Australian Sailing

ective 1 July 2024

pecial Regulations

rt **1** for Racing Boats



orld Sailing

Australian Government

Australian Sports Commission

AUSTRALIAN SAILING
SPECIAL REGULATIONS

PART 1

FOR RACING BOATS
And
Recommended for Cruising Boats

Including Monohulls, Multihulls and Trailables

These regulations last updated 3 August 2026.

Any amendments or interpretations to what is published herein will be circulated to Clubs and will also be posted on the Australian Sailing website at

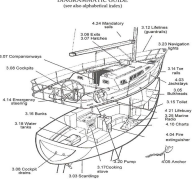
www.sailingresources.org.au

Date	Modifications
9/10/25	3.25 Include VHF radio in Category 7
	3.25.1 Change the requirements of Satellite Phones to incorporating voice and text
	4.06 Addition of Watertight, high-powered spotlight for Category 4
	4.22.1 Remove the need for White Hand Flares for all Categories
	5.01 Remove outdated standards from lifejacket descriptions
26/6/26	3.02.4 Keel Inspections
	4.24 Storm & Heavy Weather Sail Inventory
	5.05 Personal AIS
3/8/26	4.07.1 Addition of electronic or hardcopy format for Cat 1 Medical Guides
	4.07.2 Addition of electronic or hardcopy format for Cat 2-5 First Aid Manuals
	5.01(g) Addition of Cat 5N for when a lifejacket shall be worn
	5.01(h) Addition of Cat 5N for when a lifejacket is recommended to be worn
	Update the term Man Overboard to Person Overboard

YACHTING AUSTRALIA SPECIAL REGULATIONS

DIAGRAMMATIC GUIDE

(see also alphabetical index)



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1.01 PURPOSE AND USE

1.01.1 The purpose of these Special Regulations is to establish uniform minimum equipment, accommodation and training standards for racing boats and as a guide for cruising boats.

1.01.2 These Special Regulations do not replace, but rather supplement, the requirements of governmental authority, the Racing Rules of Sailing and the rules of class associations and rating systems.

1.01.3

(a) Notwithstanding clause 1.01.2, every boat shall comply as a minimum with these Special Regulations of Australian Sailing for the nominated category of race. The organising authority shall select the category deemed most suitable for the type of race to be sailed.

(b) These regulations shall not be varied except with the written approval of Australian Sailing.

(c) Where a variation is approved for an event, the wording of the approval shall be included in the notice of race for the event.

(d) An organising authority that is conducting a cruising event may:

- develop its own safety guide to cruising
- vary the Special Regulations at its discretion by stipulating alternative requirements that are appropriate for the event's circumstances
- use compliance with the Special Regulations for a nominated race category.

1.01.4

(a) In the regulations a number indicates the category of race for which the item is mandatory. The letter "N" indicates that the item is mandatory for night sailing.

1.01.5 Official interpretations of these Special Regulations issued by Australian Sailing shall be considered to be part of the regulations and will be dated and displayed on the Australian Sailing website:

www.sailingresources.org.au

1.02 RESPONSIBILITY OF THE PERSON IN CHARGE

1.02.1 The safety of a boat and its crew is the sole and inescapable responsibility of the person in charge who shall do their best to ensure that the boat is fully found, thoroughly seaworthy and manned by an experienced crew who have undergone appropriate training and are physically fit to face bad weather. They must be satisfied as to the soundness of hull, spars, rigging, sails and all gear. They shall ensure that all safety equipment is properly maintained and stowed and that the crew know where it is kept and how it is to be used. Attention is drawn to Regulation 2.04 that specifies the crew experience required for some races. They shall also nominate a person to take over the responsibilities of the person in charge in the event of his incapacitation.

1.02.2 The establishment of these Special Regulations, their use by race organisers, and the inspection of a boat under these regulations does not in any way limit or reduce the complete and unlimited responsibility of the person in charge.

1.02.3 The responsibility for a boat's decision to participate in a cruising event or race, or to continue racing is theirs alone - RRS Fundamental Rule 3.

1.03 DEFINITIONS

1.03.1

Age Date — Month / Year of first launch.

Buoyancy — Shall be achieved by the use of:

(i) Semi-rigid or rigid non-absorbent material permanently fixed into the hull

(ii) Dedicated, empty, sealed compartments which may be fitted with screw-in drain plugs or an inspection port but which shall remain closed whilst racing

(iii) Inflated airbags, permanently sealed and fixed below decks.

Buoyancy shall be so distributed as to float the boat evenly when swamped including in the capsized position.

Cruising Event — Covers a wide range of activities from a group of yachts conducting a passage in loose or close company to some form of competition outside the restrictions of the RRS and a strict interpretation of these regulations.

Effective Rescue Availability	Requires the race committee to have in place an effective rescue procedure taking into account the local conditions, length of race, remoteness, availability of rescue craft and services, and the quality of communications.
FA Station	The transverse station at which the upper corner of the transom meets the sheerline.
LH	Hull length as defined by the Equipment Rules of Sailing.
Lifeline	Wire or rope rigged as a guardrail around the deck.
LWL	Loaded Waterline Length.
Maximum Beam	The maximum beam of the boat.
Monohull	Hull in which the hull depth in any section does not decrease towards the centreline. All other boats are considered to be multihulls.
Movable Ballast	Lead or other material including water which has no practical function in the boat other than to increase weight and/or to influence stability and/or trim and which may be moved transversely but not varied in weight while a boat is racing.
Notified Body	Bodies authorised under the Recreational Craft Directive, European Commission or International Organization for Standardization to approve construction standards of yachts.
Permanently Installed	Means the item is effectively built-in by bolting, welding, glassing etc. and may not be removed while racing.
Primary Launch	Month and year of first launch of the first boat of the production series or first launch of a non-series boat.
Protected Waters	Are those not fully exposed to the extremes of the ocean in such a way that the ocean swell has been broken. It may include large bays and gulfs.
Securely Fastened	Held strongly in place by a method (e.g. rope lashings, wing-nuts) which will safely retain the fastened object in severe conditions including a 180 degree capsize and allows for the item to be removed and replaced during racing.
Series Date	Month / Year of the launch of the first boat of a production series.

Sheltered Waters	Are those sheltered from the extremes of the sea by reefs, headlands or islands. This would infer that the ocean swell has been broken and that there is limited fetch. It can include harbours, estuaries and lakes.
Static Ballast	Lead or other material including water which has no practical function in the boat other than to increase weight and/or to influence stability and/or trim and which may not be moved or varied in weight while a boat is racing.
Trailable Boat	For the purpose of these regulations a trailable boat is a monohull ballasted boat, or a multihull which can be transported on the public road system on the same trailer used to launch and retrieve it without the assistance of external equipment or detachment from the towing vehicle.
Unprotected Waters	Are those which are directly exposed to the extremes of the ocean.
Variable Ballast	Water carried for the sole purpose of influencing stability and/or trim and which may be varied in weight and/or moved while a boat is racing.
Working Deck	Shall be deemed to be any surface on which the crew might stand in order to handle the boat and its sails in a seamanlike manner.

1.03.2 "Shall" and "must" are mandatory; "should" and "may" are permissive.

1.04 ABBREVIATIONS

ABS	American Bureau of Shipping
AIS	Automatic Identification System
AMSA	Australian Maritime Safety Authority
AS	Standards Australia
CE	Mark of European Commission
DSC	Digital Selective Calling
EC	European Commission
EN	European Norm (Carries CE symbol)
EPFS	Electronic Position Fixing System
ERS	Current Equipment Rules of Sailing
GMDSS	Global Maritime Distress and Safety System
GPS	Global Positioning System
HMPE	High-Modulus Polyethelyne
IRC	International Rule – Club

ISAF	World Sailing (International Sailing Federation)
ISO	International Organization for Standardization
MMSI	Maritime Mobile Service Identifier
POB	Person Overboard
MYA	Member Yachting Association of Australian Sailing
ORCi	ORC International Measurement System
RNLI	Royal National Lifeboat Institute
RRS	Current Racing Rules of Sailing
SAR	Search and Rescue
SOLAS	International Convention for Safety of Life at Sea
USL	Uniform Shipping Laws

2.01 CATEGORIES OF EVENTS

As there are many types of racing events, ranging from long distance ocean races sailed under adverse conditions to short course day races sailed in protected or sheltered waters, seven categories of races have been established as follows, to provide for the differences in the standards of equipment and accommodation required for such varying circumstances:

Categories 0-4 are intended for offshore racing.

Categories 5 and 6 are suitable for (but not exclusive to) races which include only trailable boats.

An organising authority shall select the category most suitable for the type of race to be sailed, the locale that it is to be sailed in and the conditions under which it is to be sailed. An organising authority may add to the requirements of a particular category but not delete any.

2.01.1 **Category 0**: Trans-oceanic races, including races which pass through areas in which air or sea temperatures are likely to be less than 5 degrees Celsius other than temporarily, where boats must be completely self-sufficient for very extended periods of time, capable of withstanding heavy storms and prepared to meet serious emergencies without the expectation of outside assistance. Specific requirements for Category 0 have been omitted from this version.

2.01.2 **Category 1**: Races of long distance and well offshore, where boats must be completely self-sufficient for extended periods of time, capable of withstanding heavy storms and prepared to meet serious emergencies without the expectation of outside assistance.

2.01.3 **Category 2**: Races of extended duration along or not far removed from shorelines or in large, unprotected bays or lakes, where a high degree of self-sufficiency is required of the boats.

2.01.4 **Category 3**: Races across open water, most of which is relatively protected or close to shorelines.

2.01.5 **Category 4:** Short races, close to shore in relatively warm or protected waters normally held in daylight.

2.01.6 **Category 5**: Races with limited rescue availability, in protected waters, in daylight hours or in sheltered waters at night.

2.01.7 **Category 6**: Short races close to the shoreline in protected waters, in daylight hours only and with effective rescue availability.

2.01.8 **Category 7**: Short races in sheltered waters, in daylight hours only and with effective rescue availability. Boats not complying with 3.01.3 are not required to carry buoyancy.

2.02 INSPECTION AND MONITORING

2.02.1 A boat competing in category 1, 2 or 3 races shall, *and for category 4, 5, 6 and 7 races it is strongly recommended,* annually demonstrate to the organising authority compliance with these Special Regulations at an audit conducted by an Australian Sailing accredited Equipment Auditor.

2.02.2 A boat may be inspected at any time and shall demonstrate compliance with these Special Regulations. The boat's club or the race committee of an event may appoint an Australian Sailing accredited Equipment Auditor or other person to conduct the inspection.

2.02.3 If a boat does not comply with these Special Regulations, it may have its entry rejected by the organising authority, or it may be liable to disqualification or such other penalty determined by the protest committee.

2.02.4 A race committee shall arrange for constant radio monitoring of the nominated race frequency/ies while any race is in progress and for a reasonable period prior to and after the race. Details shall be provided in the sailing instructions.

2.02.5 The Organising Authority of a race will establish whether any incidents occurred, which if reported would be likely to be relevant to evolving the Special Regulations, the plan review process, or in increasing safety. The Organising Authority will follow any guidelines issued by Australian Sailing and World Sailing concerning incident reporting.

In the following list a number indicates that the item is a mandatory requirement for that category and the letter "N" indicates that the item is mandatory for night sailing. Items in italics are recommendations.

2.03 GENERAL REQUIREMENTS

		RACE CATEGORY
		1 2 3 4 5 6 7
2.03.1	All equipment required by these Special Regulations shall:	
(a)	Function properly	
(b)	Be regularly checked, cleaned and serviced	

(c)	When not in use be stowed in conditions in which deterioration is minimised	
(d)	Be readily accessible	
(e)	Be of a type, size and capacity suitable and adequate for the intended use and size of the boat.	
2.03.2	Heavy Items shall be permanently installed or securely fastened.	1 2 3 4 5 6 7

2.04 CREW EXPERIENCE

The number of crew specified below, including the skipper and/or person in charge shall have completed one race of the category entered or an equivalent passage. Evidence of such shall be provided if requested by the race committee.

2.04.1	At least half the crew.	1 2
2.04.2	At least 2 crew members.	3

3.01	STRENGTH OF BUILD, BALLAST AND RIG	RACE CATEGORY
3.01.1	A boat shall be soundly constructed, well maintained and suitable for the event it will be entering. Hulls shall be watertight and, particularly with regard to hulls, decks and cabin trunks, capable of withstanding solid water and knockdowns. It must be properly rigged and ballasted, be fully seaworthy and must meet the standards set forth herein. Shrouds shall never be disconnected.	1 2 3 4 5 6
3.01.2	Trailable boats with an age date prior to 07/2001, when competing in races for trailable boats only, that do not comply with 3.04 (Stability) or with 3.08 (Cockpits) shall have sufficient buoyancy to support the boat, its crew and stores above the water when fully swamped.	5
3.01.3	All boats that do not comply with 3.04 (Stability) or with 3.08 (Cockpits) shall have sufficient buoyancy to support the boat, its crew and stores above the water when fully swamped.	6
3.01.4		
(a)	A boat shall be soundly constructed, well maintained and suitable for the event that it will be entering. It must be properly rigged, and must meet the standards set forth herein.	7
(b)	Boats that are not resistant to capsize or buoyant or do not comply with 3.08 (Cockpits) are restricted to sheltered waters and the race committee must ensure that there is effective rescue capability available.	7
3.01.5	**Ballast Tanks, Valves and Sea Cocks** Tanks for variable ballast shall be permanently installed to a boat's structure and shall be provided with a system of isolating valves and pump(s) capable of manual operation at any angle of heel. A plan of the plumbing system shall be displayed aboard the boat.	1 2 3 4 5 6 7

3.01.6	**Control Systems, Actuators, Restraint** Movable ballast systems shall be fitted with a manual control and actuation secondary system which shall be capable of controlling the keel in the event of failure of the primary system. Such failures could include electrical and hydraulic failure and mechanical failure of the components and the structure to which the primary system is mounted. The system must be capable of being operational quickly and shall be operable at any angle of heel. It would be desirable if this system was capable of securing the keel on the centreline. A set of instructions, including any necessary diagrams, for the activation and operation of the secondary system shall be displayed aboard the boat.	1 2 3 4 5 6 7
3.02	**WATERTIGHT INTEGRITY OF HULL**	
3.02.1	Essentially watertight and all openings shall be capable of being immediately secured. centreboard or daggerboard trunks and the like shall not open into the interior of a hull except via a watertight maintenance hatch with the opening entirely above the waterline.	1 2 3 4 5 6
3.02.2	Boats not complying with 3.04.1 shall not lift centreboards or keels whilst racing	5 6
3.02.3	Intentionally kept spare	
3.02.4 **(a)**	Structural Inspection – An inspection shall be conducted by an independent qualified person with the boat out of the water. Consult the owner's manual for any instructions for keel bolt checking and re-tightening. See also ISO12215-9 clause B.5. In addition, check that there are no visible stress cracks particularly around the keel, hull/keel attachment, hull appendages and other stress points, inside the hull, backing plates, bolting arrangements and keel floors. (See Appendix C – Model Keel and Rudder Inspection Procedure).	1 2 3

(b)	Non-Destructive Testing - Welded metal keels shall be examined by an independent qualified person using non-destructive testing techniques (such as dye penetrant, ultra-sonic, X-ray and other methods) to reveal any cracks or other defects in welds**.**	1 2 3
3.02.5	Evidence of a structural inspection in accordance with	1 2 3
(a)	3.02.2(a) within 24 months before the start of the race or after a grounding whichever is later	
(b)	From 2030, evidence of non-destructive testing in accordance with 3.02.2(b) within 10 years before the start of the race or after a grounding whichever is later.	1 2 3
3.02.6	Inspection after Grounding – an appropriately qualified person shall conduct an internal and external inspection after each unintentional grounding.	1 2 3

3.03 HULL CONSTRUCTION STANDARDS (SCANTLINGS)

3.03.1	A monohull with a series date after 1 July 2009:	
(a)	Of less than 24 m in hull length (measured in accordance with ISO 8666) shall have:	1 2
	(i) Been designed, built and maintained in accordance with the requirements of ISO 12215 Category A.	
	(ii) A World Sailing/ISAF building plan review certificate issued from an organisation recognised by World Sailing. Plan review certificates can be found at World Sailing.	
(b)	Of 24 m in hull length and over (measured in accordance with ISO 8666) shall have:	1 2
	Been designed, built and maintained in accordance with requirements of a Classification Society recognised by World Sailing.	
(c)	Shall have a declaration signed and dated by the builder to confirm the yacht is built in accordance with the reviewed plans. In cases a builder no longer exists, an organising authority or class rules may accept a signed statement by a naval architect or other person familiar with the requirements of above in lieu of the Builder's Declaration, and	1 2

(d)	Shall have an additional World Sailing/ISAF certificate of building plan review in accordance with (a) or (b) and (c) above for any significant repair or modification to the hull, deck, coachroof, keel or appendages.	1 2
3.03.2	A monohull with a series date between 1987 and 2010 shall have been designed, built, maintained, modified or repaired in accordance with the requirements of:	
(a)	3.03.1, or	1 2
(b)	the ABS Guide for Building and Classing Offshore Yachts and have on board either an ABS certificate of plan approval, or written statements signed by the designer and builder confirming that they have respectively designed and built the boat in accordance with the ABS Guide, or	1 2
(c)	the EC Recreational Craft Directive for Category A having obtained the CE mark, or	1 2
(d)	ISO 12215 Category A, with written statements signed by the designer and builder confirming that they have respectively designed and built the boat in accordance with the ISO standard, and	1 2
(e)	have written statements or approvals in accordance with (a), or (b) or (c) and (d) above for all significant repairs or modifications to the hull, deck, coachroof, keel or appendages, on board, except	1 2
(f)	that an organising authority or class rules may accept, when that described in (a), (b), (c), (d) or (e) above is not available, the signed statement by a naval architect or other person familiar with the standards listed above that the boat fulfils these requirements.	1 2

3.04 STABILITY – MONOHULLS

3.04.1	Australian Sailing requires a yacht to comply with a minimum stability or stability index as set out in Appendix B.	1 2 3 4 5 6

3.05 STABILITY AND FLOTATION – MULTIHULLS

3.05.1	Watertight bulkheads and compartments (which may include permanently installed flotation material) in each hull to ensure that a multihull is effectively unsinkable and capable of floating in a stable position with at least half the length of one hull flooded.	1 2 3 4
3.05.2	If first launched after 1998, a boat shall have transverse watertight bulkheads at intervals of not more than 4 m in every hull without accommodations.	1 2 3 4
3.05.3	Any required watertight bulkhead shall be strongly built to take a full head of water pressure without allowing any leakage into the adjacent compartment.	1 2 3 4
3.05.4	Either a watertight “crash” bulkhead within 15% of LH from the bow and abaft the forward end of LWL, or permanently installed closed-cell foam buoyancy effectively filling the forward 30% LH of the hull.	1 2 3 4
3.05.5	Designed and built to resist capsize	1 2 3 4

		RACE CATEGORY
3.06	**EXITS**	
3.06.1	**MONOHULLS**	
(a)	(i) Boats 8.5 m LH and longer with an Age or Series Date of 01/1995 or later shall have two exits. One exit shall be located forward of the foremost mast.	1 2 3 4
	(ii) In very unusual circumstances (such as in a cat rigged boat) where structural features prevent its installation forward of the mast, an alternative location may be approved upon application to Australian Sailing provided the dimensions in 3.06.1 (c) or (d) are complied with.	
(b)	Boats 5.5 m LH and longer of any Age Date and with enclosed cabins which carry any liquid fuel or gas below decks while racing shall have two exits as in 3.06.1(a).	1 2 3 4 5 6 7
(c)	For boats with an Age or Series Date of 07/2010 or later the minimum clearance diameter through an exit hatch shall be 450 mm.	1 2 3 4
(d)	Yachts with an Age date on or after 07/2014 shall have an exit hatch with the following minimum clear openings in compliance with ISO 9094:	1 2 3 4
	(i) Circular shape diameter 450 mm, or	
	(ii) Any other shape minimum dimension of 380 mm and minimum area of 0.18 m^2. The dimensions must be large enough to allow for a 380 mm diameter circle to be inscribed.	
3.06.2	**MULTIHULLS**	
3.06.3	Each hull which contains accommodation shall have at least two exits.	1 2 3 4
3.06.4	Multihulls of 12 m LH and greater in each hull which contains accommodation shall have:	1 2 3 4
(a)	An escape hatch for access to and from the hull in the event of an inversion.	
(b)	For boats with an Age or Series Date of 07/2010 or later the minimum clearance diameter through an exit hatch shall be 450 mm.	

(c) In a multihull first launched on or after 01/2003 each escape hatch shall comply with 3.06.4(b).

(d) When the multihull is inverted each escape hatch shall be above the waterline.

(e) In a multihull first launched on or after 01/2001 each escape hatch shall be at or near the midships station.

(f) In a catamaran first launched on or after 01/2003 each escape hatch shall be on the side of a hull nearest the centreline of the boat.

(g) A catamaran first launched on or after 01/2003 with a central nacelle shall have on the underside of the boat around the central nacelle, handholds of sufficient capacity to enable all persons on board to hold on and/or clip on securely.

(h) *It is recommended that in a catamaran with a central nacelle, each hull should have an emergency refuge, accessible via a special hatch in the side of the hull nearest the central nacelle, which hatch may be opened and closed from the inside and outside.*

(i) A trimaran of 12 m LH and greater first launched on or after 01/2003 shall have at least two escape hatches in accordance with 3.06.4(b).

(j) A trimaran shall have on the underside of the boat around the central hull, handholds of sufficient capacity to enable all persons on board to hold on and/or clip on securely.

(k) Each escape hatch must have been opened both from inside and outside within six months prior to an intended race.

3.06.5 Multihulls less than 12 m LH with an Age Date of 07/2006 or later shall comply with . *Prior to that date it is strongly recommended that they do so and they shall comply with the following as a minimum:* 2 3 4

(a) Each hull which contains accommodation shall have, for the purpose of cutting an escape hatch, appropriate tools kept ready for instant use adjacent to the intended cutting site. Each tool shall be secured to the vessel by a line and a clip; and

(b) In each hull at a station where an emergency hatch may be cut, the cutting line shall be clearly marked both inside and outside with an outline and the words "**ESCAPE CUT HERE".**

3.07 HATCHES AND COMPANIONWAYS

3.07.1 No hatch, window or port forward of the maximum beam station shall have a lid or cover that opens inwards, except ports with an area less than 0.071 m^2. 1 2 3 4 5 6

3.07.2

(a) (i) A hatch or port shall be so arranged as to be above the water when the hull is heeled 90 degrees. Hatches over lockers that open to the interior of the vessel shall be included in this requirement. 1 2 3 4 5 6

(ii) A yacht may have a maximum of four (two on each side of the centreline) hatches or ports that do not conform to requirement 3.07.2 (a)(i), provided that the opening of each is less than 0.071 m^2 and each hatch is kept firmly shut while racing. 1 2

(iii) A yacht may have hatches or ports that do not conform to the requirement of 3.07.2(a)(i), provided that the opening of each is less than 0.071 m^2 and each hatch is kept firmly shut while racing. 3 4 5 6

(b) A hatch or port shall be capable of being firmly shut immediately by a permanently attached lid or cover and remaining firmly shut in a 180 degree capsize. Companionway washboards are excepted. 1 2 3 4 5

3.07.3 Hatches, windows or ports not conforming with 3.07.1 and 3.07.2 are permitted if clearly labelled and used in accordance with the following instruction "NOT TO BE OPENED AT SEA". 1 2 3 4 5 6

3.07.4 A companionway hatch extending below the local sheerline, shall be capable of being strongly and rigidly secured so the companionway hatch is blocked off up to the level of the local sheerline. The companionway hatch shall continue to give access to the interior with these temporary blocking devices (e.g. washboards) in place. 1 2 3 4 5

3.07.5

(a) A companionway hatch shall be fitted with a strong securing arrangement (e.g. latch), capable of securing the hatch in a closed position, which shall: 1 2 3 4 5

(i) Be operable from above and below including when the boat is inverted. 1 2 3 4 5

(ii) Function independently of any blocking devices. 1 2 3

(b) A companionway hatch shall have any blocking devices (e.g. washboards): 1 2 3 4 5

(i) Capable of being retained in position with the hatch open or shut.

(ii) Secured to the boat (e.g. by lanyard) for the duration of the race to prevent being lost overboard.

(iii) So positioned as to permit exit in the event of an inversion.

3.08 COCKPITS

3.08.1 Cockpits shall be structurally strong, self-draining quickly by gravity at all angles of heel and permanently incorporated as an integral part of the hull. 1 2 3 4 5 6

3.08.2 Cockpits shall be essentially watertight, that is, all openings to the hull must be capable of being strongly and rigidly secured. 1 2 3 4 5 6

3.08.3 A bilge pump outlet pipe or pipes shall not be connected to a cockpit drain. See 3.08.7 for cockpit drain minimum sizes. 1 2 3 4 5 6

3.08.4 A cockpit sole shall be at least 2% LWL above LWL. 1 2 3 4 5 6

3.08.5 A bow, lateral, central or stern well shall be considered a cockpit for the purposes of 3.08. 1 2 3 4 5 6

3.08.6 Cockpit Volume

	Earliest of Age or Series Date	Detail	
(a)	Before 04/1992	The total volume of all cockpits below lowest coamings shall not exceed 6% LWL x maximum beam x freeboard abreast the cockpit.	1

(b)	Before 04/1992	The total volume of all cockpits below lowest coamings shall not exceed 9% LWL x maximum beam x freeboard abreast the cockpit.	2 3 4
(c)	04/1992 and after	(a) or (b) above applies except that the lowest coamings shall not include any coaming aft of the FA station and no extension of a cockpit aft of the working deck shall be included in the calculation.	1 2 3 4
(d)	01/2003 and after	Calculations shall be based on LWL, maximum beam, and freeboard abreast the cockpit.	1 2 3 4

	NOTE:	For multihulls, LWL is the Length Overall; freeboard abreast the cockpit is the freeboard at the lowest cockpit coaming; maximum beam is the sum of the maximum beams of all the hulls. Hull beams shall be measured at working deck level amidships.	1 2 3 4

3.08.7 Cockpit Drains – MONOHULLS

LH	**Earliest of Age or Series Date**	**Minimum drain size after allowance for screens**	
Under 8.5 m	Any	2 x 25 mm diameter or equivalent	1 2 3 4 5 6
8.5 m and over	before 07/1977	2 x 25 mm diameter or equivalent	1 2 3 4 5 6
8.5 m and over	after 07/1977	4 x 20 mm diameter or equivalent	1 2 3 4 5 6

3.08.8 Cockpit Drains - MULTIHULLS

The minimum drain sizes after allowance for screens shall be 2,000 mm^2 per m^3 of cockpit. 1 2 3 4 5 6 7

3.09 SEACOCKS

3.09.1

(a) Seacocks or valves shall be permanently installed on all through hull openings below LWL except propeller shaft log, speed indicators, depth finders and the like; however, a means of closing such openings, shall be provided. 1 2 3 4 5

(b) Each through hull opening except for propeller shaft log shall have a soft wood or rubber plug, tapered and of the appropriate size attached to or stowed near it. Plugs shall be of sufficient size to cater for failure of the complete fitting where it attaches to the hull. 1 2 3 4 5

3.10 SHEET WINCHES

Sheet winches shall be mounted in such a way that an operator is not required to be substantially below deck. 1 2 3 4 5

3.11 MAST STEP

The heel of a keel stepped mast shall be securely fastened to the mast step or adjoining structure. 1 2 3 4

3.12 PULPITS, STANCHIONS, LIFELINES

3.12.1 The perimeter of the deck surrounded by system of lifelines and pulpits as follows: 1 2 3 4

(a) Continuous lifelines fixed only at (or near) the bow and stern. However a gate on each side of a boat is permitted. Except at its end fittings and at gates, the movement of a lifeline in a fore-and-aft direction shall not be constrained. Temporary sleeving shall not modify tension in the lifeline.

(b) Minimum heights of lifelines and pulpit rails above the working deck and vertical openings: 1 2 3 4

(i) upper: 600 mm (24”)

(ii) intermediate: 230 mm (9”)

(iii) vertical opening: no greater than 380 mm (15”) except that on a boat with a Primary Launch before 1993 where it shall be no greater than 560 mm (22”)

(iv) a boat less than 8.5 m (28') LH may use a single lifeline system with a height between 450 mm (18") and 560 mm (22").

(c) Lifelines permanently supported at intervals of not more than 2.2 m (7' 2½") and shall not pass outboard of supporting stanchions. 1 2 3 4

(d) Pulpit and stanchion bases permanently installed with pulpits and stanchions mechanically retained in their bases. 1 2 3 4

(e) The outside of pulpit and stanchion base tubes no further inboard from the edge of the working deck than 5% of maximum beam or 150 mm (6"), whichever is greater, nor further outboard than the edge of the working deck. 1 2 3 4

(f) Stanchions straight and vertical except that: 1 2 3 4

(i) Within the first 50 mm (2") from the deck, stanchions shall not be displaced horizontally from the point at which they emerge from the deck or stanchion base by more than 10 mm (3/8")

(ii) Stanchions may be angled to not more than 10° from vertical at any point above 50 mm (2") from the deck.

(g) A bow pulpit may be open provided the opening between the pulpit and any part of the boat does not exceed 360 mm (14"). 1 2 3 4

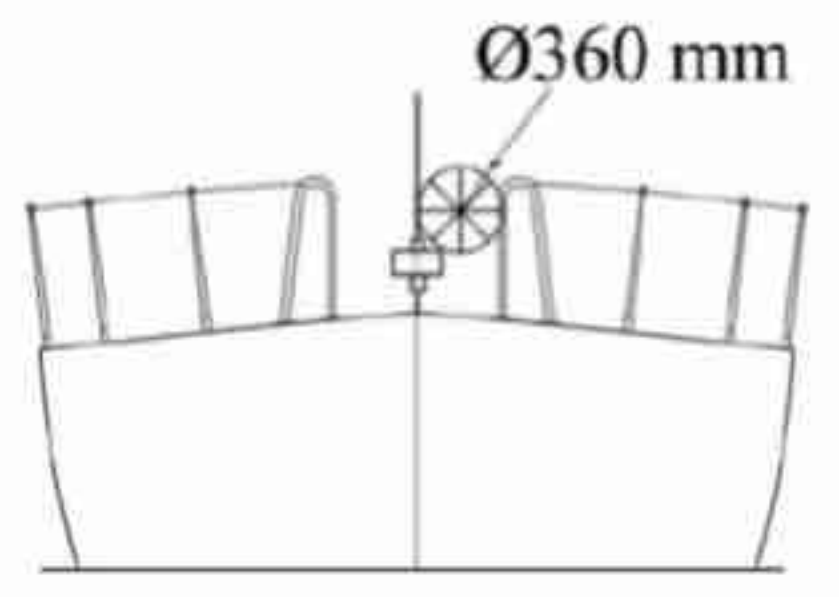


Diagram showing bow pulpit opening

(h)	Lifelines may terminate at or pass through adequately braced stanchions set inside and overlapping the bow pulpit.	1 2 3 4
(i)	When a deflecting force of 4 kg (8.8 lb) is applied to a lifeline at the mid-point of the longest span between supports that are aft of the mast, the deflection shall not exceed: (i) 50 mm (2”) for an upper or single lifeline (ii) 120 mm (4 ¾”) for an intermediate lifeline.	1 2 3 4
3.12.2	Special Requirements for Pulpits, Stanchions, Lifelines on Multihulls.	
(a)	When on a boat it is impractical to precisely follow the Special Regulations regarding pulpits, stanchions, lifelines, the regulations for monohulls shall be followed as closely as possible.	1 2 3 4
(b)	Where lifelines are not fitted to a multihull at all, or when on areas of deck that are not protected by an effective lifeline system, crew shall be required to wear a harness and be attached to the boat between the hours of sunset and sunrise.	1 2 3
(c)	Where lifelines are not fitted to a multihull at all, or when on areas of deck that are not protected by an effective lifeline system, crew are strongly recommended to wear a harness and be attached to the boat at times such as, but not limited to: (i) When alone on deck (ii) When the true wind speed is 25 knots or above (iii) When visibility is less than 1 nautical mile.	1 2 3
3.12.3	Spare number	
3.12.4	Spare number	
3.12.5	Spare number	
3.12.6	**Lifeline minimum diameters, required materials, specifications**	
(a)	Where lifelines are fitted they shall be either: (i) stranded stainless steel wire. Steel lifelines shall be uncoated and used without close-fitting sleeving.	1 2 3 4 5 6 7

(ii) For monohulls, HMPE rope of a minimum diameter as specified in the table below. 4 5 6 7

(iii) For multihulls, HMPE rope of a minimum diameter as specified in the table below. 1 2 3 4 5 6 7

(b) Notwithstanding 3.12.6 (a) above, the term "uncoated" means that the wire must not be coated with any product that is moulded to the wire. The application of a loose sleeve to uncoated wire is permitted provided that air can circulate along the length of the wire between stanchions, it is regularly removed for inspection and the wire remains in good condition. 1 2 3 4 5 6 7

(c) *Grade 316 stainless wire is recommended.* 1 2 3 4 5 6 7

(d) A taut lanyard of synthetic rope may be used to secure lifelines provided the gap it closes does not exceed 100 mm. This lanyard shall be replaced at least annually. 1 2 3 4 5 6 7

(e) All wire, fittings, anchorage points, fixtures and lanyards shall comprise a lifeline enclosure system which has at all points at least the breaking strength of the required lifeline wire. 1 2 3 4 5 6 7

(f) When HMPE is used, it shall be protected from chafe and spliced in accordance with the manufacturer's recommended procedures 1 2 3 4 5 6 7

LH	Wire	HMPE Rope (single braid)	HMPE Core (braid on braid)	
Under 8.5 m	3 mm (1/8")	4 mm (5/32")	4 mm (5/32")	1 2 3 4 5 6 7
8.5 m – 13 m	4 mm (5/32")	5 mm (3/16")	5 mm (3/16")	1 2 3 4 5 6 7
over 13 m	5 mm (3/16")	5 mm (3/16")	5 mm (3/16")	1 2 3 4 5 6 7

3.13 MULTIHULL NETS OR TRAMPOLINES

3.13.1 The word "net" is interchangeable with the word "trampoline". 1 2 3 4

A net shall be: 1 2 3 4

(a) Essentially horizontal.

(b) Made from durable woven webbing, water permeable fabric, or mesh with openings not larger than 50.8 mm in any dimension. Attachment points shall be planned to avoid chafe. The junction between a net and a yacht shall present no risk of foot trapping.

(c) Solidly fixed at regular intervals on transverse and longitudinal support lines and shall be fine-stitched to a bolt rope.

(d) Able to carry the full weight of the crew either in normal working conditions at sea or in case of capsize when the yacht is inverted.

(e) Individually tied at each tie point of the net and not continuously connected to more than four attachment points per connecting line.

3.13.2 Trimarans with double crossbeams

A trimaran with double crossbeams shall have nets on each side covering: 1 2 3 4

(a) The rectangles formed by the crossbeams, central hull and outriggers.

(b) The triangles formed by the aft end of the central pulpit, the mid-point of each forward crossbeam, and the intersection of the crossbeam and the central hull.

(c) The triangles formed by the aftermost part of the cockpit or steering position (whichever is furthest aft), the mid-point of each after crossbeam, and the intersection of the crossbeam and the central hull. Except that:

(d) The requirement in 3.13.2(c) shall not apply when cockpit coamings and/or lifelines are present which comply with the minimum height requirements in 3.12.5.

3.13.3 Trimarans with single crossbeams 1 2 3 4

A trimaran with single crossbeams shall have nets between the central hull and each outrigger on each side between two straight lines from the intersection of the crossbeam and the outrigger, respectively to the aft end of the pulpit on the central hull, and to the aftermost point of the cockpit or steering position on the central hull (whichever is furthest aft). 1 2 3 4

3.13.	**Catamarans**	
	On a catamaran the total net surface shall be limited:	1 2 3 4
(a)	Laterally by the hulls.	
(b)	Longitudinally by transverse stations through the forestay base, and the aftermost point of the boom lying fore and aft. However, a catamaran with a central nacelle (non-immersed) may satisfy the regulations for a trimaran.	
3.14	**TOE RAIL OR FOOT-STOP**	
3.14.1	A toe rail of minimum height 25 mm shall be permanently installed around the foredeck from abreast the mast, except in way of fittings and not further inboard from the edge of the working deck than one-third of the local half-beam. For boats with an Age Date before 01/1981 a toe rail of 20 mm is acceptable.	1 2 3 4
3.14.2	A toe rail is not required on multihulls.	1 2 3 4 5 6 7
3.15	**TOILET**	
3.15.1	Toilet, securely installed shall be provided.	1 2
3.15.2	Toilet or securely fastened bucket shall be provided.	3 4 N
3.16	**BUNKS**	
3.16.1	Bunks, securely fastened, sufficient for at least half the crew shall be provided.	1 2 3
3.16.2	Bunks shall be suitable for use at sea. Fixed bunks shall be fitted with lee cloths or restraints where necessary (not normally required for pipe-cots).	1 2
3.17	**GALLEY**	
3.17.1	Cooking stove or heating appliance, capable of being safely operated in a seaway (e.g. Gimballed).	1 2 3
3.17.2	Cooking stove or heating appliance, where installed shall be securely fastened, with safe, accessible fuel shutoff control.	1 2 3 4 5 6 7
3.17.3	Gas may only be used for cooking.	1 2 3 4 5 6 7

(a)	The use of petrol (or similar hydrocarbon with a flash-point below 60 C) for lighting, cooking or heating is prohibited.	
(b)	Methylated spirits is acceptable for cooking.	1 2 3 4 5 6 7
3.17.4		1 2 3 4 5 6 7
(a)	A sign reading "REMEMBER Turn Off Gas At Bottle" shall be displayed near any gas appliance.	
(b)	Boats equipped with gas systems using permanent flames, e.g. a pilot light, shall be fitted with a combustible gas detection system.	
3.17.5	Disposable gas cooking canisters used inside the boat must be no more than 225 gram capacity.	1 2 3 4 5 6 7
3.17.6	Gas bottles, cylinders and reserve canisters shall be contained in separate ventilated and self-draining compartments where vapour can only escape overboard.	1 2 3 4 5 6 7
3.17.7	Galley facilities - suitable facilities shall be provided.	1 2 3

3.18 WATER TANKS AND WATER

3.18.1	Water tanks, permanently installed and capable of dividing the water supply into at least two compartments and discharging through a pump shall be provided. A leak in any one position in the fresh water system shall not result in the loss of more than two-thirds of the total water supply.	1 2
3.18.2	At least 2.5 litres of fresh water or a watermaker capable of producing 2.5 litres per crew member per 100 nautical miles of the course to be sailed shall be carried at the start of the race.	1 2
3.18.3	At least 2.5 litres of fresh water or a watermaker capable of producing 2.5 litres per crew member shall be carried at the start of the race. At least one securely installed water tank shall be provided for boats with an Age Date of 07/1998 or later.	3
3.18.4	Emergency drinking water: at least 1 litre of water per crew member in addition to that required by clauses 3.18.2 and 3.18.3 shall be carried in a dedicated container or containers.	1 2 3 4 5

3.19 HANDHOLDS

3.19.1	Adequate handholds shall be fitted below decks so that crew members may move about safely at sea.	1 2 3 4 5

3.20 BILGE PUMPS AND BUCKETS

3.20.1	Two manual bilge pumps, securely fitted to the boat's structure, one operable above and the other below deck shall be provided. Each pump shall be operable with all cockpit seats, hatches and companionways shut and shall be provided with permanently fitted discharge pipe(s) of sufficient capacity to accommodate simultaneously both pumps.	1 2
3.20.2	Multihulls shall have provision to pump out all watertight compartments except those filled with impermeable buoyancy.	1 2 3 4
3.20.3	One manual bilge pump shall be provided and operable with all cockpit seats, hatches and companionways shut.	3
3.20.4	One manual bilge pump shall be provided.	4
3.20.5	One manual bilge pump shall be provided if the space below the floorboards precludes access of a bucket for bailing.	5
3.20.6	No bilge pump may discharge into a cockpit unless the cockpit opens aft to the sea. Bilge pumps shall not be connected to cockpit drains.	1 2 3 4 5 6 7
3.20.7		
(a)	Bilge pumps shall have a 25 mm minimum bore suction.	1 2 3 4 5 6 7
(b)	Bilge pumps and strum boxes shall be readily accessible for maintenance and for cleaning out debris.	
3.20.8	Unless permanently fitted, each bilge pump handle shall be provided with a lanyard or catch or similar device to prevent accidental loss.	1 2 3 4
3.20.9	Two buckets of stout construction each with at least 8 litres capacity shall be provided. Each bucket is to have a lanyard.	1 2 3 4 5 6 7

3.21 COMPASS

3.21.1 A marine magnetic compass, independent of any power supply permanently installed and correctly adjusted with deviation card shall be provided. 1 2 3 4

3.21.2 Spare magnetic compass independent of any power supply, capable of being used as a steering compass shall be provided. 1 2 3

3.22 HALYARDS

No mast shall have less than two halyards, each capable of hoisting a sail. 1 2 3 4 5

3.23 NAVIGATION LIGHTS

3.23.1 Navigation lights shall be carried that conform to the International Regulations for Preventing Collisions at Sea (Part C and Technical Annex 1) and shall be exhibited as required by those regulations. 1 2 3 4 N

LH	Guide to minimum filament bulb power
Under 12 m	10 W
Tricolour	25 W
12 m and above	25 W

3.23.2 Navigation lights shall be mounted so that they will not be masked by sails or the heeling of the boat. 1 2 3 4 N

3.23.3 Navigation lights shall not be mounted below deck level and should be at no less height than immediately under the upper lifeline. 1 2 3 4 N

3.23.4 Reserve navigation lights capable of being quickly mounted, with a power supply independent of the boat's main supply shall be provided. 1 2 3 4 N

3.23.5 Spare bulbs for navigation lights shall be carried except for lamps with multiple LED arrays. 1 2 3

3.24 ENGINES, GENERATORS, FUEL

Propulsion engines and associated systems shall be installed in accordance with their manufacturer's guidelines and suitable for the size and intended use of the boat.

3.24.1 MONOHULLS

A permanently installed inboard propulsion engine shall be provided — 1 2

(a) Either an inboard electrical engine, which shall be provided with a permanently installed power supply system, adequate heavy weather protection and have an engine control system

(b) Or an inboard combustion engine, which shall have a permanently installed exhaust, cooling system, fuel supply, fuel tanks(s) and shall have adequate heavy weather protection.

3.24.2 MULTIHULLS — 1 2

A permanently installed propulsion engine shall be provided.

BOTH MONOHULLS AND MULTIHULLS

3.24.3 A propulsion engine shall be provided, either in accordance with 3.24.1 and 3.24.2 above, or an outboard engine with an associated power supply system tanks and fuel supply system, all securely fastened. — 3 4 5

3.24.4 Motors used outboard shall be mounted at all times and the mounting may be raised but not removed. — 3 4 5

3.24.5 A propulsion engine required by these regulations shall: — 1 2 3 4 5

(a) Provide a minimum speed in knots of (1.8 x √LWL in metres)

(b) Have a minimum amount of electrical power capacity and/or fuel at the start of the race which shall be sufficient to be able to meet both electrical requirements for the duration of the race and to motor at the above minimum speed for at least 5 hours (4 hours Cat 5)

(c) *Notwithstanding the above it is recommended that the minimum amount of engine fuel to be carried at the start of the race should be at least*

	Litres = LWL (metres) / 0.135	1
	Litres = LWL (metres) / 0.2	2
	Litres = LWL (metres) / 0.4	3 4 5 6
(d)	*Race committees are recommended to apply their own minimum fuel requirements in the notice of race which shall not be less than 3.24.5(c) above.*	1 2 3
3.24.6	A dedicated engine/generator starting battery when an electric started is the only method for starting the engine and/or generator.	1 2 3 4 5 6 7
3.24.7	A separate generator for electricity is optional. However, when a separate generator is permanently installed it shall be securely covered, and shall have permanently installed exhaust and fuel supply systems and fuel tank(s).	1 2 3 4 5 6 7
3.24.8	Fixed fuel tanks shall have a shut off valve or cock fitted directly to the tank outlet except when it is not possible for fuel to escape or siphon from the tank if the fuel line fractures.	1 2 3 4 5 6 7
3.24.9		
(a)	Petrol fuel tanks for inboard engines or inboard tanks for outboard engines shall be permanently installed, metal or other material certified as suitable by the manufacturer, vented to the open air, electrically grounded and have the filler positioned so that spillage and fumes cannot enter the boat**.**	1 2 3 4 5 6 7
(b)	Diesel fuel tanks shall be metal or other material certified as suitable by the manufacturer.	1 2 3 4 5 6 7
(c)	Fuel lines shall be metal, and clipped rigidly in place with a flexible connection between the fixed line and the engine, or a flexible line may be used throughout provided that the material and terminals are designed for that purpose. In the case of petrol engines the flexible fuel line shall be fire resistant and appropriately coded by the manufacturer (e.g. with a red stripe).	1 2 3 4 5 6 7
(d)	Outboard motor remote fuel tanks and lines shall be as supplied by the manufacturer or built to a recognised national standard and branded with their mark of approval. Fuel tanks shall be secured to the deck or in a separately ventilated compartment.	3 4 5 6 7

(e)	Petrol fuel shall not be carried below decks in portable containers.	3 4 5 6 7
(f)	Except for permanently installed linings or liners, a flexible tank is not permitted as a fuel tank.	3 4 5 6 7
3.24.10	Paddles: If not fitted with an engine, each boat 5.5 m or less shall carry a pair of oars or paddles with a minimum blade area of 0.04 m^2 each.	6 7

3.25 MARINE RADIO

3.25.1	The following waterproof or marine standard communication equipment shall be provided:	1 2 3 4 5
(a)	Means to communicate a distress situation to the Rescue Coordination Centre and Organising Authority.	1 2
	(i) Either a permanently installed HF transceiver. All new HF transceivers shall be DSC capable. *It is recommended that all HF transceivers be DSC capable.*	
	(ii) Or a satellite phone, incorporating voice and text capability, retained in a securely fastened mounting, connected to the vessel's electrical supply, equipped with a permanently located external aerial, and continuous coverage for the race area.	
	(iii) Where shore based VHF facilities exist for the entire length of the course, the organising authority may permit an installed VHF transceiver only and this shall be included in the notice of race.	2
(b)	(i) Permanently installed VHF transceiver All new permanently installed VHF transceivers shall be DSC capable.	1 2 3 4
	(ii) A waterproof handheld transceiver.	1 2 3
	(iii) A new permanently installed, or waterproof handheld, VHF transceiver.	5 6 7
	(iv) It is recommended that all permanently installed VHF transceivers be DSC capable, each with their own unique MMSI.	
	(v) Each handheld VHF DSC transceiver should have its own MMSI number allocated to the device, separate to that of the vessel.	

3.25.2	Where permanently installed, DSC HF/VHF transceivers shall be programmed with an assigned MMSI (unique to the boat), and where there is a permanently installed GPS, be connected to a GPS receiver, and be capable of making distress alert calls as well as sending and receiving a DSC position report with another DSC equipped station. Periodically, a test call should be made which should be automatically acknowledged.	1 2
	Specifications and Testing	
3.25.3	Permanently installed HF transceivers shall be:	1 2
(a)	Able to transmit and receive on the standard distress frequencies of 4125, 6215, 8291 kHz	
(b)	Tested in accordance with the notice of race.	
3.25.4	Permanently installed VHF transceivers shall:	1 2 3 4 5
(a)	Have a maximum rated output power of not less than 25W	
(b)	Have a mast head antenna	1 2 3
(c)	Have transmission and reception with a base station at least 8 nautical miles distant	1 2 3
(d)	Be tested in accordance with the notice of race.	1 2 3 4 5
3.25.5	The following emergency alternatives shall be provided:	
(a)	Each required transceiver and satellite phone shall have a second antenna, or another means of maintaining that form of communication, that is independent of the mast. At all times a boat shall maintain VHF and AIS capability.	1 2 3
(b)	An emergency antenna where the regular antenna depends upon the mast.	4
3.25.6	Handheld VHF transceivers shall:	1 2 3 4 5
(a)	Have a maximum rated output power of not less than 5W	
(b)	Be tested in accordance with the notice of race.	
3.25.7	At least two means of receiving weather bulletins shall be provided.	1 2 3 4

Training

3.25.8 Licensed Operators:
All marine radio users must be appropriately qualified. A certificate of proficiency or statement of attainment, as recognised by the Australian Communications and Media Authority (ACMA), or an internationally recognised equivalent, is required to be held by the operator for the equipment being operated in the given race category.

(a) At least two operators for the radio equipment listed in the race category. 1 2

(b) At least one operator for the radio equipment listed in the race category. 3 4 5 6

(c) Where there are only two crew on board, both crew members must meet the licence requirements. 1 2 3 4

3.26 BATTERIES (See also 3.24.6)

Batteries shall be of a sealed type from which liquid electrolyte cannot escape. 1 2 3

3.27 BAROMETER

A barometer shall be fitted. 1 2

3.28 HULL IDENTIFICATION

3.28.1 Boats shall have on both sides or on the transom in legible characters a minimum of 50 mm high: 1 2 3 4 5 6 7

(a) The boat's name

(b) Its state marine authority number or sail number

(c) If the boat has no state marine authority number, the sail number and the name of the club

(d) The name of the club may be abbreviated.

3.28.2 Each multihull shall show on the underside, where they can be seen when inverted, not less than 2 areas of highly visible colour (e.g. Day-glow pink, orange or yellow) of at least 1 m^2 each. 1 2 3 4

3.29 AUTOMATIC IDENTIFICATION SYSTEM (AIS)

3.29.1 The following shall be provided:

(a)	An AIS Transponder.	1 2 3
(b)	Yachts shall ensure that both the yacht name and MMSI number are transmitted and shall ensure their AIS Transponder is switched on (i.e. transmitting and receiving) at all times.	
(c)	AIS transponders shall be tested and operated in accordance with the notice of race.	1 2 3

3.30 GPS

3.30.1	A permanently installed GPS.	1 2 3

For water and fuel see 3.18 and 3.24

		RACE CATEGORY
4.01	**SAIL NUMBERS**	
4.01.1	Sail numbers shall be carried in accordance with RRS 77 and Appendix G.	1 2 3 4 5 6 7
4.01.2	A separate piece of heavy-duty material shall be carried with the boat's sail numbers on it, with eyelets and lashings, capable of being displayed across the deck or along the lifelines when none of the numbered sails are set.	1 2 3
4.02	**PLUGS (See 3.09.1)**	1 2 3 4 5
4.03	**JACKSTAYS, CLIPPING POINTS AND STATIC SAFETY LINES**	
4.03.1	Jackstays	1 2 3
(a)	Jackstays shall be attached to through-bolted or welded deck plates or other suitable and strong anchorage points fitted on deck, one port and one starboard of the boat's centreline to provide secure attachments for safety harness. Jackstays shall extend far enough to allow crew to hook on without leaving the cockpit.	
(b)	Jackstays shall be comprised of uncoated stainless steel 1 x 19 wire of minimum diameter 5 mm (3/16in), or spectra rope, or webbing, of equivalent strength *(20000 N (2040 kgf) breaking force webbing is recommended)*.	
(c)	At least two jackstays shall be fitted on the underside of a multihull in case of inversion.	
(d)	All fastenings and lashings for jackstays shall have the equivalent strength as the jackstay.	
(e)	Stanchion bases shall not be used as strong points.	

4.03.2 Clipping Points 1 2 3 4

(a) Clipping points shall be attached to through-bolted or welded deck plates or other suitable and strong anchorage points adjacent to stations such as the helm, sheet winches and masts, where crew members work for long periods.

(Warning: U-bolts can cause plain snap hooks to "capsize" when rotated on one leg of the u-bolt so that the "gate" bears against the other leg. For this reason the use of plain snap hooks is not recommended.)

(b) Clipping points shall enable a crew member:

(i) To clip on before coming on deck and unclip after going below.

(ii) Whilst continuously clipped on, to move readily between the working areas on deck and the cockpit(s) with the minimum of clipping and unclipping operations.

(c) There shall be sufficient clipping points to enable two-thirds of the crew to be simultaneously clipped on without depending on jackstays.

(d) In a trimaran with a rudder on the outrigger, there shall be adequate clipping points that are not part of the deck gear or the steering mechanism, in order that the steering mechanism can be reached by a crew member whilst clipped on.

4.04 FIRE EXTINGUISHERS

Where there is any form of auxiliary engine or naked flame, fire extinguishers readily accessible in suitable and different parts of the yacht shall be provided as follows:

4.04.1 At least two, of a minimum 10B(E) rating each of dry powder or equivalent . 1 2 3 4

4.04.2 One of a minimum 10B(E) rating of dry powder or equivalent. 5 6 7

4.04.3 All fire extinguishers will be of a minimum rating of 1A:10B(E). 1 2 3 4 5 6 7

4.04.4 A fire blanket adjacent to every cooking device with an open flame which should be used in the first instance on cooking fat fires. 1 2 3 4 5 6 7

4.05 ANCHORS

4.05.1

(a) Anchors and ground tackle shall be carried according to Table 1. 1 2 3 4 5 6 7

(b) Anchors and warps shall be sized according to Table 2 or Table 3 using the lesser as a minimum. Anchors of equivalent holding power shall be acceptable 1 2 3 4 5 6 7

(c) The primary anchor shall be carried assembled and attached to the ground tackle. 1 2 3 4

(d) A provision for securing the bitter end of the warp to a strong point on the boat prior to deploying the anchor shall be fitted. 1 2 3 4 5 6 7

Note: For multihulls, owners are recommended to consider selecting an anchor and accompanying rode that is one size bigger, compared to a monohull of similar length overall.

TABLE 1 Number of Anchors and Length of Warps

Function	Minimum length of chain	Plus length of Rope or Chain	
Primary anchor	10 m	50 m	1 2 3 4
Secondary anchor	2 m	40 m	1 2 3 4
Primary anchor	5 m	45 m	5 6 7

GROUND TACKLE SIZES

TABLE 2 - BASED ON L.O.A.

LOA	ANCHOR High Holding Power		CHAIN	WARP	Suggested Warp Size	
	Plough Type e.g. CQR	Spade Type e.g. Danforth	Standard Link	Minimum Breaking Force	Polyethylene (silver)	Nylon
Metres	**kg**	**size**	**mm**	**kN**	**mm**	**mm**
Under 5	3.5	4S	6	4.5	8	8
Up to 6	4	8S	6	9	10	10

Up to 8	7	13S	6	9	10	10
Up to 9	9	22S	8	20	16	12
Up to 11	11	22S	8	30	20	14
Up to 13	15	40S	10	39	24	16
Up to 15	20	65S	10	39	24	16
Up to 17	25	65S	13	45	26	18
Up to 19	34	80S	13	45	26	18
Over 19 as certified by a marine engineer.						

TABLE 3 - BASED ON DISPLACEMENT

Displacement	**Anchor**		**CHAIN**	**WARP**	**Suggested Warp Size**	
	High Holding Power					
	Plough Type e.g. CQR	Spade Type e.g. Danforth	Standard Link	Minimum Breaking Force	Polyethylene (silver)	Nylon
kg	**kg**	**size**	**mm**	**kN**	**mm**	**mm**
Less than 815	4	8S	6	9	10	10
816 - 2500	7	13S	6	9	10	10
2501 - 4300	9	22S	8	20	16	12
4301 - 6550	11	22S	8	30	20	14
6551 - 9500	15	40S	10	39	24	16
9501 - 13600	20	65S	10	39	24	16
13601 - 20400	25	65S	13	45	26	18
20401 – 27200	34	80S	13	45	26	18
27201 and over	45	80S	14	60	32	20

Minimum breaking force should in no way be construed as a safe working load.

4.06 SPOTLIGHTS AND FLASHLIGHTS

4.06.1	(i) A watertight, high-powered spotlight, suitable for searching for a person overboard at night and for collision avoidance with spare batteries and bulbs (if they can be replaced).	1 2 3 4
	(ii) Flashlights, water resistant and floating type, with spare batteries and bulbs (if they can be replaced).	
	At least three shall be provided.	1
	At least two shall be provided.	2 3
4.06.2	Flashlight, at least one water resistant and floating type, with spare batteries and bulb if they can be replaced.	4 5

4.07 MEDICAL KIT AND MANUAL

4.07.1	Ship Captain's Medical Guide (21st edition or later). OR International Medical Guide for Ships, World Health Organization shall be provided in either electronic or hardcopy formats.	1
4.07.2	"First Aid" - Authorised manual of the St John Ambulance Assn in Australia (current edition) OR "The Authorised Manual of the Australian Red Cross Society" (current edition) OR equivalent First Aid manual shall be provided in either electronic or hardcopy formats.	2 3 4 5
4.07.3	*Injury/Illness Chart* *It is recommended that an injury/illness chart be used to help in communication over the radio or to ambulance officers on shore about what first aid treatment has been administered to an injury (See Appendix H for an example).*	1 2 3 4 5 6 7
4.07.4	Boats shall carry a first aid kit containing at least the items in 4.07.9 a) 4.07.9 until 1 December 2028, or b) Appendix D as specified by the race documents. It is recommended that boats carry a medical kit containing the items listed in Appendix D	1 2 3 4 5 6 7

	It is recommended that boats should be equipped with a first aid kit whose contents and storage reflects the likely conditions and duration of the passage and the number of people aboard the boat.	
4.07.5	*Items contained in the first aid kits listed below are BASIC and it is recommended that they be increased on a pro rata basis when more than 10 crew are carried.*	1 2 3 4 5 6 7
4.07.6	At least two members of the crew	1
	At least one member of the crew	2
	Shall hold a current Provide First Aid (previously known as Senior First Aid or Apply First Aid) Certificate or equivalent, or be a practising medical practitioner. Each of these crew members shall also have undertaken the training required by SR 6.01. *It is strongly recommended that if injectable items are to be carried, that the members of the crew trained in first aid have additional training in the use of injectables.* *The person in charge of a boat is also recommended to review the specific circumstances of the boat, the race or cruise to be undertaken, the weather and sea conditions likely to be experienced and the time before medical assistance could be available to determine if this minimum level of first aid training is appropriate or whether further training is required.*	
4.07.7	*It is recommended that if there is any possibility that special medication is needed, or medication allergies exist for any crew member, that crew member should obtain medical advice before racing and provide any necessary additional medication.*	1 2 3 4 5 6 7
4.07.8	The race committee shall recommend increased dosages be carried for those races where a boat is expected to be more than 4 days from a port of refuge where medical assistance can be obtained.	1
4.07.9	The first aid kit shall be stored in a waterproof container(s) which shall have the contents listed so as to be visible without opening and shall contain the items listed below. Medical kits that were compliant with the Special Regulations from 18 November 2021 remain compliant until further notice.	1 2 3 4 5 6 7

In the following list the generic product is indicated with common brand names in brackets. The quantities for each category are indicated under the category column (Refer 4.07.5).

Alternate pharmaceuticals in equivalent amounts and having similar action to those stated are acceptable.

WARNING

IN AN EMERGENCY, MEDICAL ADVICE SHOULD FIRST BE OBTAINED FROM THE COAST RADIO OR BY CONTACTING A DOCTOR THROUGH THE CONDUCTING CLUB. THIS IS PARTICULARLY IMPORTANT:

1. BEFORE ADMINISTERING PRESCRIPTION DRUGS, OR
2. BEFORE ADMINISTERING ASPIRIN OR GLYCERYL TRINITRATE (NITROLINGUAL) SPRAY FOR A SUSPECTED CARDIAC EMERGENCY (OTHER THAN WHEN USING THE VICTIM'S PERSONAL MEDICATION), OR
3. TREATING AN EYE INJURY, OR
4. TREATING SEVERE PAIN, OR
5. TREATING DIARRHOEA WHERE THE PATIENT ALSO HAS A FEVER, OR
6. TREATING SEVERE BURNS.

THE ADMINISTRATION OF ALL PRESCRIPTION DRUGS GIVEN UNDER MEDICAL ADVICE MUST BE DOCUMENTED IN THE BOAT'S LOG AND WITNESSED, DETAILING THE DOCTOR'S NAME, TREATMENT ADMINISTERED, DATE AND TIME.

NOTE:

Check Expiry Date of all medications.

* Ask a pharmacist for this medication.

** Requires a prescription.

*** Mandatory only when required by notice of race for long ocean races.

It should be noted that most prescription medication must be stored at a temperature of 25 C or less.

As the temperature in an enclosed yacht during the summer months can exceed 50 C it is recommended that all prescription medication be replaced at least annually.

All drugs are to be stored in a safe cool environment and morphine should be removed from the boat when the boat is not racing or the drug is not required for that race category.

The Australian Resuscitation Council (ARC) recommends that all those trained in CPR should refresh their CPR skills at least annually. CPR is the most fundamental skill in first aid and repeated training is important to improve the effectiveness of basic life support at sea.

		RACE CATEGORY						
		1	2	3	4	5	6	7
	FOR VARYING DEGREES OF PAIN	QUANTITY						
	Mild Pain							
	Paracetamol 500 mg (e.g. Panadol) OR Ibuprofen 200 mg (e.g. Nurofen)	40	40	40	20	20		
	Moderate to Severe pain							
**	Codeine 30 mg + Paracetamol 500 mg (e.g. Panadeine Forte)	20	20					
	Very Severe Pain							
**	Oxycodone 5 mg (e.g. Endone) OR	20	20					
**	Oxycodone suppositories (per rectum) 30 mg (e.g. Proladone)	10	10					
***	Morphine 10 mg/1 ml	10	10					
	Opioid Overdose							
***	Naloxone Hydrochloride ampoules 400 mcg/ml	5	5					
	Cardiac Emergencies							
	Soluble Aspirin (e.g. Disprin)	20	20	20	20	20	20	20
	Glyceryl Trinitrate Spray (e.g. Nitrolingual Spray)	1	1					

	FOR WOUNDS AND LIMBS							
	Butterfly or Steristrips (Strips of 5)	10	10	5	5			
	Disposable Gloves	20	20	20	20	10	10	10
	Crepe bandages 75 mm x 1.5 m	2	2	2	2	2	2	2
	Crepe bandages 100 mm x 1.5 m	2	2					
	Triangular bandage	2	2	1	1			
	High Absorbency non-adherent dressing (e.g. Exu-Dry)	10	10					
	Low Absorbency non-adherent dressing/plain gauze (e.g. Melolin)	10	10	10	10	5	5	2
	Bandaids or equivalent roll of bandaid	20	20	20	20	20	20	20
	Sports/Strapping tape 50 mm x 2.5 m (e.g. Leukoplast)	1	1					
	Antiseptic skin solution 15 ml (e.g. Betadine)	1	1	1	1			
	Antiseptic cream with Lignocaine HCL (e.g. Medicreme)	1	1	1	1			
	FOR EYES							
	Normal saline (for washing) 250 ml	1	1	1	1			
	Normal saline (for washing) 30 ml					2	2	2
**	Chloramphenicol eye ointment 1% 4g (e.g Chlorsig or Choromycetin)	1	1					
	Sterile eye patches	5	5					
	ANTIBIOTIC							
	Severe infection							
***	Ciprofloxacin 500 mg (e.g. Ciproxin, C-Flox)	14						
	For infection							
**	Cephalexin 500 mg tabs (e.g. Keflex)	20	20					
	Fungal skin infection							
	Clotrimazole cream (e.g. Canesten, Clonea)	1	1					
	FOR BURNS							

	Superficial - Hydrogel wound dressing 100 g (e.g. Solosite, Duoderm Gel, Purilon)	1	1					
	Severe - Cool, then cover with a non-adherent dressing and obtain hospital treatment as soon as possible.							
**	Silver sulphadiazine cream 100 g	1						
	SUNSCREEN							
	30+ SPF 250 ml	1	1	1	1	1	1	1
	FOR DIARRHOEA/GASTRIC PROBLEMS							
	Anti-diarrhoea treatment i.e loperamide (pkt) (e.g. Imodium)	1	1					
	Antacid tablets (pkt) or liquid (bottle) (e.g. Mylanta, Gaviscon)	1						
	FOR DEHYDRATION							
	Electrolyte replacement 4.9 g sachet - pkt of 10 (e.g. Gastrolyte)	1	1					
	FOR SEASICKNESS							
	Crews should consider carrying some form of seasickness remedy for all racing categories. It should be noted that all types of seasickness remedy available may produce drowsiness and/or disorientation.							
	Travel/seasickness tablets i.e. promethazine theoclate (e.g. Avomine) or dimenhydrinate + hyoscine hydrobromide + caffeine (e.g Travacalm)	10	10	10	10			
	FOR ALLERGY							

	Known allergy sufferers should carry their own auto-injector (e.g. Epipen, Anapen) or similar and advise the crew of its location and method of administration								
**	Antihistamine tablet i.e promethazine 25 mg (e.g. Phenergan)	25	25						
**	Adrenaline ampoules 1:1000	5	5						
	INSTRUMENTS								
	Scissors, stainless steel	1	1	1	1	1	1	1	
	Thermometer, clinical	1	1						
	Forceps, splinter, stainless steel	1	1						
	Appropriately sized disposable syringes and needles (*to be increased to 20 if Morphine and Naloxone Hydrochloride ampoules are required by the Notice of Race*).	5	5						
	Alcohol swabs for injection preparation	10	10						
***	Stapling kit/wound glue	1							
	EMERGENCY MEDICAL EQUIPMENT								
	Malleable or fixed splints appropriate for arms and legs (e.g. inflatable, SAM, Flex-All)	1	1						
	CPR mask or 6 Face shields	1	1	1	1	1	1	1	

4.08 FOGHORN 1 2

4.09 INTENTIONALLY BLANK

4.10 CHARTS, PLOTTING EQUIPMENT AND BOOKS

4.10.1

(a) Navigational charts for the current race and chart plotting equipment (may be electronic) shall be provided. 1 2 3 4 5

(b)	A back up electronic chart system (can be handheld) or set of paper charts is required.	1 2
(c)	If both chart sources are electronic they are to have independent power supplies and chart data.	1 2
(d)	All electronic chart data is to be downloaded to an Electronic Chart System(ECS) or available on a data storage device prior to starting and not dependent on internet or phone service connection.	1 2 3 4 5
(e)	Unless using official Electronic Navigational Charts (ENC) or raster charts all other electronic charts should be compared with official Government charts to ensure no dangers have been omitted prior to starting.	1 2
(f)	If using paper charts or individually selected ENC they shall contain details of likely ports of refuge.	1 2
4.10.2	The current "International Regulations for the Prevention of Collision at Sea" shall be provided in either electronic or hardcopy formats.	1 2 3 4
4.10.3	The current "Australian Sailing Racing Rules of Sailing" and "Special Regulations Part 1" shall be provided in either electronic or hardcopy formats, except in open boats.	1 2 3 4 5 6 7
4.11	**GPS**	
4.11.1	A GPS which may be handheld and water resistant with a spare battery(s) or alternative means of charging the device.	4
4.11.2	A second GPS which is handheld and water resistant with a spare battery(s), or an alternative means of charging the device, shall be provided.	1 2
4.11.3	A yacht shall be equipped with an EPFS (e.g. GPS) capable of recording a person overboard position within 10 seconds and monitoring that position.	1 2
4.12	**DEPTH SOUNDER**	1 2 3
4.13	**LOG**	
4.13.1	A distance measuring instrument (other than GPS) shall be provided.	1 2 3

4.14 EMERGENCY STEERING

4.14.1	An emergency tiller capable of being fitted quickly to the rudder stock where the normal method of steering is other than by a strong tiller fitted directly to the rudder stock shall be provided.	1 2 3 4 N
4.14.2	Crews must be aware of alternative methods of steering the boat in any sea condition in the event of rudder loss.	1 2 3

4.15 TOOLS AND SPARE PARTS

4.15.1	Tools and spare parts, including effective means to disconnect or sever the standing rigging from the hull in case of need shall be provided.	1 2 3 4 5
4.15.2	A bosun's chair or climbing harness shall be provided. *It is recommended that a bosun's chair be carried in addition to a climbing harness.*	1 2 3 4
4.15.3	A sharp knife capable of cutting high modulus fibre rope, sheathed and restrained located in or near each cockpit shall be provided.	1 2 3 4 5 6 7

4.16 BOAT'S NAME

4.16.1	A boat's name shall be placed on miscellaneous buoyant equipment, such as lifejackets, cushions, lifebuoys, lifeslings, floor boards etc.	1 2 3 4 5 6 7
4.16.2	Where a lifejacket is the personal equipment of a crew member it shall be marked instead to identify the owner. Preferably this should be the name of the owner and a contact telephone number.	1 2 3 4 5 6 7

4.17 RETROREFLECTIVE TAPE

	Marine grade retroreflective material shall be fitted to lifebuoys, lifeslings, liferafts and ***is recommended on lifejackets not required by a Standard to have such material.***	1 2 3 4 5 6 7

4.18 EPIRBS

4.18.1	A GPS capable 406 MHz Emergency Position Indicating Radio Beacon (EPIRB) registered with a national registration authority:	1 2 3

(a)	Shall be provided.	1 2 3
(b)	Shall be provided for races that extend more than two nautical miles offshore.	4
4.18.2	The number of EPIRBs carried on board shall be not less than the number of liferafts carried on the boat.	1 2
4.18.3	EPIRBs shall be:	1 2 3 4
(a)	Stored in a dry, well-marked location near the companionway	
(b)	Within battery life	
(c)	Regularly tested to ensure they are in working condition	
(d)	Registered in the boat's name.	
	Crew members shall be trained in the use of this equipment.	
4.18.4	Additional EPIRBs required under 4.18.2 may be packed in each liferaft or stored in a dry, well-marked location near the companionway.	1 2

4.19 LIFERAFTS

4.19.1	**Liferaft Construction**	1 2
	One or more inflatable liferafts with a total capacity to accommodate at least the total number of people on board which complies with:	
	(i) SOLAS LSA Code 1997 Chapter IV or later version; or	
	(ii) ISO 9650-1, Type 1, Group A - Small Craft - Inflatable; or	
	(iii) ISAF liferafts manufactured before 2016 until replacement is due at end of service life; or	
	(iv) ORC liferafts manufactured before 2003 until replacement is due at end of service life	
	(v) USL Coastal liferaft manufactured before 1 July 2006 until replacement is due at end of service life.	
4.19.2	**Minimum Liferaft Equipment**	1 2
(a)	A SOLAS liferaft shall contain as a minimum a SOLAS A pack;	
(b)	An ISO 9650 liferaft shall contain as a minimum Pack 2 (less than 24 hour pack);	
(c)	ISAF liferaft shall contain at least an ISAF pack;	

(d) ORC liferafts shall contain at least an ORC pack;

(e) USL Coastal liferaft when each liferaft shall contain at least an Australian Sailing pack (SR Part 1, Appendix A).

(f) When the notice of race requires yachts to carry Pack 1 (>24h) or Australian Sailing equipment (SR Part 1, Appendix A), the additional equipment above that required by 4.19.2 (a-e), shall be either packed into the liferaft or carried in a grab bag.

4.19.3 Liferaft Packing and Stowage 1 2

(a) Each liferaft shall be packed either in:

(i) a rigid container securely stowed on the working deck, in the cockpit or in an open space; or

(ii) a rigid container or valise securely stowed in a dedicated weather tight locker containing liferaft and abandon ship equipment only which is readily accessible and opens onto the cockpit or working deck, or transom.

(b) In a boat with primary launch before June 2001, a liferaft may be packed in a valise not exceeding 40 kg securely stowed below deck adjacent to a companionway.

(c) On a multihull or on a monohull with moveable ballast the liferaft shall be readily deployable whether or not the boat is inverted.

(d) The end of each liferaft painter should be securely fastened to the boat.

(e) Each raft shall be capable of being got to the lifelines or launched within 15 seconds.

NOTE: *There are risks associated with long-term storage of liferafts in adverse weather conditions when yachts are not in use. Owners should consult manufacturer's recommendations for care and stowage of liferafts.*

4.19.4 Liferaft Servicing and Inspection 1 2

IMPORTANT NOTICE Evidence has shown that packaged liferafts are vulnerable to serious damage when dropped (e.g. from a boat onto a marina pontoon) or when subjected to the weight of a crew member or heavy object (e.g. an anchor). Damage can be caused internally by the weight of the heavy steel CO2 bottle abrading or splitting neighbouring layers of buoyancy tube material. A liferaft should be taken for servicing if there is any sign of damage or deterioration (including on the underside of the pack). Persons in charge should insist on great care in handling liferafts and apply the rules NO STEP and DO NOT DROP UNLESS LAUNCHING INTO THE SEA.

(a) A liferaft shall be serviced at a manufacturer authorized service station at the following maximum intervals:

(i) SOLAS liferafts annually

(ii) ISO 9650 canister packed liferafts every 3 years

(iii) ISO 9650 valise packed liferafts every 3 years except that hired liferafts shall be serviced annually

(iv) ISAF liferafts annually

(v) ORC liferafts annually.

(b) Servicing certificates (original or a copy) on board.

4.20 GRAB BAGS TO ACCOMPANY LIFERAFTS 1 2

4.20.1

(a) *A yacht is required to have for each liferaft, a grab bag. A grab bag should have inherent flotation, at least 0.1 m2 area of a safety colour in the yellow-red range, should be marked with the name of the yacht, and should have a lanyard and clip.*

(b) *NOTE: It is not intended to duplicate in a grab bag items required by other Special Regulations to be on board the yacht - these recommendations cover only the stowage of those items.*

4.20.2 Grab Bag Recommended Contents

1 2

The grab bag should be stored in an easily accessible, protected location and crew should be briefed on the location and contents of the grab bag. The following contents should be considered for inclusion and should be appropriately packed and waterproofed.

(a) *Two red parachute and two red hand flares and cyalume type chemical light sticks*

(b) *A waterproof handheld GPS in at least one of the grab bags carried by a yacht*

(c) *A SART (Search and Rescue Transponder) in at least one of the grab bags carried by a yacht*

(d) *A GPS capable 406MHz EPIRB in at least one of the grab bags carried by a yacht*

(e) *Water in re-sealable containers or a hand-operated desalinator plus containers for water*

(f) *A watertight handheld marine VHF transceiver plus a spare set of batteries*

(g) *A watertight flashlight with spare batteries and bulb*

(h) *Thermal protective aids or survival bags*

(i) *Two safety tin openers (if appropriate)*

(j) *A first-aid kit including sunscreen and seasickness tablets*

(k) *A daylight signalling mirror*

(l) *Some high-energy food.*

NOTE: Additional recommended items for long Category 1 races

(m) *A handheld satellite telephone with waterproof cover and internal batteries*

(n) *A strobe light*

(o) *Medical supplies for pre-existing medical conditions of any crew member*

(p) *Spare unbreakable spectacles for any crew members needing them*

(q) *Four additional red parachute flares, three white parachute flares, two orange smoke flares.*

4.21 LIFEBUOYS

4.21.1 The following shall be provided within reach of the helm and ready for instant use: 1 2 3 4

(a) A lifebuoy with a self-igniting light and a drogue or a lifesling with a self-igniting light and without a drogue. 1 2 3 4

(b) In addition to (a) above, one lifebuoy within reach of the helm and ready for instant use, equipped with: 1 2

(i) A whistle, a drogue, a self-igniting light and

(ii) A pole and flag. The pole shall be either permanently extended or be capable of being fully automatically extended (not extendable by hand) in less than 20 seconds. It shall be attached to the lifebuoy with 3 m (10 ft) of floating line and is to be of a length and so ballasted that the flag will fly at least 1.8 m (6 ft) off the water.

4.21.2 When at least two lifebuoys (and/or lifeslings) are carried, at least one of them shall depend entirely on permanent (e.g. foam) buoyancy. 1 2

4.21.3 Each inflatable lifebuoy and any automatic device (e.g. pole and flag extended by compressed gas) shall be tested and serviced at intervals in accordance with its manufacturer's instructions. 1 2 3 4

4.21.4 Each lifebuoy or lifesling shall be fitted with marine grade retroreflective material. 1 2 3 4

4.21.5 The colour of a lifebuoy or lifesling, other than lines, fittings and retroreflective material shall be a safety colour in the yellow - red range. 1 2 3 4

4.22 PYROTECHNICS (FLARES)

4.22.1 Pyrotechnic signals conforming to AS 2092 or higher (e.g. SOLAS LSA Code Chapter III Visual Signals) stored in waterproof container(s) shall be provided. The age of all pyrotechnics shall not exceed the manufacturer’s expiry date. 1 2 3 4 5

Red parachute flares	Red hand flares	Orange smoke	
6	4	4	1
4	4	4	2 3
	2	2	4
	2	2	5

4.23 HEAVING LINE

4.28.1 A 15 m – 25 m in length heaving line shall be readily accessible to the cockpit. It shall consist of a floating line with a buoyant object at one end. *The "throwing sock" type is recommended*. — 1 2 3 4 5

4.24 STORM AND HEAVY WEATHER SAIL INVENTORY

the following storm & heavy weather sails as specified in SR 4.24.1

(a) either a storm trysail or mainsail reefing to reduce the luff by at least 50% (or rotating wing mast if suitable), — 1 2

(b) either a storm trysail or mainsail reefing to reduce the luff by at least 40% (or rotating wing mast if suitable), — 3

(c) either mainsail reefing to reduce the luff by 12.5% or a heavy weather jib (or rotating wing mast if suitable or heavy-weather sail in a boat with no forestay) — 4

(d) Heavy weather jib — 1 2 3

(e) Storm jib — 1 2

4.24.1 Storm & Heavy Weather Sail Specifications

Where required by SR 4.24 a boat shall have:



4.24.2	**Design**	
(a)	the material of the body of a storm sail purchased after 2013 shall have a highly visible colour (e.g. dayglo pink, orange or yellow),	1 2 3 4
(b)	Aromatic polyamides, carbon and similar fibres shall not be used is a trysail or storm jib, but HMPE and similar materials are permitted,	1 2 3 4
(c)	Sheeting positions on deck for each storm and heavy-weather sail,	1 2 3 4
(d)	Sheeting positions for the trysail independent of the boom, and	1 2 3 4
(e)	A storm jib may not be set in conjunction with any other sail set forwards of the forward mast spar.	1 2 3 4
4.24.3	**A Storm Trysail with:**	
(a)	area not greater than 17.5% mainsail hoist (P) x mainsail foot length (E),	1 2 3
(b)	the storm trysail area shall be calculated as (0.5 x leech length x shortest distance between tack point and leech)	1 2 3
(c)	no headboard	1 2 3
(d)	no battens	1 2 3
(e)	sail number and letters on both sides, as large as practicable	1 2 3
(f)	in the case of a boat with an in-mast furling mainsail, the storm trysail shall be capable of being set while the mainsail is furled, and	1 2 3
(g)	designed to provide propulsion and steerage in 34 knots and above, and on all points of sail.	1 2 3
4.24.4	**A Heavy Weather Jib** (or Heavy Weather Sail in a Boat with no Forestay) with:	
(a)	area, in unreefed condition, not greater than 13.5% height of the foretriangle squared,	1 2 3 4
(b)	heavy weather jib area shall be calculated as: (0.255 x luff length x (luff perpendicular + 2 x half width))	1 2 3 4
(c)	readily available method, independent of a luff groove, to attach to the stay, and	1 2 3 4
(d)	designed to provide propulsion and steerage in 25 knots and above, and on all points of sail.	1 2 3 4
4.24.5	**A Storm Jib with:**	

(a)	area not greater than 5% (height of the foretriangle) squared	1 2
(b)	luff length not greater than 65% of the height of the foretriangle	1 2
(c)	storm jib area shall be calculated as: (0.255 x luff length x (luff perpendicular + 2 x half width)).	1 2
(d)	permanently attached method, independent of a luff groove, to attach to the stay,	1 2
(e)	no battens, and	1 2
(f)	designed to provide propulsion and steerage in 34 knots and above, and on all points of sail	1 2

4.25 DROGUE, SEA ANCHOR

A drogue (for deployment over the stern), or alternatively a sea anchor or parachute anchor (for deployment over the bow) are recommended (See Appendix G) 1 2 3

4.26 RETRIEVAL OF CREW FROM THE WATER

All boats shall be able to demonstrate equipment or method by which crew may be assisted back on board. 1 2 3 4 5 6

4.27 DISTRESS SHEET

A standard orange sheet 1.8 m x 1.2 m with a black “V” or black square above a black circle, with lanyards attached shall be carried. 1 2 3 4

4.28 STOWAGE CHART

4.28.1 A durable stowage chart shall be provided and shall be displayed in the main accommodation area where it can best be seen, clearly marked with the location of the principal items of safety equipment. 1 2 3 4

	5.01 LIFEJACKETS	RACE CATEGORY
	Lifejacket requirements vary between the States and Territories and *it is recommended that before purchase and use it should be established that the lifejacket is acceptable under local law.*	
5.01.1	Each crew member shall have one lifejacket as follows:	1 2 3 4 5 6 7
(a)	A lifejacket complying with AS4758 (minimum Level 150), or an equivalent or more stringent overseas standard such as ISO 12402 – 3 (Level 150) or ISO 12402-2 (Level 275).	1 2 3 4
(b)	Lifejackets as above shall be arranged to securely suspend an unconscious person face upwards at approximately 45 degrees to the water surface in accordance with ISO 12402-3.	1 2 3 4
(c)	Bulky inherently buoyant lifejackets that are applied over the head (known as “Mae West” type) are not acceptable.	1 2 3 4
(d)	Each lifejacket shall have:	
	(i) Marine grade retroreflective tape	1 2 3 4
	(ii) A whistle attached	1 2 3 4
	(iii) A crotch strap or thigh straps fitted.	1 2 3
	(iv) A sprayhood. *It is recommended that sprayhoods comply with ISO12402-8*	1 2
(e)	*It is strongly recommended that lifejackets be fitted with a sprayhood that complies with ISO12402-8.*	1 2 3
(f)	A boat shall carry:	1 2
	(i) at least one spare lifejacket as required in 5.01.1	
	(ii) if inflatable lifejackets are carried, at least one gas inflatable lifejacket spare cylinder and, if appropriate, a spare activation head.	
(g)	A lifejacket shall be worn by each member of the crew when on deck between the hours of sunset and sunrise.	1 2 3 N
(h)	*It is strongly recommended that a lifejacket be worn by each member of the crew at times such as, but not limited to:*	1 2 3 N

(i) When alone on deck

(ii) When the true wind speed is 25 knots or above

(iii) When visibility is less than 1 nautical mile.

(i) A lifejacket complying with AS4758 (minimum Level 50) or equivalent or more stringent overseas standard. — 5 6 7

(j) On a boat without lifelines complying with 3.12, a lifejacket complying with 5.01.1(i), shall be worn by each member of the crew while on deck. — 5 6

(k) A lifejacket complying with AS4758 (minimum Level 100) or an equivalent or more stringent overseas standard, shall be worn by each member of the crew. — N

5.01.2 Each lifejacket shall be branded with the respective standard authority's mark of approval. — 1 2 3 4 5 6 7

5.01.3 A combined lifejacket and safety harness may be used so long as it meets the respective standard for each. — 1 2 3 4 5 6 7

5.01.4 If inflatable, lifejackets shall have a compressed gas inflation system. — 1 2 3 4 5 6 7

5.01.5 Each inflatable lifejacket shall be checked and serviced at the intervals and using the procedures as prescribed by the manufacturer. — 1 2 3 4 5 6 7

Note: Users of inflatable lifejackets are advised to read the maintenance instructions provided with their lifejacket and undertake more frequent checks for lifejackets that are regularly wet. The RNLI has developed a guide for servicing and maintenance of inflatable lifejacket.

5.01.6 Each lifejacket which is not an inflatable shall be checked annually for serviceability. — 1 2 3 4 5 6 7

5.02 SAFETY HARNESSES AND SAFETY LINES (TETHERS)

5.02.1

(a) Each crew member shall have a safety harness and a safety line, not more than 2 m in length. — 1 2 3 4

(b) Each safety harness and safety line shall comply with:

(i) Australian Standard AS2227, or

(ii) An equivalent overseas standard such as ISO 12401, and

(iii) Shall be branded with the respective standard authority's mark of approval.

(c) The safety line shall have a snap hook at each end. All new safety lines shall use snap hooks that are metallic with cast, forged or moulded side-wall support. New safety lines shall not use stainless steel plate type snap hooks.

(d) *Warning: It is possible for a plain snap hook to disengage from a u-bolt if the hook is rotated under load at right-angles to the axis of the u-bolt. For this reason the use of snap hooks with positive locking devices is strongly recommended.*

5.02.2 In addition to the requirement of 5.02.1(a), at least 30% of the crew shall each be provided with either: 1 2

(i) A safety line not more than 1 m long or

(ii) A mid-point manufacturer fitted snap hook attachment on a 2 m safety line or

(ii) Twin lines, one not more than 1 m long and the other not more than 2 m long.

NOTE: Twin lines are a single safety line arrangement with three snap hooks. The centre hook is designed to be clipped to the harness. The other two hooks provide safety lines of not more than 1 m and not more than 2 m in length.

5.02.3 A crew member's lifejacket and harness shall be compatible. 1 2 3 4

5.02.4 *It is strongly recommended that:* 1 2 3 4

(a) *A harness should be fitted with a crotch strap or thigh straps.*

(b) *Snap hooks should be of a type which will not self-release from a u-bolt (See 5.02.1 (d)) and which can be easily released under load (crew members are reminded that a personal knife or tether cutter may free them from a safety line in emergency).*

(c) *A crew member before a race should adjust a harness to fit then retain that harness for the duration of the race.*

5.02.5 1 2 3 4

(a) *Warning: A safety line and safety harness are not designed to tow a person in the water and it is important that the shortest safety line length possible be used with a harness to minimise or eliminate the risk of a person's torso becoming immersed in water outside the boat, especially when working on the foredeck. The 1 m safety line or the midpoint snap hook on a 2 m line should be used for this purpose. The diligent use of a properly adjusted safety harness and the shortest line practicable are regarded as by far the most effective way of preventing person overboard incidents.*

(b) *Warning: Twin lines are to be used for 2-point attachment to the vessel and not to be used as a single line tether 3 m in length.*

5.03 PERSONAL LIGHTS

A personal location light (either strobe or complying with SOLAS LSA 2.2.3), to be carried by or attached to each member of the crew when on deck at night. 1 2 3 N

5.04 PERSONAL CLOTHING

It is recommended that during rough weather, crew that are on deck wear clothing that will protect them from hypothermia. 1 2

5.05 PERSONAL LOCATOR BEACON AND AIS PERSONAL CREW OVERBOARD BEACON

5.05.1

(a) A GPS capable 406 MHz Personal Locator Beacon (PLB) registered with a national registration authority shall be carried by or attached to each member of the crew when on deck. 1 2

(b) An AIS personal crew overboard beacon capable of communicating their position to their yacht and other nearby vessels shall be carried by or attached to each member of the crew when on deck. 1 2 N

(c) Where a yacht is crewed by only two crew, both a PLB and AIS personal crew overboard beacon shall be carried by or attached to each crew member when on deck. 1 2 N

(d)	*It is recommended that the MMSI and crew name for AIS personal crew overboard beacon is recorded and kept on board and provided to the organising authority.*	1 2 3
5.05.2	PLBs and AIS personal crew overboard beacons shall be:	1 2
(a)	Within battery life	
(b)	Regularly tested to ensure they are in working condition	
(c)	Registered in the user's name.	
5.05.3	Crew members are to be trained in the use of this equipment.	1 2

6.01 TRAINING

		RACE CATEGORY
6.01.1		
(a)	At least 50% of the crew, but not fewer than two crewmembers, including the person in charge shall have undertaken training within the five years before the start of the race.	1
(b)	At least 30% of the crew, but not fewer than two crewmembers, including the person in charge shall have undertaken training within the five years before the start of the race.	2
(c)	When there are only two crewmembers, at least one shall have undertaken training within the five years before the start of the race.	3

in both theoretical and practical sessions in accordance with the Australian Sailing Safety and Sea Survival Course (SSSC), or a course of no less a standard acceptable to the race committee that covers as a minimum, the following topics (**Australian Sailing strongly *recommends* that all crew members do likewise**):

- Giving Assistance to Other Craft
- Personal Safety Gear, theory and practice
- Care and Maintenance of Safety Gear
- Fire Precautions and Firefighting, theory and practice
- Person Overboard Prevention and Recovery
- Hypothermia, Cold Shock and Drowning
- Crew Health
- Marine Weather
- Heavy Weather
- Storm Sails
- Damage Control
- Search and Rescue Organistion
- Pyrotechnics and Signalling Gear, theory and practical

- Emergancy Communications, theory and practical
- Liferafts and Abandon Ship, theory and practical

The training shall have a five year validity period.

(d) A refresher course may be taken to renew a certificate if the refresher course is completed within 2 years of the expiration of the individual's most recent SSSC certificate.

6.01.2 Crews shall periodically train using at least one method of alternative steering and prove that it can work on board the boat. 1 2 3

It is recommended that this training be undertaken in adverse conditions.

6.01.3 *It is recommended that crews should practise safety routines at annually including the drill for person overboard recovery and abandonment of vessel.* 1 2 3 4 5 6 7

APPENDIX A – EQUIPMENT FOR USL COASTAL LIFERAFTS

		RACE CATEGORY 1	2
1.0	USL Coastal liferafts permitted under 4.19.1 (a) shall carry at least the following equipment, properly stowed and secured so as to be available undamaged after launching and inflating:		
(a)	One sea anchor or drogue (attachment line should not be less than 15 m) attached so that the entry point to the liferaft is to leeward. (*Compliance with ISO 17339 or equivalent is recommended*).		
(b)	One safety knife.		
(c)	One bellows or hand pump for hand inflation that is of one piece, ready for use and does not require assembling.		
(d)	One water resistant flashlight (signalling) together with one spare set of batteries and one spare bulb, if they can be replaced, in a waterproof container.		
(e)	One heliograph mirror.		
(f)	One bailer easily identifiable as such (*RAN specification recommended*).		
(g)	One sponge per person.		
(h)	One repair outfit complete with six emergency buoyancy tube leak stopping plugs capable of repairing punctures in buoyancy compartments.		
(i)	One buoyant rescue quoit attached to at least 30 m of buoyant line.		
(j)	Four red hand-flares and two smoke signals or combination of both complying with 4.22.		
(k)	Two red parachute flares complying with 4.22.		
(l)	One signalling mirror.		
(m)	Sufficient drinking water, giving 0.5 L per person.		
(n)	One pack of emergency rations per person.		
(o)	Two tubes of sunscreen.		
(p)	Five plastic bags, not less than 450 mm x 300 mm per person.		
(q)	An operational instruction card clearly legible on the liferaft and its contents, either waterproofed or		

stencilled on the inside of the canopy or on the inside of the buoyancy compartments.

(r) A USL Coastal First Aid Kit.

(s) *A water maker is recommended for long Category 1 Races.*

(t) Two buoyant paddles with handles.

(u) Six anti-seasickness tablets for each person.

(v) One waterproof copy of the illustrated table of life-saving signals referred to in Regulation 38 of Chapter V of SOLAS 1997.

(w) One waterproof copy on how to survive in the liferaft.

The above equipment must be packed in bags capable of holding it comfortably so that it does not burst out when opened in difficult conditions. The closure must be by a plastic zip or Velcro along the side and not at one end. The bags must be securely fastened to the inside of the liferaft.

B.1 RESISTANT TO CAPSIZE

B.1.1 For all boats

To be considered **Resistant to Capsize** as required in Regulation 3.04.1 boats shall be assessed as follows:

- The Stability Index of the ORC International Rule (ORCi) or
- The Category (ISO 12217-2) as detailed in B.4 or
- The Category (STIX and AVS) from an IRC certificate or
- The SSS Base Value from the IRC certificate where the certificate does not show an IRC Category (STIX and AVS) or
- The Screening Value (SV) as provided in B.5
- The Righting Moment Index (RMI) as calculated in B.5 or
- The Horizontal Stability Factor as calculated in B.6.

B.1.2 Boats with movable or variable ballast

An additional requirement for boats with movable or variable ballast shall also comply with the relevant requirement of B.7.

B.2 RACE CATEGORIES

NOTE: *For Category 0 races refer to* World Sailing *requirements.*

To demonstrate compliance with Resistance to Capsize requirements for the various race categories one of the following shall be achieved:

Category 1 Races:

ORCi Stability Index of 115.0 or greater, or ISO 12217-2 Design Category A except that the STIX Number shall be increased to a minimum of 35.0.

The hydrostatics and stability demonstrating the yacht's compliance with ISO Category A shall be derived from measurement of the freeboards and righting moment of the actual yacht by a qualified source.

NOTE: When determining stability criteria for an event, the organising authority should consider the limitations of ISO12217-2 where it is stated:

8.2.1 A boat given design category A is considered to be designed to operate in winds of Beaufort force 10 or less and the associated wave heights, and to survive in more severe conditions.

And

8.2.4 Table 8 which limits significant wave height and wind speed in design category definitions as follows:

Design Category	**A**	**B**	**C**
Wave height up to	approx 7 m significant	4 m significant	2 m significant
Typical Beaufort wind force	up to 10	up to 8	upto 6
Calculation wind speed (m/s)	28	21	17

Category 2 Races:

ORCi stability index of 110.0 or greater, or
ISO 12217-2 Design Category A.

Category 3 Races:

ORCi stability index of 103.0 or greater, or
ISO 12217-2 Design Category A or B, or
IRC SSS Base Value of 16 or greater, or
SV of 10 or less subject to B.5.1, or
RMI of 1.40 or greater.

Category 4 Races:

ORCi stability index of 103.0 or greater, or
ISO 12217-2 Design Category A, B or C, or
IRC SSS Base Value of 10 or greater, or
SV of 10 or less subject to B.5.1, or
RMI of 1.4 or greater.

Category 5 and 6 Races

ORCi stability index of 103.0 or greater, or
ISO 12217-2 Design Category A, B or C, or
IRC SSS Base Value of 8 or greater, or
SV of 14 or less subject to B.5.1, or
RMI of 1.10 or greater, or
Horizontal Stability Factor.

B.3 SPECIFIC REQUIREMENTS

B.3.1 Apart from boats having only a centreboard or drop keel on the centreline of the hull, boats with movable or variable ballast shall additionally comply with Section B.7.

B.3.2 Verification

A race committee may require the owner or charterer of a boat to confirm its resistance to capsize ability before accepting its entry.

B.3.3 ORCi certificates used for the purposes of Appendix B need not be current provided that:

(a) The certificate has been issued in the last 5 years;

(b) For Category 2 races or above, the boat is still owned by the holder of the certificate;

(c) The boat has not been modified; and

(d) The current freeboard measurements have been confirmed as being consistent with the certificate.

B.4 ISO 12217-2 DESIGN CATEGORIES

These shall be determined as specified in International Standard ISO 12217-2, Small craft – Stability and buoyancy assessment and categorisation – Part 2: Sailing boats of hull length greater than or equal to 6 m.

Notwithstanding the maximum length limit of 24 m in the ISO standard, when used in this Appendix it shall be applicable to longer boats.

B.4.1 Stability

B.4.1.1 Boat Condition

In the calculation of stability data:

(a) Deck and other enclosed volume above the sheerline may be taken into account, in which case offsetting cockpit volume shall also be taken into account.

(b) Mass shall be taken as Minimum Operating Mass as defined by ISO 12217-2, paragraph 3.5.3.

B.5 SCREENING PROCEDURE AND RIGHTING MOMENT INDEX

B.5.1 Screening Procedure

A screening procedure has been established to determine those boats that are not required to be subjected to the practical test for RMI or calculation of the RMI (see B.5.2) and will be considered as complying with 3.04.1.

The Screening Procedure utilises three separate criteria, a Screening Value (SV), the distribution of ballast and the displacement of the boat.

An RMI test or calculation is required for:

(a) (i) Category 3 and 4 races for any boat where the SV exceeds 10.0
(ii) Category 5 and 6 races for any boat where the SV exceeds 14.0

Or

(b) Any boat that carries more than 30% of its ballast internally

Or

(c) Any boat with a displacement less than 1.5 tonnes.

A boat's SV is calculated using the formula:

$$\mathrm{SV} = \frac{2.83 \times \mathrm{LH}}{\mathrm{Displacement}}$$

Where LH is in metres and displacement is in tonnes both to 2 decimal places.

B.5.2 RMI Procedure

Having followed the procedures in B.5.1, the RMI for a boat requiring a test or calculation may be determined through:

(a) A practical test.

(b) Calculations provided by the designer or other appropriately qualified person using a recognised design package.

The practical test shall be at the owner's risk and cost, and no liability will be accepted by the club, the MYA or Australian Sailing or any of its members, officers or servants.

The **RMI** shall be calculated using the formula:

$$\mathrm{RMI} = \frac{\mathrm{TM}}{\mathrm{W}}$$

Where:

TM is the Test Mass required to hold the mast in a horizontal athwartships position with the mass suspended at the upper point of I.

W is the theoretical equivalent mass at the upper point of I representing the total effect of the dynamic condition of a storm on a yacht whilst lying on its side, and is calculated using the formula:

$$\mathrm{W} = 1.7 \times \frac{(2.79\mathrm{LB}^2) + (0.05\mathrm{I}^3) + (20.13\mathrm{L} \times \mathrm{FML})}{\mathrm{I} + 0.5\mathrm{FML}} \ \mathrm{Kilograms}$$

Where (in metres) L= LH

B = Maximum Beam
FML= Freeboard at half LH
I = Height of Foretriangle from Deck

For boats without a foresail the point at which the mainsail luff is 75% above the deck shall be taken as equivalent to the upper point of I.

Any movable or variable ballast shall be placed in the position which minimises the righting moment.

B.6 HORIZONTAL STABILITY FACTOR (HSF)

The HSF shall be the Test Mass (TM) required to hold the mast in a horizontal athwartships position when the mass is suspended from the hounds. It shall not be less than

$$\mathrm{TM} = \frac{(3.0\mathrm{LB}^2 + 11.0\mathrm{L})}{\mathrm{IM}} + 0.2\mathrm{H}^2 \quad \text{Kilograms}$$

Where (in metres) L = LH
B = Maximum Beam
IM = Sheer to Hounds
H = Mast length above step

For boats without a foresail the point at which the mainsail luff is 75% above the deck shall be taken as equivalent to the upper point of IM.

The term 0.2H² may be omitted if the mast is effectively watertight and buoyant.

During the practical test all gear shall be stowed normally, outboard motors shall be in the required position, the keel locked down and no sails shall be hoisted.

Determination of the HSF shall be at the owner's risk and cost, and no liability will be accepted by the Club, the MYA or Australian Sailing or any of its members, officers or servants.

B.7 BOATS WITH MOVABLE OR VARIABLE BALLAST

B.7.1 Use of ORCi

B.7.1.1 General Standards

Boats with movable and/or variable ballast shall comply with the following minimum values of Ballast Leeward Recovery Index (BLR Index)

Race category	1,2	3	4 – 6
BLR Index	0.90		
BLR Index		0.80	
BLR Index			0.70

B.7.2 Use of ISO

B.7.2.1 Boat Condition

In the calculation of stability data mass shall be taken as Minimum Operating Mass as defined by ISO 12217-2, paragraph 3.5.3.

B.7.2.2 General Standards

In the assessment of ISO category for yachts fitted with movable and/or variable ballast, ISO 12217-2, paragraph 6.1.4 (b) shall not apply. Boats shall comply with paragraphs 6.2.3, 6.3.1 and 6.4. Calculations shall be for the ballast condition that results in the most adverse result when considering each individual stability requirement. ISO 12217-2 Annex C, paragraph C.3.3, first sentence, the word “may” is replaced with “shall”. ISO 12217-2 Annex C, paragraph C.3.4 shall not be used in the calculation of righting lever.

B.7.2.3 Knockdown Recovery

Boats with movable and/or variable ballast shall comply with the following minimum values of Knockdown Recovery Factor (FKR) calculated in accordance with ISO 12217-2 paragraph 6.4.4 with the modification that the reference to ISO 8666 paragraph 5.5.2 changed to incorporate actual mainsail area and centre of effort. The lesser of FKR90 and FKR-90 shall be used:

Race category	1 & 2	3	4,5 & 6
FKR	0.90		
FKR		0.80	
FKR			0.70

B.7.3 Use of RMI

B.7.3.1 General Standards

In the assessment of RMI for yachts fitted with movable and/or variable ballast, tests or calculations shall be made for the ballast condition that results in the most adverse result.

B.7.3.2 Knockdown Recovery

Boats with movable and/or variable ballast shall comply with the following minimum values RMI tested or calculated in accordance with section B.5:

SR Category	3 and 4	5 and 6
RMI	1.60	
RMI		1.40 for boats greater than 8 m LH
RMI		1.55 for boats 8 m LH or less

B.7.4 Use of HSF

B.7.4.1 General Standards

In the assessment of HSF for yachts fitted with movable and/or variable ballast, tests or calculations shall be made for the ballast condition that results in the most adverse result.

B.7.4.2 Knockdown Recovery

Boats with moveable or variable ballast shall comply with the following minimum values HSF when tested in accordance with section B.6:

HSF times 1.30 for boats greater than 8 m LH

1.50 for boats 8 m LH or less

APPENDIX C – MODEL KEEL AND RUDDER INSPECTION PROCEDURE

The model form is not the only means of meeting the needs of SR 3.02.4(a). As evidence of Periodic Structural Inspection, Organising Authorities may develop on-line forms.
Evidence of non-destructive testing and its findings meeting the needs of SR 3.02.4(b) shall be provided in a document signed by the person representing the organisation that performed the tests.

Category 1,2 Structural Inspection of a boat shall be completed by a qualified person both internally (may be in the water) and externally (out of the water). The purpose of this regular inspection is to identify and report to the Owner the condition of the rudder, keel and keel structure observed during this inspection. For Category 3 inspection, the Owner/representative shall inspect the integrity of the keel and rudder. It is the responsibility of the Owner to undertake any repairs.

Category 1,2 from 1 January 2030, welded metal keels shall undergo non-destructive testing to examine welds for cracks or other defects. Techniques such as dye penetrant, ultrasonics, X-rays and other methods may be used. These tests shall be conducted by an independent, qualified person.

Consult the Owners' Manual for the specific boat, steering system and type of keel. Inspect in detail any high-load areas: keel attachment, keel floor, steering systems, rudder(s). Pay special attention to prior repairs, especially following groundings.

Internal Inspection: Inspect backing plates, bolting arrangements, sump area and keel floors for any signs of weakening, such as cracking or de-laminated tabbing etc. Keels may require tightening of bolts in accordance with the torque specified in the Owner's Manual. In the absence of an Owner's Manual, refer to ISO12215-9 clause B.5. Inspect keel fasteners for corrosion. Inspect bolt holes for deformation. Conduct a visual inspection to identify potential de-bonding of the supporting structure.

External Inspection: Inspect for any signs of stress cracks (not paint or gelcoat cracks) around the keel attachments to hull, or movement or opening around the keel/hull interface which allows water ingress and consequent keel bolt crevice corrosion. If in doubt, remove bottom paint/gelcoat to identify depth of crack. Undertake a keel tip deflection test to identify any excessive movement. Visually inspect high stress regions, particularly around the forward and aft hull attachment areas of the keel, for signs of paint or gelcoat cracking or large, deep blisters, which can indicate separation and structural weakness.

Rudder/Steering system: Check bearing area for any damage/stress cracks; check rudder shaft and blade integrity, especially at any shaft joins and at upper connections to hull/deck. Undertake a tip deflection test to identify any excessive movement. If applicable, check rudder straps and gudgeons for corrosion or cracking.

Lifting, swing and canting keels: In addition to above, check there are no significant stress cracks in structure around pins supporting the keel. Check for extensive corrosion on pins, cylinders and supporting metal structure.

APPENDIX D – MEDICAL KIT

From 1 December 2028, boats shall carry a medical kit, designated by the race committee in the notice of race, containing the items listed in Appendix D.

It is recommended that boats carry a medical kit containing the items listed in Appendix D from March 2024.

The medical kits are designed to be simple and modular. As the race duration increases, additional medical kits (A + B + C + D) are added, rather than classical Category 1 – 7 etc.

Race committees will choose which kit is required for their races and shall be specified in the notice of race.

For all significant medical conditions on board, if in doubt, call a Registered Medical Practitioner for help.

A Registered Medical Practitioner should supervise the administration of controlled substances (S4 and S8 medications). AMSA can connect a vessel by radio or satellite phone to a Registered Medical Practitioner with the Royal Flying Doctor Service.

INTRODUCTION

There are explanatory notes at the end of this document which includes explanations such as when to use either medications or equipment, as well as details of some significant side effects.

It is VERY important that the notes are read PRIOR to using the medications or equipment. Note that the numbering in the attached notes correlates to the item number in the kits.

Important: Alternate pharmaceuticals in equivalent amounts and having similar action to those stated ARE ACCEPTABLE.

For two-handed racing: if there is more than ONE item listed, numbers may be halved.

All yachts:

It is assumed that all boats carry the following items and hence these are NOT included in the medical kits:

- Sunscreen lotion
- Insect repellent
- Duct tape
- Electrical tape
- Batten material or similar, which may be cut to use as a splint.

Defined terms:

Boat Medic	The person possessing appropriate medical training and nominated by the person in charge of the boat.
Registered Medical Practitioner	A doctor registered with the Australian Health Practitioner Regulation Agency (AHPRA).

A. INSHORE KIT

Notes:

- Also used as a **"Day Kit"** for coastal and offshore races.
- Inshore Kit is accessible by **ALL crew**.
- Keep in a watertight container in a position well known to all crew.

1. Iodine based cleaning solution – 100 ml (Chlorhexidine recommended if allergic to Iodine. Chlorhexidine is for use on skin only – NOT to be used in eyes or ears. If allergic to iodine, use saline solution for eyes and ears)
2. Band-Aids x 20
3. Elastoplast fabric dressing – 1 m
4. "Israeli Emergency bandage" or equivalent (such as "Olaes bandage") – 100 mm x 1
5. Paracetamol 500 mg x 20
6. Aspirin 300 mg x 20
7. "Sea sickness" tablets (Boat Medic's choice) x 10

B. COASTAL KIT ONE

For daylight coastal races expecting simple medical evacuation if required. Carry in ADDITION to Inshore Kit. (Inshore Kit becomes the "Day Kit" for crew on coastal races).

Notes:

- Coastal Kit ONE is accessible by the **Boat Medic only**.
- Designed for an average crew size of 6 – 8 crew.
- Increase contents as crew size increases (e.g., double for 12 - 16 crew etc.).
- Common sense dictates that for extremely large vessels we set a maximum number, hence capped at doubling the numbers for compliance with audit. These kits are the minimum required and owners may use discretion and add extra quantities.
- Keep together in a watertight container.

1. Panadeine Forte (Paracetamol 500 mg + Codeine 30mg) x 20 tabs
2. Adrenaline 1:1000 injection x 5 amps
3. Syringe 5 ml x 2
4. Needle 22 g x 2
5. Alcohol skin prep x 2

Note: an “EpiPen” may be substituted for Adrenaline / needles / syringes – however note that EpiPen’s are expensive and have a short expiry date.

Note: Items 1 – 5 are recommended to be kept in a separate watertight container, stored securely on the vessel to protect from theft.

6. Paracetamol (500 mg) tablets x 20
7. Non-steroidal anti-inflammatory tablets x 10 (various types available, Boat Medic’s choice)
8. Non-sterile gloves x 4 pair
9. “Israeli Emergency bandage” or equivalent 150 mm x 1
10. Skin stapler x 1
11. SAM splints (or equivalent) – one 18 x 4.25 inch, two SAM finger splints (or equivalent)
12. Crepe bandage 100 mm x 2
13. Paraffin gauze dressing 50 x 50 mm x 5
14. “Sea sickness” tablets x 30 tabs (various types available)
15. Chloromycetin eye ointment x 1 tube
16. Mupirocin (Bactroban) ointment x 15 g
17. Gladwrap strips – 1 small roll (for burns)
18. Silver sulfadiazine burn cream x 50 g.
19. Nitro lingual spray x 1

COASTAL KIT TWO

For overnight coastal races or where medical evacuation is more difficult. Carry in ADDITION to Coastal Kit ONE

20. Penthrane “Green Whistle” 1 x 3 ml bottle
21. Oxycodone tablets (Oxycodone hydrochloride) 10 mg (note strength) or equivalent x 20 tabs
22. Cephalexin 250 mg tablets x 20
23. Loperamide tablets x 10 tabs
24. Laxative tablets (suggest Dulcolax 5 mg) x 10 tabs

Note: Items 20 and 21 are recommended to be kept in a separate watertight container, stored securely on the vessel to protect from theft.

C. OFFSHORE KIT

Medical evacuation expected to be twenty-four hours or greater. Carry in ADDITION to Inshore Kit and Coastal Kits 1 and 2

Notes:

- Is accessible by the **Boat Medic only**.
- Designed for average crew of 6-8.
- Increase contents as crew size increases (e.g., double for 12 -16 crew etc.).
- Keep together in a watertight container.

1. Penthrane “Green Whistle” one x 3 ml bottle
2. Morphine 10 mg/ml x 5 amps
3. Naloxone (antagonist to morphine) 400 mcg amps x 5
4. Midazolam 5 mg injection x 5 amps
5. Oxycodone tablets (Oxycodone hydrochloride) 20 mg (note strength) **or equivalent** x 20 tabs.
   Note: **this is a more potent dose than in the Coastal Kit 2**
6. Panadeine Forte tablets (Paracetamol 500mg + Codeine 30mg) x 20 tabs
7. 5 ml syringes x 5
8. 22 g needles x 5
9. Saline ampoules (10 ml) for injection x 5
10. Alcohol swabs x 10
    Note: Items 1 – 10 are recommended to be kept in a separate watertight container, stored securely on the vessel to protect from theft.
11. “Israeli Emergency bandage” or equivalent – 150 mm x 1
12. Elastoplast fabric dressing – 1 metre
13. Large Steri-Strips x 6
14. SAM Splints or equivalent
    (a) one 36 x 4.25 inch,
    (b) one 18 x 4.25 inch,
    (c) one SAM finger splints or equivalent
15. “Sea sickness” tablets x 60 (at least) (various types available) Note: recommend taking a DIFFERENT TYPE of “seasick” tablet to Coastal Kit
16. Ondansetron sublingual (under tongue) 4 mg - if not included already
17. Paracetamol (500 mg) tablets x 20
18. Non-steroidal anti-inflammatory tablets x 20 (various types available)
19. Chloromycetin eye ointment x 1 tube
20. Framycetin sulphate ear drops x 1
21. Mupirocin (Bactroban) ointment x 30 g (2 x 15 g)

22. Antifungal cream 30 g (e.g., Daktarin or equivalent)
23. Omeprazole 20 mg x 10 caps
24. Prednisone 25 mg x 10 tabs
25. Antihistamine tablets x 20 tabs (e.g. Loratadine)
26. Metronidazole 200 mg x 21 tabs
27. Amoxycillin / Clavulanate Acid 500 mg x 21 tabs
28. Ceftriaxone 1 g injection x 5 amps (given intramuscularly)
29. Dulcolax tablets x 20 tabs
30. Loperamide tablets x 20 tabs
31. Skin stapler x 1
32. Oil of cloves – 1 bottle
33. Temporary filling material x 1
34. Barrier cream (e.g., Sudocream) at least 30 g
35. Rehydration powder or tablets (Boat Medic's choice) – enough for 2 days
36. Scissors
37. Forceps

Items NOT mandatory - however useful for long races:

1. Pulse Oximeter
2. Thermometer
3. Defibrillator
4. Sharps container
5. First Aid manual, if an electronic version is not carried on boat's computer.

For **offshore racing** an extensive medical kit is required. Depending on duration of the race, destination and size of the crew, there may be a requirement for quantities to be increased.

A variation to increase the quantities for extremely long races will be included in the notice of race.

Any crew member's special medical requirements should be addressed by their own doctor well before the race. Significant chronic conditions (examples: asthma, diabetes etc.) require a well thought out medical plan PRIOR to departure.

All crew are recommended to have a medical and dental check prior to departure for an **offshore race**.

At least two crew members shall have a current medical first aid certificate and a minimum of one crew member (*recommended two crew members*) shall have an advanced first aid certificate or special training, covering the safe use of medications and treatments required for offshore racing. For two handed racing, both crew should be trained. The certificate or training should be re-certified at least every three years.

EXPLANATORY NOTES FOR MEDICAL KITS

Item numbers relate to the item number in the medical kit.

Inshore Kit:

1. Iodine cleaning solution – used for cleaning wounds. May be used in eyes, ears, mouth etc. (Chlorhexidine recommended if allergic to Iodine. Chlorhexidine is for use on skin only – NOT to be used in eyes or ears. If allergic to iodine, use saline solution for eyes and ears)
2. Band-Aids
3. Elastoplast fabric dressing – use for larger wounds that a band-aid will cover. Cut to length.
4. Israeli Emergency bandage 100 mm – used for large, vigorously bleeding wounds. May be tightened and used as a tourniquet as required. Watch video on how to use prior to departure. As with ALL bandages – check blood flow to fingers/toes below bandage. It may require loosening as bleeding settles. Many examples on internet of how to use e.g. https://www.youtube.com/watch?v=v6n-mDTsNg8
5. Paracetamol – a simple pain reliever. Avoid with liver or kidney disease.
6. Aspirin – a simple pain reliever. Also used in suspected heart attack. Avoid with a bleeding disorder, stomach ulcer or asthma.
7. “Sea sickness” tablets – important to try on shore prior to departure to ensure no side effects, as some types have significant side effects.

COASTAL KITS:

1. Panadeine Forte – has Paracetamol and Codeine – common side effects – nausea, vomiting, dizziness, constipation. Note – Codeine may be a drug of abuse.
2. Adrenaline 1:1000 injection – is used for **SEVERE allergic reactions** to any medication or a bee or wasp sting. It is safely given into the outer edge of the thigh. If severe anaphylaxis, give ALL of one ampoule.
3. Syringe
4. Needle
5. Alcohol

6. Paracetamol – a simple pain reliever. Avoid with liver or kidney disease.
7. Non-steroidal anti-inflammatory tablets – very good pain relief, however, have a number of side effects – avoid with a bleeding disorder, stomach ulcer, kidney or liver failure or asthma.
8. Gloves
9. Israeli Emergency bandage 150 mm (LARGE) – used for large, vigorously bleeding wounds. May be tightened and used as a tourniquet as required. Watch video on how to use prior to departure. As with ALL bandages – check blood flow to fingers / toes below bandage. It may require loosening as bleeding settles. Many examples on internet of how to use e.g. https://www.youtube.com/watch?v=v6n-mDTsNg8
10. Skin stapler – used for large wounds to draw edges together. Simply push wound edges together, lay stapler against skin and pull trigger. Apply one staple per 0.5cm- 1cm of wound. If a lot of bleeding, use emergency bandage instead until bleeding is under control and staple the next day.
11. SAM splints – various sizes, mold to immobilise limb. For usage see https://www.youtube.com/watch?v=eqU74O_wIik&t=174s
12. Crepe bandage 100 mm – used as a general bandage if bleeding not too severe and emergency bandage is not required.
13. Paraffin gauze dressing 5 x 5 – used for weeping wounds.
14. Sea sickness tablets – important to try on shore prior to departure to ensure no side effects.
15. Chloromycetin eye ointment – for eye infections. If infection due to foreign body in eye, wash out with salt water first. May be used for local skin infections also.
16. Mupirocin (Bactroban) ointment - an antibacterial ointment for an infected wound. Patient may also require oral antibiotics.
17. "Glad wrap" strips – used to cover burns. Firstly, cool burn with immersion in salt water for 20 - 30 minutes then cover in Glad wrap strips. **Note: These are STRIPS - NOT SPIRAL WRAPPING**. As burns swell, they should **not** be tightly wrapped.
18. Silver Sulfadiazine cream. Recommended, where possible, discuss all significant burns with a Registered Medical Practitioner. Side effects – pain, burning, discoloration of skin, occasional upset stomach.
19. Nitro lingual spray – used in severe chest pain / suspected heart attack. Spray two pumps under tongue, give one aspirin and URGENTLY call a Registered Medical Practitioner for help.

20. Penthrane aka “Green Whistle” - note this is a **POTENT** drug and Boat Medics should be trained in its use. Where possible, discuss with a Registered Medical Practitioner prior to using.

    Do NOT use in confined space as others may inhale. Do not use in following medical conditions:

    - Allergy
    - Kidney or liver failure
    - Heart disease
    - Head injury
    - Adverse reaction to anaesthetic agents
    - Breathing difficulties
    - If pregnant
    - Children less than 5 years

21. Oxycodone tablets (Oxycodone hydrochloride) 10 mg x 20 tabs. This is a strong pain relief for severe pain. Note: Some countries have Targin 10/5 tablets (Oxycodone hydrochloride and naloxone hydrochloride anhydrous) which has a second agent (Naloxone) in it to avoid constipation.
22. Cephalexin 250 mg tablets – this is a general antibiotic for lacerations, chest, or other infections. If allergic to penicillin-type antibiotics, discuss with your GP prior to race.
23. Loperamide tablets – for diarrhoea. Take 1 - 2 with each loose motion, maximum of eight per day.
24. Laxatives – Serious side effects rare, however nausea, vomiting, diarrhoea not uncommon.

Offshore Kit:

1. Penthrane aka “Green Whistle” – note this is a POTENT drug and Boat Medics should be trained in its use. Where possible, discuss with a Registered Medical Practitioner prior to using.

   Do NOT use in confined space as others may inhale. Do not use in following medical conditions:

   - Allergy
   - Kidney or liver failure
   - Heart disease
   - Head injury
   - Adverse reaction to Anaesthetic agents
   - Breathing difficulties

- If pregnant
- Children less than 5 years

2. Morphine 10 mg/ml – for **SEVERE PAIN**. Where possible, discuss with a Registered Medical Practitioner prior to using. Add to saline in a syringe to make up to 5 ml and give 2.5 ml, which is 5 mg (1/2 syringe) at a time and give into outer aspect of thigh.
3. Naloxone 400 mcg amps – used in severe sedation after morphine or Targin. Used if patient stops breathing or has a large drop in blood pressure. Where possible, discuss with a Registered Medical Practitioner prior to using, ideally in the same initial conversation regarding morphine. Add to saline in a syringe to make up to 5ml and give 2.5 ml, which is 200 mcg (1/2 syringe) at a time and give into outer aspect of thigh.
4. Midazolam 10 mg injection – used in seizure or to relax muscles to reduce a fractured bone or dislocated joint. Discuss with a medical officer prior to using.

   Add to saline in a syringe to make up to 5 ml and give 2.5 ml, which is 5 mg (1/2 syringe) at a time into outer aspect of thigh.
5. Oxycodone tablets (Oxycodone hydrochloride) 20 mg x 20 tabs. Note: these are STRONGER than the Oxycodone in the coastal kit. Same side effect profile. Note: some countries have Targin 20/10 tablets (*Oxycodone hydrochloride and naloxone hydrochloride anhydrous*) which has a second agent (Naloxone) in it to avoid constipation. Targin is the preferred choice (if available) because of this feature.
6. Panadeine Forte – contains Paracetamol and Codeine – usual side effects include nausea, vomiting, dizziness, constipation. Note: Codeine may be a drug of abuse.
7. Syringe
8. Needle
9. Saline
10. Alcohol
11. Israeli Emergency bandage 100 mm – used for large, vigorously bleeding wounds. May be tightened and used as a tourniquet as required. Watch video on how to use prior to departure. As with ALL bandages – check blood flow to fingers/toes below bandage. It may require loosening as bleeding settles. Many examples on internet of how to use e.g. https://www.youtube.com/watch?v=v6n-mDTsNg8
12. Elastoplast fabric dressing – use for larger wounds that a band-aid will cover. Cut to length.

13. Large Steri-Strips – these are used to close a wound edge however it must have stopped bleeding, or they will not stick. If bleeding, use paraffin gauze dressing and then apply Steri-Strips the next day. If a large wound, use either the emergency bandage to control bleeding or staple it closed.
14. SAM splints – various sizes, mold to immobilise limb. For usage see https://www.youtube.com/watch?v=eqU74O_wlik&t=174s
15. "Sea sickness" tablets – take a different type of tablet to those in Coastal kit as some tablets work more effectively for different people.
16. Ondansetron sub lingual – very useful if vomiting as the tablets is well absorbed rapidly under tongue. Common side effects are constipation and headache.
17. Paracetamol – a simple pain reliever. Avoid with liver or kidney disease.
18. Non-steroidal anti-inflammatory tablets – very good pain relief, however they have a number of side effects – avoid with bleeding disorder, stomach ulcer, kidney or liver failure or asthma.
19. Chloromycetin eye ointment – for eye infections. If infection due to foreign body in eye, wash out with salt water first. May be used for local skin infections also.
20. Framycetin sulphate ear drops – used for ear infections. Note: some ear infections are very painful.
21. Mupirocin (Bactroban) ointment – an antibacterial ointment for an infected wound. Patient may also require oral antibiotics.
22. Antifungal cream – for fungal skin infections e.g., athlete's foot. If a wound has fungus, it often smells fishy.
23. Omeprazole tablets – for severe heart burn / reflux. **Ensure the pain is not cardiac (heart) first**. Cardiac pain is more likely to be severe and crushing in nature and may move into the patient's jaw or down the arm. If severe pain and possibly cardiac, call a Registered Medical Practitioner for help URGENTLY.
24. Prednisone tablets – for allergic reactions and asthma. If in doubt about use, call a Registered Medical Practitioner for help.
25. Antihistamine tablets – used in allergic reactions or hay fever. Loratadine suggested as it is less sedating, however side effects are sleepiness, dry mouth/eyes, headache, and diarrhoea.
26. Metronidazole tablets – used for many gut infections and giardia (eggy smelling burps and wind). Side effects are numerous – most common are diarrhoea, nausea (made much worse by alcohol), headache and abdominal pain.

27. Amoxycillin / Clavulanate Acid (Augmentin) – a penicillin-based antibiotic for most infections. If allergic to penicillin, take Cephalexin, HOWEVER 30 percent of patients with severe allergy to penicillin will be allergic to Cephalexin. Side effects include nausea, diarrhoea, and rash.
28. Ceftriaxone 1 g injection – for the most severe infections. If using suggest, where possible, discuss with a Registered Medical Practitioner. Comes as a powder so mix with saline to 5ml and give into outer aspect of thigh. Side effects are the same as Cephalexin.
29. Dulcolax tablets – for constipation. Not to be used if patient has a bowel obstruction. If unsure, suggest, where possible, discuss with a Registered Medical Practitioner.
30. Loperamide tablets – for diarrhoea. Take 1 - 2 with each loose motion, maximum of eight per day.
31. Skin stapler – used for large wounds to draw edges together. Simply push wound edges together, lay stapler against skin and pull trigger. Apply one staple per 5 mm – 10mm of wound. For a lot of bleeding, use emergency bandage instead until bleeding is under control and staple the next day. See examples on internet – an example is: https://www.youtube.com/watch?v=RAVane1yvyU&t=406s
32. Oil of cloves – used for toothache. Apply directly to tooth on your finger.
33. Temporary dental filling material – mix together and push into cavity in tooth.
34. Barrier cream. Any barrier cream may be used. Sudocream is excellent for treatment and prevention of “Gunnel Bum”.
35. Rehydration powder / tablets. Any variety. May be useful after severe vomiting / sea sickness. Note small volumes recommended.
36. Scissors
37. Forceps

Note:

The medical kits are designed to be simple and modular. Boats cannot carry an emergency department on board.

Some medical staff may have different opinions as to what to include/exclude. Hence, if you wish to substitute a medication for a similar medication (i.e., like for like) – this is acceptable under the Special Regulations.

QUICK STOP AND THE LIFE SLING (OR SEATTLE SLING)

When a crew member goes over the side recovery time is of the essence. In an effort to come up with a recovery system that is simple and lightning quick, the US Yacht Racing Union Safety at Sea Committee, the US Naval Academy Sailing Squadron, the Cruising Club of America Technical Committee and the Sailing Foundation of Seattle, Washington, joined forces to conduct extensive research and sea trials. The result of their collaboration is the "Quick Stop" method of a person overboard recovery.

The hallmark of this method is the immediate reduction of boat speed by turning to windward and then manoeuvring slowly, remaining near the victim.

Wind

In most cases, this is better than reaching off, then gybing or tacking and returning on a reciprocal course.



QUICK STOP

1. **Shout "person overboard"** and detail a crew member to spot and point to **the victim's position** in the water. The spotter should not take their eyes off the victim (see Figure 1).
2. **Provide immediate flotation.** Throw buoyant objects such as cockpit cushions, life rings and so on. These objects may not only come to the aid of the victim, but will "litter the water" where they went overboard and help your spotter to keep them in view. Deployment of the pole and flag (dan buoy) requires too much time. The pole is saved to "put on top" of the victim in case the initial manoeuvre is unsuccessful.
3. **Bring boat head-to-wind** and beyond (see Figure 1)
4. **Allow headsail to back** and further slow the boat.
5. **Keep turning with headsail backed** until wind is abaft the beam.
6. **Head on beam-to-broad reach course** for two or three lengths then go nearly dead downwind.
7. **Drop the headsail** while keeping the mainsail centred (or nearly so). The jib sheets are not slacked, even during the dousing manoeuvre, to keep them inside the lifelines.
8. **Hold the downward course** until victim is abaft the beam.
9. **Gybe.**

10. **Approach the victim** on a course **of approximately** 45 degrees to 60 degrees off the wind.
11. **Establish contact** with the victim with heaving line or other device.
    The Naval Academy uses a "throwing sock" containing 75 feet of light floating line and a bag that can be thrown into the wind because the line is kept inside the bag and trails out as it sails to the victim.
12. **Effect recovery** over the windward side.

Quick Stop Under Spinnaker

The same procedure is used to accommodate a spinnaker. Follow the preceding instructions. As the boat comes head-to-wind and the pole is eased to the head stay, the spinnaker halyard is lowered and the sail is gathered on the fore deck. The turn is continued through the tack and the approach phase commences.

Quick Stop in Yawls and Ketches

Experiment with your mizzen sail. During sea trials, it was found best to drop the mizzen as soon as possible during the early phases of Quick Stop.

Quick Stop Using Engine

Use of the engine is not essential, although it is advisable to have it in during Quick Stop in case it is needed in the final approach. Check first for trailing lines!

SHORTHANDED CREWS

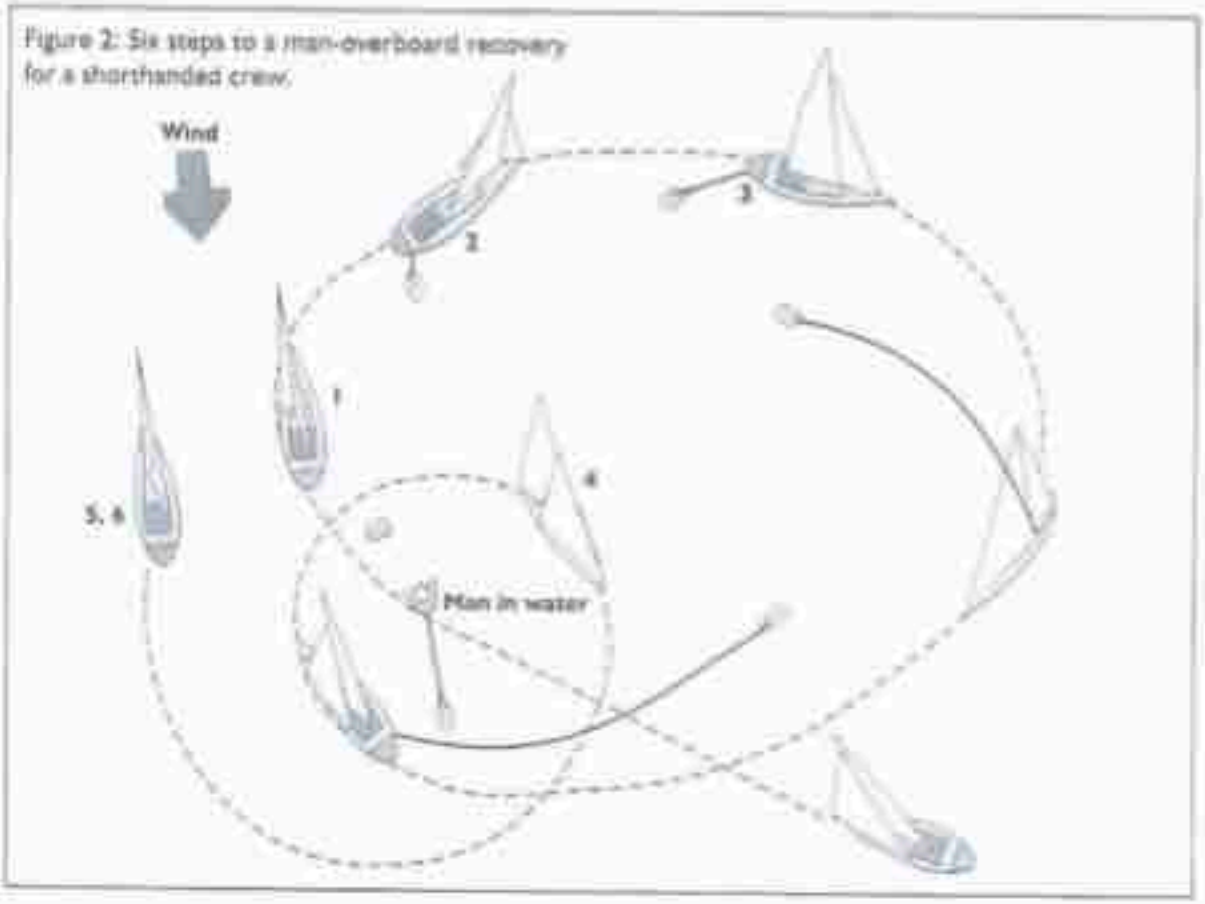
When there are only two people sailing together and a man-overboard accident occurs, the remaining crew member may have difficulty in handling the recovery alone. If the victim has sustained injuries, getting him back aboard may be almost impossible. The Quick-Stop method is simple to effect by a singlehander, with only one alteration to the procedure: the addition of the "Lifesling", a floating horsecollar device that doubles as a hoisting sling. The Lifesling is attached to the boat by a length of floating line three or four times the boat's length.

When a crew member falls overboard the scenario should proceed as follows:

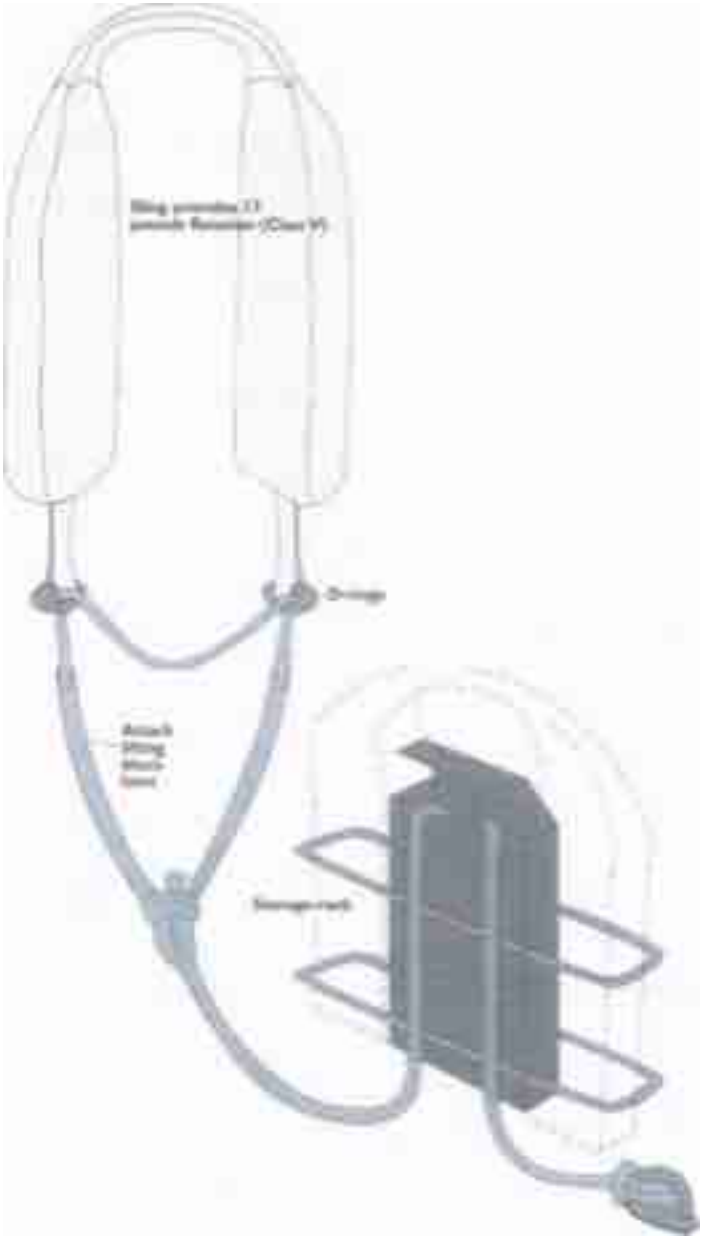
1. A cushion or other flotation is thrown while the boat is brought IMMEDIATELY head-to-wind, slowed and stopped.

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Figure 2: Six steps to a man-overboard recovery for a shorthanded crew.



2. The Lifesling is deployed by opening the bag on the stern pulpit and dropping the sling into the water. It will trail astern and draw out the line.



3. Once deployed, the boat is sailed in a wide circle around the victim with the line and sling trailing. The jib is allowed to back from head-to-wind, increasing the rate of turn.

4. Contact is established with the victim by the line and sling being drawn inward by the boat's circling motion. The victim places the sling over his head and under his arms.

5. Upon contact, the boat is put head-to-wind again, the headsail is dropped to the deck and the main is doused.

Bowline

Tether fine made fast .to pad eye

6. As the boat drifts slowly backward, the crew begins pulling the sling and the victim to the boat. If necessary, a cockpit winch can be used to assist in this phase, which should continue until the victim is alongside and pulled up tightly until he is suspended in the sling (so that he will not drop out). But see following page for advice on a horizontal lift, which is preferable when there is a hoist.

Parbuckle Device

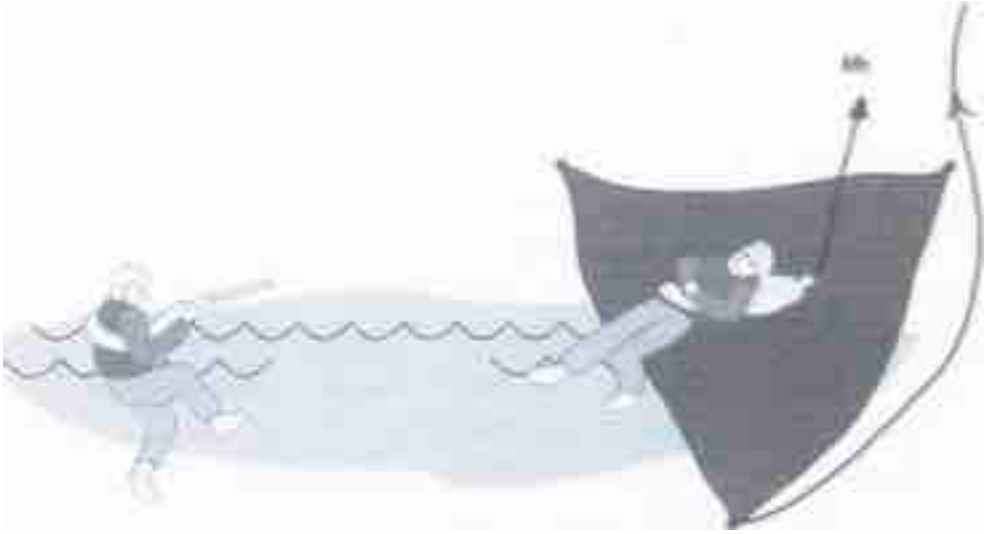
This is an alternative to the hoisting rig. A patent version is known as the Tri-buckle. Another version is rectangular, like a climbing net. The net, or triangle of strong porous material, is clipped to the toe rail, the triangle top or net extremity clipped to a halyard extension. The casualty is manoeuvred or dragged alongside into the triangle or net then rolled onto the deck by hoisting the halyard.

Hypothermic aftershock may be minimised by this method which keeps the casualty essentially horizontal.

THE HOISTING RIG

NOTE:

Since the hoisting rig was developed, more evidence has emphasised the value in keeping a victim horizontal particularly after long or hypothermic immersion. A parbuckle or horizontal lift is highly desirable (see below).



1. With the floating tether line, haul the victim alongside, preferably on the windward side, from amidships to the quarter, wherever there are available cleats and winches.
2. Pull up on the tether line (with winch assistance, if necessary) to get the victim's head and shoulders out of the water and cleat it. The victim is now safe.
3. Attach a three-part or four-part tackle to the main halyard, haul it up to a predetermined point, about 10 feet above the deck or high enough so that the victim can be hoisted up and over the lifelines. Cleat off the halyard.
4. Attach the lower end of the tackle to the (previously sized) loop in the tether line that passes through the D-rings of the sling.
5. Reeve the running end of the tackle through a sheet block or snatch block on deck and put it on a cockpit winch. Hoist the victim aboard by winching it on the running end of the tackle.

HYPOTHERMIA WHAT IS IT?

A condition in which exposure to cold air and/or water lowers body core temperature. Death can result from too low a brain and heart temperature.

Why Be Concerned?

Hypothermia, even mild cases, decreases crew efficiency and increases risk of costly accidents. ***Proper planning against hypothermia can give a winning competitive edge.***

Prevention

- Wear warm clothing and a lifejacket/harness. Have proper foul-weather kit for all crew. Dry suits are excellent. Insulate all areas of the body, especially the high heat-loss areas: head, neck, armpits, sides of chest and groin. Keep warm and dry, but avoid sweating; wear layered clothes.
- Rotate watch frequently.
- Get plenty of rest, prevent fatigue.
- Eat and drink normally, no alcohol.
- Prevent dehydration; watch urine colour (drink more if colour becomes more intense).
- Avoid seasickness.
- Take into account special medical problems of crew members.
- Regularly train crew in Person Overboard recovery.
- Have two or more crew trained in CPR (Cardio-pulmonary resuscitation).

Survival In Cold Water (Under 75 °F, 25 °C)

- **If boat is in trouble**, put on dry or survival suits if carried. Radio for help; give position, number of crew, injuries, boat description. Make visual distress signals. Stay below if possible. Remain aboard until sinking is inevitable.
- **If going overboard**, launch life raft and EPIRB (Emergency Position Indicating Radio Beacon). Take grab bag, visual distress signals and waterproof hand-held VHF. Get into raft, stay out of water as water conducts heat out of the body 20 times faster than air. Remain near boat if practicable.
- **If in the water**, crew should stay together near the boat. This makes everyone easier to find, helps morale. Enter life raft; keep dry suit or survival suit on if worn.

- **If not wearing dry suit or survival suit**, make sure you wear a lifejacket, keep clothes and shoes on for some insulation and flotation. Keep hat on to protect head. Get all or as much of body out of water as soon as possible - into raft or swamped boat or onto flotsam. Avoid swimming or treading water, which increases heat loss. Minimise exposed body surface. A splashguard accessory on the lifejacket greatly improves resistance to swallowing seawater and also accommodates involuntary "gasping" when plunged into cold water.

WARNING

- First aid for severe and critical hypothermia is to add heat to stabilise temperature only. Rapid re-warming, such as a hot shower or bath, may be fatal; it will, at least, cause complications. Allow body to re-warm itself slowly.
- Body core temperature lags behind skin temperature during re-warming. Keep victim protected for extended period after apparent full recovery or medical help arrives. ***Many hours are required for full return to normal temperature even though victim says he has recovered***.
- Always assume hypothermia is present in all person overboard situations in which victim has been exposed for more than 10-15 minutes
- Victims may also be suffering from near drowning, thus needing oxygen. Observe for vomiting.
- In a helicopter rescue, protect victim - including the head - from rotor blast wind chill.

HYPOTHERMIA FIRST AID

All Cases

- Keep victim horizontal
- Move victim to dry, shelter and warmth
- Allow to urinate from horizontal position
- Handle gently
- Remove wet clothes - cut off if necessary
- Apply mild heat (comfortable to your skin) to head, neck, chest and groin - use hot water bottles, warm moist towels
- Cover with blankets or sleeping bag; insulate from cold — including head and neck
- Report to doctor by radio

Mild Cases

- Primary task is to prevent further heat loss and allow body to re-warm itself
- Give warm, sweet drinks — no alcohol - no caffeine
- Apply mild heat source to stabilise temperature and/or
- Re-heat to point of perspiring

- Keep victim warm and horizontal for several hours

Moderate Cases

- Same as above
- Offer sips of warm liquid only if victim is fully conscious and able to swallow without difficulty — no alcohol — no caffeine
- Have victim checked by doctor

Severe Cases

- Obtain medical advice as soon as possible using your radio
- Assist victim, but avoid jarring him — rough handling may cause cardiac arrest or ventricular fibrillation of heart
- No food or drink
- Observe for vomiting and be prepared to clear airway
- *Ignore pleas of "Leave me alone, I'm OK" victim is in serious trouble* — keep continuous watch over victim
- Lay victim down in bunk, wedge in place, elevate feet, keep immobile; no exercise
- Apply external mild heat to head, neck, chest and groin — keep temperature from dropping, but avoid too rapid a temperature rise

Critical Cases

- *Always assume the patient is revivable — hypothermic victims may look dead* but don't give up - pulse very difficult to feel, breathing may have stopped
- Handle with extreme care
- Tilt the head back to open the airway — look, listen and feel for breathing and pulse for *one to two full minutes*
- If there is any breathing or pulse, no matter how faint or slow, do not give CPR, but keep a close watch on vital sign changes
- Stabilise temperature with available heat sources, such as naked chest to back warming by other crew member (leave legs alone)
- If no breathing or pulse for one or two minutes, *begin CPR immediately. Do not give up until victim is thoroughly warm — alive or dead.*
- *Medical help is imperative — hospitalisation needed*



RANGES OF HYPOTHERMIA SYMPTOMS

MILD CONDITIONS (97-93°F, 36-34°C)

- Shivering, cold hands and feet
- Still alert and able to help self
- Numbness in limbs, loss of dexterity, clumsiness
- Pain from cold

MODERATE CONDITIONS (93-90°F, 34-32°C)

- Same as above
- Confusion, loss of time estimation and reasoning power

SEVERE CONDITIONS (90-82°F, 32-28°C)

- Shivering decreases or stops
- Further loss of reasoning and recall, confusion, abnormal behaviour.
- Victim appears drunk; very clumsy, slurs speech, denies problem and may resist help
- Unable to help themselves
- Victim semiconscious to unconscious
- Muscular rigidity increasing

CRITICAL CONDITIONS (82°F, 28°C and below)

- Unconscious, may look dead
- Little or no apparent breathing
- Pulse slow and weak, or no pulse found
- Skin cold, may be bluish-grey colour
- Very rigid

Note: Most physical symptoms vary with each individual and may be unreliable indicators of core body temperature. Only a low temperature rectal thermometer gives reliable core temperature (the mouth cools too rapidly). In general, as body temperature fails, symptoms will increase.

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TERMINOLOGY

The term "drogue" generally means a device dragged from the stern of a vessel which continues to make steerage way through the water but at reduced speed. The term "sea anchor" generally means a device streamed from the bows of a vessel practically halted in the water by the action of the sea anchor.

LIFERAFTS

Every liferaft has a sea anchor supplied as part of its equipment. A sea anchor is critical to the safe use of a liferaft and dramatically reduces the chance of liferaft capsize. Its secondary function is to limit drift. A spare sea anchor may be carried in a grab bag. Sea anchors in liferafts should comply with ISO 17339 and the opportunity should be taken at service intervals to ensure this.

DROGUES ON YACHTS

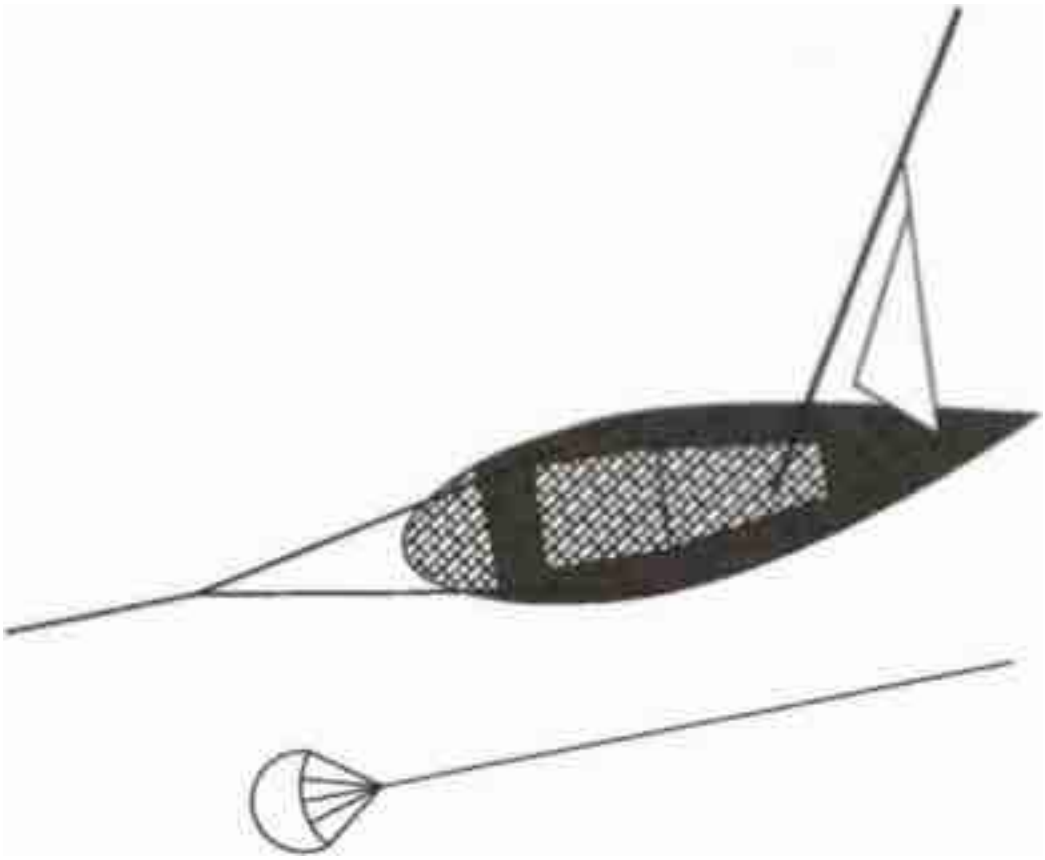
A number of research programmes have been conducted including one for the RORC by the Southampton University Wolfson Unit. In tests drogue deployment repeatedly prevented typical yacht forms from being slewed sideways and rolled in heavy breaking seas.

Deployment of a drogue over the stern means that heavy water will break over that part of the yacht, so all openings must be properly secured shut.

A "series-drogue" invented by Donald Jordan has the ability to continue to provide drag even if part of the device is "surfing" under a wave crest

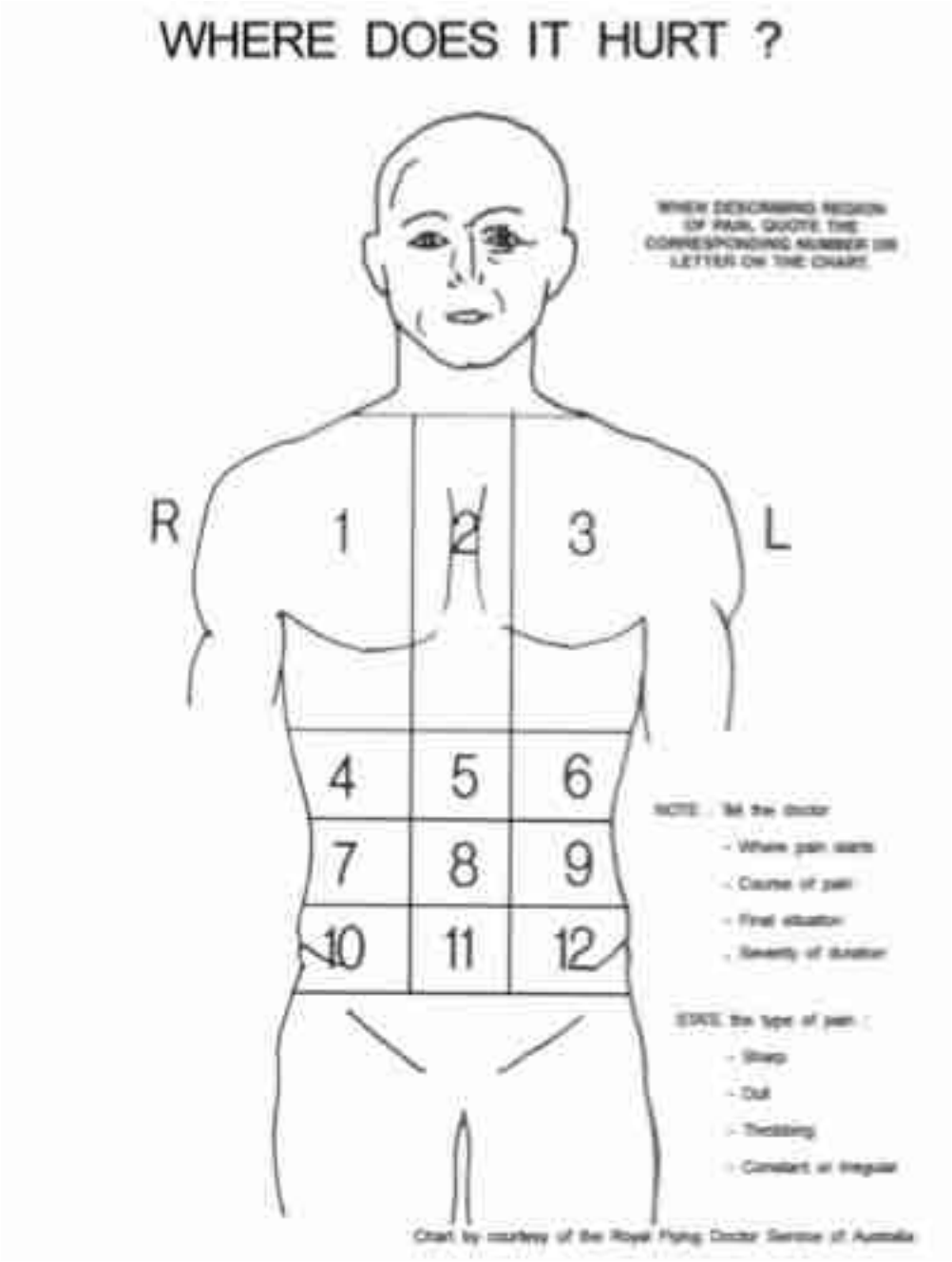
SEA ANCHORS ON YACHTS

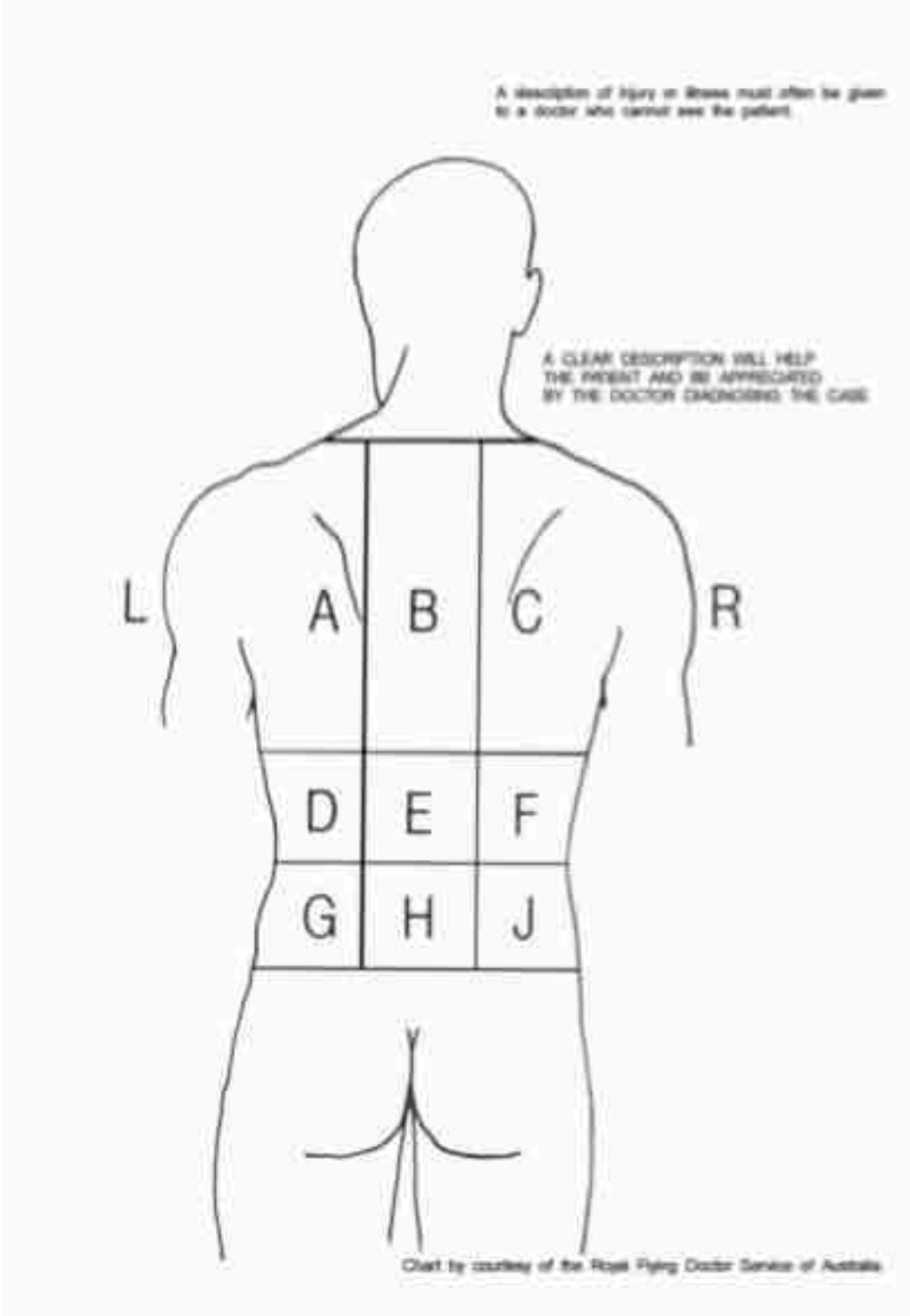
The most common form of sea anchor for yachts is the "parachute" anchor developed from aviation parachutes. Specialist manufacturers have accumulated much data to demonstrate the effectiveness of the device which can enable a vessel to take seas bows-on, reduce drift to the order of one knot, and resist capsize.



Sketch shows small parachute anchor used as drogue. Bridle lines led to port and starboard main winches can provide emergency steering. *Product obtained from a specialist supplier is recommended.*

ADVISORY APPENDIX H – PAIN CHART




A description of injury or illness must often be given to a doctor who cannot see the patient.
A CLEAR DESCRIPTION WILL HELP THE PATIENT AND BE APPRECIATED BY THE DOCTOR DIAGNOSING THE CASE.
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Chart by courtesy of the Royal Flying Doctor Service of Australia.