A BOATER'S GUIDE TO THE FEDERAL REQUIREMENTS FOR RECREATIONAL BOATS

AND SAFETY TIPS

New in this Edition:

- Navigation Locks
- Trailer Safety
- Digital Selective Calling
- Rescue 21
- Naval Vessel Protection Zones
- America's Waterway Watch

BOAT Responsibly

TABLE OF CONTENTS

WELCOME 3

Conversion Table (U.S./Metric) 4

REGISTRATION AND DOCUMENTATION 5

EQUIPMENT REQUIREMENTS 9

Life Jackets 9
Visual Distress Signals 17
Fire Extinguishers 21
Ventilation 23
Backfire Flame Control 25
Sound Producing Devices 25
Navigation Lights 27
Pollution Regulations 32
Marine Sanitation Devices 35

OPERATING PROCEDURES 36

Navigation Rules 36
Aids to Navigation 39

QUICK REFERENCE CHART: Required Equipment 42

Nautical Charts 45
Dams and Navigation Locks 46

LAW ENFORCEMENT 47

Negligent Operation 47
Boating Under the Influence (BUI) 48
Termination of Use 48
Reporting Boating Accidents 49
Rendering Assistance 50
Requesting Assistance (Non-Distress) 50
U.S. Coast Guard Boarding Policy 50

VESSEL SAFETY CHECK 52

SAFETY AND SURVIVAL TIPS 54
Safe Boating Education 54
Operator's Responsibilities 55
Carbon Monoxide Hazards 55
Overloading 58
Anchoring 59
Vessels Operating Off Shore 60
Small Boats, Hunters, Anglers, and Paddlers 62
Staying Afloat 62
Cold Water Survival 63
Trailering 65
Fueling Precautions 67
Propeller Blade Warning 67
Weather 68
Float Plans 69
BOATER'S PRE-DEPARTURE CHECKLIST 70
SAMPLE FLOAT PLAN FORM 73
EMERGENCY NOTIFICATION/COMMUNICATION 75
Satellite EPIRBs 75
Radio Regulations 76
VHF Marine Radio Channels 77
Digital Selective Calling (DSC) 78
Rescue 21 78
SOS: Ships in Distress 79
OTHER RESPONSIBILITIES 81
Regulated Navigation Areas/Limited Access Areas 81
Naval Vessel Protection Zones. 81
Commercial Shipping Safety Zones 82
Bridges and Shipping Channels 82
America's Waterway Watch 83
USCG INFORMATION . . . . . C-III
RECREATIONAL BOATING SAFETY SPECIALISTS . . . . . C-III
BOATING SAFETY PARTNERS. . . . . C-IV

WELCOME

As a boat operator, you are expected to make sure that your vessel carries the required safety equipment (carriage requirement) and is in compliance with federal and state regulations for such things as numbering and operation. A Quick Reference Chart on page 42 will help you determine the minimum federal safety equipment requirements for your vessel.

This publication contains information about federal laws and equipment carriage requirements for recreational vessels of the United States. It is important that you understand that federal equipment requirements are ***minimum*** requirements and ***do not*** guarantee the safety of your vessel or its passengers. In the following sections, we have also provided recommendations for additional safety equipment you may wish to have on board.

In addition to the requirements stated in this pamphlet, the owner/operator may be required to comply with additional regulations and/or laws specific to the state in which the vessel is registered or operated. To ensure compliance with state boating laws, you should contact the appropriate boating agency in your area. A vessel in compliance with the laws of the state of registration may not meet the requirements of another state where the vessel is being operated.

Other equipment recommended for your safety and the safety of your passengers is noted in the section on Vessel Safety Checks on page 52 and in the Boater's Pre-Departure Checklist on page 70.

Remember, drowning is the Number One cause of boating fatalities and the most preventable. The U.S. Coast Guard recommends that you always wear a life jacket and require your passengers to do the same.

Conversion of Metric to U.S. Units

Metric Measure	Feet in Decimals	Feet and Inches
50.0 m	164.0 ft.	164' 1/2"
20.0 m	65.6 ft.	65' 71/2"
12.0 m	39.4 ft.	39' 4 1/2"
10.0 m	32.8 ft.	32' 9 3/4"
8.0 m	26.3 ft.	26' 3"
7.0 m	23.0 ft.	22' 11 1/2"
6.0 m	19.7 ft.	19' 8 1/4"
5.0 m	16.4 ft.	16' 4 3/4"
4.0 m	13.1 ft.	13' 11/2"
2.5 m	8.2 ft.	8' 21/2"
1.0 m	3.3 ft.	3' 3 1/3"

REGISTRATION (33 CFR 173) AND DOCUMENTATION (46 CFR 67)

There are two methods of registration for U.S. recreational vessels.

- Vessel Registration: state-issued Certificate of Number.
- Vessel Documentation: federally documented with the U.S. Coast Guard.

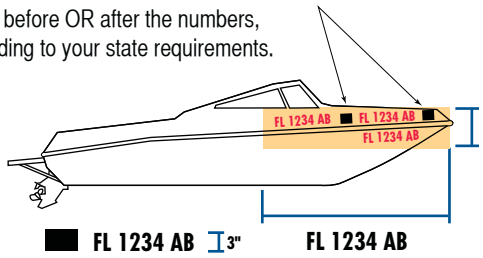
Vessel Registration: All undocumented vessels equipped with propulsion machinery must be registered in the state of principal use. A Certificate of Number will be issued upon registration and the number must be displayed on your vessel. The owner/operator of a vessel must also carry the valid Certificate of Number whenever the vessel is in use. When a vessel is moved to a new state of principal use, the Certificate remains valid for 60 days. Check with your state boating authority for registration requirements. Some states require all vessels to be registered, including vessels that are manually propelled and those that are Coast Guard documented.

Display of Numbers

Numbers must be painted or permanently attached to each side of the forward half of the vessel. The numbers must be read from left to right, and of a color that is contrasting with the background color; for example, black numbers on a white hull. The validation sticker(s) must be affixed within six inches of the registration number. No other letters or numbers may be displayed nearby.

State Validation Sticker

Place before OR after the numbers, according to your state requirements.



Lettering must be in plain, vertical block characters of not less than 3 inches in height. Spaces or hyphens between letter and number groupings must be equal to the width of a letter other than "I" or a number other than "1".

Notification of Changes to a Numbered Vessel

The owner of a vessel must notify the agency that issued the Certificate of Number within 15 days if:

- The vessel is transferred, destroyed, abandoned, lost, stolen, or recovered.
- The Certificate of Number is lost, destroyed, or the owner's address changes.

If the Certificate of Number becomes invalid for any reason, it must be surrendered to the issuing authority within 15 days.

Vessel Documentation

The U.S. Coast Guard Certificate of Documentation is a national form of registration dating back to the 11th Act of the First Congress. It serves as evidence of a vessel's nationality for international purposes, provides for unhindered commerce between the states, and admits vessels to certain restricted trades, such as coastwise trade and the fisheries. Since 1920, vessel financing has been enhanced through the availability of preferred mortgages on documented vessels.

Recreational vessels are eligible to be documented if they are wholly owned by a citizen or citizens of the United States *and* measure at least five net tons. Net tonnage is a measure of a vessel's volume. Most vessels more than 25 feet in length will measure five net tons or more.

A documented vessel is not exempt from:

- Applicable state or federal taxes.
- Compliance with state or federal equipment carriage requirements.

A documented vessel may also be required to pay a registration fee and display a validation sticker from the state of principal use. Boaters should check with their state boating agency.

To be in compliance with federal documentation requirements, a Certificate of Documentation must be:

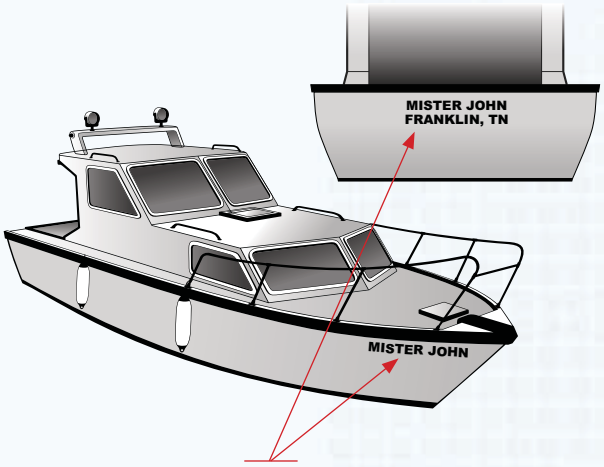
- The original document (photocopy not acceptable).
- On board the vessel.
- Current (not expired).
- Signed by the Director of the National Vessel Documentation Center.

Documented Vessel Marking Requirements

Hull Display

A documented recreational vessel hull display must:

- Have the name and hailing port of the vessel together in one place on the hull (usually on the stern).
- Be in letters not less than 4 inches in height.
- Be clearly readable.



Letters not less than 4 inches high

The marking requirements for a documented recreational vessel state "together in one place on the hull." Many recreational vessels will place the vessel name and hailing port on the stern, and vessel name on both sides of the bow, which is required for a commercial vessel. Although not required for a recreational vessel, this is an acceptable option.

Interior Display (Recreational and Commercial)

In addition, the vessel must have the official number permanently affixed in block-type Arabic numerals of not less than 3 inches in height, preceded by the letters "NO." on some clearly visible interior integral structural part of the vessel.

Arabic numerals are the most common symbolic representation of numbers in the world. Permanently affixed means that the numbers must be affixed to the vessel so that alteration, removal, or replacement would be obvious. Numbers can be painted, carved, or welded.

Interior display (recreational and commercial). Numbers must be no less than 3 inches high.

For more information on documented vessels, contact the U.S. Coast Guard National Vessel Documentation Center at (800) 799-8362 or online at www.uscg.mil/hq/cg5/nvdc.

EQUIPMENT REQUIREMENTS

The United States Coast Guard sets minimum standards for recreational vessels and associated safety equipment. To meet these standards, required equipment must be U.S. Coast Guard "approved" or "certified." This means that it meets U.S. Coast Guard specifications, standards, and regulations for performance, construction, or materials.

Life Jackets (33 CFR 175)

You may have heard reference to Type I, II, III, IV, and V "Personal Flotation Devices" (PFDs). The term PFD is used in a strictly regulatory sense. For greater clarity, this publication will use the term "wearable life jacket" and "throwable device." Understand that Type and Number refer to the same equipment, whether called a PFD or life jacket, and that any PFD is approved for use anywhere.

All recreational vessels must carry one wearable life jacket for each person on board. Any boat 16 feet and longer (except canoes and kayaks) must also carry one throwable (Type IV) device. Life jackets ***should*** be worn at all times when the vessel is underway. *A life jacket can save your life, but only if you wear it.*

Always check and read the manufacturer's information booklet and label provided with all life jackets. They will provide valuable information, including size, type, intended use, and Coast Guard approval information.

Life jackets must be:

- U.S. Coast Guard-approved (check the label).
- In good and serviceable condition.
- Appropriate size and type for the intended user.
- Properly stowed.

Some items that are not required but are a good idea to have with your life jacket are a whistle and an emergency light.

Stowage

- Wearable life jackets must be readily accessible.
- You should be able to put them on in a reasonable amount of time in an emergency (vessel sinking, on fire, etc.)
- They should not be stowed in plastic bags, in locked or closed compartments, or have other gear stowed on top of them.
- Throwable devices must be immediately available for use. They should be on the main deck within arm's reach, hanging on a lifeline, or other easily reached location.

Inflatable Life Jackets

- U.S. Coast Guard-approved inflatable life jackets are authorized for use by persons 16 years of age and older (check the label).
- Inflatable life jackets require regular maintenance and attention to the condition of the inflator.
- They must have a full cylinder and all status indicators on the inflator must be green or the device is ***not*** serviceable and does ***not*** satisfy the legal requirement for the wearable life jacket carriage requirement.
- Inflatable life jackets are more comfortable, encouraging regular use. The best life jackets are ones the user will wear.

Child Life Jacket Requirements

On a vessel that is underway, children under 13 years of age must wear an appropriate U.S. Coast Guard-approved life jacket unless they are 1) below deck, or 2) within an enclosed cabin. If a state has established a child life jacket wear requirement that differs from the Coast Guard requirement, the state requirement will be applicable on waters subject to that state's jurisdiction.

Children's life jackets are approved for specific weight categories. Check the "User Weight" on the label and for an approval statement that will read something like:

Approved for use on recreational boats and uninspected commercial vessels not carrying passengers for hire by persons weighing "less than 30, lbs.," "30 to 50 lbs.," "less than 50 lbs.," or "50 to 90 lbs."

Life Jacket Requirements for Specific Activities

The U.S. Coast Guard recommends – and many states require – wearing life jackets when engaged in the following activities:

- Water skiing and other towed activities (use a type designed for water skiing.)
- Operating a Personal Watercraft, or PWC (use a type designed for water skiing or PWC use.)
- Whitewater boating activities.
- Sailboarding.

Check with your state boating agency for the laws that apply.

Federal law does not require life jacket use on racing shells, rowing sculls, racing canoes, and racing kayaks; state laws vary, however. Check with your state boating agency.

Note that if you are boating in an area under the jurisdiction of the U.S. Army Corps of Engineers, or a federal, state, or local park authority, other rules may also apply.

The U.S. Coast Guard recommends that you always wear a life jacket while underway on a boat and require passengers to do the same.

Life Jacket Flotation

The five types of life jackets are based on three kinds of flotation and can be characterized as follows:

Inherently Buoyant (Primarily Foam)

- The most reliable.
- Come in Adult, Youth, Child, and Infant sizes.
- Designed for swimmers and non-swimmers.
- Come in wearable and throwable styles.
- Special designs available for water sports.

Inflatable

- The most compact.
- Lightweight and comfortable.
- Sized only for adults.
- Only recommended for swimmers.
- Wearable styles only.
- Some have the best in-water performance.

Hybrid (Foam and Inflation)

- Reliable.
- Provides Inherent and Inflatable Buoyancy.
- Adult, Youth, and Child sizes.
- For swimmers and non-swimmers.
- Wearable styles only.
- Some designed for water sports.

BUOYANCY RATING: FOAM

Wearable Size	Type	Inherent Buoyancy
Adult	I	22 lbs.
	II & III	15.5 lbs.
	V	15.5 to 22 lbs.
Youth	II & III	11 lbs.
	V	11 to 15.5 lbs.
Child and Infant	II	7 lbs.
Throwable:		
Cushion	IV	20 lbs.
Ring Buoy		16.58. 32 lb.

BUOYANCY RATING: INFLATABLE

Wearable Size	Type	Inflatable Buoyancy
Adult	I & II	34 lbs.
	III	22.5 lbs.
	V	22.5 to 34 lbs.

BUOYANCY RATING: HYBRID

Wearable Size	Type	Inherent Buoyancy	Inflated Total Buoyancy
Adult	II & III	10 lbs.	22 lbs.
	V	7.5 lbs.	22 lbs.
Youth	II & III	9 lbs.	15 lbs.
	V	7.5 lbs.	15 lbs.
Child	II	7 lbs.	12 lbs.

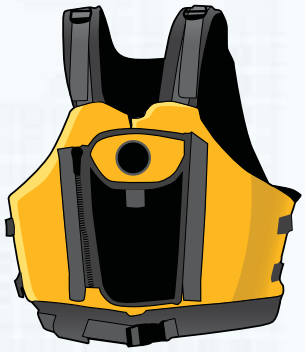
Types of Life Jackets

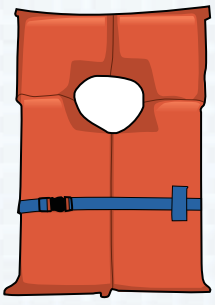
A Type I, Off-Shore Life Jacket provides the most buoyancy. It is effective for all waters, especially open, rough, or remote waters where rescue may be delayed. It is designed to turn an unconscious wearer to a face-up position in the water.

Uninflated

Inflated

A Type II, Near-Shore Buoyancy Vest is intended for calm, inland waters or where there is a good chance of quick rescue. Inherently buoyant life jackets of this type will turn some unconscious wearers to a face-up position in the water, but the turning is not as pronounced as with a Type I. This type of inflatable turns as well as a Type I foam jacket.

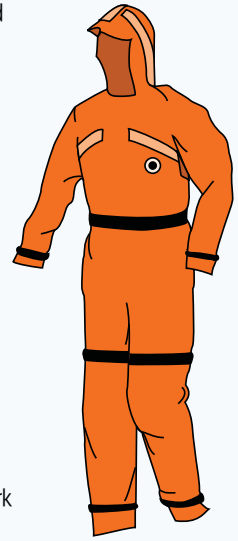




A Type III, Flotation Aid is good for users in calm, inland waters, or anywhere there is a good chance of quick rescue. The wearer may have to tilt their head back to remain in a face-up position in the water. The Type III foam vest has the same minimum buoyancy as a Type II. It comes in many styles, colors, and sizes and is generally the most comfortable type for continuous wear. Float coats, fishing vests, and vests designed with features suitable for various sports activities are examples of this type. This type of inflatable turns as well as a Type II foam vest.

A Type IV, Throwable Device is intended for use anywhere. It is designed to be thrown to a person in the water and grasped and held by the user until rescued. It is not designed or intended to be worn. Type IV devices include buoyant cushions, ring buoys, and horseshoe buoys. There are no Coast Guard-approved inflatable Type IV devices.

A Type V, Special-Use Device is intended for specific activities and may be carried instead of another life jacket only if used according to the condition(s) for which it is approved, as shown on its label. A Type V provides the performance of a Type I, II, or III (as marked on its label). If the label says the life jacket is "approved only when worn," the life jacket must be worn (except by persons in enclosed spaces) and used in accordance with the approval label to meet carriage requirements. Some Type V devices provide significant hypothermia protection. Varieties include deck suits, work vests, sailboarding vests, and sailing vests with a safety harness.



An Inflatable with Safety Harness is approved only as a Type V, Special-Use Device because its use to prevent falls overboard presents several risks. The U.S. Coast Guard has not assessed its potential for injury from suddenly stopping a fall and, in case of capsizing or sinking, the boat may take the wearer down, resulting in death. ***Do not*** attach the harness to the boat unless it is being worn with a tether of less than 6.5 feet in length with quick-release-under-load hardware. *Read the safety harness section of the owner's manual for intended use. Under no circumstances should the safety harness be used for any climbing activity. U.S. Coast Guard approval does not apply to this harness used under those circumstances.*

Finding the Right Life Jacket for You

Life jackets come in many designs, colors, styles, and materials. Some are made to stand up to rugged water sports, others to protect the wearer from cold-water temperatures. Be sure to choose one that is appropriate for your body size, planned activities, and the water conditions you expect to encounter.

Test the Fit

Start with a life jacket that is U.S. Coast Guard-approved. Try it on. It should fit comfortably snug. Then give it this test: with all straps, zippers, and ties securely fastened, raise your arms over your head. The jacket should stay in place and not ride up. Next, have someone lift your life jacket straight up at the shoulders. Again, the jacket should stay in place. If the zipper touches your nose or the jacket almost comes off, it is too loose.

Test the Buoyancy of Your Life Jacket

In shallow water or a swimming pool, under supervision and with all straps, zippers, and ties fastened, see how the life jacket floats you. Relax your body and let your head tilt back. Your chin should remain above water so that you can breathe easily. If not, you may need a different size or model, one that provides more buoyancy.

Choosing a Child's Life Jacket

Be sure to choose a child's life jacket that is U.S. Coast Guard-approved. Check to make sure your child's weight falls within the range shown on the label. While some children in the 30-50 pound weight range who can swim may ask for the extra freedom of movement that a Type III provides, note that most children in this weight range, especially those who cannot swim, should wear a Type II. To check for a good fit, pick the child up by the shoulders of the life jacket. If it fits correctly, the child's chin and ears will not slip through.

A child's life jacket should be tested in the water immediately after purchase. Children may panic when they fall into the water suddenly. Float testing not only checks the fit and buoyancy but also provides an important opportunity to teach them to relax in the water.

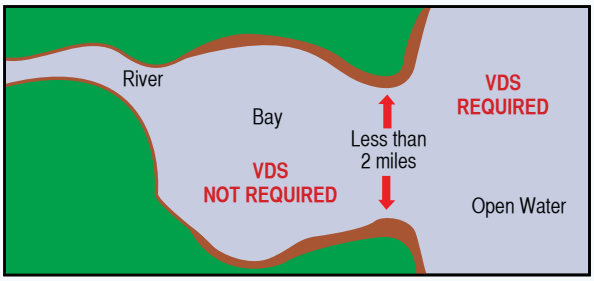
Be Safe. Wear Your Life Jacket.

Most deaths from drowning occur near shore in calm weather, not out at sea during a storm; 9 out of 10 drowning fatalities occur in inland waters, most within a few feet of safety. Worse still, many of these victims owned life jackets and may have survived had they been worn.

Wear your life jacket.
When you don't, you're risking your life.

Visual Distress Signals (33 CFR 175.101)

Vessels operating on U.S. coastal waters, the Great Lakes, and territorial seas, as well as those waters connected directly, up to a point where the waterway is less than two nautical miles wide, must be equipped with U.S. Coast Guard-approved visual distress signals (VDS). Vessels owned in the United States and operating on the high seas must also be equipped with U.S. Coast Guard-approved visual distress signals.



The following vessels are not required to carry day signals, but must carry night signals when operating from sunset to sunrise:

- Recreational boats less than 16 feet in length.
- Boats participating in organized events, such as races, regattas, or marine parades.
- Open sailboats less than 26 feet in length that are not equipped with propulsion machinery.
- Manually propelled boats.

Remember: *The carriage requirement is only applicable in areas where VDS are required.*

Pyrotechnic Devices

Pyrotechnic visual distress signals must be U.S. Coast Guard-approved, in serviceable condition, and readily accessible.

Check the expiration date. Expired signals may be carried as extra equipment, but cannot be counted toward meeting the visual distress signal requirement.

Launchers manufactured before January 1, 1981, and intended for use with approved signals, are not required to be U.S. Coast Guard-approved as long as they remain in serviceable condition.

If pyrotechnic devices are selected, a minimum of three signals are required for day use and three signals for night use. Some pyrotechnic signals meet both day and night use requirements (combination flares).

Pyrotechnic devices should be stored in a cool, dry place, if possible. A watertight container painted red or orange and prominently marked "DISTRESS SIGNALS" or "FLARES" is recommended.

U.S. Coast Guard-approved pyrotechnic visual distress signals and associated devices include:

- Pyrotechnic red flares, hand-held or aerial (day/night use.)
- Pyrotechnic orange smoke, hand-held or floating (day use.)
- Launchers for aerial red meteors or parachute flares.

Each of these devices has a different operating/burning time. Check the label to see how long each pyrotechnic device will remain illuminated. Choose a device best suited to the conditions in the area where your vessel is typically used.

Non-Pyrotechnic Devices

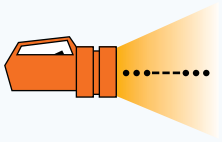
Non-pyrotechnic visual distress signals must be in serviceable condition, readily accessible, and certified by the manufacturer as complying with U.S. Coast Guard requirements. These signals include:

Orange Distress Flag

Orange Flag (day only)

- Used as a day signal only.
- Must be at least 3 x 3 feet with a black square and ball on an orange background.
- Must be marked with an indication that it meets U.S. Coast Guard requirements in 46 CFR 160.072.
- Most visible when attached and waved on a paddle or boat hook, or flown from a mast.
- May be incorporated into devices designed to attract attention in an emergency, such as balloons, kites, or floating streamer.

Electric Distress Light



Electric Distress Signals (night only)

- Acceptable for night use only.
- Automatically flashes the international SOS distress signal (• • • – – – • • •).
- Must be marked with an indication that it meets U.S. Coast Guard requirements in 46 CFR 161.013.

Under Inland Navigation Rules, a high-intensity white light flashing at regular intervals from 50-70 times per minute is considered a distress signal. Such devices, however, ***do not*** meet the Visual Distress Signal carriage requirement.

Regulations prohibit display of visual distress signals on the water under any circumstances, except where assistance is needed because of immediate or potential danger to persons on board a vessel.

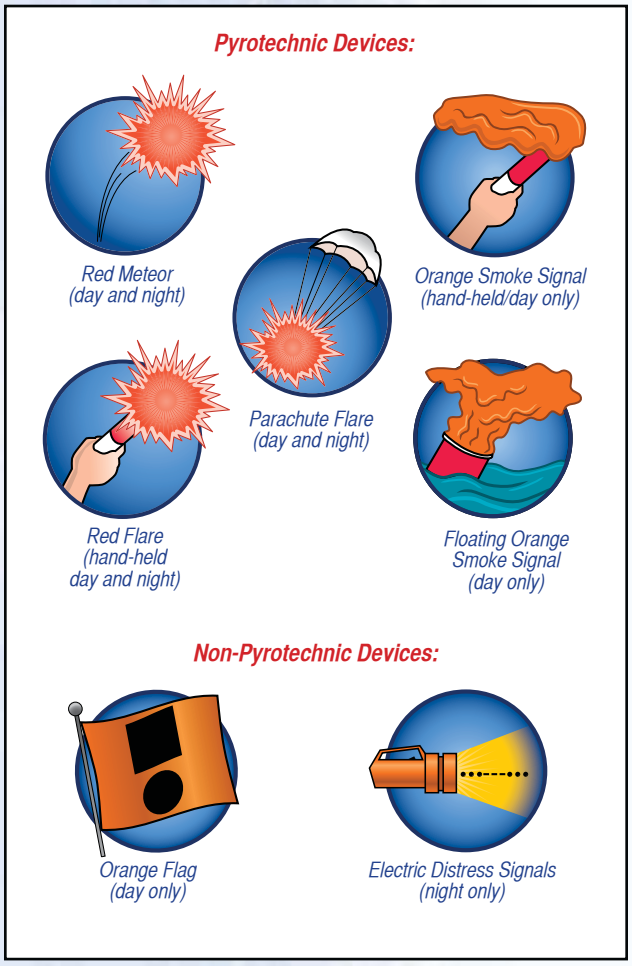
All distress signals have distinct advantages and disadvantages. No single device is ideal under all conditions or suitable for all purposes.

Pyrotechnics are universally recognized as excellent distress signals, but there is potential for injury and property damage if not handled properly. These devices produce a very hot flame with the potential to cause burns and ignite flammable materials.

Pistol-launched and hand-held parachute flares and meteors have many characteristics of a firearm and must be handled with extreme caution. In some states and Canada they may be considered a firearm and prohibited from use. Be sure to check with your state boating agency.

The following are just a few of the many combinations of devices that will meet the requirements:

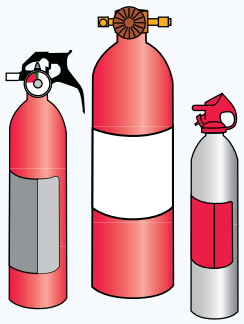
- 3 hand-held red flares that are approved for day/night use.
- 1 hand-held red flare and 2 parachute flares for day/night use.
- 1 hand-held orange smoke signal and 2 floating orange smoke signals for day, and 1 electric distress light for night.



All boaters should be able to signal for help. Boaters must have U.S. Coast Guard-approved day and night signals for vessels when required. Signaling devices are recommended when operating on all open bodies of water.

Fire Extinguishers (46 CFR 25)

U.S. Coast Guard-approved, marine-type fire extinguishers are required on boats where a fire hazard could be expected from the engines or fuel system. Extinguishers are classified by a letter and number symbol. The letter indicates the type of fire the unit is designed to extinguish. Type B, for example, is designed to extinguish flaming liquids, such as gasoline, oil, and grease. The number indicates the amount of the extinguishing agent contained in the extinguisher; the higher the number, the greater the amount of agent in the extinguisher.



Fire Extinguishers

U.S. Coast Guard-approved extinguishers required for boats are hand-portable, have either B-I or B-II classification, and must be provided with a mounting bracket. While not required, it is recommended that the extinguishers be mounted in a readily accessible location. Consider locations where the extinguisher can be reached easily; for example, at or near the steering station or in the galley or engine room, but away from locations where a fire may likely start.

Extinguisher markings can be confusing because one extinguisher can be approved for several different types of fires (A, B, or C). For example, an extinguisher marked "Type A, Size II; Type B; C, Size I" is acceptable as a Type B-I extinguisher.

Look for the section of the label that states "Marine Type USCG, Type A, Size II; Type B; C Size I." (It will also contain a USCG approval number.) Make sure Type B is indicated. Hand-portable extinguishers will be either a Size I or II.

Size III and larger are too big for use on most recreational boats.

Classes	Foam (gals)	CO^2 (lbs)	Dry Chemical (lbs)
B-I (Type B, Size I)	1.75	4	2
B-II (Type B, Size II)	2.5	15	10

Fire extinguishers are required on boats when any of the following conditions exist:

- There are closed compartments and compartments under seats where portable fuel tanks may be stored.
- There are double bottoms not sealed to the hull or that are not completely filled with flotation materials.
- There are closed living spaces.
- There are closed stowage compartments, in which combustible or flammable materials are stored.
- There are permanently installed fuel tanks. (Fuel tanks secured so they cannot be moved in case of a fire or other emergency are considered permanently installed. Also, if the weight of a fuel tank is such that persons on board cannot move it, the U.S. Coast Guard may consider it permanently installed.)

Fire Extinguisher Maintenance

Inspect extinguishers monthly to make sure that:

- Seals and tamper indicators are not broken or missing.
- Pressure gauges or other indicators, if so equipped, read in the operable range as described on the extinguisher.
- There is no obvious physical damage, rust, corrosion, leakage, or clogged nozzles.

If the minimum weight is stated on the extinguisher label, weigh extinguishers annually to check.

Fire extinguishers that do not satisfy the above requirements or that have been partially emptied must be replaced or taken to a qualified fire extinguisher servicing company for recharge.

Required Number of Fire Extinguishers

The following chart lists the number of fire extinguishers that are required on recreational vessels. If a U.S. Coast Guard-approved fixed fire extinguishing system is installed for the protection of the engine compartment, the required number of extinguishers may be reduced in accordance with the chart.

It is recommended that hand portable extinguishers be mounted in a readily accessible location.

Minimum Number of Hand-Portable Fire Extinguishers Required

Vessel length	No Fixed System	With approved Fixed Systems
Less than 26'	1 B-I	0
26' to less than 40'	2 B-I or 1 B-II	1 B-I
40' to 65'	3 B-I or 1 B-II and 1 B-I	2 B-I or 1 B-II

Ventilation (33 CFR 175/183, 46 CFR 25)

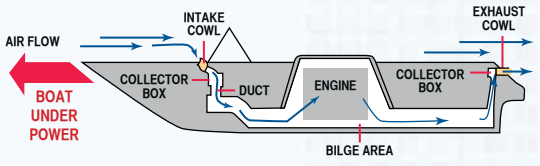
Boats that use gasoline for electrical generation, mechanical power, or propulsion are required to be equipped with a ventilation system.

A natural ventilation system is required for each compartment in a boat that:

- Contains a permanently installed gasoline engine.
- Has openings between it and a compartment that requires ventilation.
- Contains a permanently installed fuel tank and an electrical component that is not ignition-protected.
- Contains a fuel tank that vents into that compartment (including a portable tank.)
- Contains a non-metallic fuel tank.

A natural ventilation system consists of:

- A supply opening (duct/cowl) from the outside air (located on the exterior surface of the boat), or from a ventilated compartment, or from a compartment that is open to the outside air.
- An exhaust opening into another ventilated compartment or an exhaust duct to the atmosphere.



All blower motors installed in exhaust ducts must be in working condition regardless of date of manufacture.

Each exhaust opening or exhaust duct must originate in the lower one-third of the compartment. Each supply opening or supply duct and each exhaust opening or duct in a compartment must be above the normal accumulation of bilge water.

A powered ventilation system is required for each compartment in a boat that has a permanently installed gasoline engine with a cranking motor for remote starting.

A powered ventilation system consists of one or more exhaust blowers.

Each intake duct for an exhaust blower must be in the lower one-third of the compartment and above the normal accumulation of bilge water.

For boats built prior to 1980, there was no requirement for a powered ventilation system; however, some boats were equipped with a blower.

The U.S. Coast Guard Ventilation Standard, a manufacturer requirement, applies to all boats built on or after August 1, 1980. Some builders began manufacturing boats in compliance with the Ventilation Standard as early as August 1978. If your boat was built on or after August 1, 1978 it might have been equipped with either (1) a natural ventilation system, or (2) both a natural ventilation system and a powered ventilation system. If your boat bears a label containing the words "This boat complies with U.S. Coast Guard safety standards," you can assume that the design of your boat's ventilation system meets applicable regulations.

Boats built after 1980 with remote starters are required to display a label that contains at least the following information:

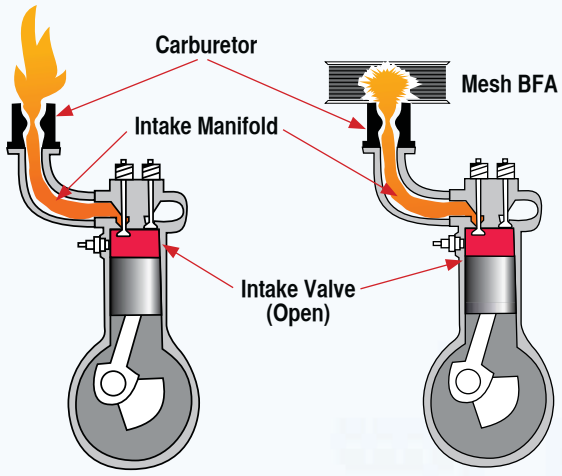
Warning

Gasoline vapors can explode. Before starting engine, operate blower at least four minutes and check the engine compartment bilge for gasoline vapors.

All boat owners are responsible for keeping their vessel's ventilation systems in operating condition. This means making sure openings are free of obstructions, ducts and ducting are not blocked or torn, blowers operate properly, and worn components are replaced with equivalent marine-type equipment.

Backfire Flame Control (46 CFR 25/58)

Gasoline engines installed in a motorboat or motor vessel after April 25, 1940, except outboard motors, must be equipped with an acceptable means of backfire flame control. The backfire flame arrestor (BFA) must be suitably secured to the air intake with a flame-tight connection, and is required to be either U.S. Coast Guard-approved or comply with SAE J-1928 or UL 1111 standards and marked accordingly.



Not Equipped with BFA *Equipped with BFA*

Other acceptable means of backfire flame control include: air and fuel induction systems usually found on personal watercraft, velocity stacks (attachments to carburetors), and reed-type (found in outboards.)

Sound Producing Devices (33 CFR 83)

Navigation Rules require sound signals to be made under certain circumstances. Meeting, crossing, and overtaking situations, described in the Navigation Rules beginning with Rule 32, are examples of circumstances in which sound signals are required. Recreational vessels are also required to use sound signals during periods of reduced visibility and while at anchor.

The following matrix provides the sound producing devices required for vessels:

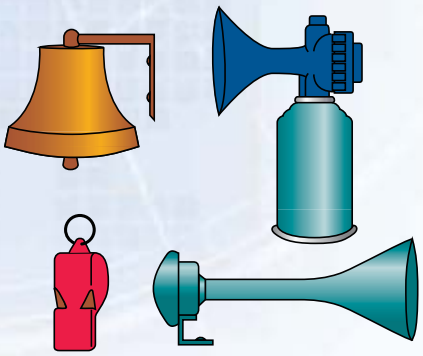
International Waters

Vessel Length	Whistle	Bell	Gong
12 meters or more (39.4 ft.)	X		
20 meters or more (65.6 ft.)	X	X	
100 meters or more (328.1 ft.)	X	X	X

Inland Waters*

Vessel Length	Whistle	Bell	Gong
12 meters or more (39.4 ft)	X		
20 meters or more (65.6 ft.)	X	X	
100 meters or more (328.1 ft.)	X	X	X

**There have been changes to the Collision Regulations (COLREGS) and a regulatory change is forthcoming that will align the Inland Navigation Rules with the COLREGS. The Coast Guard is exercising its discretion not to enforce the provisions of the inland rules until the regulatory change is enacted.*



Signaling Devices

Navigation Lights (33 CFR 83)

Recreational vessels are required to display navigation lights between sunset and sunrise and during periods of restricted visibility (fog, rain, haze, etc.) The U.S. Coast Guard Navigation Rules, International-Inland, specifies lighting requirements for every description of watercraft. The information provided below is for power-driven and sailing vessels less than 65.5 feet (20 meters) in length.

Power-Driven Vessels

Note that a sail vessel under machine propulsion is considered a power-driven vessel.

If your power-driven vessel is less than 164 feet (50 meters) in length, it must display navigation lights as shown in Figure 1.

If your power-driven vessel is less than 39.4 feet (12 meters) in length, then it may display navigation lights as shown in Figure 2.

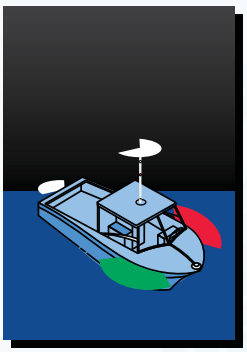


Figure 1

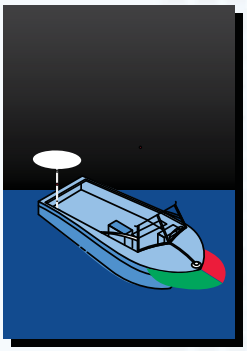


Figure 2

If your power-driven vessel is less than 23 feet (7 meters) in length and its maximum speed does not exceed 7 knots, then it may display an all-round white light and, if possible, sidelights, instead of the lights prescribed previously. (International Rules only.)

For power-driven vessels less than 39.4 feet (12 meters) in length, the masthead or all-round white light must be at least 3.3 feet (1 meter) above the sidelights.

In a vessel of less than 65.6 feet (20 meters) in length, sidelights may be displayed in a combination light as shown in Figure 2.

Sailing Vessels

If your sailing vessel is less than 65.6 feet (20 meters) in length, then it must display navigation lights as shown in Figures 3, 4, or 5.

Figure 3

Figure 4

Figure 5

Figure 6

A sailing vessel of less than 23 feet (7 meters) in length shall, if practicable, exhibit lights as shown. (Figures 3 or 4.) If it does not, it shall have ready at hand an electric torch or lighted lantern (flashlight) showing white light that shall be exhibited in sufficient time to prevent collision. (See Figure 6.)

Vessel Under Oars

A vessel under oars may exhibit the lights for a sailboat. If it does not, it shall have ready at hand an electric torch (flashlight) or lighted lantern showing a white light that shall be exhibited in sufficient time to prevent collision. (See Figure 7.)

Figure 7

Lights and Shapes

To alert other vessels of conditions that may be hazardous, there are requirements to display lights at night and shapes during the day.

Anchored Vessels

At night: All vessels at anchor must display anchor lights. If your vessel is less than 164 feet (50 meters) in length, then its anchor light is an all-round white light visible where it can best be seen from all directions. (See Figure 8.)

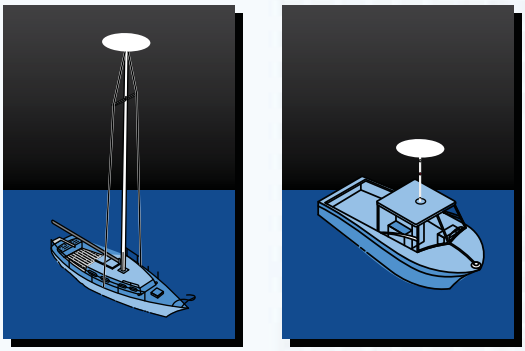


Figure 8

During the day: All vessels at anchor must display forward, where it can be best seen, a black ball shape. (See Figure 9.)

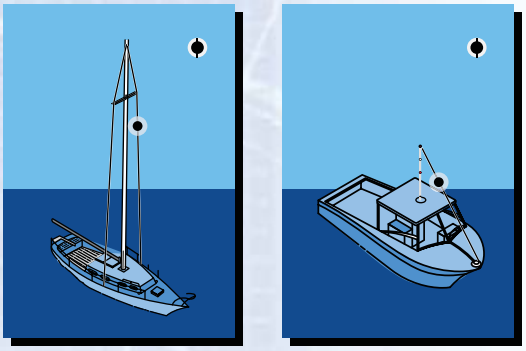


Figure 9

EXCEPTIONS: If your vessel is less than 23 feet (7 meters) in length, it is not required to display an anchor light or shape unless it is anchored in or near a narrow channel, fairway, or anchorage, or where other vessels normally navigate.

If your vessel is less than 65.6 feet (20 meters) in length, it is not required to display an anchor light if it is anchored in inland waters in a special anchorage designated by the Secretary under which the Coast Guard is operating.

Sailing Vessels Under Power

During the day, vessels under sail that are also being propelled by machinery, must exhibit forward, where it can best be seen, a black conical shape with the apex pointing down. (See Figure 10.)

Figure 10

EXCEPTION: If your vessel is less than 39.4 feet (12 meters) in length, then it is not required to display the shape in inland waters.

Reminder: *If you are operating your sailing vessel at night using machinery, or sail and machinery, then your vessel must display the lights required for a power-driven vessel. (See Figures 3, 4, and 5.)*

Vessels Restricted in their Ability to Maneuver

Navigation Rules require vessels restricted in their ability to maneuver to display appropriate day shapes (ball/diamond/ball) or lights. If the size of the vessel engaged in diving activities during the day make it impractical to display the day shapes, then it must exhibit a rigid replica of the international code flag "Alpha" not less than 3.3 feet (1 meter) in height to meet this requirement. If the diving activities are at night, then your vessel must display the navigation lights shown in Figure 11. This requirement does not affect the use of a red and white Divers Flag, which may be required by state or local law to mark a diver's location. The "A" flag is a navigation signal indicating your vessel's restricted maneuverability and does not pertain to the location of the diver.

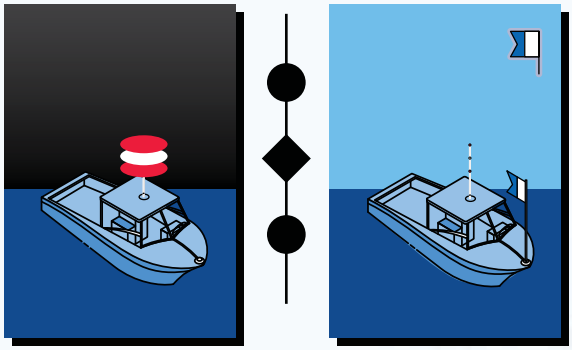


Figure 11

Pollution Regulations (33 CFR 151/155)

Annex V of MARPOL 73/78 prohibits throwing, discharging, or depositing any refuse matter of any kind (including trash, garbage, oil, and other liquid pollutants) into the waters of the United States.

The Federal Water Pollution Control Act prohibits the discharge of oil or hazardous substances that may be harmful into U.S. navigable waters. Vessels 26 feet and greater in length, with machinery spaces, must display a placard at least 5 by 8 inches, made of durable material, fixed in a conspicuous place in the machinery spaces, or at the bilge pump control station, stating the following:

Discharge of Oil Prohibited

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste upon or into any navigable waters of the United States. This prohibition includes any discharge that causes a film or discoloration of the surface of the water, or causes a sludge or emulsion beneath the surface of the water. Violators are subject to substantial civil and/or criminal sanctions, including fines and imprisonment.

Regulations issued under the Federal Water Pollution Control Act require all vessels with propulsion machinery to have a capacity to retain oily mixtures on board and be equipped with a fixed or portable means to discharge these oily mixtures to a reception facility. On recreational vessels, a bucket, oil absorbent pads, and heavy-duty plastic bag, bailer, or portable pump are some of the suitable means that meet the requirement for retention on board until transferring the oily mixture to a reception facility. No person may intentionally drain oil or oily waste from any source into the bilge of any vessel. You must immediately notify the U.S. Coast Guard if your vessel discharges oil or hazardous substances in the water. Call the Coast Guard National Response Center toll-free (800) 424-8802, or (202) 267-2675.

Report the following information:

- Location of the incident.
- Size/quantity (estimated amount of material released).
- Description, color, consistency, odor.
- Date and time observed.
- Source and cause of the release, if known.
- Substance, if known.
- Weather and any other information that may help emergency personnel respond to the incident.

Discharge of Garbage

The Act to Prevent Pollution from Ships (MARPOL ANNEX V) places limitations on the discharge of garbage from vessels. It is illegal to dump plastic trash anywhere in the ocean or navigable waters of the United States. It is also illegal to discharge garbage in the navigable waters of the United States, including the inland waters and anywhere in the Great Lakes. The discharge of other types of garbage is permitted outside of specific distances offshore as determined by the nature of that garbage. (See chart next page.)

Note: state and local laws may place further restrictions on the disposal of garbage.

Garbage Type	Discharge
Plastics – includes synthetic ropes, fishing nets, and plastic bags	Prohibited in all areas
Comminuted or ground food waste, paper, rags, glass, etc.	Prohibited less than 3 miles from nearest land
Food waste, paper, rags, glass, metal, bottles, crockery, and similar refuse	Prohibited less than 12 miles from nearest land
Floating dunnage, lining, and packing materials	Prohibited less than 25 miles from nearest land

United States vessels of 26 feet or longer must display in a prominent location, a durable placard at least 4 by 9 inches notifying the crew and passengers of the discharge restrictions.

United States ocean-going vessels of 40 feet or longer that are engaged in commerce or equipped with a galley and berthing must have a written waste management plan describing the procedures for collecting, processing, storing, and discharging garbage, and must designate the person in charge of carrying out the plan.

Marine Sanitation Devices (33 CFR 159)

All recreational boats with installed toilet facilities must have an operable marine sanitation device (MSD) on board. Vessels 65 feet and under may use a Type I, II, or III MSD. Type I and Type II are "flow-through" devices, while a holding tank is a Type III device. Vessels over 65 feet must install a Type II or III MSD. All installed MSDs must be U.S. Coast Guard-certified. U.S. Coast Guard-certified devices are so labeled, except for some holding tanks, which are certified by definition under the regulations.

The discharge of treated sewage is allowed within 3 nautical miles of shore except in designated "No Discharge Zone" areas. (Untreated sewage may be discharged beyond 3 nautical miles.)

A "No Discharge Zone" is a body of water where the discharge of treated or untreated sewage is prohibited. When operating a vessel in a No Discharge Zone, the operator must secure the device in a manner that prevents any discharge. Some acceptable methods are: padlocking overboard discharge valves in the closed position, using a non-releasable wire tie to hold overboard discharge valves in the closed position, closing overboard discharge valves and removing the handle, and locking the door to the space enclosing the toilets. Note: these methods for preventing the overboard discharge are only required when operating in a No Discharge Zone. State and local laws may place further restrictions on overboard discharges.

OPERATING PROCEDURES

Navigation Rules

Boaters call navigation rules – the basic laws governing the steering or sailing of a boat – "The Rules of the Road." These Rules define the roles and responsibilities of vessel operators. If all operators followed these rules, most accidents could be avoided.

The Rules are divided into two parts, Inland and International. Inland Rules apply to vessels operating inside the line of demarcation, while International Rules apply outside that line. Demarcation lines are printed on most navigational charts and are listed in the Navigation Rules.

Print copies of the rules can be obtained from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 979050, St. Louis, MO 63197-9000. Tel. (202) 512-1800, or you can download a copy from the U.S. Coast Guard, Boating Safety Division website at www.uscgboating.org.

The operator of a vessel 39.4 feet (12 meters) or greater is responsible for having and maintaining a copy of the Navigation Rules on board while operating on U.S. inland waters.

The Rules vary slightly depending on whether you are boating on inland or on international waters. As an example, when operating on inland waters, sound signals are signals of ***intent***; when operating on international waters, they are signals of ***action***.

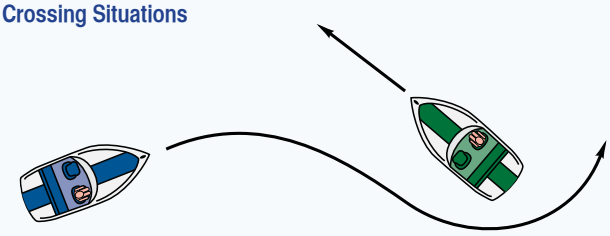
Post a lookout. Designate someone to watch for dangers that may come from any direction.

Maintain a safe speed. Except where speed is restricted by regulation, or the waterway is marked as a "No Wake" or "Slow Speed" area, you must judge safe speed for yourself, taking into account visibility, vessel traffic, your boat's ability to maneuver, and the weather conditions.

Avoid a collision. The Rules of the Road include the actions to take when encountering another vessel on the water. Some of the most common situations you may encounter are: overtaking, meeting head-on, and crossing the bow of another vessel. In each case, the boat designated as the "give-way" vessel is required to yield to the other boat, while the boat designated as the "stand-on" vessel should maintain its course and speed.

The following diagrams describe the whistle signals and actions to be taken by vessels in a crossing, meeting, or overtaking situation while operating in inland waters. These are basic examples; for additional information, consult the Navigation Rules.

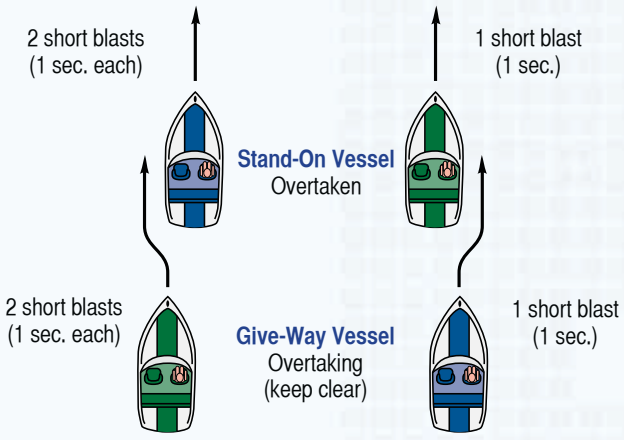
Crossing Situations



Give-Way Vessel
should alter course to pass astern (behind)
1 short blast (1 sec.)

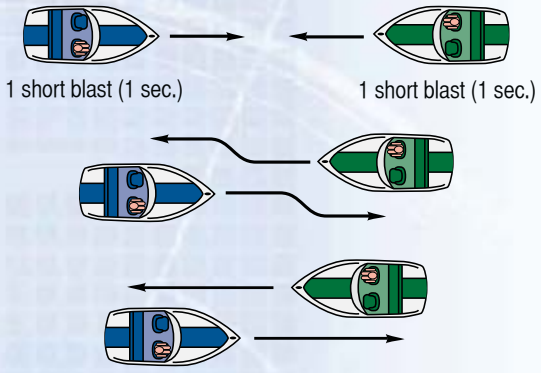
Stand-On Vessel
should maintain its course and speed
1 short blast (1 sec.)

Overtaking Situation

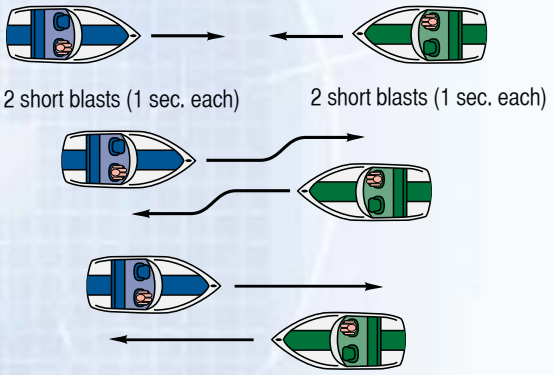


Meeting Head-On

Port-to-Port Passing (preferred)



Starboard-to-Starboard Passing



Aids to Navigation

Navigation buoys and beacons are placed along coastal and navigable waters as guides to mark safe water and hidden dangers, as well as to assist boat operators in determining their position in relation to land. Each aid to navigation provides specific information.

Several Aids are usually used together to form a local system that helps the boat operator follow natural and improved channels. Such Aids also provide a continuous system of charted markers for coastal piloting.

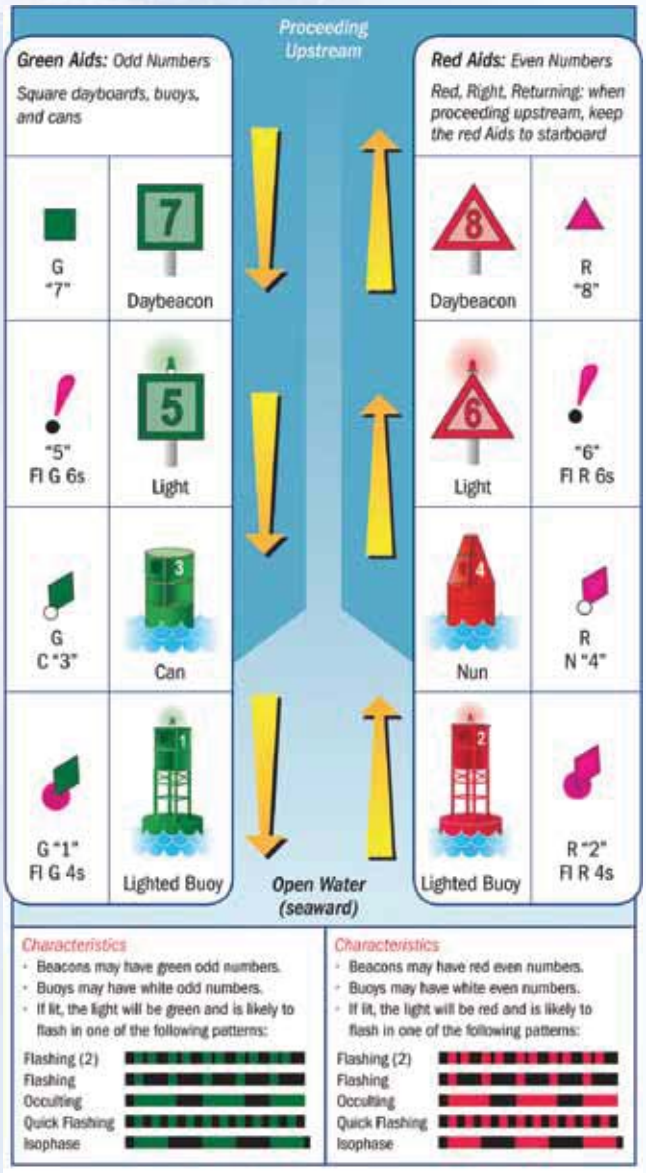
Individual Aids are used to mark landfall from seaward, and to mark isolated dangers.

Lateral markers are buoys or beacons that indicate the port and starboard sides of a route to be followed. Virtually all U.S. lateral marks follow the traditional 3-R principle of "Red, Right, Returning." This means that when returning from seaward, keep the red markers on the right-hand (starboard) side of the vessel.

Boat operators ***should not*** rely on Aids to Navigation alone for determining their position. Storms and wave action can move buoys out of place.

Lateral Aids

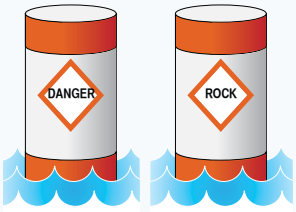
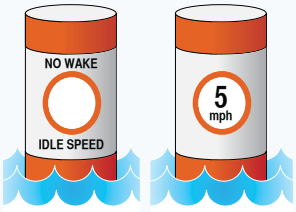
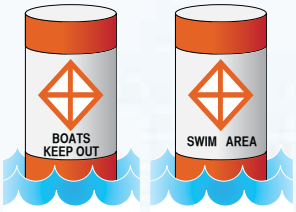
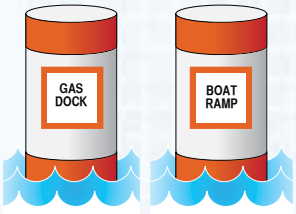
Lateral aids marking the sides of channels, as seen when entering from seaward.



Do not tie up your boat to Aids to Navigation; it is dangerous and illegal.

Information and Regulatory Markers

These orange-and-white Aids are used to alert vessel operators to various warnings and regulations.

Symbol	Meaning	Examples
◇	**Danger** A diamond shape alerts boaters to hazards	
○	**Restricted Operations** Marks with a circle indicate areas with regulated operations	
◇	**Exclusion** A diamond shape with a cross means boats are prohibited from the area	
□	**Information** Marks with a square provide helpful information such as directions, distances, and locations	

Characteristics

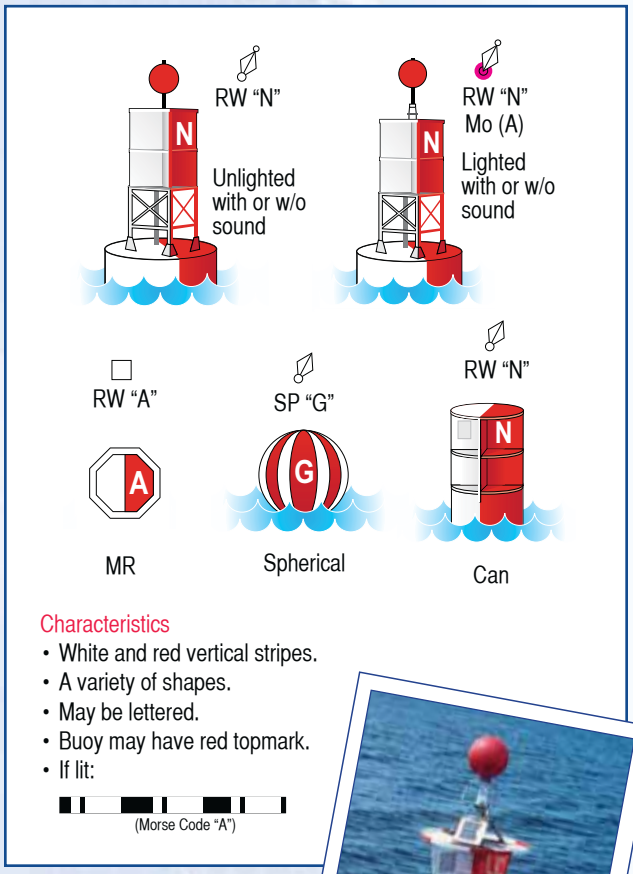
- White with an orange horizontal band at both top and bottom.
- Black text within or around an orange square, circle, or diamond; or black text outside a diamond with an orange cross.
- May be buoys or beacons.
- If lit, the light will be white and may have any light rhythm except quick flashing, flashing (2), or Morse code "A."
- The chart symbol for this type of buoy is:

QUICK REFERENCE CHART

Equipment	Requirement	Vessel Length (in feet) <16	16<26	26<40	40<65	Page
Certificate of Number (State Registration)	All undocumented vessels equipped with propulsion machinery must be state registered. Certificate of Number must be on board when the vessel is in use. Note that some states require all vessels to be registered.	X	X	X	X	5
State Numbering	(a) Plain block letters/numbers, not less than 3 inches in height, must be affixed on each side of the forward half of the vessel, in a contrasting color to the background, and read from left to right. (b) State validation sticker(s) must be affixed within 6 inches of the registration number. Note: check with your local boating agency for specific state requirements.	X	X	X	X	5
Certificate of Documentation	Applies only to "Documented" vessels: (a) Original and current certificate must be on board. (b) Vessel name/hailing port must be marked on exterior part of hull in letters not less than 4 inches in height. (c) Official Number must be permanently affixed on interior structure in numbers not less than 3 inches in height.		X	X	X	6
Life Jackets	(a) One Type I, II, III, or V wearable life jacket for each person on board. Must be U.S. Coast Guard-approved. (b) In addition, must carry one Type IV throwable device.	X	X X	X X	X X	9
Visual Distress Signals (VDS)	(a) One electric distress light, or three combination day/night red flares. Note: only required to be carried on board when the vessel is operating between sunset and sunrise. (b) Three combination day/night red flares – hand-held, meteor, or parachute-type, or one orange distress flag, or one electric distress light, or three hand-held or floating orange smoke signals and one electric distress light.	X X	X	X	X	17
Fire Extinguishers	(a) One B-I (when enclosed compartment). (b) One B-II or two B-I. Note: fixed system equals one B-I. (c) One B-II and one B-I, or three B-I. Note: fixed system equals one B-I.	X	X	X	X	21
Ventilation	(a) All vessels built after April 25, 1940 that are gasoline-fueled with enclosed engine and/or fuel tank compartments must have natural ventilation (at least two ducts fitted with cowls). (b) In addition, a vessel built after July 31, 1980 must have a rated power exhaust blower.	X	X	X	X	23
Sound Producing Devices	(a) A vessel of less than 39.4 feet (12 meters) must, at a minimum, have some means of making an efficient sound signal – i.e., handheld air horn, athletic whistle. A human voice/sound is not acceptable. (b) A vessel 39.4 feet (12 meters) or greater, must have a sound-signaling appliance capable of producing an efficient sound signal, audible for 1/2 mile, with a 4- to 6-second duration.	X	X	X X	X	25
Backfire Flame Arrestor	Required on gasoline engines installed after April 25, 1940, except outboard motors.	X	X	X	X	25
Navigational Lights	Required to be displayed from sunset to sunrise and in areas of restricted visibility.	X	X	X	X	27
Oil Pollution Placard	(a) Placard must be at least 5 by 8 inches and made of durable material. (b) Placard must be posted in each machinery space or at the bilge control station.			X	X	32
Garbage Placard	(a) Placard must be at least 4 by 9 inches and made of durable material. (b) Displayed in a conspicuous place notifying all on board of the discharge restrictions.			X	X	34
Marine Sanitation Devices	If there is an installed toilet, the vessel must have an operable MSD Type I, II, or III.	X	X	X	X	35
Navigation Rules (Inland Only)	The operator of a vessel 39 .4 feet (12 meters) or greater while operating on U.S. inland waters must have on board a copy of these rules.			X	X	36

Safe Water Markers

These Aids are used to mark fairways, mid-channels, and offshore approach points. They have unobstructed water on all sides. A buoy, lighted or unlighted, may show a red topmark. An appropriate nautical chart must be consulted to determine exact position



Characteristics

- White and red vertical stripes.
- A variety of shapes.
- May be lettered.
- Buoy may have red topmark.
- If lit:

(Morse Code "A")

Nautical Charts

One of the most important tools for safely navigating waterways is a Nautical Chart. Today, many recreational boaters use GPS receivers and perform electronic waypoint navigation. Although a GPS can tell you where you are in terms of latitude and longitude, it cannot show what is around or beneath the boat, or what obstacles may be in the way.

Nautical charts show the nature and shape of the coast, including water depths, marine hazards, general configuration and character of the bottom, and Aids to Navigation, as well as prominent landmarks, port facilities, and other relevant information. Changes brought about by people and nature require that nautical charts be constantly maintained and updated to aid safe navigation.

To meet the needs of the boating public, the National Oceanic and Atmospheric Administration's National Ocean Service (NOS) produces a variety of nautical charts and related products. Nautical charts can vary in scale and format. Chart scale refers to a measurement of an area, not the distance. A chart covering a relatively large area is called a "small scale" chart; a "large scale" chart will cover a relatively small area and show much greater detail. Having the most current chart is important. That is why the publication date is critical. Storms and wave action can alter the coastline, so only up-to-date charts should be used for navigation. For all navigation, boat operators should also use the chart that provides the level of detail needed.

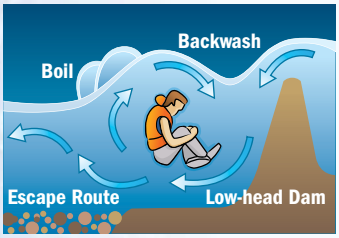
NOS nautical charts may be purchased directly by mail from the NOS Distribution Branch or through an authorized agent. There are more than 1,700 nautical chart agents that sell NOS charts. Use the address and contact numbers below to obtain a list of agents near you or to request a free catalog:

FAA, National Aeronautical Charting Office
Distribution Division, AJW-3550
10201 Good Luck Road
Glendale, MD 20769-9700
Tel: (301) 436-8301 or (800) 638-8972
Fax: (301) 436-6829
E-mail: 9-AMC-chartsales@faa.gov
Website: www.naco.faa.gov/ecomp

Updated chart information can be obtained from "Local Notice to Mariners," updated weekly by the U.S. Coast Guard and available online at www.navcen.uscg.gov/lnm/default.htm.

Dams and Navigation Locks

Low-head Dams



Those boating on rivers need to be aware of their location in regard to dams in their boating area. Low-head, or "fixed crest," dams can be difficult to see from small vessels moving down-river. They can be extremely dangerous to small boats and swimmers; so much so they have been nicknamed "drowning machines." Be aware that buoys are not in the river year round and even when they are they can be moved off station by the current. Keep a lookout for "Danger Dam" signs. It is strongly recommended that boaters ***use navigation charts***, which provide valuable information on the location of dams and other hazards in the river.

Navigation Locks

A lock is an engineered structure that enables vessels to move between waterways of differing heights. There are specific procedures in place for navigating through locks. Specifics may vary in certain regions, but in general:

- Stay between the red and green buoys that mark the river's navigable channel.
- Request an opening using your marine radio, cell phone, or with a sound signal consisting of one prolonged blast (4-6 seconds) and one short blast (1 second) within one mile of the lock. Sound signals can be made by using the lock's pull-cord or your whistle, horn, megaphone, or hailer.
- Wait for the lock operator to signal you with horn blasts; additional signals may include traffic lights or flashing lights.
- Enter the lock at reduced speed.
- Make sure all passengers remain seated and wear their life jackets.
- Tie your craft to the mooring devices after entering; a minimum of 50 feet of line is recommended.
- Use fenders to avoid damage to your vessel and the lock walls.
- When through, wait for the lock operator's signal (horn and/or lights), then leave the lock at idle speed.

There is a specific order of lockage priority among vessels. Military and most commercial vessels have priority over recreational vessels.

LAW ENFORCEMENT

A vessel underway when hailed by a Coast Guard vessel is required to heave to or maneuver as directed so as to permit a boarding team to come aboard. (See "U.S. Coast Guard Boarding Policy: What to Expect" page 50.)

Other federal, state, and local maritime law enforcement officials may also board and examine your vessel, whether it is numbered, unnumbered, or documented. U.S. Coast Guard law enforcement personnel work with and may also be found aboard other agencies' enforcement vessels.

The U.S. Coast Guard may impose a civil penalty for failure to:

- Comply with equipment requirements.
- Report a boating accident.
- Comply with other federal regulations.
- Comply with Navigation Rules.

Negligent Operation (46 USC 2302 (a) (b))

Federal law prohibits the negligent or grossly negligent operation of a vessel and/or interference with the safe operation of a vessel so as to endanger lives and/or property. The U.S. Coast Guard may impose a civil penalty for negligent operation. Grossly negligent operation is a criminal offense and an operator may be fined up to $5,000, imprisoned for one year, or both.

Some actions that may constitute negligent or grossly negligent operation are:

- Operating a boat in a designated swimming area.
- Excessive speed in the vicinity of other boats or in regulated waters.
- Hazardous water skiing or other water sports practices.
- Bowriding, or riding on seatback, gunwale, or transom.
- Operating a boat while under the influence of alcohol or drugs.

Boating Under the Influence (BUI) (46 USC 2302 (c)/33 CFR 95)

Operating a vessel while intoxicated is dangerous and a federal offense. If an operator of a recreational boat has a blood alcohol content of .08 (.10 in some states) or greater, the operator is subject to a civil penalty not to exceed $1,000 a criminal penalty not to exceed $5,000, or a one-year imprisonment, or both. Intoxicated operators who are cited by the Coast Guard may also be cited by other state or local law enforcement officials. State criminal penalties may vary and could include arrest, fines, and/or loss of motor vehicle driving privileges.

Termination of Use (46 USC 4308/33 CFR 177.05)

A U.S. Coast Guard Boarding Officer who observes a vessel being operated in an unsafe condition, specifically defined by law or regulation, and determines that an especially hazardous condition exists that cannot be corrected on the spot, may terminate the vessel's voyage and direct the operator to return to port.

Termination for unsafe use may be imposed for:

- Insufficient life-saving devices.
- Insufficient fire extinguishers.
- An overloaded vessel.
- Improper display of navigation lights.
- Improper ventilation of fuel tanks and engine spaces.
- Fuel leak or accumulation of fuel in the bilges.
- Inadequate backfire flame control.
- Operating in regulated boating areas during predetermined adverse conditions (applies only to Thirteenth USCG District: Idaho, Montana, Oregon, Washington).
- A manifestly unsafe voyage.

An operator who refuses to comply with the directions of a U.S. Coast Guard Boarding Officer to terminate the unsafe use of a recreational vessel can be cited for failure to comply with the Boarding Officer's instruction, as well as for the specific violation that was the basis for the termination order. Violators may be fined up to $1,000, or imprisoned for up to one year, or both.

Reporting Boating Accidents (33 CFR 173.55)

The operator or owner of any recreational boat is required to file a Boating Accident Report if the boat is involved in an accident that results in any of the following:

- Loss of life.
- A person disappears from the vessel under circumstances that indicate death or injury.
- Personal injury that requires medical treatment beyond basic first aid.
- Damage to the boat and other property damage of $2,000 or more.
- Complete loss of the boat.

Boat operators are required to report their accident to local authorities in the state where the accident occurred.

Fatal Accidents

Immediate notification is required for fatal accidents. If a person dies or goes missing as a result of a recreational boating accident, the nearest state boating authority must be notified without delay. The following information must be provided:

- Date, time, and exact location of the accident.
- Name of each person who died or went missing.
- Number and name of the vessel.
- Name and address of the owner and operator.

Reporting Timelines

If a person dies, goes missing from the boat, or receives injuries requiring medical treatment beyond basic first aid, a formal report must be filed within 48 hours of the accident.

For accidents involving property damage of $2,000 or more, or the complete loss of a vessel, a formal report must be made within 10 days.

Note that state requirements for reporting boating accidents may be more stringent than federal requirements. Some states, for example, may require that all boating accidents be reported immediately. Check with the local marine patrol or the Boating Law Administrator in the state where the accident occurred for the reporting procedures that

apply. To download a Reference Guide to State Boating Laws and find more information regarding accident reporting, visit the U.S. Coast Guard Boating Safety Division website at www.uscgboating.org.

Rendering Assistance (46 USC 2304)

The master or person in charge of a vessel is obligated by law to provide assistance that can be safely provided to any individual in danger at sea. The master or person in charge is subject to a fine and/or imprisonment for failure to do so.

Requesting Assistance (Non-Distress Call)

If a boater contacts the U.S. Coast Guard on Channel 16 VHF-FM or Channel 70 DSC and the situation is determined to be non-distress, the Coast Guard will offer to contact any assistance provider (commercial or friend) the boater requests. If the boater has no preference, the Coast Guard will issue a Marine Assistance Request Broadcast (MARB). The boater may then be contacted directly by another boater "Good Samaritan" or by a commercial assistance provider with an offer of help.

U.S. Coast Guard Boarding Policy

Title 14, Section 89, of the United States Code authorizes the U. S. Coast Guard to board vessels subject to the jurisdiction of the United States, anytime upon the high seas and upon waters over which the United States has jurisdiction, to make inquiries, examinations, inspections, searches, seizures, and arrests.

What to Expect

The U.S. Coast Guard is a multi-mission agency. Although its legacy mission of saving lives at sea remains a priority, enforcement of maritime laws and homeland security has become the U.S. Coast Guard's – and the nation's – focus. The U.S. Coast Guard conducts nearly 70,000 boardings a year in its multiple roles: enforcing the law, providing search and rescue services, promoting boating safety, preventing damage to marine environments, and helping to secure the nation's borders. The more time a boater spends on the water, the more likely he or she will experience a U.S. Coast Guard boarding.

During law enforcement boardings, the scope of the vessel inspection is to determine the vessel's status (commercial, recreational, passenger, cargo, and/or commercial fishing) and to check for compliance with all applicable federal laws and regulations.

The decision to board may be based on a vessel's activity, location, and, in some circumstances, obvious violations, such as operating at night without navigation lights, or improper display of registration numbers. The Coast Guard vessel will usually radio a series of pre-boarding questions, such as: What was the vessel's last port of call and what is its next port of call? How many persons are on board? What is the purpose of your voyage?

If the Coast Guard decides to board, consider it an important opportunity to learn something new about safety equipment and safe boating practices. Typically, a uniformed U.S. Coast Guard Boarding Team of two to four officers will come aboard, introduce themselves, and state the reason for the boarding. Like all law enforcement officers, they will be armed. The officer in charge will ask if you have any weapons aboard; if so, they will usually secure all weapons for the duration of the boarding. They will conduct an initial safety inspection to identify any obvious safety hazards and to verify the general seaworthiness of your vessel.

The officer will then ask to see the vessel's registration or other documentation and proceed to a more detailed inspection of your required safety equipment: life jackets, fire extinguishers, flares, etc. You should know that the Boarding Officer will check every aspect of each item on the list. For example, with life jackets – the item most frequently cited for violations – the officer will check to see if you have U.S. Coast Guard-approved life jackets on board, in good and serviceable condition, properly stowed, and the correct size for the intended wearers.

When the boarding is complete, the officer will provide you with a report of the boarding, noting the results of the inspection of your vessel. In the event of a violation, the Boarding Officer will explain the results and the procedures you will need to follow to bring your vessel into compliance. If you have any questions, ask the Boarding Officer before the team departs.

VESSEL SAFETY CHECK

The U.S. Coast Guard would like to see all vessels in compliance with equipment carriage requirements and safely operated. If you are uncertain about the safety requirements for your vessel, one way to make sure you are in compliance is to schedule a Vessel Safety Check (VSC), offered as a free public service by the United States Coast Guard Auxiliary and United States Power Squadrons®, volunteer organizations dedicated to assisting the U.S. Coast Guard in promoting boating safety. Other federal and state agencies may also conduct these Vessel Safety Checks. (Find out more at www.safetyseal.net.)

A VSC is ***not*** a law enforcement action; however, in some states qualified marine law enforcement personnel may conduct Vessel Safety Checks. Qualified examiners will come to your vessel and conduct a courtesy examination of safety equipment carried or installed and certain aspects of the vessel's overall condition. VSC requirements parallel federal and state requirements with regard to equipment and vessel condition. Those vessels that pass will be awarded a VSC decal indicating a successful check.

The items checked during a VSC are:

- Navigation lights.
- Sound producing devices/bell.
- Voice communications.
- Life jackets and throwable flotation devices.
- Fire extinguishers.
- Visual distress signals.
- Backfire flame control.
- Overall vessel condition, including electric-fuel systems, galley-heating systems, deck free of hazards/clean bilge.
- Ventilation.
- Proper display of numbers.
- Pollution placard (oily waste discharge).
- MARPOL trash placards (garbage dumping restriction).
- Marine sanitation device.
- Registration/documentation.
- Navigation Rules book.
- State and/or local requirements.

Other recommended equipment

While not required, the following are also strongly recommended:

- VHF-FM Marine Radio with Digital Selective Calling System.
- Dewatering Device and Backup.
- Mounted Fire Extinguishers.
- Anchor and Line.
- First Aid Kit.
- Person-in-Water (PIW) Kit.
- Capacity Plates.

During the Vessel Safety Check, the vessel examiner will discuss with the recreational boater the purpose of specific marine safety equipment, will clarify federal and state regulations, will discuss certain safety procedures, and will answer any boating-related questions. Some of the topics discussed are:

- Accident reporting/owner responsibility.
- Charts and Aids to Navigation.
- Offshore operation.
- Inflatable life rafts.
- Immersion suits.
- Survival tips.
- First aid.
- Float plans.
- Weather and sea conditions.
- Insurance considerations.
- Fueling and fuel management.
- Boating checklist.
- Availability of boating safety classes.
- America's Waterway Watch.

For More Information

To schedule a Vessel Safety Check, or for more information on the Vessel Safety Check Program, contact your local U.S. Coast Guard Auxiliary or United States Power Squadrons, state boating agency, or visit the Vessel Safety Check website at www.safetyseal.net.

SAFETY AND SURVIVAL TIPS

Safe Boating Education

Training is important for boaters of all experience levels, but especially for the beginning boater. In a typical year, approximately 70 percent of accidents involving fatalities occur on boats where the boat operator has had no formal instruction on how to operate the vessel. As a result, more than half of all states have enacted legislation mandating boater safety education as a requirement for boat operators.

Boating safety is no accident. To further develop your boating knowledge, proficiency, and confidence, take a boating safety course.

To locate local course offerings, or for more information on recreational boating and boating safety, contact your state boating agency, U.S. Coast Guard District office, or one of the organizations listed below:

United States Coast Guard Auxiliary
National Headquarters
www.cgaux.org

United States Power Squadrons®
National Headquarters
(888) 367-8777
www.usps.org

National Association of State Boating Law Administrators
(859) 225-9487
www.nasbla.org

National Safe Boating Council
(703) 361-4294
www.safeboatingcouncil.org

BoatU.S. Foundation
(800) 245-2628
www.boatus.com/foundation

U.S. Coast Guard District Offices are listed on the inside back cover.

Take Time to Reflect on Safety
Safe Boating Begins Here ... with You!

Operator's Responsibilities

Your degree of enjoyment on the water depends on you, your equipment, and other people who, like yourself, boat responsibly. As a boat operator, you should:

- Make sure that everyone on board is wearing a U.S. Coast Guard-approved life jacket at all times while on the water.
- Take a boating safety course.
- Never operate a vessel while under the influence of alcohol or dangerous drugs.
- Make sure your boat is in top operating condition. It should be free of tripping hazards and fire hazards, and have clean bilges.
- Make sure the required safety equipment is on board, maintained in good working order, and that you know how to use these devices.
- Always file a float plan with a relative or friend.
- Have a complete understanding of the operation and handling characteristics of your boat.
- Know your location, where you are going, and how to return.
- Maintain a safe speed at all times to avoid collision.
- Keep an eye out for changing weather conditions, and act accordingly.
- Know and follow the "Rules of the Road" (Navigation Rules.)
- Know and obey federal and state regulations and waterway markers.
- Be sure to maintain a proper lookout. Scan the water back and forth. Stay alert. Most boating accidents are caused by operator inattention.

Remember, you are the key to safe boating!

Carbon Monoxide Hazards

Carbon Monoxide (CO) can be a silent killer on houseboats and other recreational vessels. Each year, boaters are injured or killed by carbon monoxide. Virtually all such poisonings are preventable.

Carbon monoxide is a by-product of the combustion of carbon-based material, such as gasoline, propane, charcoal, or wood. Common sources aboard boats include main and auxiliary engines, generators, cooking ranges, space heaters, and water heaters. Note that cold and poorly tuned engines produce more carbon monoxide than warm, properly tuned engines.

CO can collect within a boat in a variety of ways. Exhaust leaks – the leading cause of carbon monoxide fatalities – can allow CO to migrate throughout the boat and into enclosed areas. Even properly vented exhaust can re-enter a boat if it is moored too close to a dock or another boat, or if the exhaust is pushed back by prevailing winds. Exhaust can also re-enter boats when cruising under certain conditions, especially with canvas in place, which produces the "station wagon" effect. Exhaust can also collect in enclosed spaces near the stern swim platform.

What To Do

Schedule regular engine and exhaust system maintenance inspections by experienced and trained mechanics.

Be aware that dangerous concentrations of CO can accumulate when a boat, generator, or other fueled device is operated while the boat is at a pier, near a seawall, or alongside another boat. Do not run engines or equipment for extended periods of time under these conditions without continuous monitoring.

Keep forward-facing hatches open to allow fresh air to circulate in accommodation spaces, even in inclement weather.

Keep people clear of the rear deck area and swim platform of the boat while the generator or engines are running. Always monitor the swimming area.

Another dangerous practice to avoid is the towed water sport of "teak" surfing (also referred to as "drag" or "platform" surfing). Teak surfing is an activity where participants hang on to the boat's swim platform while the boat moves forward slowly through the water and the participants surf in its wake. This is dangerous on two levels: it places individuals in close proximity to the vessel's propeller, and it exposes them to dangerously high levels of carbon monoxide created by the vessel's exhaust. Individuals can lose consciousness in seconds. Teak surfing is a dangerous practice that has been prohibited by law in many states.

Do not confuse carbon monoxide poisoning with seasickness or intoxication. If someone on board complains of irritated eyes, headaches, nausea, weakness, or dizziness, immediately move the person to fresh air, investigate the cause, and take corrective action. If necessary, seek medical attention.

Install a carbon monoxide detector in each accommodation space on your boat. Check the detectors periodically to be sure they are functioning properly.

Carbon Monoxide Checklist

Each Trip:

- Make sure all exhaust clamps are in place and secure.
- Look for exhaust leaking from the exhaust system components, as evidenced by rust and/or black streaking, water leaks, or corroded or cracked fittings.
- Inspect rubber exhaust hoses for burned or cracked sections. All rubber hoses should be pliable and free of kinks.
- Confirm that cooling water flows from the exhaust outlet when the engines and generator are started.
- Listen for any change in exhaust sound that could indicate a failure of an exhaust component.
- Test the operation of each carbon monoxide detector.
- ***Do not*** operate the vessel if any of these problems exist.

Annual Maintenance to be Performed by a Qualified Marine Technician:

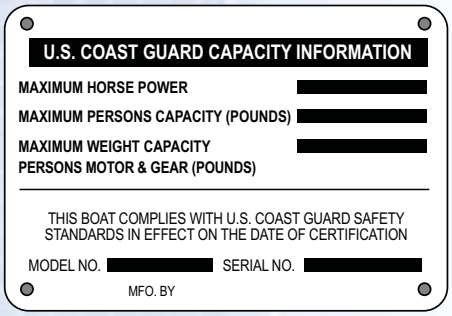
- Replace exhaust hoses if any evidence of cracking, charring, or deterioration is found.
- Inspect each water pump impeller and inspect the condition of the water pump housing. Replace if worn or cracked (refer to the engine and generator manuals for further information).
- Inspect each of the metallic exhaust components for cracking, rusting, leaking, or looseness. Pay particular attention to the cylinder head, exhaust manifold, and water injection elbow.
- Clean, inspect, and confirm the proper operation of the generator cooling water anti-siphon valve (if so equipped).

Regular maintenance and proper operation of the boat are the best defenses against poisoning from carbon monoxide. To find out more about how you can prevent carbon monoxide poisoning on recreational boats, visit the U.S. Coast Guard Boating Safety Division website at www.uscgboating.org/command/co.htm.

Overloading

Never load your boat with passengers and cargo beyond its safe carrying capacity. Too many people and/or too much gear can cause the boat to become unstable. Always balance the load so that the boat maintains proper trim. When loading your boat:

- Distribute the load evenly fore and aft and from side to side.
- Keep the load low in the boat.
- Keep passengers seated; avoid standing in small boats.
- Secure gear to prevent shifting.
- Do not exceed the load specified in the U.S. Coast Guard Maximum Capacities information label, commonly called the "capacity plate," required by federal law on motorized mono-hull boats less than 20 feet in length.



If there is no capacity plate, use the following formula as a guide to determine the maximum number of persons you can safely carry in calm weather. The formula is applicable only to mono-hull boats less than 20 feet (12 meters) in length. A mono-hull is a boat that makes a single "footprint" in the water when loaded to its rated capacity; catamarans, trimarans, and pontoon boats are not mono-hull boats.

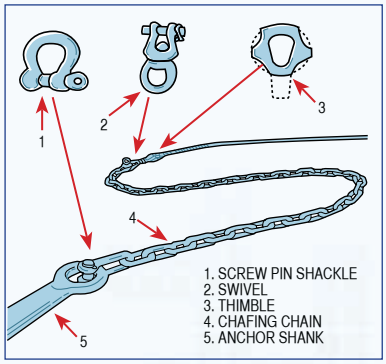
Boat Length (in feet)	Boat Width (in feet)							
	2.5	3	3.5	4	4.5	5	5.5	6
6	1	1	2	2	3	3	4	4
8	1	2	2	3	3	4	4	5
10	2	2	3	3	4	4	5	5
12	2	3	3	4	4	5	5	6
14	3	3	4	4	5	5	6	6
16	3	4	4	5	5	6	6	7

$$\text{Maximum Number of Persons} = \frac{\text{Boat Length} \times \text{Boat Width}}{15}$$

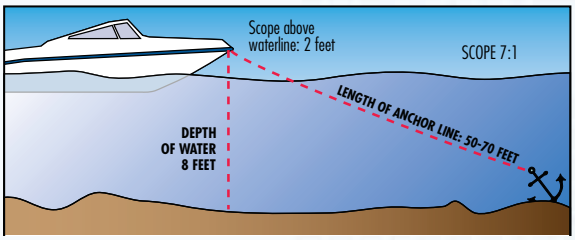
Anchoring

Anchoring is done for two principal reasons: 1) to stop for fishing, swimming, lunch, or an overnight stay, and 2) to keep the boat from running aground in bad weather or as a result of engine failure. Anchoring can be a simple task if you follow these guidelines:

- Make sure you have the proper type of anchor (Danforth/Plow/Mushroom).
- Attach a 3-6 foot length of galvanized chain to the anchor. A chain will withstand abrasion by sand, rock, or mud on the bottom much better than a fiber line.
- Attach a length of nylon anchor line to the end of the chain using an anchor swivel, a combination called the "Rode." The nylon will stretch under the impact of heavy waves or wind, cushioning the strain on the boat and the anchor.



- Select an area that offers maximum protection from wind, current, and boat traffic.
- Determine the water depth and type of bottom (preferably sand or mud).
- Calculate the amount of anchor line you will need to let out. The general rule is five to seven times as much line as the depth of water plus the distance from the surface of the water to where the anchor will attach to the bow. For example, if the water is eight feet deep and it is two feet from the surface of the water to your bow cleat, you would multiply 10 feet by 5 or 7 to get the amount of anchor line to put out. (See diagram below.)



- Secure the anchor line to the bow cleat at the point you want it to stop.
- Bring the bow of the vessel into the wind or current.
- When you get to the spot you want to anchor, place the engine in neutral.
- When the boat comes to a stop, slowly lower the anchor. Do not throw the anchor over, as throwing tends to foul the anchor line.
- When all of the line has been let out, back down on the anchor with the engine in idle reverse to help set the anchor firmly on the bottom.
- When the anchor is set, take note of reference points (landmarks) in relation to the boat. Check these points frequently to make sure you are not drifting.

Do not anchor from the stern!!

Anchoring by the stern has caused many boats – small boats especially – to capsize and sink. The reason is that the transom is usually squared off and has less freeboard than the bow. In addition, the stern may be carrying the added weight of a motor, fuel tank, or gear brought on board. In a strong current, the force of the water can pull the stern under. Anchoring at the stern also makes the boat vulnerable to swamping by wave action.

Vessels Operating Offshore

If you operate your vessel offshore, you should consider carrying additional safety equipment beyond the minimum federal requirements. This equipment should include appropriate communications gear, an inflatable life raft, an Emergency Position Indicating Radio Beacon (EPIRB), and a means of accurately determining your location. In cold waters, you should also carry an immersion suit for everyone on board. Do not underestimate the danger of hypothermia.

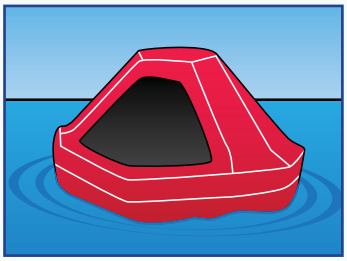
Communications

Carry communications gear – a marine VHF-FM and/or HF transceiver(s) – appropriate to your operating area. Cellular phone coverage is available in many coastal areas, but ***should not*** be considered a substitute for VHF-FM marine band radios for emergency purposes.

Improper use of a radio-telephone is a criminal offense. The use of obscene, indecent, or profane language during radio communications is a federal offence. Penalties exist for misuse of a radio, such as issuing a false distress call.

Channel 16 is the primary VHF-FM marine radio calling and distress channel. It is not to be used for general conversation or radio checks. Such traffic should be conducted on another authorized working channel.

Inflatable Life Rafts

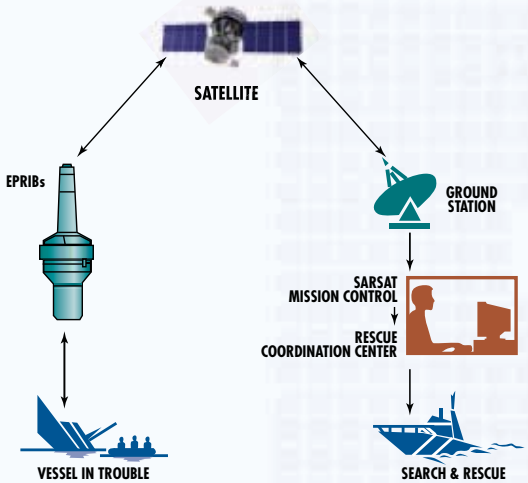


Life Raft

An inflatable life raft can provide a survival platform for an extended period of time. Make sure the life raft is large enough for everyone on board when the boat operates offshore. It should have the appropriate emergency equipment pack, and should be professionally serviced periodically, according to the manufacturer's instructions. U.S. Coast Guard-approved life rafts must meet a number of stringent material and performance standards.

Satellite EPIRBs

406 MHz Satellite Emergency Position Indicating Radio Beacons (EPIRBs) are designed to quickly and reliably alert rescue personnel, indicate an accurate distress position, and guide rescue units to the distress scene, even when all other communications fail. (See page 75.)



Immersion Suits

Immersion suits will delay the effects of hypothermia in cold water. (See page 63.) They should be properly stowed and maintained in accordance with the manufacturer's instructions.

Determining Your Location

It is advisable to carry on board a device to determine your position, such as a Global Positional System (GPS). These devices can be mounted or hand-held and will provide the boater with an accurate location to aid rescue agencies in the event of an emergency.

Small Boats, Hunters, Anglers, and Paddlers

Many hunters, anglers, and paddlers do not think of themselves as boaters, yet they use semi-V hull vessels, flat-bottom jon boats, or canoes and kayaks in pursuit of their sport. These boats tend to be less stable and can easily capsize. Capsizings, sinkings, or falls overboard from small boats account for 70 percent of all boating fatalities. Operators need to be fully aware of their boat's limitations and possess the skill and knowledge to overcome them.

Standing in a small boat raises the center of gravity and risks capsizing the boat. Standing for any reason, even changing seating position, can be dangerous, as is sitting on the gunwales or seat backs, or on a pedestal seat while underway. A raised center of gravity means that a wave, wake, or sudden turn can capsize the boat or result in a person falling overboard.

Staying Afloat

If the boat capsizes, or you fall overboard, follow these rules to stay afloat:

- Remain calm: do not thrash about or try to remove clothing or footwear. It is a common belief that persons dressed in heavy clothing or waders will sink immediately if they fall overboard. This is not true. Air trapped in clothing provides considerable flotation, and bending the knees will trap air in waders, providing additional flotation. Thrashing in the water leads to exhaustion and increases the loss of air that keeps you afloat.
- If you are wearing a life jacket, keep it on.
- Keep your knees bent.
- Float on your back and paddle slowly to safety.

Cold-Water Survival

Sudden immersion in cold water can induce rapid, uncontrolled breathing, cardiac arrest, and other physical conditions that can result in drowning. In an unexpected plunge, or in situations where you must enter cold water, here are a few guidelines to follow:

- Button up your clothing.
- Cover your head if possible; about 50 percent of body heat is lost from the head.
- If entering the water voluntarily, enter slowly.
- Keep your head out of the water if possible.
- If you cannot immediately get out of the water and rescue is not imminent, draw your knees to your chest and wrap your arms across your chest, hugging your life jacket in the Heat Escape Lessening Posture (H.E.L.P.) This will protect the major areas of your body from heat loss.

H.E.L.P. Position

- If your boat has capsized and there are others in the water with you, huddle together with your arms around each other. These huddles are good for morale, keep everyone together, and make a larger target to spot in the water – all of which increase your chances of being seen and rescued.

Hypothermia

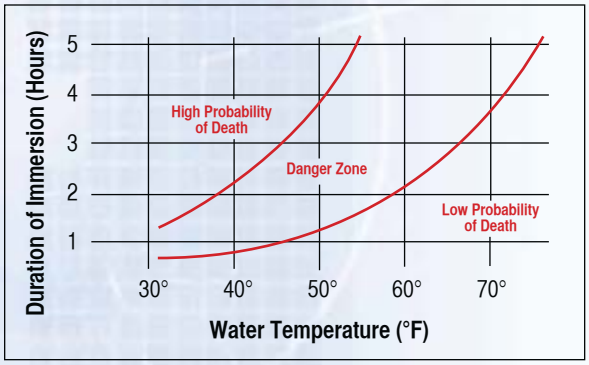
Immersion in cold water speeds the loss of body heat and can lead to hypothermia. Hypothermia is the abnormal lowering of internal body temperature. If your vessel capsizes, it will likely float on or just below the surface. Outboard-powered vessels, built after 1978, are designed to support you even if full of water or capsized. To reduce the effects of hypothermia, get in or on the boat. Try to get as much of your body out of the water as possible. If you do not get in the boat, a life jacket will enable you to keep your head out of the water. This is important because about 50 percent of body heat loss is from the head.

Cold water survival can be broken down into three phases:

- ***Cold Shock:*** an initial deep and sudden gasp followed by hyperventilation. Cold shock will pass in about one minute.
- ***Cold Incapacitation:*** in the next 10 minutes you will lose the effective use of your fingers, arms, and legs for any meaningful movement. Concentrate on self-rescue.
- ***Hypothermia:*** Depending on the temperature of the water, loss of consciousness may occur in as little as one hour.

For more information, see Cold Water Boot Camp at www.watersafetycongress.org.

It may be possible to revive a drowning victim who has been under water for considerable time and shows no signs of life. Numerous documented cases exist where victims have been resuscitated with no apparent harmful effects after long immersions. Start CPR immediately and get the victim to a hospital as quickly as possible.



The Danger Zone indicates conditions where safety precautions and appropriate behavior (adopting H.E.L.P.) can make the difference between death and survival.

Trailering

Legal Requirements

Be sure your boat trailer has current state registration and license plates, and working lights. Also, if your boat is more than 8.5 feet wide, it may require a special permit from your state Department of Transportation before transporting it on the highway.

Safety

A boat hull is designed for even support on the water. When transported on a trailer, your boat should be supported as evenly as possible across the hull to allow for even distribution of the weight of the boat and any contents. Your trailer should be long enough to support the full length of the hull, but short enough to allow the boat engine – secured and in the full "up" position – to extend freely.

Before towing:

- Be sure the tow ball and coupler are the same size and that all bolts with washers are tightly secured. The coupler should be completely over the ball and the latching mechanism locked.
- Balance the load evenly from front to rear and side-to-side. Too much weight on the hitch will cause the rear wheels of the tow vehicle to drag and may make steering difficult. Too much weight on the rear of the trailer will cause the trailer to "fishtail."
- Check that safety chains are attached, trailer lights function properly, tires (including the spare) are adequately inflated, brakes are fully functional, and side mirrors are large enough to provide an unobstructed view on both sides of the vehicle.
- Secure all equipment inside the boat. Secure the boat cover, if used, so that it will not blow off or tear while towing.

Pre-Launching Preparations

- To save time, prepare your boat for launching away from the ramp. Remove engine supports and tie-downs, and make sure the winch is properly attached to the bow eye and locked in position. Disconnect the trailer lights to prevent shorting of the electrical system or burning out a bulb.
- Install the drain plug. Make ready dock lines, fenders, and boat hooks. Attach a line to the bow and the stern of the boat so the

boat cannot drift away after launching and can be easily maneuvered to the docking area.

- Visually inspect the launch ramp for hazards, such as a steep drop off, slippery area, and sharp objects. Proceed slowly to the ramp, remembering that your boat is just resting on the trailer and attached only at the bow. Have one person in the boat and one at the water's edge to help guide the driver of the tow vehicle.
- Double-check that you have installed the drain plug.

Launching

- Keep the trailer's rear wheels (and the boat's exhaust pipes) out of the water. If the exhaust pipes become immersed in the water, the engine may stall.
- Set the parking brake and place tire chocks behind rear wheels. Check boat systems, blower, bilge, pumps, and lights. Lower the motor. Start the boat engine and make sure water is passing through the engine cooling system.
- Make sure someone on shore is holding the lines attached to the boat. Release the winch and disconnect the winch line from the bow when the boat operator is ready. Launch with a light shove or by backing off the trailer under power.

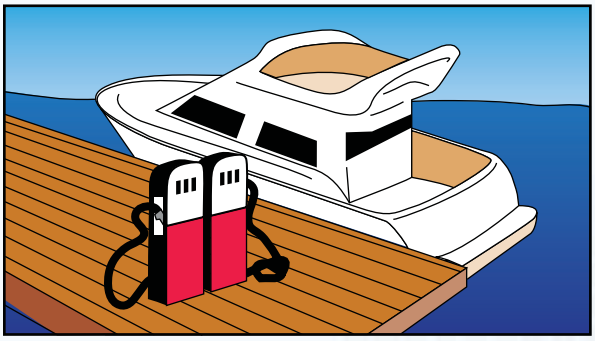
Retrieval

- As you approach the takeout ramp, note any changes in the current, tide, wind direction and/or velocity, and any increases in boating traffic that could make retrieval more difficult. Maneuver the boat carefully to the submerged trailer and raise the lower unit of the engine.
- Winch the boat onto the trailer and secure it. Drive the trailer with boat aboard carefully out of the ramp to a designated parking area for cleanup, reloading, and an equipment safety check.
- Remove the drain plug. Wash the trailer and boat, and flush the engine with fresh water. This will help prevent the transfer or spread of invasive species. In some areas special washing stations are provided and must be used. Check with your local marine patrol agencies.

Fueling Precautions

Most fires and explosions happen during or shortly after fueling. To avoid an accident, follow these safety guidelines.

- Refuel any portable tanks ashore.
- Close all hatches and other openings before refueling. Extinguish all smoking materials. Turn off engines, all electrical equipment, radios, stoves, and other appliances. Remove all passengers.
- Keep the fill nozzle in contact with the tank and wipe up any spilled fuel.
- After fueling, open all ports, hatches, and doors to ventilate. Run the blower for at least four minutes. Check the bilges for fuel vapors before starting the engine. Do the "sniff test" to make sure there is no odor of gasoline anywhere in the boat.



***Do not** start the engine until all traces of fuel vapors are eliminated!*

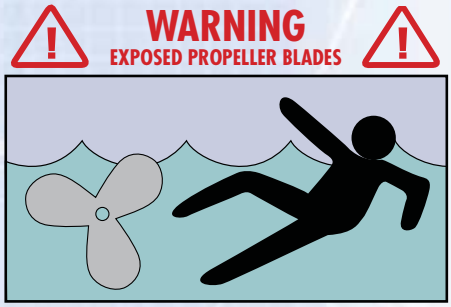
Fuel Management

Practice the "One-Third Rule" by using:

- One-third of the fuel to go out.
- One-third to get back.
- One-third held in reserve.

Propeller Blade Warning

Never forget the danger to persons in the water and injuries that boat propellers can inflict. Most propeller injuries and fatalities involve open motorboats from 16 to 25 feet in length and result from operator inattention, inexperience, and carelessness.



People in the water can be severely injured or killed!

Be alert! Remember to shut off your engines when approaching swimmers or other persons in the water. Keep those in the water on the operator's side of the boat, always in view. Propeller guards are helpful but are not suitable for all types of boats. The best and safest action when people are in the water near your boat is to ***shut off*** your engines.

Weather

You should never leave the dock without first checking the local weather forecast. You can get the weather information from the TV, radio, local newspaper, online, or from one of the weather channels on your VHF-FM radio.

At certain times of the year, weather can change rapidly and you should continually keep a "weather eye" out. While you are out in a boat, here are a few signs you can look for that indicate an approaching weather change:

- Flat clouds getting lower and thicker.
- Puffy, vertically rising clouds getting higher.
- Dark, threatening clouds, especially to the west/southwest
- A sudden drop in temperature.
- A halo around the sun or moon.
- Increasing wind or a sudden change in wind direction.
- Flashes on the horizon.
- Seas becoming heavy.
- Heavy AM radio static, which can indicate nearby thunderstorm activity.

If you have a barometer on board, check it every two to three hours. A rising barometer indicates fair weather and a rise in wind velocity; a falling barometer indicates rain approaching.

What to Do in Severe Weather

- Reduce speed, keeping just enough power to maintain headway.
- Make sure everyone on board is wearing their life jacket.
- Turn on your running lights.
- If possible, head for the nearest shore that is safe to approach.
- Head the boat into the waves at a 45 degree angle.
- Keep the bilges free of water.
- Seat any passengers on the bottom of the boat, near the center line.
- If the engine fails, trail a sea anchor from the bow of the boat to keep it headed into the waves (A bucket can work as a sea anchor in an emergency.)
- Anchor the boat, if necessary.

Float Plans

Play it safe; keep a stack of Float Plan forms on hand. Leave a copy with a friend, relative, or the local marina before heading out on the water. In case of an emergency, pertinent information will be right at their fingertips to enable them to contact the local marine police or Coast Guard with necessary details. A world of caution: if you are delayed and it is not an emergency, inform those with your Float Plan, and be sure to notify them when you return so the Float Plan can be "closed out" and an unnecessary and costly search avoided. A sample Float Plan Form is provided on page 73. The Coast Guard also makes Float Plan Forms available online at www.uscgboating.org.

BOATER'S PRE-DEPARTURE CHECKLIST

Know your vessel. Before departure, always be sure your vessel is in good working order and properly equipped for emergencies. Avoid inconvenience and potential danger by taking a few minutes to check the following:

Minimum Federal Required Equipment	Page	Yes	No
State Registration (Certificate of Number)	5		
State Numbering Display	5		
Certificate of Documentation	6		
Life Jackets: one for each person on board	9		
Throwable Type IV Device	14		
Visual Distress Signals	17		
Fire Extinguisher (Fully Charged)	21		
Proper Ventilation	23		
Backfire Flame Control	25		
Sound Producing Device	25		
Navigation Lights	27		
Oil Pollution Placard	32		
Garbage Placard	34		
Marine Sanitation Device	35		
Copy of Navigation Rules (Inland Waters)	36		
Any Additional State Requirements			

Besides meeting the federal requirements, prudent boaters carry additional safety equipment and supplies. The following additional items are suggested depending on the size, location, and use of your boat:

Recommended Equipment and Supplies	Yes	No	N/A
VHF-FM Marine Radio			
EPIRB/PLB			
Anchor and Line			
Chart(s) of the Area and Navigation Tools			
Magnetic Compass			
Fenders and Boat Hook			
Mooring Lines and Heaving Line			
Manual Bilge Pump or Bailing Device			
Tool Kit			
Spare Parts (Fuses, Spark Plugs, Belts, etc.)			
Spare Battery (Fully Charged)			
Spare Propeller/Shear or Cotter Pins			
Extra Fuel and Oil			
Alternate Propulsion (Paddles/Oar)			
Flashlight and Batteries			
Search Light			
First Aid Kit			
Sunscreen (SPF 30+)			
Mirror			
Food and Water			
Extra Clothing/Foul Weather Gear			
AM-FM Radio			
Cellular Phone			
Binoculars			

Safety Checks and Tests	Yes	No	N/A
Test VHF Marine Radio (Voice Call)			
Test Navigation and Anchor Lights			
Test Steering (Free Movement)			
Test Tilt/Trim			
Test Bilge Pump			
Check for Excessive Water in Bilges			
Check Fuel System for Leaks			
Check Engine Fluids			
Ensure Boat Plug is Properly Installed			
Check Electrical System			
Check Galley/Heating Systems			
Check Gauges (i.e., Battery)			
Check Fuel Amount			
Ensure Anchor is Ready for Use			
Check Load of Vessel and Secure Gear			
Ensure Passengers Know Emergency Procedures and Equipment Location			
Check that all Life Jackets Fit Properly			
Check the Weather Forecast			
File a Float Plan with Relative or Friend			

You can also download a Pre-Departure Checklist from the U.S. Coast Guard website at www.uscgboating.org.

SAMPLE FLOAT PLAN

The Coast Guard makes Float Plan forms available online at www.uscgboating.org. Complete a Float Plan before boating and leave it with a person who can be depended upon to notify the U.S. Coast Guard or other marine rescue organization, should you not return as scheduled.

Remember: Do not file this plan with the U.S. Coast Guard.
Contact your friend in case of a delay, and always when you return.

1. Person Reporting Vessel Overdue

Name _____ Phone _____
Address _____

2. Description of Boat

Name _____
Registration/Documentation No. _____ Length _____
Make _____ Type _____
Hull Color _____ Trim Color _____
Fuel Capacity _____ Engine Type _____
No. of Engines _____
Distinguishing Features _____

3. Operator of Boat

Name _____ Age _____
Health _____ Phone _____
Address _____
Operator's Experience _____

4. Survival Equipment (Check as Appropriate)

- ☐ #___Life Jackets
- ☐ Flares
- ☐ Mirror
- ☐ Smoke Signals
- ☐ Paddles
- ☐ Raft or Dinghy
- ☐ Flashlight
- ☐ Water
- ☐ Food
- ☐ Anchor
- ☐ EPIRB
- ☐ Others

5. Marine Radio: ☐ Yes ☐ No

Type _____ Freqs. _____

Digital Selective Calling (DSC): ☐ Yes ☐ No

6. Trip Expectations

Depart from _____

Departure Date _____ Time _____

Going to _____

Arrival Date _____ Time _____

If operator has not arrived/returned by: Date _____ Time _____

call the Coast Guard or local authority at the following number:

7. Vehicle Description

License No. _____

Make _____ Model Color _____

Where is vehicle parked? _____

8. Persons on Board

Name _____

Age _____ Phone _____

Medical Conditions _____

_____

_____

_____

_____

_____

9. Additional Information

_____

_____

_____

_____

_____

_____

_____

_____

_____

EMERGENCY NOTIFICATION/COMMUNICATION

Satellite EPIRBs (Emergency Position Indicating Radio Beacons)

Emergency distress beacons are essentially specialized radio transmitters that are designed for use in situations of grave or imminent danger or when lives are at risk.

How the System Works

EPIRBs operate as part of a worldwide distress system. An international satellite constellation maintains a vigilant, global "listening" watch for satellite EPIRB distress signals. The National Oceanic and Atmospheric Administration (NOAA) operates satellites, ground stations, and an alert-distribution system serving the United States and a large segment of the international community.

When activated, the satellite EPIRB transmits a distress signal with a beacon-unique identifying code. The system detects the signal, calculates an accurate distress position, checks the unique identifying code against the EPIRB registration database (vessel and point of contact information supplied by the owner) and routes the distress alert with registration information to the responsible U.S. Coast Guard (or international) Rescue Coordination Center (RCC).

406 MHz EPIRBs with GPS capability – either internally or externally supplied positional information – also provide an immediate GPS position in the information passed to the RCC and geostationary satellites make detection almost immediate. If the EPIRB does not have the ability to provide a GPS position, the process to determine a position takes about one hour on average and almost always less than two hours.

Satellite EPIRBs also include a homing beacon and strobe to help rescue forces quickly locate the distress scene. Satellite beacons have significant coverage, with alerting timeliness, position accuracy, and signaling advantages over other devices. Before purchasing or using other-than a 406MHz EPIRB, be sure you understand its capabilities and limitations.

Mount the EPIRB to float free, according to the manufacturer's instructions, if possible. Otherwise, make sure it is readily accessible. Register the EPIRB with NOAA, according to the instructions provided with the beacon or at the NOAA website: www.sarsat.noaa.gov. Registration is mandatory, improves response time, and reduces false alarms.

Radio Regulations

Most recreational vessels less than 65.6 feet (20 meters) in length are not required to carry a marine radio. Any vessel that carries a marine radio must follow the rules of the Federal Communications Commission (FCC).

Licensing

The FCC does not require most operators of recreational vessels to carry a radio or to have an individual license to operate VHF-FM marine radios, EPIRBs, or any type of radar. Operators must however follow the procedures and courtesies that are required of licensed operators specified in the FCC rules. You may use the name or registration number of your vessel to identify your ship station.

Recreational Vessels that may be required to be licensed:

- Power-driven driven vessels more than 65 feet (20 meters) in length.
- Any vessel, including a recreational vessel, on an international voyage.

Radio Listening Watch

Vessels not required to carry a marine radio – for example, recreational vessels less than 65.6 feet (20 meters) in length, but which voluntarily carry a radio – must maintain a watch on Channel 16 (156.800 MHz) or VHF Channel 9 (156.450 MHz), the boater-calling channel, whenever the radio is operating and not being used to communicate.

VHF Marine Radio Channels

The chart below contains a partial listing of channels recreational boaters should be familiar with. For a complete listing of VHF channels and frequencies visit the U.S. Coast Guard Navigation Center website at www.navcen.uscg.gov.

Channel	Type of Message and Use
06	**Inter-ship Safety:** Used for ship-to-ship safety messages and search messages and for ships and aircraft of the Coast Guard.
09	**Boater Calling:** the FCC has established this channel as a supplementary calling channel for recreational boaters in order to relieve congestion on VHF Channel 16.
13, 67	**Navigation Safety (also known as the Bridge-to-Bridge Channel):** Ships greater than 20 meters in length maintain a listening watch on this channel in U.S. waters. This channel is available, to all ships. Messages must be about ship navigation – i.e., passing or meeting other ships. You must keep your messages short. Your power output must not be more than one watt. This is also the main working channel at most locks and drawbridges. Channel 67 is for the lower Mississippi River only.
16	**International Distress, Safety, and Calling:** Use this channel to get the attention of another station (calling) or in emergencies. Ships required to carry a radio maintain a listening watch on this channel. The U.S. Coast Guard and most coast stations also maintain a listening watch on this channel.
21A, 23A, 83A	**U.S. Coast Guard onl**y.
22A	**U.S. Coast Guard liaison and Maritime Safety Information Broadcasts:** Announcements of urgent marine information broadcasts and storm warnings on Channel 16.
24,25, 26,27 28, 84 85, 86	**Public Correspondence (Marine Operator):** Use these channels to call the marine operator at a public station. By contacting a public coast station, you can make and receive calls from telephones on shore. Except for distress calls, public stations usually charge for this service.
70	**Digital Selective Calling:** Use this channel for distress and safety calling and for general purpose calling, using only digital selective calling (DSC) techniques.

Digital Selective Calling (DSC)

Digital Selective Calling (DSC), allows boaters to instantly send an automatically formatted distress alert to the Coast Guard or other rescue authority anywhere in the world. Digital Selective Calling also allows boaters to initiate or receive distress, urgency, safety, and routine radiotelephone calls to or from any similarly equipped vessel or shore station, without requiring either party to be near a radio loudspeaker. DSC acts like the dial and bell of a telephone, allowing you to "direct dial" and "ring" other radios, or allowing others to "ring" you, without having to listen to a speaker. New VHF and HF radiotelephones have DSC capability.

All DSC-equipped radios, and most GPS receivers, have a data interface connector. The interface allows most models of GPS to be successfully interconnected to DSC-capable radios, regardless of manufacture. The Coast Guard recommends that you interconnect your GPS and DSC-equipped radio. Doing so may save your life in an emergency situation.

Users of a VHF-FM marine radio equipped with Digital Selective Calling will also need to obtain a Maritime Mobile Service Identity (MMSI) number. These are available from BoatU.S., Sea Tow, the FCC and the United States Power Squadrons®. More information on Digital Selective Calling is available online at www.navcen.uscg.gov/MARCOMMS/gmdss/dsc.htm.

When properly registered with an MMSI number and interfaced with GPS, the DSC radio signal transmits vital vessel information in an emergency. With one push of a button, your DSC radio sends an automated digital distress alert containing your MMSI number, position, and the nature of the distress (if entered) to other DSC-equipped vessels and rescue facilities.

Rescue 21

Rescue 21 is the advanced command, control, and communications system created to improve search and rescue with stronger VHF-FM marine radio signals, direction-finding capabilities, tracking of ships and aircraft, and better communications with state and local first-responders. The system is currently being installed in stages across the contiguous 48 states, Alaska, Hawaii, Guam, Puerto Rico, and the Great Lakes. When fully deployed, it will form the backbone of the U.S. Coast Guard's short-range communications system.

With increased communications coverage, advanced direction finding capabilities, and Digital Selective Calling, Rescue 21 helps take the "search" out of search and rescue.

Capabilities:

- Incorporates direction-finding equipment to improve locating vessels in distress.
- Enhances the clarity of distress calls.
- Upgrades playback and recording feature of distress calls
- Allows simultaneous channel monitoring.
- Provides full coverage out to 20 nautical miles from the coastline
- Reduces coverage gaps for coastal communications and along navigable rivers and waterways.
- Supports Digital Selective Calling.
- Portable towers for restoration of communications during emergencies or natural disasters.
- Improves interoperability among federal, state, and local agencies.

To take full advantage of Rescue 21, boat operators should upgrade to a DSC-capable VHF-FM marine radio, obtain a Maritime Mobile Service Identity (MMSI) number, enter the number into their radio, and connect the radio to a GPS receiver.

For Vessels Equipped with DSC-Capable Radios

If your vessel is equipped with a DSC-capable radio, and you have obtained and registered an MMSI number and it is properly connected to a GPS receiver, you need only press the red DSC Emergency Call Button for 5 seconds. Your vessel information and position will automatically be transmitted, including the nature of the distress (if entered), and a DSC reply should be received. Upon receipt of this acknowledgement, your radio should automatically shift to Channel 16 to continue voice communications with rescue assets. If no reply is received, switch the Channel 16 and use the procedures below.

SOS: Ships in Distress

Channel 16 is the primary radio channel for ships in distress. To make a distress call on marine VHF-FM Channel 16:

1. Make sure radio is on.
2. Select Channel 16 for standard marine VHF.
3. Press/hold the transmit button.
4. Clearly say: MAYDAY, MAYDAY, MAYDAY.

5. Also give:
   - Vessel name, number and/or description.
   - Position and/or location.
   - Nature of emergency.
   - Number of people on board.
6. Release transmit button.
7. Wait for 10 seconds. If no response, repeat "MAYDAY" call as above.

******Make sure all persons are wearing their life jackets******

Maritime Search and Rescue

To report Maritime Search and Rescue Emergencies, call the following numbers:

For the Great Lakes, Gulf and East Coasts:
Atlantic Area Command Center:
(757) 398-6700

For the Hawaiian, Alaskan and Pacific Coasts:
Pacific Area Command Center:
(510) 437-3701

False Distress Alerts

It is unlawful to intentionally transmit a false distress alert, or to unintentionally transmit a false distress alert without taking steps to cancel that alert. Boaters who transmit a false distress alert are required to immediately cancel the alert.

If you inadvertently transmit a false DSC alert:

1. Reset the equipment immediately.
2. Tune for radiotelephony on the associated distress and safety frequency in each band in which a false distress alert was transmitted.
3. Transmit a broadcast message to "All Stations" giving the ship's name, call sign, time the alert was transmitted and MMSI, and cancel the false alert on the distress and safety frequency in each band in which the false distress alert was transmitted.

Please post these guidelines near your radio.

OTHER RESPONSIBILITIES

Regulated Navigation Areas/Limited Access Areas (33 CFR 165)

In the aftermath of the September 11, 2001, terrorist attacks on the World Trade Center and the Pentagon, and the earlier attack on the USS Cole in Aden Harbor, Yemen, the United States Coast Guard established Safety and Security Zones to prevent further attacks on U.S. Naval vessels, cruise ships and commercial vessels, and critical infrastructure – such as petroleum facilities and nuclear power plants situated on or near the water. As a boater, not knowing how to act in certain areas or situations may put you in legal jeopardy or, worse, at risk of personal injury.

Help protect our country by learning the new rules:

Naval Vessel Protection Zones

Do not approach within 100 yards, and slow to minimum speed within 500 yards, of any U.S. Naval vessel. If you need to approach within 100 yards in order to ensure a safe passage in accordance with the Navigation Rules, you must contact the U.S. Naval vessel or the U.S. Coast Guard escort vessel on your VHF radio (Channel 16) for authorization.

If a Naval vessel is passing near where you are operating your boat, you may be asked to move your vessel to maintain the 100-yard distance. The U.S. Coast Guard will make an announcement ahead of time to alert boaters in the area.

Violations of the Naval Vessel Protection Zone are a felony offense, punishable by up to 6 years in prison and/or up to $250,000 in fines.

Be aware that both the U.S. Navy and the U.S. Coast Guard are authorized to use deadly force to protect themselves.

Commercial Shipping Safety Zones

In addition to the Naval Vessel Protection Zone requirements, you must also avoid operating your vessel near all military vessels, cruise liners, and certain commercial vessels.

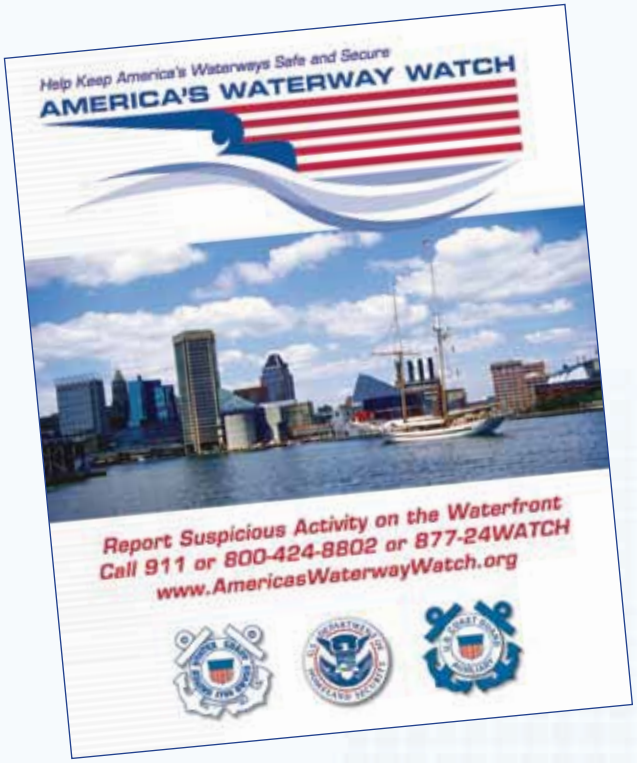
Observe and avoid all security zones and commercial port operations. Areas that have large marine facilities – including military, commercial/cruise, or petroleum facilities – should be avoided. There are also restrictions near most dams, power plants, and other facilities located near water.

Bridges and Shipping Channels

Do not stop or anchor beneath bridges or in shipping channels. If you do, you can expect to be asked to move and/or be boarded by law enforcement officials.

America's Waterway Watch

If you operate a towboat, marina, recreational vessel, fishing vessel, or otherwise live, work, or engage in recreational activities on or near the nation's waterways, the United States Coast Guard would like your help in keeping these areas safe and secure. You can do this by participating in America's Waterway Watch (AWW), a nationwide initiative similar to the well-known and successful Neighborhood Watch program that asks community members to report suspicious activities to local law enforcement agencies.



We ask boaters to call 877-24WATCH if they notice suspicious activity or behavior on or near the water. Things to report include:

- Someone taking pictures, video, or making sketches of facilities like bridges, tunnels, ferry transport systems, fuel docks, or power plants.
- Someone asking questions about access to one of these facilities.

- Someone anchoring, fishing, or diving in an area not typically used for that activity.
- Unattended vessels in unusual locations.
- Unusual transfer of personnel or cargo while underway.
- Seeing a hole in a security fence around an industrial facility.

Do not take matters into your own hands. Call 877-24WATCH. In cases of immediate danger to life or property, call the Coast Guard on Channel 16 VHF-FM, or dial 911 for emergencies.

America's coasts, rivers, bridges, tunnels, ports, ships, military bases, and waterside industries may be targets for terrorist activity. Although waterway security is better than ever, with more than 95,000 miles of shoreline and more than 290,000 square miles of water, the U.S. Coast Guard and local first responders cannot do the job alone.

To find out how you can become involved, visit the America's Waterway Watch website at www.americaswaterwaywatch.org.

USCG INFORMATION

U.S. Coast Guard
Boating Safety Division
2703 Martin Luther King Jr Ave, SE
Washington, D.C. 20593-7501
www.uscgboating.org

District Recreational Boating Safety Specialists:

First District: Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont
(617) 223-8464

Fifth District: Delaware, Maryland, New Jersey, North Carolina, Pennsylvania, Virginia, District of Columbia
(757) 398-6204

Seventh District: Florida, Georgia, South Carolina, Puerto Rico, U.S. Virgin Islands
(305) 415-7057

Eighth District: North Dakota, South Dakota, Wyoming, Nebraska, Minnesota, Iowa, Illinois, Indiana, Ohio (shared with Ninth District), Pennsylvania, West Virginia, Kentucky, Tennessee, Mississippi, Alabama, Georgia, Florida (shared with Seventh District) Louisiana, Arkansas, Missouri, Oklahoma, Kansas, New Mexico, Colorado, Texas.
(504) 671-2157

Ninth District: Michigan, Minnesota, Ohio, Wisconsin
(216) 902-6094

Eleventh District: Arizona, California, Nevada, Utah
(510) 437-5364

Thirteenth District: Idaho, Montana, Oregon, Washington
(206) 220-7257

Fourteenth District: Hawaii, Guam, American Samoa, Northern Marianas
(808) 535-3424

Seventeenth District: Alaska
(907) 463-2297

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the following partners for their support:

U.S. Coast Guard Auxiliary
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National Association of
State Boating Law Administrators
(859) 225-9487
www.nasbla.org

National Safe Boating Council
(703) 361-4294
www.safeboatingcouncil.org

National Water Safety Congress
(440) 209-9805
www.watersafetycongress.org

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BOAT Responsibly

For more information, please contact: