

Water Awareness and Charge Certificate Manual

Module 06: Protective Gear and Safety Equipment

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Revision History

Module Title	Comments	Rev No	Revision Date
Module 4: Protective Gear and Safety Equipment	Initial Release	1.0	3 Jan 2010
Module 4: Protective Gear and Safety Equipment	Standardised formatting. Rework Life Jacket section	1.1	8 Jan 2010
Module 06: Protective Gear and Safety Equipment	Previous Module 4	1.2	23 Mar 2010
Module 06: Protective Gear and Safety Equipment	Inclusion of SOLAS requirements for a lifejacket	1.3	19 May 2016
Module 06: Protective Gear and Safety Equipment	Outcomes added	1.4	28 Jan 2017
Module 06: Protective Gear and Safety Equipment	Usage requirements revised	1.5	20 May 2020

Outcomes

After completing this module, the certificate holder will:

- Be able to identify the types of safety equipment used in water activities.
- Explain how to use and care for safety equipment used in water activities.
- Be able to identify a SOLAS Life Jacket from a Personal Floatation Device

1 Personal Flotation Devices

The design of PFDs varies for different applications such as recreational boaters, sailors, canoeists, kayakers, passengers and crew of aircraft and of commercial vessels. PFD designed specifically for paddling will differ from those designed for sailing or water-skiing.

1.1 Buoyancy Aid vs Life Jacket

All types of PFDs are often incorrectly referred to as lifejackets, but this is incorrect. A buoyancy aid will assist a person to remain on the surface of the water but requires the wearer must be conscious and able to keep their head above the water. A proper lifejacket will turn an unconscious person face up and keep their head above water

For a PFD to qualify as a lifejacket, it must conform to the requirements of Chapter II of the SOLAS International Life-Saving Appliance (LSA) Code. From a scouting perspective, the following points are of interest:

- The lifejacket must lift the mouth of an exhausted or unconscious person not less than 120 mm clear of the water with the body inclined backwards at an angle of not less than 20° from the vertical position
- The lifejacket must turn the body of an unconscious person in the water from any position to one where the mouth is clear of the water in not more than 5 seconds
- Each lifejacket shall be fitted with a whistle firmly secured by a lanyard.
- Each lifejacket shall include retro-reflective material in the covering
- Each lifejacket shall be provided with a suitable means to allow a rescuer to lift the wearer from the water into a survival craft or rescue boat.



Buoyancy Aid



Life Jacket

1.2 Flotation Types

Foam Core

The simplest and least buoyant of the class come in the form of nylon-lined foam vests, often used in training for swimming, or as light safety precautions in relatively safe environments, such as lake cruises and amusement parks. With no need for a

leak-proofing quality check because of their inherently buoyant foam cores, they can be mass-produced inexpensively and widely used, making it the most commonly seen form of PFD's.

Air Chambers

Life jackets for outfitting large commercial transport in potentially dangerous waters, such as coastal cruises and offshore passages, and over water air flights, are often a pair of (twin or double) sealed air chambers constructed of coated nylon. Twin air chambers provide for redundancy in the event of one of the air chambers leaking, for example if the thin air cell fabric is sliced open by sharp metal fragments during emergency evacuation and egress.

Aircraft devices for crew and passengers are always inflatable since it may be necessary to swim down and away from a ditched or submerged aircraft: inflated or foam filled devices would significantly impede a person from swimming downward in order to escape a vehicle cabin. Upon surfacing, the person would then inflate the device, orally or by triggering the gas canister release mechanism.

1.3 Maintaining PFDs

Only personal floatation devices that are in good, working condition are safe to use. PFDs that are damaged in any way should be discarded immediately as even the slightest damage can greatly reduce their effectiveness.

Check for damage. Rips, tears, cracks, holes, or any other significant wear are an indication that a PFD should not be used. This type of damage can lead to decreased functionality and may not keep someone afloat.

Check for waterlogging. If a PFD appears to become saturated after being used in the water, there is a good chance that the PFD is permanently damaged and the buoyant material has been compromised. A PFD that absorbs water can actually weigh the person down more than help keep them afloat.

Check for air leaks. If, after gently squeezing an inflatable PFD, air can be heard to be escaping the buoyant material, it is likely that there is damage to the exterior casing, which creates the potential for water to enter the PFD and decrease buoyancy.

Check for mildew. A PFD that smells or appears mouldy is not shedding water properly. It is likely that water has saturated into the PFD and it is no longer viable and should be discarded.

Check the buoyant material. If the buoyant material inside the PFD appears to have shrunk, the amount of buoyancy produced by the PFD is likely lower than intended and may not be as effective in keeping someone afloat. If there seems to be excessive amounts of open space between the outer covering material and the internal buoyant material, it most likely has shrunk.

Never alter a PFD in any way. If a PFD needs to be altered to fit an individual then another one should be found. If any alterations are discovered, immediately discard that PFD as its effectiveness may be compromised.

Allow PFDs to dry before placing in storage. Storing a wet PFD can cause the buoyant materials to break down which ultimately decreases the PFD's floatation ability. While allowing a PFD to dry is important, it is not recommended to aid the drying of a PFD in any unnatural way like putting them in the dryer or placing them on a radiator.

Do not use PFDs for anything other than their intended use. Using any type of PFD as a boat bumper, kneeling pad, or seat cover can decrease the device's buoyancy. The buoyant material inside the PFD can break down when crushed so avoid using them for anything other than their intended use.

Store your PFDs properly. Keeping your PFDs away from excess moisture and heat can help preserve their buoyancy and keep them effective longer. Store them in cool, dry places and keep them out of direct sunlight when not in use. In addition, storing them in a secure place can prevent someone from misusing, altering, or tampering with a PFD.

1.4 Usage Requirements

The PFD must be correctly sized and fitted to the wearer. A PFD that is too small may not provide sufficient buoyancy and a PFD that is too large may float over the head of the swimmer, thus smothering them. The wearer should be able to float comfortably with their head well out of the water. If the PFD rides up on the wearer this could indicate that the PFD is too large.

Whether using a PFD that fastens via zips, clips or clamps, it is important that it closes completely and stays closed while wearing it. To make sure a PFD fits and fastens properly, lift your arms above your head and have someone grab the top of the arm openings and lift upward, if the PFD stays in place it will most likely not come loose in the water.

A PFD must be worn:

1. By all crew in dinghies, canoes and kayaks
2. By all children under 12 years of age when above deck at all times when the vessel is underway.
3. By any other person on board a vessel at such times as the skipper may direct.
4. By every person on board including the skipper whenever the vessel operates in rough sea or water conditions.
5. During all night time operations
6. When carrying out any other work onboard a vessel where there is a risk of being lost overboard

2 Foot Wear

It is highly recommended that any Cub or Scout, who enters any river or dam, wears closed water shoes. These may be proper water shoes or tackies, preferably with a thick sole. This is to protect against cuts from glass, rusted tins or fishing hooks.



Sandals like "Rockies" may be worn, but do not offer the same level of protection as a closed shoe. Slip-on shoes and slops are not acceptable as they offer little protection and will come off in the water

3 Sun Protection

In order to protect against the Sun's UV rays, it is recommended that Cubs and Scouts partaking in any water activity, wear a long sleeve T-shirt or rash vest. Sun screen with a very high Sun Protection Factor (SPF) should be applied. SPF 40 or 50 with water resistant qualities are preferred. Ensure that all have hats and that they are worn; if not in the water while swimming, then definitely while out of the water or during boating activities.

4 First Aid Kits

Some suggested items:

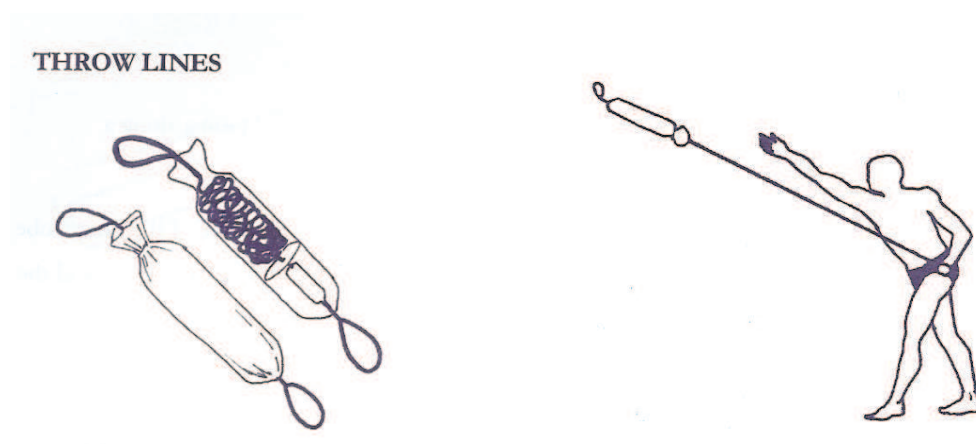
<ul style="list-style-type: none">• first-aid book• scissors• thermometer• tweezers• face mask for cardiopulmonary resuscitation (CPR)• disposable latex gloves• flashlight• matches• safety pins• blanket / space blanket	<ul style="list-style-type: none">• antacid• antiseptic ointment• calamine lotion• plasters• elastic bandages• sterile cotton balls• sterile gauze pads• stretchable gauze roll• waterproof tape• alcohol wipes• cotton swabs
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5 Throwing Bags, Heaving Lines or Life Rings

The Rescue Throw Bag, a heaving line or Life Ring is a useful piece of rescue equipment as it acts as an extension of the rescuer's arm. They are useful for deployment from:

- boats where the boat cannot get close to the casualty in difficulty.
- from piers and rocky shores or banks where it would be difficult to enter or exit the water

Any of these devices must be checked and prepared for use at the start of and activity – it is too late to prepare them when an emergency arises



Open the throw bag and secure the end loop of the throw line in the non-throwing hand.

Alert the victim with a loud call "Rope" and use a forceful underarm motion to throw the bag towards the victim in difficulty.

Instruct the victim to grab the rope (not the bag) and then tow them in.

Repack the line by holding the bag open and putting the rope over your shoulder. Feed the rope into the bag in an 'S' pattern. Do not push it in. Shake the bag to settle the rope and close the bag with the attached strap.

NOTE: This procedure pertains to flat water only. Special training and practice is required before using a throw bag in moving water.

6 Knee-boards, Paddle Ski's or Windsurfer Boards

A knee-board, paddle ski or windsurfer board can effectively be used as rescue device, because it provides efficient flotation for both the rescuer and the victim. The board provides confidence to the victim once they have been placed on the board. It is further a reliable means of returning a victim to shore quickly and safely.

Rescue boards should be placed at strategic locations along the waterfront, ready for immediate use. Such rescue boards must not be used by Cubs and Scouts as floats or play items.

