Navy has developed a hearing conservation program to prevent occupational noise-related hearing loss. The program requires the following preventive measures:

1. The survey of work environments to identify potentially hazardous noise levels and to identify personnel at risk
2. The modification of environments that contain, or equipment that produces, potentially hazardous noise to reduce the noise level to acceptable levels whenever technologically and economically feasible

Education is vital to the overall success of a hearing conservation program. Make sure your personnel receive instruction in and understand the rationale for the following elements of the hearing conservation program:

1. Proper wearing and maintenance of hearing-protective devices
2. The command program and personnel responsibilities for off-duty practices to help protect hearing

Encourage your personnel to use hearing-protective devices during off-duty activities when they are exposed to hazardous noise sources, such as lawn mowers, chain saws, and firearms. All personnel exposed to gunfire in a training situation or to artillery or missile firing under any circumstances must wear hearing-protective devices.

If your personnel must work in hazardous noise areas or with equipment that produces sound levels greater than 84 dB or peak sound pressure levels of 140 dB, enter them in a hearing testing program. Personnel should have received a reference hearing test upon entry into naval service. Do not assign personnel who do not have a reference hearing test in their health record to duty in designated hazardous noise areas until they receive a reference hearing test. All personnel should receive a hearing test periodically and before termination of naval service.

HEAT STRESS

Heat stress is the strain placed on the body as it attempts to regulate its temperature as a result of any combination of air temperature, thermal radiation, humidity, air flow, and work load. This condition can readily produce fatigue, severe headache, nausea, and poor physical and mental performance. Prolonged exposure will cause heat exhaustion or heat stroke and severe impairment of the body's temperature-regulating ability. If not properly treated, these conditions can be life threatening.

Adhere to the command's Heat Stress Program by reporting heat stress conditions as they occur. Educate your division about the Heat Stress Program, the identification of heat stress conditions, stay time, and rotation of personnel.

Heat stress has occurred in engineering spaces, laundries, sculleries, steam catapult spaces, and workshops aboard our ships. In many instances, clogged ventilation systems, damaged or missing

Table 6-1.—Cartridge Color-Coding

COLOR	TYPES OF CONTAMINANT(S)
WHITE	ACID GASES
BLACK	ORGANIC VAPORS
GREEN	AMMONIA GAS
YELLOW	COMBINATION OF ACID GASES AND ORGANIC VAPORS
BROWN	COMBINATION OF ACID, GASES, ORGANIC VAPORS, AND AMMONIA GAS
PURPLE	RADIOACTIVE MATERIALS, EXCEPT TRITIUM AND NOBLE GASES
ANY COLOR ABOVE, FOR PARTICULAR CONTAMINANT, WITH 1/2 INCH GRAY STRIP	PARTICULATES (DUSTS, FUMES, MISTS, FOG, OR SMOKES) IN COMBINATION WITH ANY OF THE ABOVE GASES OR VAPORS
RED	ACID GASES, AMMONIA, CARBON MONOXIDE, AND ORGANIC VAPORS
RED WITH 1/2 INCH GRAY STRIP AROUND THE CANISTER	ALL OF THE ABOVE ATMOSPHERIC CONTAMINANTS

thermal insulation, and excessive steam or water leaks produce heat stress conditions. Conduct heat stress surveys in your work area at the following times:

- When the watch or work station's dry-bulb temperature exceeds 100°F
- During conditions of unusually high heat or moisture
- Before conducting engineering casualty drills
- During operations in hot, humid climates
- During the performance of exceptionally arduous work
- During engineering plant restoration after actual casualties

If the computed watch stander or worker stay times are greater than the duration of the watch or work periods (normally 4 hours) in which you conduct heat stress survey, conduct another survey during the hottest time of the day. If the computed stay times are greater than the normal watch or work period at the hottest time of day, you are required to conduct only two surveys each day. If the computed stay times are less than the scheduled duration of watch or work periods, increase the frequency of conducting surveys; conduct them at equally spaced intervals a minimum of once per stay time period at the affected stations.

To compute heat stress surveys, use a wet bulb globe temperature index (WBGT) meter. Transfer the readings to heat stress monitoring report sheets. Once documented, compute the stay time by using the six physiological heat exposure limit (PHEL) curves, ranging from light work (PHEL CURVE 1) to heavy work (PHE CURVE 6).

The PHEL curves are accurate for normal, healthy personnel who have had adequate rest (6 hours sleep in the past 24 hours) and adequate recovery time from previous heat stress exposure (2 hours recovery for every 1 hour of exposure, or 4 hours maximum).

Develop a working knowledge of all aspects of this program so that you can recognize heat stress conditions as or if they occur. Then take proper actions.

SIGHT CONSERVATION

Navy policy requires the provision of eye protection for Navy personnel working in eye-hazardous areas at government expense. Personnel must wear eye protection while performing any eye-hazardous operations. Eye-hazardous operations include pouring or handling molten metals or corrosive liquids and solids, cutting and welding, drilling, grinding, chipping, and sandblasting or other dust producing operations. Any persons in the vicinity of such operations must also wear eye-protective equipment.

All Navy activities that perform eye-hazardous operations must have a sight conservation program. The program should include, but not be restricted to, the following:

1. Determination and evaluation of eye-hazardous areas, processes, and occupations
2. Operation of a vision-screening program
3. An effective equipment maintenance program
4. Procedures for the use of temporary eye wear
5. A comprehensive training/education program
6. An effective enforcement program

To establish an effective sight conservation program, the safety officer must identify eye-hazardous areas and post appropriate warning signs. Commands must equip all areas where personnel maybe exposed to corrosive materials with emergency eyewash facilities. The Navy considers any person found to have vision in one eye of 20/200 or worse to be visually impaired. You cannot assign people who have visual impairment to duties that present a hazard to their remaining eye. Make certain these personnel wear protective eye wear at all times, regardless of their occupation or work station.

You have a duty to yourself and the people you work with to know and enforce all safety regulations. Before assigning personnel to a task that can harm them in any way, ensure they are familiar with and know the correct safety procedures. Check to see that they wear the proper protective clothing, use the correct respirator for the work being performed, and have adequate eye and hearing protection. Take no short cuts in doing a job safely. Obtain copies of OPNAVINST 5100.23B, *Naval Occupational Safety and Health (NAVOSH) Program Manual,* and OPNAVINST 5100.19B, *NAVOSH Manual for Forces Afloat.* Become familiar with them, Remember the old adage "The life you save may be your own."

EQUIPMENT TAG-OUT LOG

The equipment tag-out log is the controlling document for the entire tag-out procedure. The number of tag-out logs maintained depends on the ship's size. For example, a minesweeper may only require one tag-out log for the whole ship, while a major combatant may require a separate log for each department. Individual force commanders specify the number of logs various ship classes must maintain and the areas in which the ship will maintain them.

On ships maintaining more than one tag-out log, authorizing officers must exchange information concerning 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 authorizing the tag-out. Examples of systems that may require such coordination are ship's 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. The cognizant department head may remove the index page with all tag-outs listed as cleared.)

3. A log on one effective DANGER/CAUTION tag-out record sheet of all tags associated with tag-out of systems and components for the stated reason(s) (This log helps identify all tags associated with the stated reason(s). All effective sheets are kept in one section of the log.)
4. 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.)

INSTRUMENT LOG

Labels associated with OUT-OF-COMMISSION and OUT-OF-CALIBRATION instruments are logged in the instrument log. This log contains record sheets identifying various instruments that are out of commission or out of calibration. The authorizing officer signs the labels and the record sheets and signs for the clearing of the items from the record sheets.

RECORD SHEETS

Some ships going through an overhaul have used between 2,000 and 3,000 DANGER/CAUTION tags. A record sheet keeps track of all these tags. The front of the record sheet contains the name of the system or component, serial number of the tag-out, date and time of tag-out issue, and reason for the tag-out. It also has a place for documentation (blueprints, rip-outs, and so forth) and authorizing signatures. On the back of the record sheet, you will find a record of the number of the tags, the person hanging the tags, and the person second-checking all the tags. It also contains the authorization for clearance of the tags by the authorizing officer and the repair activity representative. The record includes the date and time of removal of the tags along with the initials of the person(s) removing them. After the tags have been cleared and the record sheet properly filled out for the removal of the tags, the sheet is put in the back of the tag-out log in the cleared section for destruction at a later time. The date and time cleared are recorded in the tag-out index/audit record.

AUDITS

Audits are an important part of the tag-out system. You should audit every 2 weeks, except on nuclear-powered ships, where you audit weekly under some conditions. Audit all outstanding tag-out sheets against the index/audit record section. As part of the audit, check each tag-out record sheet for completeness and check the installed tags. Make sure the positions of valves or switches haven't been changed from the description on the tag, the label, and the record sheet. Log the date and time on each tag-out record sheet. Note any discrepancies you found (if you found none, note that also) followed by your signature. Your signature verifies the log is up to date.

SURVIVAL

Survival requires the desire and ability to live. In a survival situation, you may find yourself in unusual conditions of deprivation, emotional shock, and hardship. These conditions may occur for an indefinite period. They are often brought about by the forced landing of an aircraft at sea or in a remote jungle, a desert, or an Arctic land area.

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.

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.

Before learning basic survival facts, you first need to understand the psychological obstacles of survival. Those obstacles all have in common that very normal human emotion called fear: fear of the unknown, fear of discomfort, fear of people, and fear of one's weaknesses. Fear of the environment leads us to fear the discomfort we may suffer.

Although you may have many natural fears in a survival situation, they need not be a drawback. Fear is the reaction that enables you to get out of the situation you're in. If you control it, fear is a very valuable tool for survival, but you must recognize its presence. Proper training lessens the fear of the unknown. By adding your equipment and survival knowledge to your will to survive, you can survive with much less discomfort and risk of bodily injury.

Normal reaction to basic human fear can be very useful. When you are afraid, your body becomes more alert, you hear better, you see better, and you can perform amazing feats of strength.

Even though we overcome our fears to some extent, a lack of confidence in our strength and ability may seriously weaken our will to survive. Therefore, you must prepare, both physically and psychologically, to deal with stresses in survival situations.

We have each acquired, to some degree, many personality traits that are helpful in a survival situation. Most of us have come through some difficult, drawn out, emotionally draining problems. We have learned the value of persistence and perseverance when the odds seemed against us. Reaching a coveted goal in sports requires such traits. You may have surmounted moments of danger or crisis with a physical or psychological strength you didn't know you had.

The key to survival is your attitude. The development of at least twelve important traits, or characteristics, will help you develop a survival attiude:

- Courage
- Determination
- Cheerfulness
- Positiveness
- Flexibility
- Willingness
- Purpose
- Attentiveness
- Confidence
- Productiveness
- Persistence
- Certainty

We cannot overemphasize the importance of developing these traits. They can be more valuable to your survival than your survival equipment.

You could find yourself in two types of survival situations—survival ashore and survival at sea. Knowing how to survive in each situation is equally important. Since you could also find yourself as the senior person in a survival situation, you need to know your authority and responsibilities.

AUTHORITY AND RESPONSIBILITIES OF THE SENIOR PERSON IN A SURVIVAL SITUATION

You have worked hard to advance to your position of leadership. One of the most important responsibilities you may have is to function as the senior person in a survival situation. That is where the leadership skills you have been working on will pay off. You will be responsible for the lives of your shipmates and for seeing that they are safe.

Navy Regulations and article IV of the *Code of Conduct* give the senior person in a survival situation the authority to take charge. Even if you are not the senior person in charge, you have the responsibility to fully back the senior person in charge. If the senior member becomes injured or dies and you are the next senior person, you will assume responsibility for your group. The members of your group will depend on you to lead them in evading the enemy and reaching safety.

Although you have the authority and responsibility of leadership, listen to your subordinates, as they may have useful ideas. Survival requires every person to give 100 percent toward a group effort. Failure on one person's part could cause the group to end up in a prisoner-of-war camp. Think before you act, and weigh every situation carefully. Use the helpful ideas of the group.

ASHORE

Survival ashore becomes a personal struggle between the environment and the specific qualities people bring to the situation. Disaster subjects people to severe stresses they are not normally exposed to. Some people remain remarkably calm for varying periods, even under extreme stress. Others, however, become overwhelmed by disaster and unable to cope with what might be a life-threatening situation. People suffer the worst reactions when, with little or no warning or preparation, they suddenly find themselves in an unstructured and undefined situation.

When you are faced with a survival situation on land, remember several facts. The obstacles to overcome aren't so much physical as mental. In all probability, others have survived in that

terrain, and some even may have made it their home. With varying degrees of effort, they managed to adjust to the terrain, climate, and environment. Your problem is you are not prepared to live there; you never expected your plane to crash-land in a jungle or some other remote area.

Remember your goal in a survival situation ashore is to get back to friendly forces. If you are isolated in an enemy area, you have the major problem of avoiding the enemy (evasion). If you are captured, you have the problem of surviving the prisoner-of-war (POW) camp.

Evasion

In a survival situation within enemy territory, you must focus on evasion of the enemy. Therefore, you need to know the two methods the enemy uses to detect your presence:

1. Observation by specially trained and equipped observation teams. The teams may be situated on high terrain to scan the area with a variety of detection devices, such as binoculars, telescopes, and sound-detection equipment.
2. The use of dogs, foot patrols, and mechanized units to patrol a given area. Such teams physically search an area for signs of evaders and escapees, such as footprints, cold campfires, or discarded or lost equipment.

One way you can protect yourself and your group from the eyes of the enemy is by using camouflage. Camouflage is a major evasion tactic used to hide an object, personnel, or equipment. Camouflage permits you to see without being seen.

If you are in charge of a large group hiding from the enemy, first break the group into many small groups. Small groups are easier to conceal. The enemy may estimate your location from your actual movements or from physical signs left when you moved through an area. Your position; shape; shadow; or color of equipment, vehicles, or persons can also reveal your location in the following ways:

- POSITION: An observer can easily see the place of concealment if a person or an object doesn't blend in with the background. When you choose a position for concealment, use a background that will absorb personnel or an object.
- SHAPE: At a distance, an observer can recognize the form or outline of an object before the details can be seen. When transiting from area to area, use available cover, such as bushes, trees, and rock formations, to distort your shape.
- SHADOW: Since shadows may be more revealing than the object itself, place objects in the shadows of other objects to make them easier to overlook.
- COLOR: Contrast between the color of an object and its background makes a person or object easily visible. The greater the contrast in color, the greater the visibility. Therefore, as a general principle, the camouflage should match the darker and medium light colors of the background. Using vegetation and other materials found locally to screen and stain equipment makes it blend into the background. Moonlit nights require the same precautions as those used in daylight.

Conceal your presence when traveling by using screens, backgrounds, and shadows to the fullest advantage. Under favorable conditions enemy observers can see as far as 100 yards in open woods. Since even a dark night furnishes shadows, choose a route that provides a concealing background and avoids the skyline. On bright, moonlit nights the shadows along the edge of the woods make the best route. Sound gives an amplified, revealing signal at night. Move carefully, quietly, and close to the ground.

In areas of light undergrowth, take the route farthest into the woods for safety. Heavier undergrowth is an obstacle to movement. Therefore, when rapid movement is more important than full concealment, travel along the outside edge of the woods.

Although concealing your presence is of major importance, the most common deterrent to successful evasion is a negative attitude. If you have a positive attitude, you have the natural tendency to take positive action. A negative attitude may be caused by, related to, or a lack of the following:

- Patience
- Common sense
- Flexibility
- Resourcefulness
- Security

The following mistakes can lead to capture for you and your group:

1. Lack of, or insufficient, preparation and poor physical condition
2. Absence of either opportunity or motivation
3. Failure to realize civilians areas dangerous to an evader as members of the military
4. Attempting to fit into the society rather than into the background
5. Knowing nothing about the topography, climate, or people of the area
6. Not knowing how to use your equipment, where it is located, or its purpose (and thus its value)
7. Failure to use any opportunity to leave the vicinity of your landing when the enemy is in the area
8. Failure to properly hide discarded equipment or trash
9. Improper cover and concealment while traveling
10. Improper and careless use of fire
11. Ineffective and insufficient camouflage of persons, equipment, and shelter
12. Leaving evidence of passage, such as tracks in soft ground and broken twigs
13. Approaching members of the local population, assuming them to be friendly
14. Lack of noise discipline
15. Traveling too near to roads, streams, lakes, or populated areas
16. Not treating injuries, which can later weaken your evasion chances
17. Failure to use deceptive techniques while procuring domestic plants and animals
18. Taking easy, short travel routes

You must consider a lot of conditions when evading the enemy. Remember, you and your group will probably be captured if you are seen.

Prisoner-of-War (POW) Camp

What happens if you and your group become prisoners of war? After all, that is possible. Isolation, fear, 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, doesn't mean you forfeit your responsibilities as an American serviceperson. The *Code of Conduct* directs that you begin planning your escape the minute you are taken prisoner.

Escape is tough; not being caught after escape is even tougher. Escape demands courage, cunning, and much planning—of ways to escape, a route to follow, and the location of friends. Above all, escape demands physical stamina—stamina you must acquire 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, strive to keep yourself physically able and sufficiently equipped to escape as soon as possible.

If you are captured, try to make your escape early. You may never be in any better physical condition to escape than at that moment. Prison rations barely sustain life, certainly not enough to build up a reserve of energy. The physical treatment, lack of medical care, and insufficient rations of prison life soon show their effects in morale and physical weakness, night blindness, and loss of coordination and reasoning power.

There are other reasons for making your escape early after your capture. Friendly artillery fire and 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 first-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 POW camp is much more difficult and requires more detailed planning. It must be organized and supported as any other military operation.

The misfortune of being captured by the enemy does not end your usefulness to your country. Your duty is to continue to resist the enemy by all possible means, to escape, and to help others escape.

While a prisoner of war, never accept special favors in return for your promise not to escape or a promise to provide the enemy with information. Informing, or any other action endangering the well-being of a fellow prisoner, is FORBIDDEN. Prisoners of war may not help the enemy by identifying fellow prisoners who may have valuable knowledge.

If you are the senior person in a POW camp, you must provide strong leadership to maintain discipline. Organization, resistance, and even survival may be extremely difficult without discipline. Therefore, discipline yourself and your group to

maintain personal hygiene and sanitation and to care for the sick and wounded.

All United States officers and noncommissioned officers should continue to carry out their responsibilities and exercise their authority if captured. The senior line officer or noncommissioned officer within the group of prisoners assumes command according to rank or date of rank, without regard to his or her branch of service. That person is the lawful superior of all lower ranking personnel. If the senior officer or noncommissioned officer is incapacitated or unable to command for any reason, the next senior person will assume command.

Article I of the *Code of Conduct* says "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. " These are perhaps the most important words of the *Code,* because they signify the faith and confidence of Americans in their government, their country, and their service. From the time John Paul Jones made his defiant reply "I have not yet begun to fight" to the present, Americans have traditionally fought wherever the enemy was and with whatever weapons were available. When captured, the Americans have continued the battle in a new arena. When facing an enemy interrogator, they have been under fire just as though bullets and shell fragments were flying around them. Disarmed, POWs have fought back with mind and spirit, remaining faithful to their fellow POWs, yielding no military information, and resisting every attempt of indoctrination. Each of us has the responsibility to honor these traditions by carefully adhering to the meaning of each article of the *Code of Conduct.* The many Americans who have accepted that responsibility are heroes in the finest sense of the word.

One such hero was Lieutenant (Junior Grade) Dieter Dengler, USNR. In February 1966 LTJG Dengler was on a bombing mission over North Vietnam when his aircraft was badly damaged by ground fire. LTJG Dengler crash-landed his aircraft in nearby Laos and attempted to evade capture. After successfully evading the enemy for 1 day, he was captured and led to a village where he was interrogated and told to sign a Communist propaganda statement condemning the United States. LTJG Dengler's repeated refusal to give more than his name, rank, service number, date of birth, or to sign any statements resulted in severe beatings.

When he continued to refuse to answer questions, he was tied behind a water buffalo and dragged through the brush. The interrogations and beatings continued for 3 days, but LTJG Dengler refused to give in. Later he escaped from his guards but was recaptured and again severely beaten. After 6 months in captivity, LTJG Dengler successfully escaped, killing several guards in the process. On the 17th day, a pilot who escaped with him was killed, and LTJG Dengler had to continue alone. Although suffering from malnutrition, jaundice, fatigue, and badly cut and swollen feet, LTJG Dengler refused to give up. Finally, on the 22nd day after his escape, he managed to lay out a crude SOS on a bed of rocks, which attracted the attention of a United States Air Force aircraft. Later, a rescue helicopter ended his ordeal by plucking him to safety.

The stories of personnel who steadfastly followed both the spirit and letter of the *Code of Conduct* are numerous.

Full compliance with the laws of armed conflict is not always easy, especially when you are a POW. For instance, you might be extremely angry and upset because you were taken prisoner. But you should NEVER engage in reprisals or acts of revenge that violate the *Code of Conduct,*

AT SEA

Survival at sea depends upon your knowledge, your equipment, your self-control, and your training. *Basic Military Requirements* provides a good review of survival equipment, abandoning ship procedures, and at-sea survival hints.

Think of the vastness of both military and commercial operations at sea. Then you can realize the dangers the crews and passengers face under such a wide range of environmental conditions.

As the senior person in an at-sea survival situation, your responsibilities are great. First you must make sure your group is afloat and safe. Then you must know how to operate the equipment available to you and ration food and water.

Take charge of the situation and remain calm—that will greatly increase your chance for survival. Talk to your people; do your best to keep morale up by singing, praying, joking, or telling stories. Keep the others involved. Remember, as long as you are alive, the chance for rescue is excellent.

Don't sell short the value of group support. Many survival experiences have proven that sticking together as a group may make the difference in surviving an ordeal.

GROUP SURVIVAL

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.

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.

Assign each person a task that fits his or her personal qualifications. If one person can catch fish but cannot cook, let that person provide the fish. Always learn each member's special skills so that you can use each person to the greatest benefit of the group.

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.

BASIC ELEMENTS OF SURVIVAL

You can reduce, or even avoid, the shock of finding yourself isolated behind enemy lines, in enemy hands, or in a desolated area. Just remember the basic elements of survival represented by each letter in the word S-U-R-V-I-V-A-L shown in figure 6-7.

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

When you think about yourself and your group, hope for the best, but be prepared for the worst. Recall what you have read about survival and expect it to work. That will give you confidence that you and your group can survive, which will increase your chances for success. Get to a safe, comfortable place as quickly as possible. Once you find a safe place, look at your situation, think, and form a plan. Your fear will lessen while your confidence will increase. Be calm and cautious until you know where you are and where you are going.

Being in a strange country may cause part of your fear. Therefore, try to determine where you are by landmarks, by compass directions, or by recalling intelligence information passed onto you by your leaders.

Think about what moves the enemy might make by putting yourself in the enemy's shoes. What would you do? Watch the enemy's habits and routines. Base your plans on your observations. Remember, you know where the enemy is, but the enemy does not know where you are.

- U—Undue haste makes waste.

Don't be too eager to move. Acting hastily makes you careless and impatient, causing you to take unnecessary risks. Don't end up like the man who rushed ahead without any plan. He tried to travel at night but only injured himself by bumping into trees and fences. Instead of lying low and trying to evade the enemy, he fired at them with his rifle and was caught. Don't lose your temper. Loss of self-control may cause wrong thinking and poor judgment. When something irritating

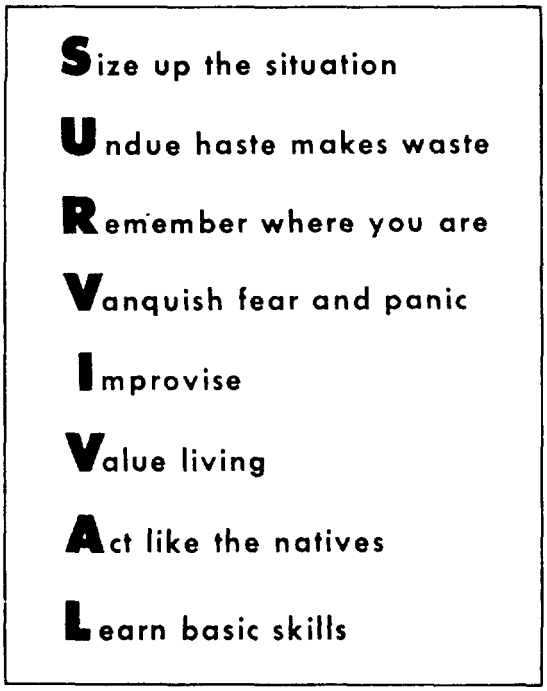

Figure 6-7.—Elements of survival.

happens, stop, take a deep breath, and relax; then start over. Face the facts—danger does exist. To try to convince yourself otherwise only adds to the danger.

- R—Remember where you and your group are.

- V—Vanquish fear and panic.

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

When you are injured and in pain, controlling fear is difficult. Pain can turn fear into panic and cause you to act without thinking, Loneliness can also cause panic. It can lead to hopelessness, thoughts of suicide, carelessness, and even capture or surrender. Recognizing the effects of fear can help you overcome panic.

- I—Improvise.

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

- V—Value living.

Conserve your health and strength and that of your group. Illness or injury greatly reduces your chances of survival and escape. Hunger, cold, and fatigue lower your efficiency and stamina, make you careless, and increase the possibility of capture. Be aware that your spirits may be low because of your physical conditions-not because of the danger. Remember the goal for you and your group—getting out of your situation alive. Concentrating on the time after your rescue will help you value living while trying to survive.

- A—Act like the local populace.

"At the railroad station, there were German guards," one escapee related. "I had an urgent need to urinate. The only rest room was an exposed one in front of the station. I felt too embarrassed to relieve myself in front of all the passersby. I walked throughout the entire town stopping occasionally and inquiring if a rest room was available." This man was detected and captured because he failed to accept the customs of the locals. When you are in a strange situation, accept and adopt local behavior to avoid attracting attention.

- L—Learn basic skills.

The best life insurance is to make sure you learn the techniques and methods of survival so thoroughly that they become automatic. Then you will probably do the right thing, even if you panic. Be inquisitive, and search for any additional survival information.

SUMMARY

Everyone in the Navy has the job of preventing mishaps. Mishap prevention reduces personal injury and damage to material and equipment. Try to help the Navy reach its ultimate goal of preventing all mishaps by recognizing the need for mishap prevention; then take steps daily to prevent mishaps.

Your involvement in mishap prevention may only have been that of a safety-conscious person trying to do your job as effectively and safely as possible. However, you may gain greater responsibilities by being appointed as division safety petty officer. In that position, you must become more aware of unsafe working conditions and be prepared to take immediate action to correct them. Without your help, a near mishap today could be a fatal mishap tomorrow.

The Navy has gone to great expense to train people like you to run its ships safely. Without you and your shipmates, we would not have a Navy. Personnel safety is not automatic; it must be practiced constantly. The Navy still has injuries, but they are less frequent than they were in the past because crew members now practice good safety habits.

You are responsible for the functions of the safety organization within your ship or unit. You must promote safety, safety publications, and safety instructions.

The tag-out system is an important part of the safety organization. Without it, we would have a great increase in injuries and deaths. It is a working system that, if correctly used, will save many lives.

Every ship follows safety procedures for hazardous waste and material control. If you are assigned as the hazardous waste/material control petty officer, your will be responsible for those procedures.

The Navy is safety-conscious. Always practice safety, whether on or off ship. The Navy and your loved ones value you and want you to be as safe as possible.

At some time you and your shipmates may find yourselves in a survival situation; you could be the person in charge. If that happens, you will have the responsibility of keeping yourself and your people alive until you are rescued. Therefore, you must know the basic elements of evasion, survival at sea, survival ashore, and group survival. If you find yourself in a survival situation, remember to NEVER GIVE UP HOPE.

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