

Federal Requirements and Safety Tips for Recreational Boats

Introduction

This section contains information about Federal laws, equipment requirements, and safety recommendations for recreational vessels. Minimum federal requirements appear in dark green and italics. It is imperative that you understand that the Federal Equipment Requirements:

- Are minimum requirements (Additional safety equipment is recommended).
- Do not guarantee the complete safety of the vessel or its passengers.
- Are to be viewed as conservative and not absolute.

In addition to the requirements stated in this guide, 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.

As a boat operator, you are expected to make sure that your boat, referred to in the law as a vessel, carries at least a minimum of safety equipment (carriage requirements) and complies with federal and state regulations for such things as numbering and operation. A [Quick Reference Chart](#) will help you determine the minimum safety equipment requirements for your boat.

Quick Reference Chart

Vessel Length (in feet)				Equipment	Requirement
<16	16<26	26<40	40<65		
X	X	X	X	Certificate of Number (State Registration)	All undocumented vessels equipped with propulsion machinery must be State registered. Certificate of Number must be on board when vessel is in use. Note: some States require all vessels to be registered.
X	X	X	X	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 (Contrasting color to boat exterior). (b) State validation sticker must be affixed within six inches of the registration number
	X	X	X	Certificate of Documentation	Applies only to "Documented" vessels: (a) Original and current certificate must be on board (b) Vessel name/hailing port marked on exterior part of hull -- letters not less than 4 inches in height. (c) Official Number permanently affixed on interior structure -- numbers not less than 3 inches in height.
X	X	X	X	Life Jackets (PFDs)	(a) One Type I, II, III, or V wearable PFD for each person on board. (must be USCG approved)
	X	X	X		(b) In addition to paragraph (a), must carry One Type IV (throwable) PFD.
X				Visual Distress Signal (VDS)	(a) One electric distress light or Three combination (day/night) red flares. Note: only required to be carried on board when operating between sunset and sunrise. (b) One orange distress flag and One electric distress light - or -Three hand-held or floating orange smoke signals and One electric distress light - or - Three combination (day/night) red flares: hand-held, meteor or parachute type.
	X	X	X		
Vessel Length (in feet)				Equipment	Requirement
<16	16<26	26<40	40<65		

X	X	X		Fire Extinguishers	(a) One B-I (when enclosed compartment) (b) One B-II or Two B-I. Note: fixed system equals One B-I
			X		(c) One B-II and One B-I or Three B-I. Note: fixed system equals One B-I or Two B-II
X	X	X	X	Ventilation	(a) All vessels built after 25 April 1940 that use gasoline as their fuel with enclosed engine and /or fuel tank compartments must have natural ventilation (at least two ducts fitted with cowls). (b) In addition to paragraph (a), a vessel built after 31 July 1980 must have rated power exhaust blower.
X	X	X		Sound Producing Devices	(a) A vessel 39.4 ft must, at a minimum, have some means of making an "efficient" sound signal - (i.e. handheld air horn, athletic whistle - Human voice/ sound not acceptable).
		X	X		(b) A vessel 39.4 ft (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 seconds duration. In addition, must carry on board a bell with a clapper (bell size not less than 7.9 inches - based on the diameter of the mouth)
X	X	X	X	Backfire Flame Arrestor	Required on gasoline engines installed after 25 April 1940, except outboard motors
X	X	X	X	Navigational Lights	Required to be displayed from sunset to sunrise and in or near areas of reduced visibility.
		X	X	Oil Pollution Placard	(a) Placard must be at least 5 by 8 inches, made of durable material. (b) Placard must be posted in the machinery space or at the bilge station.
		X	X	Garbage Placard	(a) Placard must be at least 4 by 9 inches, made of durable material. (b) Displayed in a conspicuous place notifying all on board the discharge restrictions.
X	X	X	X	Marine Sanitation Device	If installed toilet: Vessel must have an operable MSD Type I, II, or III.

		X	X	Navigation Rules (Inland Only)	The operator of a vessel 39.4 ft (12 meters) or greater must have on board a copy of these rules.
--	--	---	---	-----------------------------------	---

There are other equipment considerations that are recommended for your safety and the safety of your passengers. This information is part of the [Vessel Safety Check Program](#) and outlined in a [pre-departure checklist](#) (pdf).



Vessel Safety Check (VSC) Program

Introduction

The mission of the Coast Guard Recreational Boating Safety program is to minimize the loss of life, personal injury, property damage and environment impact associated with the use of recreational vessels through preventive means. The VSC program supports one of the program's key goals: to improve the demonstrated knowledge, skills, abilities and behaviors of boaters.

The VSC is not a boarding or law enforcement issue. No citations will be given as a result of this encounter. The boater will be given a copy of the completed evaluations so that the boater may follow some of the suggestions given. Vessels that pass will be able to display the distinctive VSC decal. This does not exempt the boater from law enforcement boarding, but the boater can be prepared to make this a positive encounter.

What is a Vessel Safety Check?

A Vessel Safety Check (VSC) is a FREE check to boaters who wish to be sure that their vessel meets all federal and state equipment requirements. Vessel Examiners performing this service have been trained to look for some of the more common problems, which might occur on vessels or their associated safety equipment. The items checked are:

- Proper Display of Numbers
- Registration/Documentation
- Personal Flotation Devices (PFDs)
- Visual Distress Signals (VDS)
- Fire Extinguishers
- Ventilation
- Backfire Flame Arrestor
- Sound Producing Devices/Bell
- Navigation Lights
- Pollution Placard
- MARPOL Trash Placards
- Marine Sanitation Device
- Navigation Rules
- State and/or Local Requirements
- Overall Vessel Condition

If the vessel has all the required items (listed above) on board and are in good working order, the vessel examiner will award a VSC decal to affix to the vessel.

Additional Safety Equipment

- Marine Radio
- Dewatering Device & Backup
- Mounted Fire Extinguishers
- Anchor and Line for Area
- First Aid and Person-In-Water Kit (PIW)
Note: PIW consists of one extra wearable PFD and a throwable type IV PFD with line
Inland Visual Distress Signals
- Capacity/Certification of Compliance

Note: The above items not required for the award of the Vessel Safety Check decal.

Boating Safety Education

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

- Accident Reporting/Owner Responsibility
- Charts and Aids to Navigation
- Offshore Operations
- Survival Tips
- First Aid
- Float Plans
- Weather and Sea Conditions
- Fueling and Fuel Management
- Boating Checklist
- Availability of Boating Safety Classes

For Further Information

To get your vessel "Safety Checked" or for more information on the Vessel Safety Check program, contact your local U.S. Coast Guard Auxiliary or U.S. Power Squadron member or visit the Vessel Safety Check web site at www.safetyseal.net.

Remember!

This is a FREE public service provided in the interest of Boating Safety...

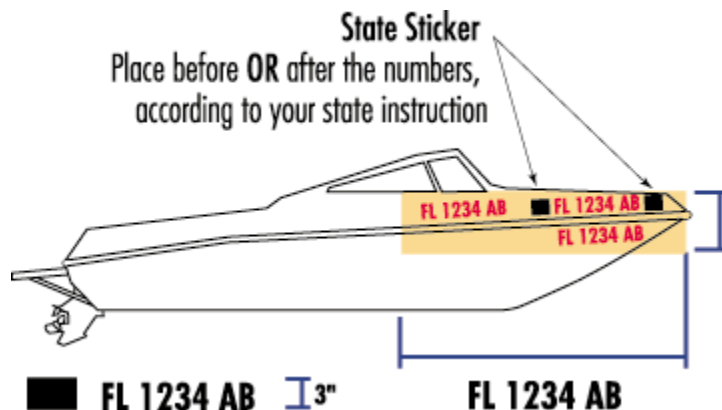
Registration, Numbering, and Documentation

All undocumented vessels equipped with propulsion machinery must be registered in the state of principal use. A certificate of number will be issued upon registering the vessel. These numbers must be displayed on your vessel. The owner/operator of a vessel must carry a valid certificate of number whenever the vessel is in use. When moved to a new state of principal use, the certificate is valid for 60 days. Check with your state boating authority for registration requirements. Some states require all vessels (including documented) to be registered.

Some larger recreational vessels may be documented. The certificate of documentation MUST be on board a documented vessel at all times. A document serves as a certificate of nationality and an authorization for a specific trade. A documented vessel is not exempt from applicable state or federal taxes, nor is its operator exempt from compliance with federal or state equipment carriage requirements. A documented vessel may also be required to pay a registration fee and display a validation sticker in some states.

Display of Numbers

Numbers must be painted or permanently attached to each side of the forward half of the vessel. The validation stickers must be affixed within six inches of the registration number. With the exception of the vessel fee decal, no other letters or numbers may be displayed nearby.



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 which 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 in the manner prescribed to the issuing authority within 15 days.

A documented vessel must have the name of the vessel and hailing port plainly marked on the exterior part of the hull in clearly legible letters not less than 4 inches in height. In addition, the documented vessel must have the "Official Number" permanently affixed in block type, Arabic numerals not less than 3 inches on some clearly visible interior structural part of the boat.

Law Enforcement

A vessel underway, when hailed by a Coast Guard vessel is required to heave to, or maneuver in such a manner that permits a boarding officer to come aboard.

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

The Coast Guard may impose a civil penalty up to \$1,000 for failure to: comply with equipment requirements; report a boating accident; or comply with other Federal regulations. Failure to comply with the Inland Navigation Rules Act of 1980 can result in a civil penalty up to \$5,000.

Improper use of a radio-telephone is a criminal offense. The use of obscene, indecent or profane language during radio communications is punishable by a \$10,000 fine, imprisonment for two years or both. Other penalties exist for misuse of a radio, such as improper use of Channel 16 VHF-FM.

Channel 16 is a calling and distress channel. It is not to be used for conversation or radio checks. Such traffic should be conducted on an authorized working channel.

Boating Under the Influence (BUI)

Operating a vessel while intoxicated became a specific federal offense effective January 13, 1988.

The final rule set standards for determining when an individual is intoxicated. *If the blood alcohol content (BAC) is .08% (.10% in some states) or higher for operators of recreational vessels being used only for pleasure, violators are subject to a civil penalty not to exceed \$1,000 or criminal penalty not to exceed \$5,000, one year imprisonment or both.*

Negligent Operation

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, are prohibited by law. The 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 examples of actions that may constitute negligent or grossly negligent operation are:

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

Termination of Use

A Coast Guard boarding officer who observes a boat being operated in an UNSAFE CONDITION, specifically defined by law or regulation, and who determines that an ESPECIALLY HAZARDOUS CONDITION exists, may direct the operator to take immediate steps to correct the condition, including returning to port.

Termination for unsafe use may be imposed for:

- Insufficient number of CG Approved Personal Flotation Devices (PFDs).
- Insufficient fire extinguishers.
- Overloading beyond manufacturer's recommended safe loading capacity.
Improper navigation light display.
- Ventilation requirements for tank and engine spaces not met.
- Fuel leakage.
- Fuel in bilges.
- Improper backfire flame control.
- Operating in regulated boating areas during predetermined adverse conditions. (Applies in 13th CG District only).
- Manifestly unsafe voyage.

An operator who refuses to terminate the unsafe use of a vessel can be cited for failure to comply with the directions of a Coast Guard boarding officer, as well as for the specific violations which were the basis for the termination order. Violators may be fined not more than \$1,000 or imprisoned not more than one year or both.

Reporting Boating Accidents

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

1. Loss of life; or
2. Personal injury which requires medical treatment beyond first aid; or
3. Damage to the boat and other property damage of \$2,000 or more; or

4. 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 disappears 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 disappeared;
- Number and name of the vessel; and
- Name and address of the owner and operator.

Reporting Timelines

- If a person dies, disappears from the boat, or there are injuries requiring medical treatment beyond first aid, a formal report must be filed within 48 hours of the accident.
- A formal report must be made within 10 days for accidents involving property damage of \$2,000 or more, or complete loss of a vessel.

Note: State requirements for Reporting Boating Accidents may be more stringent than Federal (i.e. some States require ALL boating accidents to be reported immediately). Check with the Boating Law Administrator in the State where the accident occurred for proper reporting procedures.

The U.S. Coast Guard Infoline

If you need further information regarding accident reporting, please call the U.S. Coast Guard Infoline at 800-368-5647.

Rendering Assistance

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 Towing Assistance (Non-Distress Call)

When a boater contacts the Coast Guard on channel 16 VHF-FM 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) to all local commercial assistance providers approved by the Coast Guard.

A provider will contact the boater directly.

Making a [Distress Call](#)

Radio Regulations

Carrying a Radio

Most recreational vessels under 65.6ft/20m in length do not have to carry a marine radio. Any vessel that carries a marine radio must follow the rules of the Federal Communications Commission (FCC).

Radio Licenses

The FCC does not require operators of recreational vessels to carry a radio or to have an individual license to operate VHF marine radios (with or without digital selective calling capability), EPIRBs, or any type of radar. Operators must however follow the procedures and courtesies that are required of licensed operators specified in FCC Rules. You may use the name or registration number of your vessel to identify your ship station.

Users of VHF marine radio equipped with digital selective calling will need to obtain a maritime mobile service identity (MMSI) number from the FCC. It is unlawful to use digital selective calling without obtaining this identity.

Vessels required to be licensed:

1. Vessels that use MF/HF single side-band radio, satellite communications, or telegraphy,
2. Power Driven vessels over 65.6 feet/20 meters in length.
3. Vessels used for commercial purposes including:
 - Vessels documented for commercial use, including commercial fishing vessels.
 - CG inspected vessels carrying more than 6 passengers.
 - Towboats more than 25.7 feet/7.8 meters in length.
 - Vessels of more than 100 tons certified to carry at least 1 passenger.
 - Cargo ships over 300 tons.
4. Any vessel, including a recreational vessel, on an international voyage.

Radio Listening Watch

Vessels not required to carry a radio (e.g. 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) whenever the radio is operating and not being used to communicate. Such vessels may alternatively maintain a watch on VHF channel 9 (156.450 MHz), the boater calling channel.

Distress Call Procedures

1. Make sure radio is on
2. Select Channel 16
3. Press/Hold the transmit button
4. Clearly say: MAYDAY MAYDAY MAYDAY
5. Also give:
 - Vessel Name 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.

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.

For further information:

FCC — Toll free telephone: 1-888 CALL FCC

World Wide Web: <http://www.fcc.gov/wtb>

USCG — World Wide Web: <http://www.navcen.uscg.gov/marcomms/>

For a complete listing of VHF Channels and Frequencies visit the USCG Navigation Center web site: www.navcen.uscg.gov

VHF Marine Radio Channels

The chart below contains a partial listing of channels recreational boaters should be familiar with:

Channel	Type of Message and Use
06	Intership Safety: Used for ship-to-ship safety messages and search messages and ships and aircraft of the Coast Guard.
09	Boater Calling: 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 US 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 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. USCG and most coast stations also maintain a listening watch on this channel.
21A, 23A, 83A	U.S. Coast Guard only
22A	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, 85, 87	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 dis-tress 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. Note: The U.S. Coast Guard will not be equipped to respond to DSC distress calls on Channel 70 until 2006—use Channel 16.

U.S. Coast Guard Boarding Policy

The U.S. Coast Guard is the primary maritime law enforcement agency of the U.S.

Authority: Section 89 of Title 14 of the United States Code authorizes the Coast Guard to board vessels subject to the jurisdiction of the U.S., 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: A uniformed CG boarding team will notify you that they are coming aboard to conduct a CG boarding. Like other law enforcement officers, they will be armed. Once on board they will conduct an initial safety inspection to identify any obvious safety hazards, and to ensure the sea worthiness of your vessel. The boarding officer will then ask to see the vessel registration or documentation, and proceed to inspect your vessel. The scope of the vessel inspection, during most boardings, is limited to determining the vessel's regulatory status (e.g. commercial, recreational, passenger, cargo, and/or fishing vessel) and checking for compliance with U.S. civil law applicable to vessels of that status. The CG may also enforce U.S. criminal law. The boarding officer will complete a Coast Guard boarding form, and note any discrepancies. You will get a signed copy before they depart.

Report of Boarding: When a CG boarding officer issues you a boarding report, they will either issue a yellow copy, if no discrepancies were noted, or a white copy if there were. A white copy will indicate a warning or a notice of violation. The CG boarding officer should explain the procedures to follow in each case. In any event, those procedures are written on the reverse of the form. If you have any questions ask the CG boarding officer, or call the U.S. Coast Guard Infoline at 800-368-5647.

Equipment Requirements

The Coast Guard sets minimum standards for recreational boats and associated safety equipment. To meet these standards some of the equipment must be Coast Guard approved. "Coast Guard Approved Equipment" meets Coast Guard specifications and regulations for performance, construction or materials.

Personal Flotation Devices (PFD)

All recreational boats must carry one wearable PFD (Type I, II, III or Type V PFD) for each person aboard. A Type V PFD provides performance of either a Type I, II, or III PFD (as marked on its label) and must be used according to the label requirements. Any boat 16ft and longer (except canoes and kayaks) must also carry one throwable PFD (Type IV PFD).

PFDs must be

- *Coast Guard approved,*
- *in good and serviceable condition, and*
- *the appropriate size for the intended user.*

Accessibility

- Wearable PFDs must be readily accessible.
- You must 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.
- The best PFD is the one you will wear.
- Though not required, a PFD should be worn at all times when the vessel is underway. A wearable PFD can save your life, but only if you wear it.
- Throwable devices must be immediately available for use.

Inflatable PFDs

- Inflatable PFDs may be more comfortable to wear.
- The best PFD is the one you will wear.
- Inflatable PFDs require the user to pay careful attention to the condition of the device.
- Inflatable PFDs 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 requirement to carry PFDs.
- Coast Guard Approved Inflatable PFD's are authorized for use on recreational boats by person at least 16 years of age.

Child PFD Requirements

Some states require that children wear PFDs

- applies to children of specific ages
- applies to certain sizes of boats
- applies to specific boating operations

Check with your state boating safety officials.

Child PFD approvals are based on the child's weight. Check the "User Weight" on the label, or the 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 ___ lbs". They can be marked "less than 30", "30 to 50", "less than 50", or "50 to 90".

PFD requirements for certain boating activities under state laws

The Coast Guard recommends and many states require wearing PFDs:

- For water skiing and other towed activities (use a PFD marked for water skiing).
- While operating personal watercraft (PWC) (use a PFD marked for water skiing or PWC use).
- During white water boating activities.
- While sailboarding (under Federal law, sailboards are not "boats").

Check with your state boating safety officials.

Federal law does not require PFDs on racing shells, rowing sculls, racing canoes, and racing kayaks; state laws vary. Check with your state boating safety officials.

If you are boating in an area under the jurisdiction of the Army Corps of Engineers, or a federal, state, or local park authority, other rules may apply.

PFD Flotation

There are three basic kinds of PFD flotation in the five types of PFDs with the following characteristics:

Inherently Buoyant (primarily Foam)

- Adult, Youth, Child, and Infant sizes
- For swimmers & non-swimmers
- Wearable & throwable styles
- Some designed for water sports

Minimum Buoyancy		
Wearable Size	Type	Inherent Buoyancy (Foam)
Adult	I II & III V	22 lb. 15.5 lb. 15.5 to 22 lb.
Youth	II & III V	11 lb. 11 to 15.5 lb.
Child and Infant	II	7 lb.
Throwable: Cushion Ring Buoy	IV	20 lb. 16.5 & 32 lb.

Inflatable

- The most compact
- Sizes only for adults
- Only recommended for swimmers
- Wearable styles only
- Some with the best in-water performance

Minimum Buoyancy		
Wearable Size	Type	Inherent Buoyancy
Adult	I & II III V	34 lb. 22.5 lb. 22.5 to 34 lb.

Hybrid (Foam & Inflation)

- Reliable
- Adult, Youth, and Child sizes
- For swimmers & non-swimmers
- Wearable styles only
- Some designed for water sports

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

Visual Distress Signals

All vessels used on coastal waters, the Great Lakes, territorial seas, and those waters connected directly to them, up to a point where a body of water is less than two miles wide, must be equipped with U.S.C.G. Approved visual distress signals. Vessels owned in the United States operating on the high seas must be equipped with U.S.C.G. Approved visual distress signals.



These 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 not equipped with propulsion machinery.
- Manually propelled boats.

Pyrotechnic Devices

Pyrotechnic Visual Distress Signals must be Coast Guard Approved, in serviceable condition, and readily accessible.

- They are marked with an expiration date. Expired signals may be carried as extra equipment, but can not be counted toward meeting the visual distress signal requirement, since they may be unreliable.
- Launchers manufactured before January 1, 1981, intended for use with approved signals, are not required to be Coast Guard Approved.
- If pyrotechnic devices are selected a minimum of three are required. That is, three signals for day use and three signals for night. Some pyrotechnic signals meet both day and night use requirements.
- Pyrotechnic devices should be stored in a cool, dry location, if possible.
- A watertight container painted red or orange and prominently marked "DISTRESS SIGNALS" or "FLARES" is recommended.

U.S.C.G. Approved Pyrotechnic Visual Distress Signals and associated devices include:

- Pyrotechnic red flares, hand-held or aerial.
- Pyrotechnic orange smoke, hand-held or floating.
- 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 ACTUALLY BE ILLUMINATED. THIS WILL ALLOW YOU TO SELECT A WARNING DEVICE BETTER SUITED TO THE CONDITIONS WHERE YOUR BOAT WILL OPERATE?]

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.C.G. requirements. They include:

Orange distress flag

- 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 Coast Guard requirements in 46 CFR 160.072.
- Most distinctive when attached and waved on a paddle, boathook, or flown from a mast.
- May also be incorporated as part of devices designed to attract attention in an emergency, such as balloons, kites, or floating streamers.

Electric distress light

- Accepted for night use only
- Automatically flashes the international SOS distress signal: (... — — — ...)
- Must be marked with an indication that it meets 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 do NOT count toward meeting the visual distress signal requirement, however.

Regulations prohibit display of visual distress signals on the water under any circumstances except when assistance is required to prevent immediate or potential danger to persons on board a vessel.

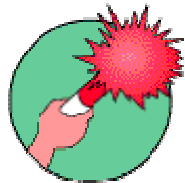
All distress signals have distinct advantages and disadvantages. No single device is ideal under all conditions or suitable for all purposes. Pyrotechnics are universally recognized as excellent distress signals. However, there is potential for injury and property damage if not properly handled. These devices produce a very hot flame and the residue can 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 caution. In some states they are considered a firearm and prohibited from use.

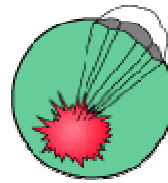
The following are just a few of the variety and combination of devices which can be carried in order to meet the requirements:

- Three hand-held red flares (day and night).
- One hand-held red flare and two parachute flares (day and night).
- One hand-held orange smoke signal, two floating orange smoke signals (day) and one electric distress light (night only).

Pyrotechnic Device Examples



Red Flare
(hand held/day and night)



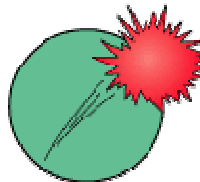
Parachute Flare
(day and night)



Orange Smoke Signal
(hand held/day only)

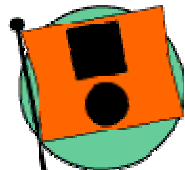


Floating Orange Smoke Signal
(day only)

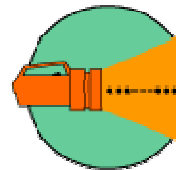


Red Meteor
(day and night)

Non-Pyrotechnic Device Examples

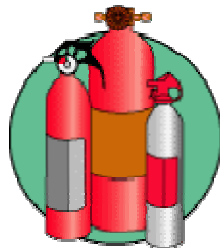


Orange Flag
(day only)



Electric Distress Signals
(night only)

All boaters should be able to signal for help. Boaters must have current dated U.S.C.G. Approved day and night signals for all boats operating on coastal and open bodies of water.



Fire Extinguishers

Coast Guard Approved fire extinguishers are required on boats where a fire hazard could be expected from the motors or the fuel system. Extinguishers are classified by a letter and number symbol. The letter indicates the type fire the unit is designed to extinguish (Type B for example are designed to extinguish flammable liquids such as gasoline, oil and grease fires). The number indicates the relative size of the extinguisher. The higher the number, the larger the extinguisher.

Coast Guard approved extinguishers required for boats are hand portable, either B-I or B-II classification and have a specific marine type mounting bracket. It is recommended the extinguishers be mounted in a readily accessible position, away from the areas where a fire could likely start such as the galley or the engine compartment.

Extinguisher markings can be confusing because extinguishers can be approved for several different types of hazards. For instance, an extinguisher marked "Type A, Size II, Type B:C, Size I" is a B-I extinguisher.

Look for the part of the label that says "**Marine Type USCG**"

- Make sure Type B is indicated
- Portable extinguishers will be either size I or II. Size III and larger are too big for use on most recreational boats.

Classes	Foam (Gals)	CO2(lbs)	Dry Chemical (lbs)	Halon (lbs)
B-I(TypeB, SizeI)	1.25	4	2	2.5
B-I(TypeB, Size II)	2.5	15	10	10

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

- Inboard engines are installed.
- 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 which 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 fire or other emergency are considered permanently installed. There are no gallon capacity limits to determine if a fuel tank is portable. If the weight of a fuel tank is such that persons on board cannot move it, the Coast Guard considers 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 indicators read in the operable range. (Note: CO2 extinguishers do not have gauges.)
- There is no obvious physical damage, rust, corrosion, leakage or clogged nozzles.
- Weigh extinguishers annually to assure that the minimum weight is as stated on the extinguisher label.

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 number of fire extinguishers required on a recreational boat are based on the overall length of the boat. The following chart lists the number of extinguishers that are required. In the case where a Coast Guard approved fire extinguishing system is installed for the protection of the engine compartment, the required number of units may be reduced in accordance with the chart.

Minimum number of hand portable fire extinguishers required		
Vessel Length	No Fixed System	With approved Fixed Systems
Less than 26'	1 B-1	0
26' to less than 40'	2 B-1 or 1 B-II	1 B-I
40' to 65'	3 B-I or 1 B-II and 1 B-1	2 B-1 or 1 B-II

The pressure gauge alone is not an accurate indicator that Halon extinguishers are full. The weight of the units should be checked regularly. It is recommended that portable extinguishers be mounted in a readily accessible position.

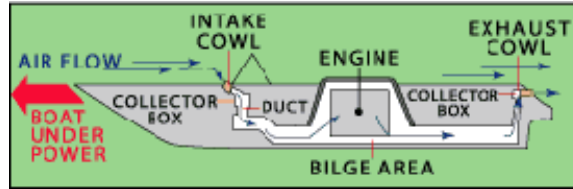
Ventilation

All boats which 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:

1. contains a permanently installed gasoline engine;
2. has openings between it and a compartment that requires ventilation;
3. contains a permanently installed fuel tank and an electrical component that is not ignition-protected;
4. contains a fuel tank that vents into that compartment (including a portable tank); and
5. contains a non-metallic fuel tank.

A natural ventilation system consists of:

- A supply opening (duct/cowl) from the atmosphere (located on the exterior surface of the boat) or from a ventilated compartment or from a compartment that is open to the atmosphere;
- and 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 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 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," etc., you can assume that the design of your boat's ventilation system meets applicable regulations.

Manufacturers of boats built after 1980 with remote starters are required to display a label which contains the following information:

Warning:

Gasoline vapors can explode. Before starting engine, operate blower at least 4 minutes and check engine compartment bilge for gasoline vapors.

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

Backfire Flame Arrestor (BFA)

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

Sound Producing Devices

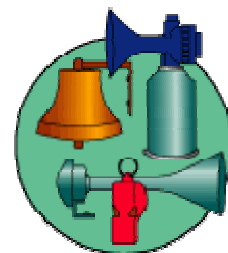
The navigation rules require sound signals to be made under certain circumstances. Meeting, crossing and overtaking situations described in the Navigation Rules section are examples of when sound signals are required. Recreational vessels are also required to sound signals during periods of reduced visibility.

When operating on Inland Waters of the United States, vessels 39.4 feet/12 meters or more in length are required to carry on board a whistle or horn, and a bell.

Note: The requirement to carry a bell on board no longer applies to vessels operating on International Waters.

Any vessel less than 39.4 feet/12 meters in length may carry a whistle or horn, or some other means to make an efficient sound signal to signal your intentions and to signal your position in periods of reduced visibility.

Therefore, any vessel less than 39.4 feet/12 meters in length is required to make an efficient sound signal to signal your intentions and to signal your position in periods of reduced visibility.



Signalling Devices

Navigation Rules

Require vessels to display lights and shapes under certain conditions.

Navigation Lights

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

Power-driven Vessels

(Sail Vessel under machinery power is considered a power-driven vessel).

If your power-driven vessel is less than 65.5 feet/20 meters in length, then it must display navigation lights per Figure 1.

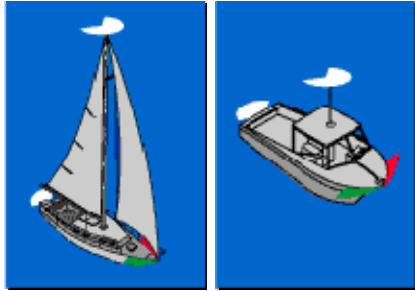


Figure 1

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

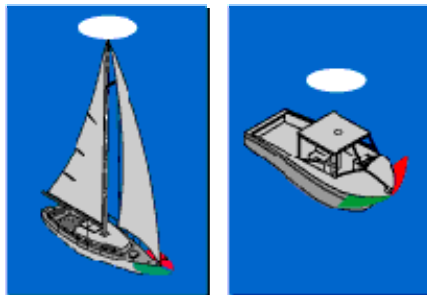


Figure 2

If your power-driven vessel is less than 23 feet/7 meters in length and its maximum speed cannot exceed 7 knots, then it may display an all-round white light, and if practicable, sidelights instead of the lights prescribed previously. (For 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 1 meter above the sidelights.

Sidelights may be a combination light, instead of two separate lights as shown in figures 2 and 5.

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

If your vessel is less than 23 feet/7 meters in length, then it should display lights for a sailboat (Figures 3, 4, or 5, if practicable). As an option, your vessel may carry an electric torch (flashlight) or lighted lantern that can show a white light in sufficient time to prevent collision. (see Figure 6)



Figure 6

Vessel Under Oars

If your vessel is under oars, then it should display lights for a sailboat (Figures 3 or 4), if practicle. As an option, your vessel your vessel may carry a flashlight or lighted lantern that can show a white light in sufficient time to prevent collision. (see Figure 7)



Figure 7

Lights and Shapes

To alert other vessels of conditions, which 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. (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)

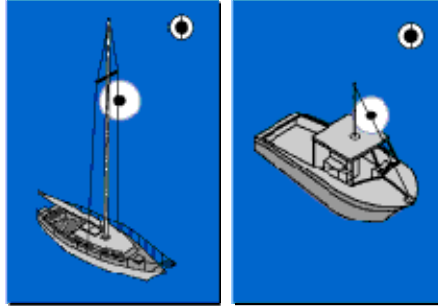


Figure 9

EXCEPTIONS: If your vessel is less than 23 feet/7 meters in length, then 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, then it is not required to display an anchor light if it is anchored in Inland Waters in a special anchorage designated by the Secretary of Transportation.

Sailing Vessels Under Power (Machinery)

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



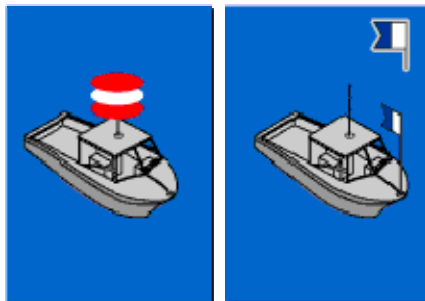
Figure 10

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 sail vessel at night using machinery or sail and machinery, then your vessel must display lights required for a power-driven vessel. (See figures 1 or 2)

Restricted Maneuverability

The Navigation Rules require vessels restricted in their ability to maneuver to display appropriate day shapes or lights. To meet this requirement, if your vessel is engaged in diving activities during the day, then it must exhibit a rigid replica of the international code flag "Alpha" not less than 3.3 feet/ 1 meter in height. 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 diver.



**Radio Regulations
Carrying a Radio**

Most recreational vessels under 65.6ft/20m in length do not have to carry a marine radio. Any vessel that carries a marine radio must follow the rules of the Federal Communications Commission (FCC).

Radio Licenses

The FCC does not require operators of recreational vessels to carry a radio or to have an individual license to operate VHF marine radios (with or without digital selective calling capability), EPIRBs, or any type of radar. Operators must however follow the procedures and courtesies that are required of licensed operators specified in FCC Rules. You may use the name or registration number of your vessel to identify your ship station.

Users of VHF marine radio equipped with digital selective calling will need to obtain a maritime mobile service identity (MMSI) number from the FCC. It is unlawful to use digital selective calling without obtaining this identity.

Vessels required to be licensed:

1. Vessels that use MF/HF single side-band radio, satellite communications, or telegraphy,
2. Power Driven vessels over 65.6 feet/20 meters in length.
3. Vessels used for commercial purposes including:
 - Vessels documented for commercial use, including commercial fishing vessels.
 - CG inspected vessels carrying more than 6 passengers.
 - Towboats more than 25.7 feet/7.8 meters in length.
 - Vessels of more than 100 tons certified to carry at least 1 passenger.
 - Cargo ships over 300 tons.
4. Any vessel, including a recreational vessel, on an international voyage.

Radio Listening Watch

Vessels not required to carry a radio (e.g. 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) whenever the radio is operating and not being used to communicate. Such vessels may alternatively maintain a watch on VHF channel 9 (156.450 MHz), the boater calling channel.

Distress Call Procedures

1. Make sure radio is on
2. Select Channel 16
3. Press/Hold the transmit button
4. Clearly say: MAYDAY MAYDAY MAYDAY
5. Also give:
 - Vessel Name 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.

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.

For further information:

FCC — Toll free telephone: 1-888 CALL FCC

World Wide Web: <http://www.fcc.gov/wtb>

USCG — World Wide Web: <http://www.navcen.uscg.gov/marcomms/>

For a complete listing of VHF Channels and Frequencies visit the USCG Navigation Center web site: www.navcen.uscg.gov

VHF Marine Radio Channels

The chart below contains a partial listing of channels recreational boaters should be familiar with:

Channel	Type of Message and Use
06	Intership Safety: Used for ship-to-ship safety messages and search messages and ships and aircraft of the Coast Guard.
09	Boater Calling: 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 US 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 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. USCG and most coast stations also maintain a listening watch on this channel.
21A, 23A, 83A	U.S. Coast Guard only
22A	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, 85, 87	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 dis-tress 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. Note: The U.S. Coast Guard will not be equipped to respond to DSC distress calls on Channel 70 until 2006—use Channel 16.

Pollution Regulations

The Refuse Act of 1899 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 which may be harmful into U.S. navigable waters. Vessels 26 feet in length and over 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 U.S. The prohibition includes any discharge which 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 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 toll-free 800-424-8802 (In Washington, D.C. (202) 267-3675).

Report the following information:

- location
- size
- source
- color
- time observed
- substances

Discharge of Garbage Prohibited

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 inland waters as well as 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.

Garbage Type	Discharge
Plastics – includes synthetic ropes, fishing nets, and plastic bags	Prohibited in all areas
Floating dunnage, lining and packing materials	Prohibited less than 25 miles from nearest land
Food waste, paper, rags, glass, metal, bottles, crockery and similar refuse	Prohibited less than 12 miles from nearest land
Comminuted or ground food waste, paper, rags, glass, etc.	Prohibited less than 3 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 oceangoing vessels of 40 feet or longer, which are engaged in commerce or are equipped with a galley and berthing must have a written Waste Management Plan describing the procedures for collecting, processing, storing and discharging garbage, and designate the person who is in charge of carrying out the plan.

Marine Sanitation Devices

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. Vessels over 65 feet must install a Type II or III MSD. All installed MSDs must be Coast Guard certified. Coast Guard certified devices are so labeled except for some holding tanks, which are certified by definition under the regulations.

When operating a vessel on a body of water where the discharge of treated or untreated sewage is prohibited the operator must secure the device in a manner which prevents any discharge. Some acceptable methods are: padlocking overboard discharge valves in the closed position, using non releasable wire tie to hold overboard discharge valves in the closed position, closing overboard discharge valves and removing the handle, locking the door, with padlock or keylock, to the space enclosing the toilets (for Type I and Type II only).

Quick Reference Chart

Vessel Length (in feet)				Equipment	Requirement
<16	16<26	26<40	40<65		
X	X	X	X	Certificate of Number (State Registration)	All undocumented vessels equipped with propulsion machinery must be State registered. Certificate of Number must be on board when vessel is in use. Note: some States require all vessels to be registered.
X	X	X	X	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 (Contrasting color to boat exterior). (b) State validation sticker must be affixed within six inches of the registration number
	X	X	X	Certificate of Documentation	Applies only to "Documented" vessels: (a) Original and current certificate must be on board (b) Vessel name/hailing port marked on exterior part of hull -- letters not less than 4 inches in height. (c) Official Number permanently affixed on interior structure -- numbers not less than 3 inches in height.

X	X	X	X	Life Jackets (PFDs)	(a) One Type I, II, III, or V wearable PFD for each person on board. (must be USCG approved)
	X	X	X		(b) In addition to paragraph (a), must carry One Type IV (throwable) PFD.
X	X	X	X	Visual Distress Signal (VDS)	(a) One electric distress light or Three combination (day/night) red flares. Note: only required to be carried on board when operating between sunset and sunrise. (b) One orange distress flag and One electric distress light - or - Three hand-held or floating orange smoke signals and One electric distress light - or - Three combination (day/night) red flares: hand-held, meteor or parachute type.
Vessel Length (in feet)				Equipment	Requirement
<16	16<26	26<40	40<65		
X	X	X	X	Fire Extinguishers	(a) One B-I (when enclosed compartment) (b) One B-II or Two B-I. Note: fixed system equals One B-I
			X		(c) One B-II and One B-I or Three B-I. Note: fixed system equals One B-I or Two B-II
X	X	X	X	Ventilation	(a) All vessels built after 25 April 1940 that use gasoline as their fuel with enclosed engine and /or fuel tank compartments must have natural ventilation (at least two ducts fitted with cowls). (b) In addition to paragraph (a), a vessel built after 31 July 1980 must have rated power exhaust blower.
X	X	X	X	Sound Producing Devices	(a) A vessel 39.4 ft must, at a minimum, have some means of making an "efficient" sound signal - (i.e. handheld air horn, athletic whistle - Human voice/ sound not acceptable).
		X	X		(b) A vessel 39.4 ft (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 seconds duration. In addition, must carry on board a bell with a clapper (bell size not less than 7.9 inches - based on the diameter of the mouth)
X	X	X	X	Backfire Flame Arrestor	Required on gasoline engines installed after 25 April 1940, except outboard motors
X	X	X	X	Navigational Lights	Required to be displayed from sunset to sunrise and in or near areas of reduced visibility.

		X	X	Oil Pollution Placard	(a) Placard must be at least 5 by 8 inches, made of durable material. (b) Placard must be posted in the machinery space or at the bilge station.
		X	X	Garbage Placard	(a) Placard must be at least 4 by 9 inches, made of durable material. (b) Displayed in a conspicuous place notifying all on board the discharge restrictions.
X	X	X	X	Marine Sanitation Device	If installed toilet: Vessel must have an operable MSD Type I, II, or III.
		X	X	Navigation Rules (Inland Only)	The operator of a vessel 39.4 ft (12 meters) or greater must have on board a copy of these rules.

Vessels Operating Offshore

If you operate offshore, you should seriously consider carrying additional equipment beyond the minimum federal requirements. This equipment should include appropriate communications gear, an Emergency Position Indicating Radio Beacon (EPIRB), a means of accurately determining your location, and an inflatable life raft. In cold waters, an immersion suit should be carried for everyone on board.

Communications

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

Satellite EPIRBs

Satellite EPIRBs (406 MHz) are designed to quickly and reliably alert rescue forces, indicate an accurate distress position, and guide rescue units to the distress scene, even when all other communications fail.



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 (internal or attached) also provide an immediate GPS position in the information passed to the RCC.

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 an 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, alerting timeliness, position accuracy, and signaling advantages over other types of EPIRBs (121.5 MHz). Before purchasing or using an other-than-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. Registration is mandatory, improves response and reduces false alarms.

Inflatable Life Rafts

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. Coast Guard approved life rafts must meet a number of stringent material and performance standards.



Life Raft

Immersion Suits

Immersion suits will delay the effects of hypothermia in cold water. They should be stored and maintained according to the manufacturer's instructions.

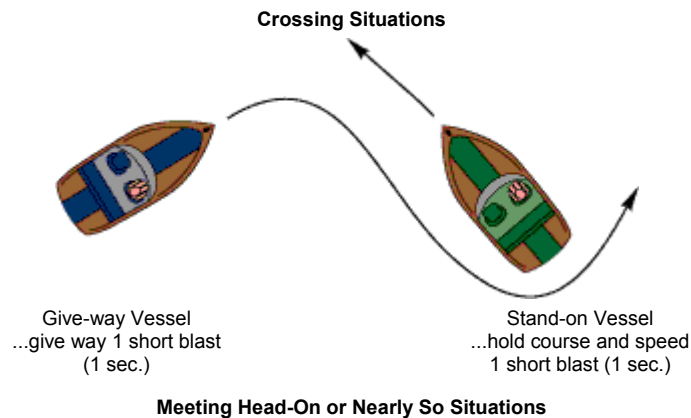
Operating Procedures

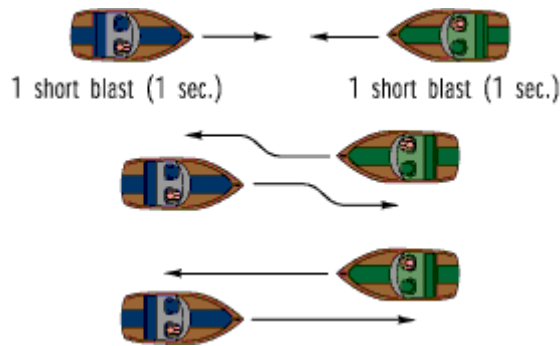
Navigation Rules

The Navigation Rules establish actions to be taken by vessels to avoid collision. The Rules are divided into two parts, INLAND and INTERNATIONAL. Inland Rules apply to vessels operating inside the line of demarcation while International apply outside. Demarcation lines are printed on most navigational charts and are published in the Navigation Rules.

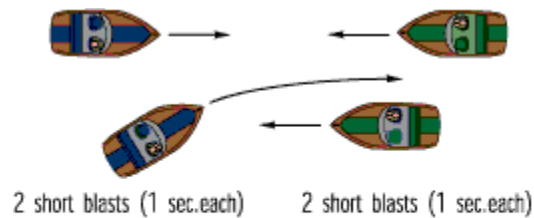
The operator of a vessel 39.4 feet/12 meters or greater is responsible for having on board and maintaining a copy of the Inland navigation rules. The following diagrams describe the whistle signals and action to be taken by vessels in a crossing, meeting or overtaking situation while operating in inland waters. These are basic examples, for further information consult the "NAVIGATION RULES" International Inland (Commandant Instruction M16672.2 Series)

Copies of the rules may be obtained from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954 tel. (202) 512-1800





Vessels generally pass portside to portside. However, vessels may pass starboard to starboard if proper signals are given.



Overtaking Situations



Aids to Navigation

Aids to Navigation are placed along coasts and navigable waters as guides to mark safe water and to assist mariners in determining their position in relation to land and hidden dangers. Each aid to navigation is used to provide specific information.

Several aids to navigation are usually used together to form a local aid to navigation system that helps the mariner follow natural and improved channels. Such aids to navigation also provide a continuous system of charted marks for coastal piloting. Individual aids to navigation 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 3R rule of "red, right, returning". This means, when returning from sea, keep red marks on the right-hand (starboard) side of the vessel.

Mariners must NOT rely on buoys alone for determining their position. Storms and wave action can cause buoys to move.

Nautical Charts

One of the most important tools used by boaters for planning trips and safely navigating waterways are Nautical Charts. Nautical Charts show the nature and shape of the coast, depths of water, general configuration and character of the bottom, prominent landmarks, port facilities, aids to navigation, marine hazards, and other pertinent 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 Ocean Service (NOS) produces a variety of nautical charts and chart products. The date of a nautical chart is critical to the boater. Only up-to-date charts should be used for navigation. Nautical charts vary in

scale and format. For coastal navigation, for instance, boaters should use the largest chart scale available. Chart updating information can be obtained from "Local Notice to Mariners" published by the U.S. Coast Guard.

NOS nautical charts may be purchased either 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. To obtain a list of the agents near you, request a free catalog.

FAA/National Aeronautical Charting Office
Distribution Division, AVN-530
6303 Ivy Lane, Suite 400
Greenbelt, MD 20770
Telephone: (301) 436-8301 or 1-800-638-8972 U.S. Only
FAX: (301) 436-6829
Email: 9-AMC-chartsales@faa.gov
Website: <http://naco.faa.gov/>

Safety and Survival Tips

Operator's Responsibilities

Your water fun depends on you, your equipment and other people who, like yourself, enjoy spending leisure time on, in or near the water. Let's take a look at your responsibilities:

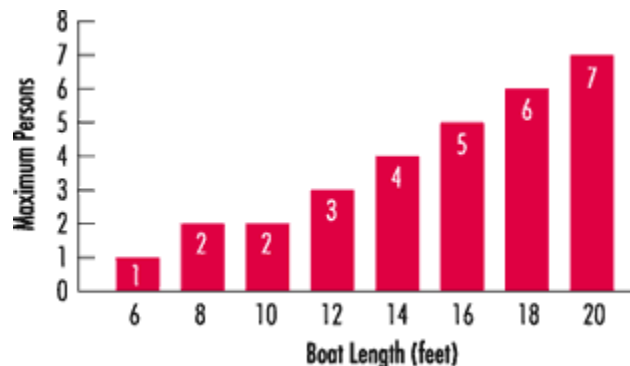
- Make sure the boat is in top operating condition and that there are no tripping hazards. The boat should be free of fire hazards and have clean bilges
- Safety equipment, required by law, is on board, maintained in good condition, and you know how to properly use these devices.
- File a float plan with a relative or friend.
- Have a complete knowledge of the operation and handling characteristics of your boat.
- Know your position and know where you are going.
- Maintain a safe speed at all times to avoid collision.
- Keep an eye out for changing weather conditions, and act accordingly.
- Know and practice the Rules of the Road (Navigation Rules).
- Know and obey Federal and state regulations and waterway markers.
- Maintain a clear, unobstructed view forward at all times. "Scan" the water back and forth; avoid "tunnel" vision. Most boating collisions are caused by inattention.

You are the key to water safety!

Overloading

Never overload your boat with passengers and cargo beyond its safe carrying capacity. Too many people and/or gear will cause the boat to become unstable. Always balance the load so that the boat maintains proper trim. Here are some things to remember when loading your boat:

- Distribute the load evenly fore and aft and from side to side.
- Keep the load low.
- Keep passengers seated (Do not stand up in a small boat!).
- Fasten gear to prevent shifting.
- Do not exceed the "U.S. Coast Guard Maximum Capacities" information label (commonly called the Capacity Plate).
- If there is no capacity plate, use the following chart as a guide to determine the maximum number of persons you can safely carry in calm weather. (The chart is applicable only to mono-hull boats less than 20ft in length.) A mono-hull is a boat, which makes a single "footprint" in the water when loaded to its rated capacity. For example, a catamaran, trimaran, or a pontoon boat is not a mono-hull boat.



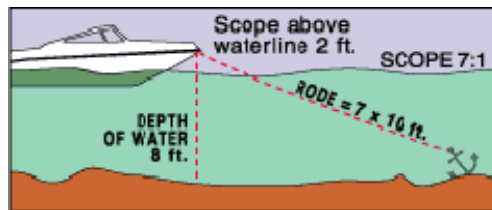
$$\text{Number of People} = (\text{Length of Boat} \times \text{Boat Width})$$

15

Anchoring

Anchoring is done for two principal reasons: first, to stop for fishing, swimming, lunch, or an overnight stay and secondly, to keep you 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).
- A three to six foot length of galvanized chain should be attached to the anchor. The chain will stand up to the abrasion of sand, rock or mud on the bottom much better than a fiber line.
- A suitable length of nylon anchor line should be attached to the end of the chain (this combination is called the "Rode"). The nylon will stretch under heavy strain cushioning the impact of the waves or wind on the boat and the anchor.
- Select an area that offers maximum shelter from wind, current and boat traffic.
- Determine depth of water and type of bottom (preferably sand or mud).
- Calculate amount of anchor line you will need. General rule: 5 to 7 times as much anchor line as the depth of water plus the distance from the water to where the anchor will attach to the bow. For example, if the water depth is 8 feet and it is 2 feet from the top of the water to your bow cleat, you would multiply 10 feet by 5 to 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 it will tend to foul the anchor.
- When all anchor line has been let out, back down on the anchor with engine in idle reverse to help set the anchor.
- When anchor is firmly set, use reference points (landmarks) in relation to the boat to make sure you are not drifting. Check these points frequently.

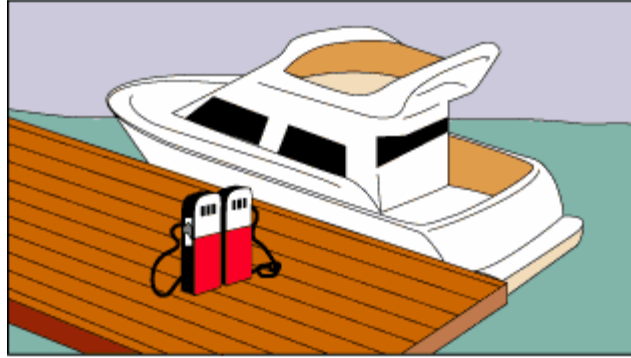
Do not anchor by the Stern!!

Anchoring a small boat by the stern has caused many to capsize and sink. The transom is usually squared off and has less freeboard than the bow. In a current, the force of the water can pull the stern under. The boat is also vulnerable to swamping by wave action. The weight of a motor, fuel tank, or other gear in the stern increases the risk.

Fueling Precautions

Most fires and explosions happen during or after fueling. To prevent an accident follow these rules:

- Portable tanks should be refueled ashore.
- Close all hatches and other openings before fueling.
- 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.
- 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". Sniff around 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 going out
- One-third to get back
- One-third in reserve

Float Plan

Play it safe, keep a stack of float plan forms on hand. Leave a copy with a friend, relative or 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 word of caution—in case you're delayed, and it's 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. An example of a float plan is provided [here as a PDF](#).

Propeller Blades Warning

Never forget the danger to persons in the water that boat propellers can inflict. Statistics indicate that most propeller injuries and fatalities involve open motorboats 16 to less than 26 feet in length and are due to operator inattention, inexperience, and carelessness. Remember to shut off your engines when approaching swimmers. When engines are running, alert swimmers to stay clear of the stern. Propeller guards are not suitable for all types of boats. Therefore, the best and safest course of action to take when people are in the water near your boat—Shut off your engines!



People in the water can be severely injured or killed

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, on-line, or from one of the weather channels on your VHF 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:

- Weather changes generally come for the west. Scan the sky with your weather eye, especially to the west.
- Watch for cloud build up, especially rapid vertically rising clouds.
- Sudden drop in temperature.
- Sudden change in wind direction and/or speed.
- If you have a barometer on your boat, check it every 2 to 3 hours. A rising barometer indicates fair weather and a rise in wind velocity; a falling barometer indicates stormy or rainy weather.

What To Do in Severe Weather

- Reduce speed, but keep just enough power to maintain headway.
- Put on your PFDs.
- Turn on running lights.

- Head for nearest shore that is safe to approach, if possible.
- Head bow of boat into the waves at about a 45-degree angle.
- Keep bilges free of water.
- Seat passengers on bottom of boat near centerline.
- If your engine fails, trail a sea anchor on a line from the bow to keep the boat headed into the waves. A bucket will work as a sea anchor in an emergency.
- Anchor the boat if necessary

Small Boats and Water Activities

Many hunters and anglers do not think of themselves as boaters, but use small semi v-hull vessels, flat bottom jon-boats or canoes to pursue their sports. These boats tend to be unstable and easily capsize. Capsizings, sinkings, and falls overboard from small boats account for 70% of boating fatalities and these facts mean you must have a greater awareness of the boat's limitations and the skill and knowledge to overcome them.

Standing in a small boat raises the center of gravity, often to the point of capsizing. Standing for any reason or even changing position in a small boat can be dangerous, as is sitting on the gunwales or seat backs or on a pedestal seat while underway. A wave or sudden turn may cause a fall overboard or capsizing because of the raised center of gravity.

Staying Afloat

It is common belief that someone 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. To stay afloat follow these rules:

- Remain calm, do not thrash about or try to remove clothing or footwear. This leads to exhaustion and increases the loss of air that keeps you afloat.
- Keep your PFD on.
- Keep your knees bent.
- Float on your back and paddle slowly to safety.



Cold Water Survival

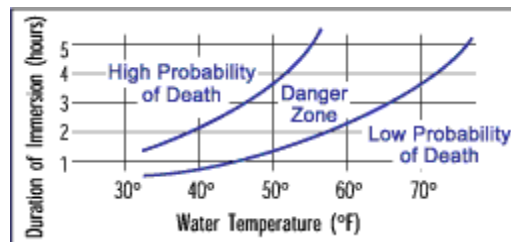
Sudden immersion in cold water can induce rapid, uncontrolled breathing, cardiac arrest, and other physical body conditions, which can result in drowning. Always wearing a PFD will help you survive in rapid immersion situations. In other situations where you must enter the water, here are a few things to follow:

- Wear a PFD.
- Button up your clothing.
- Cover your head if possible and enter the water slowly.
- Keep your head out of the water if at all possible.
- Assume the Heat Escape Lessening Posture (H.E.L.P.) position.

Hypothermia

Immersion in water speeds the loss of body heat and can lead to hypothermia. Hypothermia is the abnormal lowering of internal body temperature. If your boat 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 can't get in the boat a PFD will enable you to keep your head out of the water. This is very important because about 50% of body heat loss is from the head.

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 where safety precautions and appropriate behavior (adopting H.E.L.P.) can increase your chances of survival when immersed in cold water.

Carbon Monoxide Hazards on Recreational Boats

The Facts

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

Carbon monoxide is a by-product of 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: Cold and poorly tuned engines produce more carbon monoxide than warm properly tuned engines).

Carbon monoxide can collect within a boat in a variety of ways. Exhaust leaks (the leading cause of death by carbon monoxide) can allow carbon monoxide to migrate throughout the boat and into enclosed areas. Even properly vented exhaust can re-enter a boat if it's moored too close to a dock or another boat, or if the exhaust is pushed back by prevailing winds. Exhaust can re-enter boats when cruising under certain conditions – the station wagon effect – especially with canvas in place. 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 carbon monoxide can accumulate when a boat, generator or other fueled device is operated while the boat is at a pier, seawall or alongside another boat. Do not run engines or equipment for extended periods of time under these conditions or without continuous monitoring.
- Keep forward facing hatches open to allow fresh air circulation in accommodation spaces, even in inclement weather.
- Keep people clear of the rear deck area and swim platform of the boat while either the generator or engines are running. Always monitor the swimming area.
- 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. Seek medical attention, if necessary.
- Install a carbon monoxide detector in each accommodation space on your boat. Check the detectors periodically to be sure they are functioning properly.

Checklist

Each Trip:

- Make sure all exhaust clamps are in place and secure.
- Look for exhaust leaking from the exhaust system components 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 by pressing the test button.

Do not operate the vessel if any of these problems exist!

At Least Annually:

(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 equipped).

Regular maintenance and proper operation of the boat are the best defenses against injury from carbon monoxide...

To find out more information about how you can prevent carbon monoxide poisoning on recreational boats, contact:

U.S. Coast Guard Infoline
1-800-368-5647

www.uscgboating.org

National Marine Manufacturers Association
312-946-6200

www.nmma.org

[Download](#) a printable pdf of the checklist.

Boater's Pre-Departure Checklist

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

Minimum Federal Required Equipment	Yes	No
State Registration Documentation		
State Numbering Displayed		
Certificate of Documentation		

Lifejackets (PFDs) - one for each person		
Throwable PFD		
Visual Distress Signals		
Fire Extinguishers (fully charged)		
Proper Ventilation		
Backfire Flame Arrestor		
Sound Producing Device(s)		
Navigation lights		
Oil Pollution Placard		
Garbage Placard		
Marine Sanitation Device		
Navigation rules		
Any Additional State Requirements		

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

Recommended Equipment	Yes	No	N/A
VHF Marine Radio			
Anchor and Tackle			
Chart(s) of Area & 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			
Extra Fuel & Oil			
Alternate Propulsion (paddles/oar)			
Flashlight & Batteries			
Search Light			
First Aid Kit			
Sunscreen (SPF 30+)			
Mirror			
Food and Water			
Extra Clothing			
AM - FM Radio			
Cellular Phone			
Binoculars			
Safety Checks and Tests	Yes	No	N/A
Test Marine Radio (voice call)			
Test Navigation and Anchor Lights			
Test Steering (free movement)			

Test Tilt / Trim			
Test Bilge Pump			
Check for any excessive water in bilges			
Check Fuel System for any leaks			
Check Engine Fluids			
Ensure Boat Plug is properly installed			
Check Electrical System			
Check Galley / Heating Systems			
Check Gauges (i.e. batteries)			
Check Fuel Amount			
Ensure Anchor is ready for use			
Check load of vessel and secure gear from shifting			
Ensure passengers know Emergency Procedures and Equipment Location			
Everyone put on a Lifejacket to check for proper fitting.			
Check the Weather Forecast			
File a Float Plan with family or friend			

Be Safe on the Water

Know the navigation rules, observe the courtesies of safe boating and **KNOW . . .**

- your **Boat**
- the **Equipment**
- the **Safety devices and wear PFDs**
- about **Alcohol and other distress stressors**
- about **First aid and emergency procedures**
- your **Environment, area and weather**

. . . . BEFORE YOU GO!

Boating Safety is no accident. To build sound knowledge, proficiency and confidence, the keys to safe boating, take a boating safety course.

For more information on boating safety and boating courses, contact your State Boating Agency, Coast Guard Auxiliary, US Power Squadron, Coast Guard District or call the Boating Safety Infoline (1-800-368-5647).

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

Conversion of Metric to U.S. Units

Metric Measure	Feet in Decimals	Feet and Inches
50.0 Meters (M)	164.0 ft.	164' 1/2"
20.0 M	65.6 ft.	65' 7 1/2"
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' 1 1/2"
2.5 M	8.2 ft.	8' 2 1/2"
1.0 M	3.3 ft.	3' 3 1/3"