

## 2. SAFETY EQUIPMENT

This section covers the World Cruising Club Safety Equipment Requirements that apply to every offshore World Cruising Club rally, what to look for when purchasing equipment and a full check list of items that all yachts must carry.

**Yachts sailing in Division II (Racing) must also comply with World Sailing Offshore Special Regulations for Category 1.**



### Useful Safety Checklist

Questions	Notes
Does your liferaft comply with WCC requirements? See <a href="#">page 23</a> and confirm type of raft with WCC by uploading raft service certificate to the Members' Area	
Does your liferaft have an over 24 hour equipment pack, either in the raft, or in a grab bag? See <a href="#">page 26</a>	
Do each of your crew have a lifejacket-harness that complies; with a whistle, light, sprayhood, crotch strap, 3 clip safety line and fitted personal AIS MOB beacon? See <a href="#">pages 30-31</a>	
Do you have the correct man overboard equipment? See <a href="#">page 32</a>	
Is your safety equipment clearly marked with the boat's name?	
Have you displayed a stowage chart showing the location of key safety equipment?	
Have you practiced man overboard recovery with your crew? How will you get the casualty back onboard the boat? See <a href="#">page 34</a> for suggestions	
Have you thought about your abandon ship grab bag contents? See <a href="#">page 20</a> and <a href="#">page 35</a> for recommendations	
Use the checklist on <a href="#">pages 14 to 20</a> to ensure that you comply with all parts of the World Cruising Club Safety Equipment Requirements. You won't be allowed to start the rally otherwise!	
Have you practiced or discussed emergency scenarios with your crew? <ul style="list-style-type: none"><li>• Man overboard, including recovery see <a href="#">page 34</a></li><li>• Fire</li><li>• Sinking</li><li>• Dismasting see <a href="#">page 89</a></li></ul>	
If you want training, these topics should be covered by a Sea Safety course ( <a href="#">page 41</a> ), or buy a good book (see <a href="#">page 56-57</a> )	
Do your crew need training in: <ul style="list-style-type: none"><li>• First aid</li><li>• Sea survival (liferafts etc)</li><li>• Communications equipment</li><li>• Navigation</li><li>• Sailing skills</li></ul>	
It is a recommendation that the skipper and at least one crew have undertaken formal training in the past 5 years ( <a href="#">page 20</a> ) More information on crew training on <a href="#">page 41-42</a>	
Do you have a comprehensive toolkit and spares you might require for: <ul style="list-style-type: none"><li>• mechanical (ie engine, generator etc) repairs</li><li>• electrical repairs</li><li>• plumbing</li><li>• hydraulic repairs</li><li>• rigging repairs</li><li>• hull repairs</li></ul>	
More information on <a href="#">page 65</a> and in the <a href="#">Boat Preparations</a> section	

## World Cruising Club Safety Equipment Requirements

### 2023

The WCC safety equipment requirements have been drawn up to ensure the minimum level of safety for yachts participating in World Cruising Club Events. The World Sailing Offshore Special Regulations (OSR) have been used as a guideline to compile these regulations. See [www.sailing.org/offshore-special-regulations](http://www.sailing.org/offshore-special-regulations)

These safety equipment requirements do not override any greater safety requirement demanded by the yacht's national or flag country, maritime authorities or appropriate regulatory bodies.

Yacht owners considering taking fare paying guests or crew should consider the implication in relation to their national or flag regulations as required by the appropriate proper authorities.

The requirements are in two sections:

#### **Section One - Mandatory Safety Equipment Requirements**

This equipment must be carried and all items will be sighted during the safety equipment inspection prior to the start. Failure to comply may lead to disqualification from the Rally.

#### **Section Two - Recommended Safety Equipment**

Whilst equipment in this section is not mandatory the organisers strongly suggest that all the recommendations in this section are complied with. The Safety Equipment Officer will be available to discuss points made in this section during the inspection.

#### **For rallies with a racing division only:**

*Division II (Racing) is run under World Sailing Offshore Special Regulations for Category 1 and these Safety Equipment Requirements. All Racing Division Skippers should ensure they compliant with these requirements and utilise the check lists available on the World Sailing Website when preparing the boat.*

#### **For World ARC yachts:**

*Equipment or service dates should not expire within the first six months of the start of the Rally. Your safety equipment inspector will be able to advise you about where to renew these items subsequently.*

### General Requirements

It is the entire sole and inescapable responsibility of each skipper to ensure that all necessary safety precautions whatsoever are taken in respect of themselves, the crew and the yacht.

All safety equipment that requires regular servicing must be in date, at the start of the Rally, and remain in date for the duration of the Rally. (The Test Certificate for the liferaft will be inspected during the Safety Equipment Inspection).

#### All safety equipment carried must:

- i. be of type, size and capacity commensurate with the size of yacht and crew
- ii. function correctly
- iii. be easily accessible

**Each crew member must be fully conversant with the operation of all safety equipment carried and know its stowage positions.**

**Section One - Mandatory Safety Equipment Requirements**

**Liferaft**

A purpose made, self inflating, liferaft(s) with sufficient places to carry all the crew must be either:

- i. An ISO Standard 9650, Type 1 Group A, with service Pack 1 (>24 hours) (Service Pack 2 (<24 hours) accepted if equivalent items added to enhance the grab bag), or
- ii. An ISAF liferaft manufactured before 2016 until replacement is due at end of service life, plus food and water equivalent to (i) above, or
- iii. A SOLAS (LSA Code 1997 Chapter IV or later) containing a SOLAS A pack

Each raft shall be mounted externally or capable of being at the lifelines ready to launch within 15 seconds. On a multihull, each raft shall be deployable whether inverted or not.

If a raft is stowed in a locker, the locker must be dedicated to the stowage of the raft and must not have anything else stowed in it that may hinder access to the raft or cause damage to it.

The end of each raft painter line must be secured to a strong point on board the yacht.

Each raft must have a valid inspection certificate from the manufacturer or approved service agent, valid for the period of the Rally. The servicing certificate, or a copy, must be carried on the yacht.

Liferaft Servicing maximum intervals:

- SOLAS rafts - every year.
- ISO 9650 canister (hard case) packed rafts - every 3 years.
- ISO 9650 valise (soft case) packed rafts - every 3 years, or every year if it is rented.
- ISAF rafts - every year.

**EPIRB (Emergency Position Indicating Radio Beacon)**

A floating, water and manually activated approved EPIRB transmitting on 406 MHz and 121.5MHz or AIS, fitted with an internal GPS.

The EPIRB must be correctly registered with the appropriate home authority.

[Personal locator beacons (PLBs) carried do not replace the requirement for a yacht's EPIRB]

**Long Range Communications Equipment**

A correctly functioning communications system capable of sending and receiving email messages whilst at sea, either via satellite or via SSB(HF) radio with pactor modem.

*This paragraph does not apply to: ARC Portugal, or ARC Baltic.*

**SSB HF Radio: World-ARC yachts must be fitted with a Digital Selective Calling (DSC) capable marine SSB HF radio transceiver covering the 2 – 22 MHz bands, with an independent aerial for DSC operation or a suitable alternative 'always-on' satcoms system. See the [Communications Section](#) for more details**

**VHF**

An installed VHF DSC capable radio transceiver with a rated output power of 25W and capable of working on all standard international channels must be fitted.

The radio must have a masthead antenna.

An emergency antenna must be carried.

An external cockpit extension speaker should be fitted to the set, or a handheld VHF capable of being charged at sea carried.

*Continued over*

A handheld VHF transceiver: With min 5w output power, watertight or with waterproof covers. (It is recommended the handheld receiver should have Digital Selective Calling (DSC) and be equipped with GPS.)

**Passive Radar Reflector**

Permanently mounted in, or capable of being hoisted to, a position at least 5m (15 feet) above deck.

Octahedral circular sector plates of minimum diameter 300mm (12”), or octahedral rectangular plates of minimum diagonal dimension 400mm (16”).

Non-octahedral reflectors must have a documented minimum RCS (radar cross-section) of not less than 10m<sup>2</sup>. (Smaller cylindrical reflectors do not meet the RCS requirement).

Where fitted a Radar Target Enhancer does not replace the requirement for a passive radar reflector.

**AIS (Automatic Identification System)**

An **AIS Transponder** is a mandatory requirement.

The AIS Transponder shall share the masthead VHF antenna via a low loss AIS antenna splitter or a dedicated AIS antenna that is a minimum of 380mm long, mounted with its base at least 3 meters above the water, and fed with coax cable that has a maximum 40% power loss.

An **AIS personal crew overboard beacon** for each crew member appropriately fitted to lifejackets for activation method of each device.

**Flares**

Must be pyrotechnic LAS III (SOLAS compliant), not older than the stamped expiry date, or four years from date of manufacture, for the end date of the Rally. Pyrotechnic flares to be stowed in a watertight container, with protective gloves and goggles, with as a minimum:

4 red hand held flares (2 of which may be eVDS)

2 buoyant orange smoke

***These flares are in addition to any flares carried in liferafts and their supplementary service packs or grab bags.***

**Crew Overboard Recovery**

Within reach of the helmsman for instant use:

1.  A Danbuoy (pole and flag) or inflatable danbuoy, and attached to it a separate lifebuoy equipped with a whistle, drogue, a self-igniting light.

or

An MOB recovery module incorporating the above.

**AND**

2.  One lifebuoy with a drogue, a self-igniting light and whistle attached, and a method to recover the person from the water.

or

A recovery sling capable of hoisting a crewmember aboard, which includes a buoyant line, buoyancy section (horseshoe) with no less than 90 N (20lb) buoyancy, with a self-igniting light and marine grade retro-reflective material.

**AND in addition to 1. and 2. above**

3. Throwing/heaving line (floating) 15–25m (50–75’) length, readily accessible to cockpit.

*Continued over*

At least one lifebuoy or recovery sling should have permanent (e.g. foam) buoyancy. Each inflatable lifebuoy and any automatic device must be tested and serviced at intervals in accordance with its manufacturer's instructions.

Every lifebuoy/recovery sling shall have the yacht's name on it and must be fitted with marine grade retro-reflective material.

See diagram on page 32

### **Bilge pumps**

1. A securely fitted manual bilge pump operable from on deck
2. A securely fitted or portable manual bilge pump operable below deck
3. Multihulls shall have provision to pump out each hull, and all watertight compartments (except those filled with impermeable buoyancy).
4. All required permanently installed bilge pumps shall be operable with all cockpit seats, companionways and hatches shut.
5. All removable bilge pump handles shall be retained by a lanyard, to prevent accidental loss.

**Emergency (High Capacity) Portable Pump:** World ARC yachts shall have a portable high capacity (minimum 200l/min) electric or engine driven pump with sufficient hose to discharge from any compartment directly overboard or into the cockpit. This can be a combination of fixed and portable pumps combined to meet the above requirement. *It is recommended that yachts on all other events also carry an Emergency (High Capacity) Portable Pump.*

### **Navigation lights**

Navigation lights must be fitted so that the yacht complies at all times with the International Regulations for Preventing Collision at Sea. Two independently wired/powered sets of navigation lights are required:

For example, the primary set (bow and stern lights)

For example, the secondary set (masthead tricolour), up to 20m

**Battery operated navigation lights are not acceptable as the secondary set.**

Spare lamps of correct wattage must be carried for non-LED navigation lights.

### **High powered search light**

A watertight high-intensity heavy duty searchlight powered by the ships' batteries, instantly available in the cockpit for use on deck. The searchlight must be capable of continuous use. If rechargeable, the searchlight shall be capable of operating whilst being charged.

Spare bulbs for search light, or replacement light for LED.

### **Lifejacket/combined harness**

There must be a suitable quality lifejacket/combined harness provided for each member of the crew or a permanent buoyancy jacket for children weighing under 40kg (88lb).

Where national flag regulations require inherently buoyant PFDs to be carried, an offshore inflatable lifejacket/harness must also be carried.

Each lifejacket must have:

- i. A whistle
- ii. A self-igniting light
- iii. Be marked with the yacht name (or lifejacket owner's name)

*Continued over*

- iv. Retro-reflective tape
  - v. A crotch (or thigh) strap
  - vi. A sprayhood/face shield
  - vii. An AIS personal crew overboard beacon for each crew member
  - viii. A 2m (6'6") safety line with self-closing hooks at each end, and an intermediate self-closing hook (a '3 clip safety line')
- Spare re-arming kits and gas bottles appropriate for each make of lifejacket onboard must also be carried.

**Jackstays and Clipping Points**

- Jackstays/jacklines along port and starboard side decks and elsewhere as necessary to enable a crewmember to move readily between the working areas on deck and the cockpit(s) with the minimum of clipping and unclipping operations
- Clipping points attached to through-bolted or welded deck plates, or similar, in positions close to the helm, and to enable crew to clip on before coming on deck, and unclip after going below.

**Heavy equipment**

All heavy equipment (i.e. anchor, batteries, gas bottles and stoves) must be firmly secured to prevent damage from possible knockdown or capsize.

**The following equipment must also be fitted/carried:**

- A safety equipment location chart in durable waterproof material, visible for crew and clearly marked with the location of principal items of safety equipment.
- Emergency grab bag (for suggested contents, [see Appendix 1](#)).
- Navigational charts (not solely electronic), and pilots for the route.
- A recognised secondary or alternative method of navigation.
- Securely fitted taut double lifelines/guardrails around the entire deck.
- Anchor of sufficient weight plus a suitable combination of chain and rope.
- Fire extinguishers (at least two), suitable for size of boat and within service date.
- Fire blanket (secured near the galley).
- Companionway hatches/washboards to be capable of being secured shut independently and with lanyards (to prevent accidental loss when removed for access or with the main hatch open). Doors should be capable of being secured when open or closed.
- Bungs or softwood plugs – securely attached/stowed adjacent to each fitting to enable any through hull fitting (below and above waterline) to be closed off.
- A watertight high powered torch/flash light with spare batteries and bulbs.

***Mandatory Equipment Continued...***

- Emergency tiller capable of being fitted to the rudder stock except when there are two methods (for example tiller or wheel) of controlling a rudder, neither of which shares components with the other except for the rudder stock.
- A proven method of emergency steering with the rudder disabled.
- Hacksaw and spare blades, bolt croppers or a suitable method for cutting-away rigging.
- Medical kit and manual suitable for offshore/Ocean passages.
- Fog horn.
- Buckets (at least two) of stout construction and fitted with lanyards; capacity to be at least 2 gallons (9 litres).
- Echo sounder and boat speed/distance log.

**Section Two - Recommended Safety Equipment**

**It is highly recommended that the following equipment be carried:**

- One complete spare lifejacket.
- Dinghy and oars.
- Second anchor, plus a suitable combination of chain and rope.
- Sextant; and nautical almanac or tables for astro navigation.
- Storm jib.
- Storm trisail or 3rd reef in mainsail.
- A 1m<sup>2</sup> (11ft<sup>2</sup>) area of highly-visible pink, orange or yellow capable of being displayed on the coach roof and/or deck.
- A floating flashlight to be carried at night by each crew member.
- Mast-step. The heel of a keel-stepped mast should be securely fastened to the mast-step or adjoining structure.
- Drogue or Sea Anchor. A drogue (for deployment over the stern), or alternatively a sea anchor, or parachute anchor (for deployment over the bow).
- Personal 406 MHz Locator Beacon (PLB) for each individual crew member.
- It is highly recommended that each person on board carries a knife at all times whilst at sea.

## Appendix 1 - Recommended Grab Bag Contents

If your liferaft is packed for less than 24 hours, you must have a grab bag for each liferaft with the additional contents (see table on page 26).

The recommended contents are in addition to the items required by the Safety Equipment Requirements.

The grab bag offers a suitable place to stow items where they will be quickly found and readily carried to the liferaft. A grab bag should have inherent flotation, be marked with the name of the yacht, and have a lanyard and clip.

### Recommended Grab Bag Contents:

- Waterproof hand-held VHF transceiver
- Watertight flashlight with spare batteries (and bulb if not LED)
- Portable solar charger for phone / flashlight
- Second EPIRB
- Two red eVDS
- First aid kit, including sunscreen and medical supplies for pre-existing medical conditions
- Graduated plastic drinking vessel for rationing water
- Two safety can openers (if food or water carried is in cans)
- Additional drinking water in a dedicated and sealed container, or a hand operated desalinator, plus containers for water
- Additional high energy food
- String, polythene bags, seasickness tablets
- One daylight signaling mirror and one signaling whistle
- Two "Cyalume" sticks or two watertight floating lamps
- Second sea anchor and line
- Last minute ditch bag (see page 35)

Note: If your liferaft contents require upgrading with extra rations or equipment to meet the ISO 9650 Pack 1 over 24 hours or SOLAS A content lists (see table on page 26) then you will need a grab bag for this equipment too.

## Appendix 2 - Recommended Crew Training

The skipper and at least one crew member should have undertaken training within the five years before the start of the Rally in both theoretical and practical sessions in the following training topics. World Sailing recommends that all crew members do likewise.

### Recommended Training Subjects:

- Giving Assistance to Other Craft
- Personal Safety Gear, theory and practice
- Care and Maintenance of Safety Gear
- Fire Precautions and Firefighting, theory and practical
- Crew Overboard Identification and Recovery
- Hypothermia, Cold Shock and Drowning
- Crew Health
- Marine Weather
- Heavy Weather - crew routines, boat handling, drogues
- Storm Sails
- Damage Control
- Search and Rescue Organization
- Pyrotechnics and Signalling Gear, theory and practical
- Emergency Communications, theory and practical
- Liferafts and Abandon Ship, theory and practical

### Video Guides: Safety

We have produced detailed video guides on the WCC Safety Requirements, ideal for you to watch in support of the information in this Rally Handbook.



Click or scan  
the code

The playlist includes an on deck and below deck walkthrough of required and recommended items, a focussed seminar on liferafts, Q&A with Ocean Safety, and details of recommended crew training.



## Requirements

The WCC Safety Equipment Requirements have been drawn up to ensure the minimum level of safety for yachts participating in World Cruising Club events. The World Sailing Offshore Special Regulations have been used as a guideline to compile these regulations. See [www.sailing.org/offshore-special-regulations](http://www.sailing.org/offshore-special-regulations)

These safety equipment requirements do not override any greater safety requirement demanded by the yacht's national or flag country, maritime authorities or appropriate regulatory bodies.

## Safety Equipment Inspection

Before the rally starts, every boat will have a safety equipment inspection, checking that all of the mandatory equipment required in the WCC Safety Equipment Requirements is onboard and suitable for use. The check lists on [pages 14-20](#) will help you to ensure that you are ready.

**For some rallies, Virtual Safety Equipment Inspections may be offered in advance of the rally - see Newsletters for details.**

### Extra Paperwork

In addition to the safety equipment, we will also want to see:

- **Proof that your liferaft complies with one of the three approved types (ISO 9650, ISAF or SOLAS A), as explained on [page 23](#). This may mean providing the original manufacturers' service book.**
- The liferaft servicing certificate
- Inflatable Life saving devices servicing history or certificate.
- And for boats in the Racing Divisions only, a copy of the IRC certificate, keel inspection and crew training certificates.

### Getting Help

If you are unsure about any aspect of the regulations, please contact us:

**UK:** Tel: +44 (0)1983 296060  
[mail@worldcruising.com](mailto:mail@worldcruising.com)

**Germany:** Tel: +49 (0)9533 8733

It is much easier to sort out possible problems months before the rally starts!

## The Inspection

In the Members Area, you can find informative videos taking you through the process. Login at [www.worldcruising.com](http://www.worldcruising.com) and click WCC Online Seminars - Safety Equipment Explained or scan the code above.



When you check-in for the rally, you will be able to book a time for your inspection. It is a good idea to do this as soon as possible, so that any problems can be sorted out in good time.

On the day of the inspection:

- Put all of the small equipment, like first aid kit, lifejackets/PFDs, flares and grab bag on the saloon table.
- Get the emergency steering system out of the locker and be prepared to demonstrate.
- Find all paperwork, such as liferaft service certificates and service records.
- Make sure that jackstays/jacklines are fitted.

The inspection will take around 45 minutes, but may take a lot longer if you are not prepared.

The inspector will check every item on the list, including ensuring that items are secured properly and ready to be used. The inspector will ask if a recent Self-Test has been carried out for the EPIRB and AIS beacons. It would be highly beneficial during an inspection if a list of liferaft and grab bag contents were available if it is not greater than 24hrs as each manufacturer or service agent has their own ideas and it is rarely clear on an inspection certificate.

The inspector will make suggestions for improving your safety set-up, and will explain any issues or 'failures'.

### Can I 'Fail' the Inspection?

If you do not have suitable equipment installed correctly to meet the WCC Safety Equipment Requirements, then you will not pass your inspection. The inspector will explain the problem with you and talk through the solutions.

This usually means making some simple improvements, like putting the boat's name on the lifebuoys or buying a lifejacket sprayhood. The inspector will come back and re-check until they are satisfied. Ultimately, the inspector can stop the boat from participating in the rally.

## Choosing a Liferaft

A liferaft is designed to be used as the last resort; when you need to escape from your boat because of fire or sinking. The liferaft is designed to help shipwrecked sailors to survive while waiting for rescue. Using a liferaft won't be an enjoyable experience, but it may save your life.

Even with EPIRBs, AIS beacons, SARTs and modern voice communications, it may take some time before your distress call results in a rescue. The contents of your liferaft will help to keep you alive, and to attract the attention of your rescuers. **We require all liferafts to be packed with enough food, water and equipment for more than 24 hours.** You may need to supplement the standard pack of your raft with extra equipment and water.

## Features of a Modern Liferaft

Your liferaft will be built to the standard you have selected - either ISO 9650, ISAF or SOLAS. This is a minimum design standard, and it is worth looking for rafts that provide more features, as these are more likely to perform best when needed the most. As well as the standard features, look for the following:



**Self-inflating canopy, brightly coloured with internal and external lights and retro-reflective tape.**

**Look-out port for ventilation and watch-keeping**



**Canopy opening: large enough to allow access wearing lifejackets, but easy to close with cold hands**

**Brightly coloured: canopy, tubes and underside for better visibility**

**Strong grab lines: all around the inside and outside of the raft**

**Step (rigid or inflatable) to make boarding easier.**

**Pull-in ladder extends across the raft floor**

**Ladder under raft to help righting in case of capsize**

**Fully-fitted insulated floor**

**Clear instructions: these are printed as a diagram directly onto the raft**



**Multiple oversized and strongly secured ballast pockets for better stability**

**Good sized, securely affixed drogue**  
**CO<sub>2</sub> bottle secured out of the way**

**Comprehensive emergency pack with quality contents. Pack and contents should be easy to use with wet, cold hands**



### Types of Liferaft

When making a liferaft choice for an offshore passage, there are several questions to consider; not only whether to hire or buy, but also additional raft features, number of people and stowage.

Offshore liferafts are constructed with two main buoyancy tubes, whereas a coastal liferaft usually only has one, making the offshore liferaft more stable and buoyant. The contents of liferafts also vary, with packs for offshore rafts being more comprehensive.

The choice of liferafts available in the market place can be bewildering. Whichever raft you choose for participating in a World Cruising Club rally, it must conform to one of the following standards and you should thoroughly check the certificate to ensure it complies:

#### World Cruising Club Safety Equipment Requirements. A liferaft shall be either:

- i. An 'ISO Standard 9650' Type 1 Group A raft with service Pack 1 (>24 hours) or equivalent contents; or
- ii. ISAF liferafts manufactured before 2016 until replacement is due at end of service life, plus food and water equivalent to (i) above; or
- iii. A commercial SOLAS model - (LSA Code 1997 Chapter IV) containing a SOLAS A pack.

See the World Sailing website [www.sailing.org/offshore-special-regulations/](http://www.sailing.org/offshore-special-regulations/) for the full text of the World Sailing Offshore Special Regulations (OSR).

More information on liferaft specifications can be obtained from:

- ISO: [www.iso.org/standard/80963.html](http://www.iso.org/standard/80963.html)
- World Sailing OSR: [www.sailing.org/offshore-special-regulations/](http://www.sailing.org/offshore-special-regulations/)
- Your liferaft manufacturer



### ISO 9650 Liferaft

**Maximum three year service Interval**

#### Type 1 Group A with Pack 1

ISO 9650 is the international standard for small craft liferafts, established in 2005. The correct ISO raft for World Cruising Club rallies is the **Type 1 Group A**.

The Type 1 Group A raft is designed for offshore conditions, and inflates in air temperatures between -15°C and +65°C.

The raft shall be equipped with service Pack 1, providing supplies for more than 24 hours. The items in Pack 1 can be packed with the liferaft, or in a separate grab bag (abandon ship bag).

The benefits of the ISO 9650 Type 1 Group A raft are:

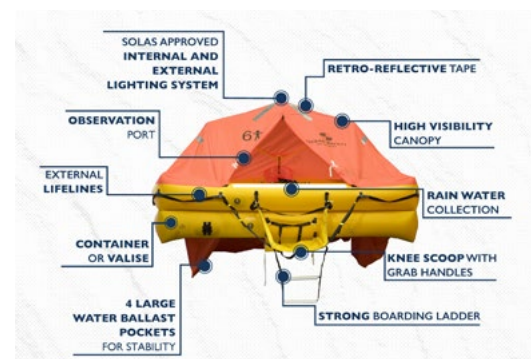
- boarding step and ladder system for easier entry
- double floor for better insulation
- comprehensive pack of equipment and food/drink



Ocean Safety Ocean ISO liferaft



Rafts can be round, as well as rectangular. Winslow Global Rescue ISO9650-1



If your ISO liferaft is packed with a less than 24 hour pack, you will have to pack the extra rations and equipment in a grab bag to meet the required standard. See [page 26](#).

## SOLAS Liferaft

### Annual service required

### LSA Code 1997 Chapter IV with Solas A pack

SOLAS liferafts are usually found on commercial boats, or on charter boats.

The correct SOLAS raft for World Cruising

Club rallies is compliant with LSA Code 1997 Chapter IV or later, with a Solas A pack. This raft is designed for commercial boats and has a comprehensive pack of equipment. The raft inflates in air temperatures down to -30°C, making it suitable for high latitude sailing. These rafts are often too large and bulky to be easily stored on a sail boat, but versions for yachts are available.

The raft shall be equipped with a SOLAS A pack, providing supplies for more than 24 hours. The items in the SOLAS A pack can be packed with the liferaft, or in a separate grab bag.

The benefits of the SOLAS raft are:

- Comprehensive pack of equipment and food/drink with SOLAS A pack
- Inflates in more extreme temperatures, making it suitable for high latitude cruising
- Double canopy for greater comfort.

However, SOLAS rafts are usually larger and heavier than ISO or ISAF rafts and can be hard to stow onboard boats under 15m (50').

If your raft has a SOLAS B pack, you will need to bring it up to the SOLAS A pack standard by putting the additional water, food and equipment in the grab bag (abandon ship bag).

## ISAF Liferaft

### Annual service required

### Offshore Special Regulations Appendix A Part II (2006-2007)

ISAF liferafts are pre ISO 9650 liferafts. The correct ISAF raft for World Cruising Club rallies is compliant with Appendix A Part II.



## Self-righting Liferrafts

Self-righting rafts are available, these have a double top tube which create a righting moment when the raft is capsized. They are more expensive than standard rafts, but worth considering if you are unfit or unlikely to be able to turn the raft over by yourself in case of capsize or inverted launch.



*Lifeguard self-righting liferaft*

## Liferaft Contents

The contents of the liferaft will vary, depending upon which type you choose. As an example, a standard leisure liferaft will only contain: a bailer, pump, paddles, repair kit, sponge, survival instructions, a set of leak stoppers, 30m throwing line, signal card, safety knife, and a sea anchor. Offshore, you will need a more robust liferaft and extra equipment for keeping the crew alive and comfortable and to signal to rescuers, which is why we set minimum standards for liferaft contents.



*Typical ISO less than 24 hour pack*

**If you have an ISAF liferaft; an ISO 9650 raft with a less than 24 hour pack; or a SOLAS B pack; you will need to supplement the contents with extra rations and/or equipment to meet the WCC Safety Equipment Requirements.**

Use the table on [page 26](#) and the list of contents provided with your raft to help you decide what extra equipment you need. This extra equipment can be packed in the raft, or in a separate grab bag (abandon ship bag) and is in addition to any equipment you are required to have on the boat. A list of contents should be kept in the grab bag if additional items are required to bring the liferaft up to service pack 1 (more than 24 hrs).

**SOLAS A Pack** Because it is designed for commercial boats, the SOLAS A pack is the most comprehensive. Many liferafts are sold with a SOLAS B pack - you will need to upgrade this to a SOLAS A pack or ISO 9650 Pack 1.

The table on [page 26](#) will give you an indication as to the minimum likely contents of various raft types. This information will be extremely useful in forming the basis of what to pack in your grab bag. It is important to note that pack contents can vary slightly so do check with your agent to get an accurate inventory.



*Extra equipment needed for a >24 hour pack*

Most good service agents will welcome you to watch your raft being serviced, and this is a good way to understand what your raft and its equipment really look like. Don't forget that you can ask for extra items to be packed in the raft. Useful additions might include spare glasses, medication, copies of passports/ship's papers and so on.

The emergency pack contents should be seen as a minimum level of equipment, and it is always worth packing more rations, electronic flares and other equipment into an extra grab bag (abandon ship bag). See [page 35](#) for more suggestions for grab bag contents.

### Liferaft Rations

The food and water rations provided with liferafts have been carefully designed to provide a minimum level of sustenance. Water rations now usually come in easy-open plastic bags, rather than tin cans. It is important to have a marked drinking cup so that the water can be rationed, and an infant's drinking cup is a good idea, as it will prevent the water spilling.

The recommendation is no water for the first 24 hours, then 0.5 litre per person per day. This half litre (approx. 1 pint) should be split into three drinks, one each at sunrise, midday and sunset.

Children and the injured/sick will require water during the first day.

The more water you carry in the raft or grab bag, the more comfortable you will be. You can carry a hand watermaker in the grab bag instead of extra water.

The food rations usually come in a foil wrapped block of hard biscuits, and provide a total of 10,000 KJ per person. Again, you can add to this supply with extra foods, either packed in the grab bag or as last-minute grabs, but try to pick foods that will not increase thirst (boiled sweets, tinned fruit, energy bars and tinned condensed milk).

### Thermal Protective Aids (TPAs)

All liferafts must have at least two thermal protective aids onboard, or in the grab bag. They are a bag or suit made of waterproof material with low thermal conductance usually made of aluminized polythene and are designed to keep the casualty warm and prevent wind chill.



You may choose to carry immersion suits instead of simple TPAs.

### Get to Know your Liferaft

It is a good idea to see your liferaft inflated, and if possible, to try using it in a swimming pool as part of an organised demonstration or sea safety course. Understanding how big (or small) it is for the number of crew that may have to use it; the quality and range of the equipment packed in the raft; the time it takes to inflate (3 minutes at 20°C is the World Sailing standard); and what it feels like to board a fully-crewed liferaft wearing your lifejacket are all useful experiences and will help you to make decisions if you ever have to abandon your boat in an emergency.

The best way to learn about liferafts is attending a [World Sailing Offshore Personal Survival](#) course with a practical water-based session. Some liferaft manufacturers offer useful familiarisation courses.

Ask your service agent if you can watch your raft being serviced - this is also a good opportunity to have extra items packed into your raft, such as medication, spare glasses, or copies of passports.

## Liferaft Contents Table

The table shows the typical contents of the ISAF, ISO and SOLAS liferafts that meet WCC Safety Equipment Regulations. The actual contents may vary slightly between manufacturers, so check what your raft contains.

Make sure that your liferaft pack meets one of these standards, by either buying the right pack, or adding extra rations/equipment to a grab bag.



These lists will help you to decide what extra equipment you should pack in your grab bag (abandon ship bag) to supplement the liferaft contents.

*Please note that items in **RED** are required to supplement a <24h ISO 9650 pack to make it >24h.*

Abbreviations: pp = per person for the number of people rated in the raft, so a 6-man liferaft will contain 6 seasick bags as a minimum.

Item	ISAF Part II	ISO 9650 Pack 1 > 24h	Solas A
Bailer	1	1	1
Pump	1	1	1
Paddles	2	1	2
Repair kit	1	1	1
Sponge	1pp	2	2
Survival instructions	1	1	1
Leak stoppers	Set	Set	Set
Throw line 30m	1	1	1
Signal card	1		1
Safety knife	1	1	1
Sea anchors	1	1	2
First aid kit	1	1 (not in <24h)	1
Whistle	1	1	1
Torches/flashlights	2	2 (only 1 in <24h)	1
Spare batteries & bulbs for torch		1	1
Signal mirror	1	1	1
Anti-seasick pills	6pp	6pp	6pp
Seasick bag	1pp	1pp	1pp
Thermal TPAs	2	2 (not in <24h)	2 (only 1 in SOLAS B)
Scissors			1
Fishing kit			1 (not in SOLAS B)
Waterproof notebook	1		
Radar reflector			1
Tin opener			3 (not in SOLAS B)
Graduated drinking cup			1 (not in SOLAS B)
Red hand flares	3 - Put 3 more in grab bag	6 (only 3 in <24h)	6 (only 3 in SOLAS B)
Parachute rocket flare	None. Put 2 in grab bag	2	4 (only 2 in SOLAS B)
Floating smoke flare			2 (only 1 in SOLAS B)
Water rations	None. Put 1.5 litre pp in grab bag	1.5 litre pp (not in <24h)	1.5 litre pp (not in SOLAS B)
Food rations	None. Put 10,000 KJ pp in grab bag	10,000 KJ pp (not in <24h)	10,000 KJ pp (not in SOLAS B)

## Liferaft Stowage

There are many different ways of stowing a liferaft. Valise (soft bag) liferafts should be protected from water, chafe and heavy weights - they should never be used as a seat. A dedicated cockpit locker or an accessible and secure location may be best for this type of raft.

Canister (hard case) liferafts can be mounted on deck or on the stern rail, usually in a purpose-made cradle. Don't install where the raft will be used as a step - this will break the seal and allow water to get into the raft, causing corrosion.

The **WCC Safety Equipment Requirements** state that the raft must be stowed so it can be ready to launch within 15 seconds. If a liferaft is stowed in a locker, the locker should be dedicated to the stowage of the liferaft and nothing else that may hinder access to the liferaft or cause damage to it should be kept in the locker.

**Stowage on board multihulls should allow for the raft to be deployed if the vessel is inverted.**

Boats with externally-mounted canister liferafts can have a hydrostatic release on the cradle lashing, so that in the event of a sudden catastrophic sinking the liferaft would automatically be launched.

The release mechanism works on water pressure - within 4 metres, an integral sharp knife cuts the lashing and the liferaft will float free from its cradle, although it is still attached to the boat. As the boat sinks, the liferaft painter line will be stretched and the liferaft will inflate. A weak point in the line will break to ensure the liferaft isn't pulled down with the boat.

Hydrostatic release mechanisms usually have to be replaced every two years.



*Stowing options for canister liferafts*

## Buying a Liferaft

When you are deciding which liferaft to buy or hire, try to see as many as possible so you can make a comparison. Boat shows are often a good place to see lots of rafts from different manufacturers.

It is worth getting information from as many sources as possible. Search out comparative tests published by boating magazines or other third-party journals. These should be unbiased.

Some manufacturers have taken the additional step of gaining accreditation from a 'notified body', such as RYA or Bureau Veritas, third-party confirmation that the product meets the required standard.

## Servicing

Liferafts need to be serviced by an approved agent. ISO 9650 canister packed liferafts should be serviced at least every 3 years. SOLAS, ISAF and rafts over 10 years old require annual servicing. Yachts racing under World Sailing rules (or in the ARC Racing Division) with a valise raft will also require an annual service, as valise-packed rafts are more easily damaged.

During a service the raft will be inflated and the fabric and construction checked for corrosion and damage. The gas bottle will be refilled or replaced as necessary, and the pack contents checked and replaced if they are out-of-date. Liferafts that no longer meet the standard will be condemned.

Try to watch your liferaft being serviced, as this is a good opportunity to see what it looks like when inflated, and to view the contents. You can usually add extra small items to the raft when it is being repacked, such as boat's papers, spectacles, medication or an EPIRB or SART.

**Your liferaft will need to be within service period for the duration of the rally.** Keep your service certificate on board the boat, as it will be needed for the safety equipment inspection before the rally start. **A copy of the service certificate must also be uploaded to the Members' Area of the website.**

## Safety Equipment Review

### Video Guides: Safety



Click or scan  
the code

This playlist includes an ondeck and below deck walkthrough of required and recommended items, a focussed seminar on liferafts, Q&A with Ocean Safety, and details of recommended crew training.

Your safety is our prime concern. In the next few pages you will find useful information on safety equipment with some requirements and recommendations on what to carry on board.

The rally Safety Equipment Requirements are printed as an easy checklist on [pages 14-20](#), helping you to prepare and to ensure you have everything on board. These include more information on mandatory safety equipment requirements for the event.

Whilst working through the list, it is a good opportunity to check all your safety equipment is in good working order, has current certification (where appropriate), and is stored in the best place on board. The rally Safety Equipment Requirements will be used as the basis for the pre-start safety equipment inspection.

## EPIRB

### Emergency Position Indicating Radio Beacon

All yachts participating in the event are required to carry at least one **floating, water and manually operated 406MHz EPIRB also operating on 121.5MHz or AIS fitted with an internal GPS,**

When activated, either automatically or manually, the



406 MHz signal is picked up by the COSPAR-SARSAT satellite system and forwarded to a ground monitoring station, and the rescue authorities are informed. The 121.5MHz signal is used by the rescue authorities to pinpoint the distress location. The AIS function means the signal will be visible to satellites and nearby surrounding craft giving a continuous updated position.

The EPIRB must be correctly registered with your home authority, with up-to-date vessel details and emergency contact information. Contact your local Coastguard authority or EPIRB manufacturer for advice. **Personal locator beacons (PLBs) carried by the crew do not replace the requirement for a yacht's EPIRB.**

## Flares

All yachts are required to carry pyrotechnic flares and a **minimum of: 4 red hand held (2 of which may be eVDS); and 2 orange float smokes** (required for World Sailing Offshore Special Regulations Cat 1). **These flares are in addition to any flares carried in liferafts and their supplementary service packs or grab bags.**

**Each flare must be in date for the duration of the rally and not older than four years from the date of manufacture.** Yachts

that are going long term cruising should consider departing with a complete new set of flares, as it can be expensive and difficult to replace them once en route.

All other pyrotechnic flares **must be kept in a waterproof canister**, prolonging their life and ensuring their operability at the required moment.

Keeping an LED torch to hand for the watch on deck to use for collision warning is a good idea whilst the yacht is at sea. Ideally

they should be stowed within easy reach of the helmsman in a waterproof position. Many yachts stow them just inside the companionway hatch.





## Passive Radar Reflector

All boats must be visible to shipping, even if there is a power failure onboard. **All boats must carry a passive radar reflector with a radar cross section of 10m<sup>2</sup> or more.** Passive radar reflectors require no power, and can be traditional 'octahedral' type or cylinder type. The Echomax inflatable reflector is accepted, however "Tube" radar reflectors are NOT acceptable. The **reflector can be mounted permanently on the mast, or hoist on a halyard to a minimum of 5m (15') above deck.**



## High Powered Search Light

Used for search and rescue, all boats must carry a **watertight high intensity heavy duty searchlight located near the helm, and powered by the ships batteries.** An extendable lead, or additional sockets in the cockpit may be necessary to achieve this. The light must be capable of continuous use, accounting for extended periods of darkness over 12 hours. For LED units, more commonly used nowadays, the light must be capable of operating whilst being charged. Spare bulbs for the search light, or replacement light for LED must be carried onboard.



## Bilge Pumps

**A minimum of two bilge pumps are required** - one above decks and one below decks of a suitable capacity for the size of boat.

Multihulls shall have the capability (provision) to pump out water from each hull.

### 1. Above Decks

**A securely fitted manual bilge pump that is operable from the deck.** Some pumps have a built-in handle. Others with removable handles which will require them to be attached to the boat with a lanyard to prevent accidental loss.



If a pump is not permanently installed, then a pump that can be securely fitted whilst being operated will be required. It can be discharged into the cockpit or directly over the side.



### 2. Below decks

**A securely fitted or portable manual bilge pump.** Electric or engine driven pumps might be considered.

## High Capacity Emergency Pump

**This is a mandatory requirement for World ARC yachts and highly recommended for all other rallies.**

The pump or pumps must be electric/ engine, or separate engine driven. The recommended

minimum total capacity is 200l/min (3200 US gph). This can be made up of a combination of fixed and portable pumps. Preference should be given to portable pumps to allow assistance to other vessels. Portable electric power cables can be terminated with alligator clips. Pumps should have sufficient hose to discharge into the cockpit or directly over the side.



### Lifejackets

There are a wide range of lifejackets available with designs to suit all body shapes and budgets. Modern gas inflated combined lifejacket-harnesses are a far better choice than the older style permanent buoyancy type, as they are comfortable enough to wear at all times. A lifejacket that is comfortable is more likely to be worn; a lifejacket in a locker will not save your life.



The international standard is ISO 12402. Lifejackets and buoyancy aids are graded by flotation capacity (in Newtons or lbs.) The normal levels are 50, 100, 150 and 275N. 50 and 100N jackets are only considered as buoyancy aids or lifejackets for children. The 150N jacket is the minimum standard for offshore sailing. 275N lifejackets are designed for commercial applications when the wearer is carrying heavy tools or also wearing a survival suit. They are bulkier and heavier than 150N and not recommended for general cruising.

Where national flag regulations require inherently buoyant PFDs to be carried, an offshore inflatable lifejacket/harness shall also be carried.



**There shall be a lifejacket/combined harness for each member of the crew.**

**Gas inflated jackets have three main operating systems:**

#### 1. Manual pull

- CO<sub>2</sub> canister is fired by pulling the cord.
- Full buoyancy in approximately 5 seconds.
- Can also be inflated orally.

#### 2. Auto inflate (salt tablet activated)

- Operates within 5 seconds of immersion.
- Mechanism pierces canister, inflating lifejacket in approximately 5 seconds.
- Can also be inflated as manual version.

#### 3. Auto inflate (hydrostatic inflation)

- This works by water pressure, only operating when submerged in 10cm (4-5") of water.

- No accidental inflation by spray or humidity even in extreme conditions.
- Cylinder may be mounted on the inside of the lifejacket inflation chamber.
- Can also be inflated as manual version.

### Extras for Lifejackets

Many high quality modern lifejackets come with crotch straps and a sprayhood as standard, but these can also be bought separately and retro-fitted.

**It is a requirement that crotch straps are fitted** as they keep the man overboard floating higher in the water by keeping the inflated bladder down and preventing it rising over the head. This is safer and more comfortable.

**It is a requirement that sprayhoods (face shields) are fitted.**

These can be bought separately. When a casualty is in the water the legs act as natural drogues, orientating the body



such that it lies facing the oncoming wind and waves. This can quickly cause the casualty to be overcome and possibly drown over time through water inhalation.

Spray hoods are not designed to be worn day-to-day, but specifically by the casualty in the water.

In addition to crotch straps and spray hoods:

**Lifejackets must have a light, a whistle and retro reflective strips.** Each lifejacket must be **marked with the name of the yacht or owner of the lifejacket.**

**It is a requirement that each lifejacket have a safety line not exceeding 2m (6.6ft) including the length of self-closing hooks, with an intermediate self-closing hook.**



**The yacht should have strong clipping points** attached to through-bolted or welded deck plates in positions close to the helm and companion-way, so that crew can clip on before coming onto deck and unclip after going below.



### Lifejackets for Children

It is preferable for younger children to wear permanent buoyancy lifejackets.



These can be fun, colourful and be fitted with a light, retro reflective strips and come with crotch straps and lifting handle. They tend to find them more comfortable and provide limited protection from knocks and bumps.

Inflatable lifejackets for older/larger children weighing 20-50Kg are becoming more widely available complete with spray hoods.



Children weighing over 40kg (88lb) should be wearing a 150N lifejacket, either inflatable or permanent buoyancy (it may not be possible to fit a sprayhood to a permanent buoyancy lifejacket).

**It would be advisable to fit AIS beacons for all apart from the very young.**

### Lifejacket Maintenance

Lifejackets are often dumped and left at the bottom of some damp locker and generally lead a tough life. When needed they may be found not to work, which is too late.

As part of your preparations before the start of the rally, all life jackets should be given a thorough overhaul. Lifejackets should be serviced annually, ideally by an authorised agent. However you too should carry out frequent checks and maintenance to your lifejacket. Below is a list of some of the more important checks that should be completed.

1. Inflate orally and leave overnight
2. Check outer jacket for wear or tears
3. Clean zippers and lubricate
4. Check stitching and clean off salt
5. Check bladder for abrasion especially behind the bottle, the join to the outer skin and in folds
6. Check light and expiry date, blow the whistle
7. Check reflective strips
8. Check cylinder is not loose (common problem) and is the correct size
9. Check firing mechanism and expiry date

It is important to carry re-arming spares for inflatable lifejackets, especially for yachts that are going long term cruising. It can be expensive and difficult to find spares, as Europe and America use different thread systems.



The skipper should have clear rules about when lifejackets are to be worn. Modern self inflating compact lifejackets are much more comfortable to wear and are therefore more likely to be worn for a greater part of the time.

### Personal AIS Beacon

It is a requirement that each crewmember carries a personal AIS MOB device, fitted to a lifejacket to aid



in faster, accurate recovery of a crew overboard. An AIS device allows both the crews' yacht and nearby vessels to identify the wearers exact location using an AIS set or chartplotter. Wearing an AIS device will greatly increase the likelihood of a successful MOB recovery.

When choosing the device be aware of the types of fastenings, and the difference between pull-to-activate and water-activated devices. The pull-to-activate mechanisms rely on a lanyard attached from the device to the lifejacket, which when put under tension by the bladder inflating, will pull away, releasing the antenna and activating the device; manufacturers recommend they are set up by an approved lifejacket service agent. Water-activated devices rely on immersion to make an electrical connection across two contact points, some of which need arming to ensure automatic activation.

There is plenty of choice on the market. [Click here for more information.](#)

### Retro Reflective Tape

All modern foul weather clothing has this fitted as standard; the tape greatly enhances the visibility of the wearer to a third party and adds to safety at sea. The Safety Equipment Requirements **require retro-reflective tape to be fitted to all lifebuoys, life slings and lifejackets.** The tape can be bought on a roll or in pre-cut patches.

## Crew Overboard Recovery Equipment

Each yacht is required to carry **2 independent systems of lifebuoys (life rings) and a heaving/throwing line** to aid in the event of a man overboard situation.

**The Regulations specifically state that each yacht shall have the following:**

### Device 1 - System 1:

A lifebuoy equipped with a whistle, drogue, a self-igniting light, and attached to it:

A Danbuoy (pole and flag) or inflatable danbuoy

Or:

An MOB recovery module incorporating the above (similar to your personal liferaft).

**AND**

### Device 2 - System 2:

One lifebuoy with a drogue, a self-igniting light and whistle attached, and a method to recover the person from the water.

Or:

A recovery sling capable of hoisting a crewmember aboard, which includes a buoyant line, buoyancy section (horseshoe) with no less than 90N (20lb) buoyancy, with a self-igniting light and marine grade retro-reflective material.

**AND**

### IN ADDITION TO THE ABOVE

**3. Throwing/Heaving line (floating) 15-25m (50-75ft length, readily accessible to cockpit.**

Preferably "Throwing Sock" type.

**Note:**

- At least **one lifebuoy or recovery sling** should have permanent (eg foam) buoyancy
- Each inflatable lifebuoy and any automatic device shall be tested and serviced at intervals in accordance with its manufacturer's instructions.
- Every **lifebuoy or recovery sling** shall have the boat's name on it and must be fitted with marine grade **retro reflective material**

**DEVICE 1: Choose one of these options:**

**A lifebuoy with:**

- Name of vessel
- Reflective Tape
- Whistle
- Drogue
- Self Igniting Light



**ATTACHED TO:** A Danbuoy (pole and flag) or inflatable danbuoy

..... **OR** .....

**MOB Module incorporating the above**  
 eg *Jonbuoy* or *Switlik MOM*  
 In service date



**AND +**

**DEVICE 2: Choose one of these options:**

**Lifebuoy with:**

- Name of vessel
- Reflective Tape
- Whistle
- Self-igniting Light
- Drogue
- Recovery method



..... **OR** .....

**Recovery Sling**

- Buoyant line
- Horseshoe 90N+
- Light
- Reflective Tape



**AND +**

**ITEM 3: Throwing / Heaving line**

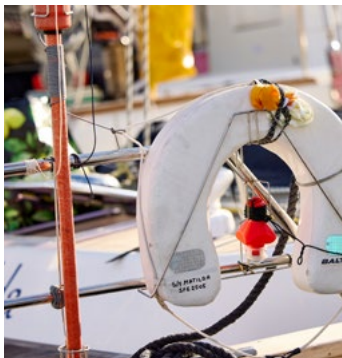
- Floating/Buoyant
- 15-25m (50-75ft)
- Readily accessible from helm



## Types of Recovery Equipment

Due to the various combinations allowed in the rules, the area of man overboard equipment has traditionally caused most problems during safety checks. *It is worth getting it right. If in doubt, contact us at mail@worldcruising.com*

The choice of devices can be broken down into four main categories - These can be traditional (permanent buoyancy) or inflatable but one lifering must be permanent buoyancy:



### 1. Lifebuoy connected to a Danbuoy/ MOB pole

A danbuoy or man overboard pole is a large floating pole with a flag and light designed for Offshore Sailing. This clearly visually indicates the casualty's position.



The danbuoy can be traditional or inflatable and **must be connected to a lifebuoy** either inflatable or traditional.

**Inflatable danbuoys with integrated life rings or straps are unacceptable.**



### 2. MOB Module

A MOB module acts almost like a personal mini-liferaft with a MOB pole, light and lifting points for hoisting the casualty back onboard. These are normally mounted on the stern rails and are activated by pulling a lever on the casing, inflating the module so it floats clear of the yacht. This device does require a fully conscious casualty able to get into the module. The device must be serviced in accordance with the manufacturer's instructions and in date for the duration of the rally.



### 3. Lifebuoy/lifering

The lifebuoy is usually ring- or horseshoe-shaped personal flotation device is easily deployed from a fixed position near the helm. It should carry the name of the vessel and be fitted with reflective tape, whistle and self-igniting light to aid identification. The lifebuoy/lifering should be connected to a drogue to help prevent the problem of downwind drifting, and attached to a method of recovering a casualty to the boat.



### 4. Recovery Sling

Rescue sling devices are widely available in most chandleries. These are basically a helicopter lifting style strop with inherent buoyancy, attached to a long buoyant line, which in turn is attached to the yacht. The body of the sling should be large enough to fit over the casualty wearing an inflated lifejacket which can then be recovered to the boat.



## Recovering a Man Overboard (MOB)

While the priority is prevention of a man overboard situation occurring through the use of rigid safety policies, you must consider what to do in the event of it happening. Many crews routinely practice getting back to a man overboard, far fewer consider the possible difficulties in getting them back onboard.



There are various methods to achieve this and all have pros and cons. The important thing is to securely attach the victim to the yacht while you consider your options.

The type of method used will depend on many factors, not least of which are:

- the ability of the casualty to help themselves
- the size of the yacht (freeboard)
- the size and strength of the crew
- weather conditions

Whichever method you choose to use, it would be well worth practicing it before you leave, even if it is from the dockside.

### Recovery Options

1. One option is simply hauling the casualty back onboard under the guardrails, or at the transom, using the boarding ladder. Beware of using the transom in anything but calm conditions. Hauling a wet heavy body is hard work and will require strong crew. Passing a loop of rope over the side may let the casualty get a foot hold and enable them to help.
2. Using a **block and tackle system** similar to a mainsheet system works well. It can be stored ready to go in a convenient place. One end can be attached to either a halyard or the end of the boom with a snap shackle. The other end has two safety lines attached to act as a lifting strop. If using the boom instead of a halyard it helps to raise it up beyond its usual position first. It also helps to try and brace it to reduce movement. All this takes time. The tail (fall) can be pulled by hand, such as with a mainsheet, or led back to a winch for additional power. The advantage of using a

block and tackle instead of just a halyard, is that it provides huge mechanical advantage. Using just the halyard on a normal winch is extremely hard work. An electric winch can be used with care.

3. A **storm jib** can be used by attaching the luff along the deck and the clew to a halyard. The victim is then rolled up the side of the yacht. Trying to sink the sail



below the victim can be tricky. There are more sophisticated commercial versions of the storm jib recovery system available, such as [www.mobmat.com](http://www.mobmat.com)

4. With an unconscious casualty in the water it is well worthwhile **launching the dinghy** into the water, or in the absence of this, the liferaft. This will give the rescuer a stable platform from which to work and enable swift recovery of the MOB out of the water.

### 5. Rescue sling

devices are widely available in most chandleries. These are basically a helicopter lifting



style strop attached to a long line, which in turn is attached to the yacht. By circling the MOB he can grab the sling and be brought alongside the yacht. The strop then provides an ideal lifting device if attached to a halyard. However as with the system above, it will be extremely hard work to lift a wet heavy man with just the halyard and it's still worth considering a block and tackle in addition to the rescue sling, to make life easier.

6. A **MOB module** acts almost like a personal mini-liferaft with a MOB pole, light and lifting points for hoisting the casualty back onboard. These are normally mounted on the stern rails and are activated by pulling a lever on the casing, inflating the module so it floats clear of the yacht. This device does require a fully conscious casualty able to get into the module, and must be serviced regularly.



## Grab Bags

The WCC Safety Equipment Regulations require every boat to have a grab bag (abandon ship bag) for every liferaft onboard, containing items to help improve rescue, make your time in the liferaft more comfortable, and to help once you are rescued.

If your liferaft contents require upgrading with extra rations or equipment to meet the ISO 9650 Pack 1 over 24 hours or SOLAS A content lists (see table on page 26) then you will need a grab bag for this equipment too.

It is extremely important to have a good grab bag. What you pack in it will to a large extent depend upon what type of liferaft you have and what it already contains.

### The grab bag should be:

- brightly coloured, waterproof and able to float
- marked with the boat's name
- fitted with lanyard to attach to raft
- duplicated to number of rafts carried:  
2 rafts = 2 grab bags

**Store the grab bag where it is easily accessible, and make the location known to all crew. Keep another empty bag nearby for 'last minute' grabs.**

## What to Include

In order to choose the correct items in your grab bag it is a good idea to place them into one of the four survival priorities categories:

1. Location
2. Protection
3. Food and Water
4. Medical

Clearly location items must be top of the list as quick location and rescue will mean not having to rely on the equipment in the other categories so much, or even at all.

**Note – Items in blue may already be in the raft pack. Check the liferaft contents table and check quantities as you may still need to add more.**



### 1. Location

406 EPIRB / SART / waterproof handheld VHF / waterproof handheld GPS / waterproof flashlight strobe light / cyalume sticks / extra flares (LED) / radar reflector / signals card / signal mirror (heliograph) / fog horn

### 2. Protection

Sun cream / heat (or chill) packs / inflatable cushion / fold down bucket / moist hygiene wipes / diving mask / gaffer tape / second sea anchor / thermal protective aids (TPAs) / decent bailer / liferaft repair kit / sponges

### 3. Food and Water

Extra water (only fill bottles to 80%) / fishing kit / extra food rations (non thirst provoking) / graduated drinking cups / child's no-spill drinking cup / collapsible water container for collecting water

### 4. Medical

Prescription medicine / sunburn cream / inflatable splints / enema kit / anti-emetics / first aid kit / extra sea sick pills and bags

### 'Last Minute' Grabs

These are items that you will probably need on board the boat, and so aren't convenient to keep permanently stored in the grab bag. They can be 'last minute grabs' that you collect as you abandon the boat. It is a good idea to keep laminated copies of passports and ship's papers permanently in the grab bag. These may include: passports / ship's papers / credit cards and money / binoculars / sat phone / mobile (cell) phone / wet-weather gear / lifejackets (if not worn) / immersion suits / man overboard danbuoy/ SSB receiver / spare clothing / sextant and tables / spare clothing / sunglasses / charts / compass / lighter / multi purpose tool / pack of cards / towels / waterproof notebook and pencils. Solar charger for phones and led lights and other electronic devices.

# You sail the Atlantic we ship you home...

Peters & May are the approved supplier to the ARC and offer a bespoke and independent shipping service to all participants back home after the event.

Our services include industry approved shipping cradles and an in-house team of dedicated Loadmasters to oversee the loading of your yacht from the water to the cradle. We pride ourselves of being flexible, competitive and considerate to our customers' requirements.



## Westbound shipments

Departing the UK, Spain and Italy in September, October, November, December and January for arrival in the Caribbean



## Eastbound shipments

Departing the Caribbean in March, April and May, arriving in the UK and Mediterranean ready for summer.

Please contact our dedicated Caribbean Department for prices and further information.

**+44 (0) 2380 480 480**

[caribbean@petersandmay.com](mailto:caribbean@petersandmay.com)

**[www.petersandmay.com](http://www.petersandmay.com)**

Bespoke transport solutions and unrivalled service for over 40 years



**World leading global  
boat transport**

