



Aquatic Consulting Services

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Boating Tip #47: Safety Gear & Required Equipment

The U.S. Coast Guard requires that recreational vessels carry specific safety equipment while underway. The safety gear must be in good condition and readily accessible for use in an emergency. The amount and type of equipment varies depending on: the size of the boat, its propulsion system, the number, size and/or age of people onboard; and the area in which you are operating.

Vessels carrying passengers for hire are required to carry a more thorough inventory of safety gear. Recreational vessels that are participating in organized off shore races may also be required by race organizers, the International Sailing Federation or Offshore Racing Council to upgrade their safety supplies to include gear that meets SOLAS (Safety Of Life At Sea) requirements.

In addition to the minimum safety gear that is required by federal regulations, the prudent mariner will always carry extra items for the protection of life at sea. This is advisable, especially if you venture far from shore or protected waters, operate at night or in fog, or in rough water areas.

USCG Required Equipment

PFDs

On small vessels under 16 feet in length, and human powered canoes and kayaks, a Type I (off-shore life jacket), II (near shore buoyant vest), III (flotation aid or float jacket) or V (hybrid device) wearable PFDs must be available for each person aboard, and must be ready accessible. Some Type V hybrid devices must be worn according to the manufacturer's instructions in order to be counted as part of the PFD inventory. On all other recreational vessels greater than 16 feet in length, Type I, II, III or V wearable PFDs must be available for each person aboard and must be ready accessible, and in addition one throwable Type IV PFD must be on board.

Many states have enacted legislation requiring children up to a certain age to wear properly sized personal flotation devices while topside and underway, or to be wearing a harness and restrained by a tether.

Certain types of watercraft are exempt from carrying PFDs. These include: racing canoes and kayaks, rowing sculls, towed or self-powered underwater maneuvering devices, and sailboards used for windsurfing.

Your decision as to the specific type of PFD you choose to wear should be based on several factors, including your swimming ability, water temperature, length of time you might be in the water before being rescued, whether you are sailing in daylight or nighttime conditions, on a powerboat or sailboat, and whether you are operating near shore in calm, protected waters or offshore in variable weather conditions. The age, height and weight of the wearer should also be taken into consideration. The design and fit of the PFD becomes increasingly important if you are involved in recreational or competitive watersports activities where unrestricted movement is necessary, or high speed impact with the water might be a possibility.

Fire Extinguishers

One B-I fire extinguisher, suitable for marine use, must be carried aboard all vessels up to 26 feet in length if they have enclosed engine compartments, permanent fuel tanks or enclosed cabins. On boats 26 feet to 40 feet in length, one B-I or two B-II fire extinguishers must be carried. Vessels 40 to 65 feet in length, must carry either one B-I and one B-II, or three B-I extinguishers. The number of portable extinguishers changes if a fixed fire extinguishing system is installed.

Visual Distress Signals

Pyrotechnic distress signals must have a manufacture date stamped on them by the manufacturer. In order to be included in the inventory of visual distress signals, they must not be expired (less than 42 months old). Visual distress signals must be in usable condition and readily accessible. Small vessels under 16 feet in length, open sailboats under 26 feet and not equipped with an engine, and human powered canoes, rowboats and kayaks must carry night signals when operating at night. All other recreational vessels must carry a minimum of 3 day use and 3 night use pyrotechnic signals, or 3 combination day/night use signals.

Orange smoke (hand held or floating)	Day only
Orange flag.....	Day only
Hand held red flares	Day and night
Pistol type launcher with meteor or parachute red flares.....	Day and night
Hand held rocket propelled red parachute flares	Day and night
Electric S.O.S. distress light	Night only

Sound Producing Devices

Boats under 12 meters in length (39' 4") are only required to carry a horn, whistle or other means of signaling their position or maneuvering intentions. Vessels over 12 meters in length must carry a whistle and a bell.

Backfire Flame Arrestor

A USCG approved flame arrestor is required on all boats with gasoline engines if the engines are not exposed to the atmosphere above the level of the gunwhales. Outboard motors are the exception to the rule. Backfire flame arrestors are designed to prevent open flames from leaving the carburetor if the engine backfires.

Ventilation

All gasoline powered engines are required to be properly ventilated by an exhaust blower system if located in enclosed engine compartments. The exhaust blower intake duct must be located in the lower third of the enclosed compartment, but above the bilge.

Mufflers

Most states require motorboats operating on inland waters to have muffling systems to keep noise levels below 82 decibels when measured at a distance of 50 feet.

Navigation Lights

Navigation lights must be operable and displayed between sunset and sunrise, and during periods of restricted visibility. If the vessel is only operated in times of good visibility and during daylight hours, navigation lights are not required. The number and placement of sidelights, sternlight, masthead light, and all around lights varies depending on the length of the boat and method of propulsion (human powered, sail, mechanical...)

Placards

Vessels longer than 26 feet must post an oily waste discharge placard in the engine compartment. They must also post a marine pollution placard which provides information on federal pollution regulations consistent with MARPOL (the Maritime Pollution International Convention) and which explains prohibited discharges from boats into the navigable waters of the United States, based on

distance from shore. Vessels with berths and a galley and greater than 40 feet in length must also have a written waste management plan.

Marine Sanitation Devices

If toilet facilities are provided, they must be USCG approved Marine Sanitation Devices (MSD) Type I, II or III. Treated or untreated sewage may not be dumped into lakes or reservoirs, rivers, bays, sounds or into the ocean within 3 miles of shore.

Navigation Rules

Operators of vessels under 26 feet are required to be familiar with the Navigation Rules for the waters upon which they are operating. For vessels over 26 feet in length, a copy of the Navigational Rules must be kept on board the boat.

Equipment Checklist

- Abandon ship bag
- Anchors with sufficient chain and rode
- Anchor light
- Backfire flame arrestor
- Bilge pump
- Bow pulpit and fixed stern pulpit with lifelines and stanchions spaced not more than 7 feet apart
- Cell phone and 12 volt charger
- Charts and plotting tools
- Compass: ship's compass and handheld compass
- Distress flag
- Drag device, drogue, parachute sea anchor
- EPIRB
- Fire extinguishers
- First aid kit
- Flags
- Flashlight with extra batteries
- Food and water
- Jacklines
- Laser flares
- Life raft
- Lifesling
- Marine Sanitation Device
- MARPOL pollution placard
- Mufflers

- Navigation lights: running and steaming lights
- Navigation Rules
- Oily Waste Discharge placard
- Overboard pole with 25 feet of float line and auto floating strobe light attached
- Parafoil rescue kite
- PFDs with whistles and reflective tape
- RADAR reflector
- Reefing gear
- Ring buoy or horseshoe buoy
- Safety harnesses
- Self bailing cockpit
- Signal mirror
- Soft plugs for through hull fittings
- Sound producing devices: horn, bell
- Tethers
- Throw rope
- Ventilation
- VHF radio
- Visual distress signals
- Watermaker
- Written Waste Management Plan