World Sailing Special Regulations

GOVERNING OFFSHORE RACING FOR MONOHULLS & MULTIHULLS

STRUCTURAL FEATURES · YACHT EQUIPMENT
PERSONAL EQUIPMENT · TRAINING

OFFSHORE RACING ENVIRONMENTAL CODE

World Sailing is committed to the promotion of care for the environment. In offshore racing we will

- use holding tanks where fitted and empty at a pump-out station or more than 3 miles offshore
- in the bilges use oil collection pads and dispose properly ashore
- use environmentally-friendly cleaning products suitable for the marine environment
- retain garbage on board for recycling or disposal ashore except In a long voyage when biodegradable waste may be discharged overboard
- avoid the use of 2-stroke engines (except advanced models with pollution control)
- use solar, water power or wind charging when appropriate
- use shore toilets when in port
- observe IMO guidelines on biofouling
- encourage new offshore racing yachts (OSR Cat 0, 1 & 2) constructed after 2022, to produce at least 20% of their power requirements using renewable energy sources whilst racing

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APPENDIX 1 WORLD SAILING OFFSHORE SPECIAL REGULATIONS AND RORC PRESCRIPTIONS

January 2020 – December 2021

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Official interpretations shall take precedence over these Special Regulations and will be indexed, numbered, dated and displayed on the World Sailing web site www.sailing.org/specialregs

Language & Abbreviations Used

Mo - Monohull
Mu - Multihull
** - means the item applies to all types of boat in all Categories except 5 for which see Appendix B or 6 for which see Appendix C.

RED TYPE indicates significant changes in 2020

BLUE TYPE indicates RORC Prescriptions

Guidance notes and recommendations have been removed from the Regulations and are available on www.sailing.org/documents/offshorespecialregs/index.php

The use of the masculine gender shall be taken to mean either gender.

SECTION 1 - FUNDAMENTAL AND DEFINITIONS

	1.01	**Purpose and Use**
**	1.01.1	The purpose of the Offshore Special Regulations (OSR) is to establish uniform minimum equipment, accommodation and training standards for monohull and multihull (excluding proa) boats racing offshore.
**	1.01.2	The OSR do not replace, but rather supplement, the requirements of governmental authority, Classification Society certification, the Racing Rules of Sailing (RRS), Equipment Rules of Sailing (ERS), class rules and Rating Systems.
**	1.01.3	Use of the OSR does not guarantee total safety of the boat and her crew. Particular attention is drawn to the description of OSRs for inshore racing which includes that adequate shelter and or effective rescue is available all along the course. This is not included in more onerous OSR categories.
	1.02	**Responsibility of Person in Charge**
**	1.02.1	**Under RRS 3 the responsibility for a boat's decision to participate in a race or continue racing is hers alone. The safety of a boat and her crew is the sole and inescapable responsibility of the Person in Charge who shall do his best to ensure that the boat is fully found, thoroughly seaworthy and manned by an experienced and appropriately trained crew who are physically fit to face bad weather. The person in charge shall also assign a person to take over his responsibilities in the event of his incapacitation.**
**	1.02.2	Neither the establishment of the OSR, nor their use by Organizing Authorities, nor the inspection of a boat under the OSR in any way limits or reduces the complete and unlimited responsibility of the Person in Charge.
**	1.02.3	By participating in a race conducted under the OSR, the person in charge, each competitor and boat owner agrees to reasonably cooperate with the organizing authority and World Sailing in the development of an independent incident report as specified in 2.02
	1.03	**Definitions, Abbreviations, Word Usage**
**	1.03.1	Definitions of Terms used in this document
	Abbreviation	**Description**
	#	Pound force (lbf)
	ABS	American Bureau of Shipping
	Age Date	Month/year of first launch
	AIS	Automatic Identification Systems
	CEN	Comité Européen de Normalisation

Coaming	The part of the cockpit, including the transverse after limit, over which water would run when the boat is floating level and the cockpit is filled to overflowing
COLREGS	International Regulations for Preventing Collisions at Sea
Contained Cockpit	A cockpit where the combined area open aft to the sea is less than 50% maximum cockpit depth x maximum cockpit width
CPR	Cardio-Pulmonary Resuscitation
Crewmember	Every person on board
DSC	Digital Selective Calling
EN	European Norm
EPIRB	Emergency Position-Indicating Radio Beacon
ERS	World Sailing - Equipment Rules of Sailing
FA Station	The transverse station at which the upper corner of the transom meets the sheerline
First Launch	Month & year of first launch of the individual boat
Foul-Weather Suit	Clothing designed to keep the wearer dry and may consist of one piece or several
GMDSS	Global Maritime Distress & Safety System
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
Hatch	The term hatch includes the entire hatch assembly including the lid or cover as part of that assembly
HMPE	High Modulus Polyethylene (Dyneema®/Spectra® or equivalent)
IMO	International Maritime Organisation
IMSO	The International Mobile Satellite Organisation, the independent, intergovernmental organisation that oversees Inmarsat's performance of its Public Service Obligations for the GMDSS and reports on these to IMO
INMARSAT	Inmarsat Global Limited is the private company that provides GMDSS satellite distress and safety communications, plus general communications via voice, fax and data
ISAF	International Sailing Federation- (now World Sailing)
ISO	International Standard Organization or International Organization for Standardization
ITU	International Telecommunications Union
Jackstay	A securely fastened webbing or rope which permits a crewmember to move from one part of the boat to another without having to unclip a safety harness tether
LH	Hull Length as defined by the ERS
Lifeline	Rope or wire line rigged as guardrail / guardline around the deck
LSA	IMO International Life-Saving Appliance Code
LWL	(Length of) loaded waterline
Monohull	A boat with one hull
Moveable Ballast	Material carried for the sole purpose of increasing weight and/or influencing stability and/or trim and which may be moved transversely but not varied in weight while a boat is racing
Multihull	A boat with more than one hull
Open Cockpit	A cockpit that is not a Contained Cockpit
ORC	Offshore Racing Congress (formerly Offshore Racing Council)
OSR	Offshore Special Regulation(s)
Permanently Installed	The item is effectively built-in by e.g. bolting, welding, glassing etc. and may not be removed for or during racing
PLB	Personal Locator Beacon
Primary Launch	Month & Year of first launch of the first boat of the production series or first launch of a non-series boat
Proa	Asymmetric Catamaran
Rode	Rope, chain, or a combination of both, which is used to connect an anchor to the boat

	RRS	World Sailing - Racing Rules of Sailing
	Safety Line	A tether used to connect a safety harness to a strong point
	SAR	Search and Rescue
	SART	Search and Rescue Transponder
	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° capsize and allows for the item to be removed and replaced during racing
	SOLAS	Safety of Life at Sea Convention
	SSS	The Safety and Stability Screening numeral
	Static Ballast	Material carried for the sole purpose of increasing weight and/or to influencing stability and/or trim and which is not moved or varied in weight while a boat is racing
	Static Safety Line	A safety line (usually shorter than a safety line carried with a harness) kept clipped on at a work-station
	STIX	ISO 12217-2 Stability Index
	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
	Waterline	The water surface when the boat is floating in measurement trim
	World Sailing	Formerly the International Sailing Federation or ISAF
**	1.03.2	The words "shall" and "must" are mandatory, and "should" and "may" are permissive
**	1.03.3	The word "yacht" shall be taken as fully interchangeable with the word "boat"

SECTION 2 - APPLICATION & GENERAL REQUIREMENTS

**	**2.01**	**Categories of Events** Organizing Authorities shall select from one of the following categories and may modify the OSR to suit local conditions.
MoMu0	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°C (41°F) 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.
MoMu1	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.
MoMu2	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.
MoMu3	2.01.4	Category 3 Races across open water, most of which is relatively protected or close to shorelines.
MoMu4	2.01.5	Category 4 Short races, close to shore in relatively warm or protected waters normally held in daylight.
	2.01.6	Special Regulations - for Inshore Racing Short races, close to shore in relatively warm and protected waters where adequate shelter and/or effective rescue is available all along the course, held in daylight only (refer to Appendix B).
	2.01.7	Special Regulations - for Inshore Dinghy Racing Short races in boats that may not be self-sufficient, with rescue boats available all along the course, held in daylight only (refer to Appendix C).
	2.02	**Incident Reporting** The Organizing Authority of a race will establish whether any incidents occurred, which if reported would be likely to be relevant to evolving the Offshore Special Regulations, the plan review process, or in increasing safety. The Organizing Authority will follow any guidelines issued by World Sailing concerning incident reporting.

	2.03		**Inspection**
**			A boat may be inspected at any time. If she fails to comply with the OSR her entry may be rejected or she will be subject to protest
	2.04		**General Requirements**
**	2.04.1		All equipment required by OSR shall:
**		a)	function properly
**		b)	be regularly checked, cleaned and serviced
**		c)	if it has an expiry date, it will not have exceeded its expiry date whilst racing
**		d)	when not in use be stowed in conditions in which deterioration is minimised
**		e)	be readily accessible
**		f)	be of a type, size and capacity suitable and adequate for the intended use and size of the boat.
**	2.04.2		Heavy items shall be permanently installed or securely fastened.

SECTION 3 - STRUCTURAL FEATURES, STABILITY, FIXED EQUIPMENT

**			A boat shall be/have:
	3.01		**Strength of Build and Rig**
**	3.01.1		Properly rigged, fully seaworthy and shall meet the OSR.
**	3.01.2		Equipped with shrouds and at least one forestay that shall remain connected to the mast and the boat while racing.
	3.02		**Watertight and Structural Integrity of a Boat**
**	3.02.1		Essentially watertight and all openings shall be capable of being immediately secured. Centreboard, 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.
Mo0,1,2,3	3.02.2		Effective 1 January 2022: Structural Inspection - Consult the owner's manual for any instructions for keel bolt checking and re-tightening. The following inspection to be conducted by a qualified person externally with the boat out of the water. 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 L - Model Keel and Rudder Inspection Procedure).
Mo0,1,2,3	3.02.3		Effective 1 January 2022: Evidence of a structural inspection in accordance with 3.02.2 within 24 months before the start of the race or after a grounding whichever is the later.
Mo0,1,2,3	3.02.4		Effective 1 January 2022: Inspection after Grounding – an appropriately qualified person shall conduct an internal and external inspection after each unintentional grounding.
	3.03		**Hull Construction Standards (Scantlings)**
Mo0,1,2	3.03.1		If a monohull with a Primary Launch after 2009
Mo0,1,2		a)	less than 24 m (78'-9") LH shall: i) be designed, built and maintained in accordance with the requirements of ISO 12215 Category A
	3.03.1	a)	ii) have a World Sailing/ISAF building plan review certificate issued from a notified body recognized by World Sailing, unless higher classification has been obtained from a Classification Society recognised by World Sailing. World Sailing will publish a list of waived plan review certificates.
Mo0,1,2		b)	24 m (78'-9") LH and greater shall: be designed, built and maintained in accordance with the requirements of a Classification Society recognized by World Sailing
Mo0,1,2		c)	have a Builder's Declaration signed and dated by the builder to confirm the boat is built in accordance with the reviewed plans. In cases when a builder no longer exists, a race organizer 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
Mo0,1,2		d)	have an additional World Sailing/ISAF certificate of building plan review in accordance with a) or b) and c) above for any significant repair of modification to the hull, deck, coachroof, keel or appendages.
MoMu0,1,2	3.03.2		A monohull with Primary Launch between 1987 and 2010, and all multihulls, shall have been designed, built, maintained, modified or repaired in accordance with the requirements of:

Mo0,1,2		a)	OSR 3.03.1, or
Mo0,1,2		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
MoMu0,1,2		c)	the EC Recreational Craft Directive for Category A having obtained the CE mark, or
MoMu0,1,2		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
MoMu0,1,2		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, coach roof, keel or appendages, on board, except
MoMu0,1,2		f)	that a race organizer 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
	3.04		**Stability - Monohulls**
Mo0,1,2	**3.04.1**		Able to demonstrate compliance with ISO 12217-2* design category A or higher, either by EC Recreational Craft Directive certification having obtained the CE mark or the designer's declaration
Mo3	**3.04.1**		Able to demonstrate compliance with ISO 12217-2* design category B or higher, either by EC Recreational Craft Directive certification having obtained the CE mark or the designer's declaration. *The latest effective version of ISO 12217-2 should be used unless the boat was already designed to a previous version
Mo0,1,2,3	**3.04.2**		Where compliance in accordance with 3.04.1 cannot be demonstrated, able to demonstrate either:
Mo0,1,2		a)	i) a STIX value not less than 32; and
Mo0,1,2			ii) AVS not less than 130 - 0.002*m, but always >= 100°, (where "m" is the mass of the boat in the minimum operating condition as defined by ISO 12217-2); and
Mo0,1,2			iii) a minimum righting energy m*AGZ>172000 (where AGZ is the positive area under the righting lever curve in the minimum operating condition, expressed in kg metre degrees from upright to AVS); or
Mo3		a)	i) a STIX value not less than 23; and
Mo3			ii) AVS not less than 130 - 0.005*m, but always >= 95°, (where "m" is the mass of the boat in the minimum operating condition as defined by ISO 12217-2); and
Mo3			iii) a minimum righting energy not less than m*AGZ>57000 (where AGZ is the positive area under the righting lever curve in the minimum operating condition, expressed in kg metre degrees from upright to AVS); or
Mo0		b)	Stability Index in ORC Rating System of not less than 120; or
Mo1		b)	Stability Index in ORC Rating System of not less than 115; or
Mo2		b)	Stability Index in ORC Rating System of not less than 110; or
Mo3		b)	Stability Index in ORC Rating System of not less than 103; or
Mo0,1		c)	IRC SSS Base value of not less than 35
Mo2		c)	IRC SSS Base value of not less than 28
Mo3		c)	IRC SSS Base value of not less than 15
Mo0	**3.04.3**		Capable of self-righting from an inverted position with or without reasonable intervention from the crew and independent of the condition of the rig.
	3.05		**Stability and Flotation - Multihulls**
Mu0,1,2,3,4	**3.05.1**		Watertight bulkheads and compartments (which may include permanently installed flotation material) in each hull, to ensure that the boat is effectively unsinkable and capable of floating in a stable position with at least half the length of one hull flooded (see OSR 3.13.2)
Mu0,1,2,3,4	**3.05.2**		Transverse watertight bulkheads at intervals of not more than 4 m (13'-3") in every hull without accommodation if with a First Launch after 1998
Mu0,1,2,3,4	**3.05.3**		Designed and built to resist capsize.
	3.06		**Exits - Monohulls**

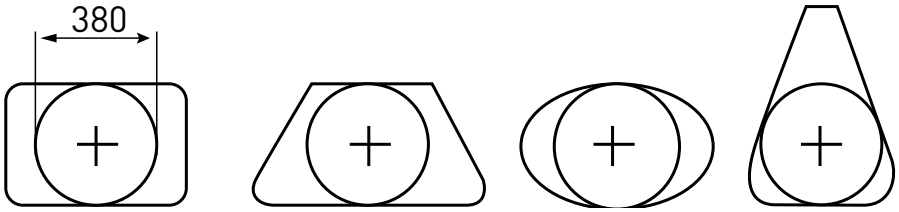

Figure 1 - Measurements of Minimum Clear Opening

Mo0,1,2,3,4	3.06.1		At least two exits if 8.5 m (28') LH and greater and with a Primary Launch after 1994. One exit shall be located forward of the foremost mast except where structural features prevent its installation
Mo0,1,2,3,4	3.06.2		The following minimum clear hatch openings if First Launch after 2013:
Mo0,1,2,3,4		a)	a circular hatch with diameter 450 mm (18"); or
Mo0,1,2,3,4		b)	any other shape with minimum dimension of 380 mm (15") and minimum area of 0.18 m² (1.9 ft²) (see figure 1)
Mo0,1,2,3,4			
	3.07		**Exits and Escape Hatches - Multihulls**
	3.07.1		**Exits**
Mu0,1,2,3	3.07.1		At least two exits in each hull which contains accommodations
Mu4	3.07.1		At least two exits in each hull which contains accommodations if 8 m (26'-3") LH and greater
	3.07.2		Escape Hatches, Underside Clipping Points & Handholds
Mu0,1,2,3,4		a)	If 12 m (39'-4") LH and greater each hull which contains accommodation:
Mu0,1,2,3,4			i) an escape hatch for access to and from the hull in the event of an inversion;
Mu0,1,2,3,4			ii) a minimum clearance diameter through each escape hatch of 450 mm (18") or when an escape hatch is not circular, sufficient clearance to allow a crewmember to pass through fully clothed on boats if First Launch after 2002
Mu0,1,2,3,4			iii) each escape hatch above the waterline when the boat is inverted;
Mu0,1,2,3,4			iv) each escape hatch at or near the midships station if First Launch after 2000
Mu0,1,2,3,4			v) each escape hatch on the side nearest the vessel's central axis for a catamaran if First Launch after 2002
Mu0,1,2,3,4	3.07.2	b)	if a trimaran at least two escape hatches in compliance with the dimensions in OSR 3.07.2 a) ii if 12 m (39'-4") LH and greater if First Launch after 2002
Mu0,1	3.07.2	c)	if a trimaran at least one escape hatch in compliance with the dimensions in OSR 3.07.2 a) ii if less than 12 m (39'-4") LH if First Launch after 2002
Mu0,1,2,3,4		c)	each escape hatch shall have been opened both from inside and outside within 6 months prior to the race
Mu0,1,2,3,4	3.07.2	d)	appropriate handholds/clipping points on the underside sufficient for all crew (on a trimaran these shall be around the central hull)
Mu0,1,2,3,4		e)	a catamaran with a central nacelle first launched after 2002 shall have on the underside around the central nacelle, handholds of sufficient capacity to enable all persons on board to hold on and/or clip on securely
Mu2,3,4	3.07.3		This is replaced by a RORC Prescription: Multihulls shall have escape hatch(es) as detailed in OSR 3.07.2
	3.08		**Hatches & Companionways**
**	3.08.1		Hatch covers forward of the maximum beam station shall not open toward the interior of the boat, except hatches in the side of a coachroof or ports having an area of less than 0.071 m² (110 in²)
**	3.08.2		A hatch, including a hatch over a locker shall be:
**		a)	permanently attached and capable of being firmly shut immediately and remaining firmly shut in a 180° capsize
Mo0,1,2,3,4		b)	above the water when the boat is heeled 90°

Mo0,1,2,3,4			A boat may have a maximum of two hatches on each side of centerline that do not conform to the requirement in b), provided that the opening of each is less than 0.071² m (110 in²)
**	3.08.3		Hatches not conforming with 3.08.1 and 3.082 shall be clearly labelled and used in accordance with the following instruction "NOT TO BE OPENED AT SEA"
**	3.08.4		Companionway hatches:
**		a)	fitted with a strong securing arrangement which shall be operable from the exterior and interior even when the boat is inverted
**		b)	blocking devices:
**			i) capable of being retained in position with the hatch open or shut
Mo0,1,2,3,4	3.08.5		if a monohull with Open Cockpit(s):
Mo0,1,2,3,4	3.08.5	a)	a companionway sill that does not extend below the local sheerline; or
Mo0,1,2,3,4		b)	a companionway in full compliance with ISO 11812 category A
Mo0,1,2,3,4	3.08.6		if a monohull with Contained Cockpit(s) where the companionway extends below the local sheerline, panels capable of blocking the companionway up to the level of the local sheerline whilst giving access to the interior.
Mu0,1,2,3,4	3.08.7		if a multihull with a companionway hatch extending below the local sheerline either:
Mu0,1,2,3,4		a)	have a minimum sill height of 300 mm (12") and be capable of being blocked off up to the level of the local sheerline whilst giving access to the interior with the blocking device(s) in place; or
Mu0,1,2,3		b)	be in compliance with ISO 11812 to design category A
Mu4			be in compliance with ISO 11812 to design category B
	3.09		**Cockpits**
**	3.09.1		Cockpits that self-drain quickly by gravity at all angles of heel and are permanently incorporated as an integral part of the boat
**	3.09.2		A cockpit sole at least 2% LWL above the waterline (or in IMS boats with First Launch before 2003, at least 2% L above the waterline)
**	3.09.3		A bow, lateral, central or stern well is a cockpit for the purposes of OSR 3.09.
**	3.09.4		**Cockpit Volume**
**			The maximum combined volume below lowest coamings of all contained cockpits shall be:
Extract MoMu0,1		a)	primary launch before April 1992: 6% (LWL x maximum beam x freeboard abreast the cockpit)
Extract MoMu2,3,4			primary launch before April 1992: 9% (LWL x maximum beam x freeboard abreast the cockpit)
**		b)	primary launch after March 1992 as above for the appropriate category except that "lowest coamings" shall not include any aft of the FA station and no extension of a cockpit aft of the working deck shall be included in calculation of cockpit volume
	3.09.5		**Cockpit Drains**
**			Cockpit drain cross section area of unobstructed openings (after allowance for screens if fitted) shall be at least that of:
**		a)	2 x 25 mm (1") diameter or equivalent for a boat less than 8.5 m (28') LH
**		b)	4 x 20 mm (3/4") diameter or equivalent for a boat 8.5 m (28') LH or greater
	3.10		**Sea Cocks or Valves**
**	3.10.1		Permanently installed sea cocks or valves on all through-hull openings below the waterline except for integral deck scuppers and instrument through-hulls
	3.11		**Sheet Winches**
**			Sheet winches mounted in such a way that an operator is not required to be substantially below deck
	3.12		**Mast Step**
**	3.12.1		The heel of a keel stepped mast securely fastened to the mast step or adjoining structure
	3.13		**Watertight Bulkheads**

Mo0Mu0,1,2,3,4	3.13.1		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
Mo0Mu0,1,2,3,4	3.13.2		Any required watertight bulkhead to be strongly built to take a full head of water pressure without allowing any leakage into the adjacent compartment
Mo0	3.13.3		At least two watertight transverse main bulkheads in addition to any bulkheads positioned within the forward and aft 15% of LH
Mo0	3.13.4		Outside deck access for inspection and pumping shall be provided to every watertight compartment terminated by a hull section bulkhead, except that deck access to extreme end "crash" compartments is not required
Mo0	3.13.5		An access hatch in every required watertight bulkhead (except a "crash" bulkhead). The access hatch shall have means of watertight closure permanently attached to the main panel, or lid, or cover of the hatch. The closure shall not require tools to operate.
	3.14		**Pulpits, Stanchions, Lifelines**
**	3.14.1		The perimeter of the deck surrounded by system of lifelines and pulpits as follows:
**		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:
**			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")
MoMu3,4			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'-2 1/2") and shall not pass outboard of supporting stanchions
**		d)	Pulpit and stanchion bases permanently installed with pulpits and stanchions mechanically retained in their bases
**		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
**		f)	Stanchions straight and vertical except that:
**			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")

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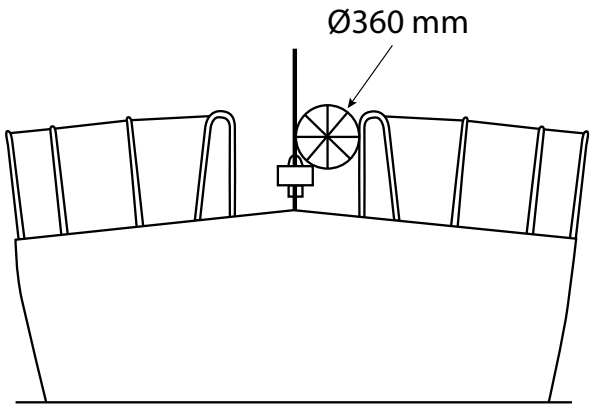


Figure 2 - Diagram Showing Pulpit Opening

**		h)	Lifelines may terminate at or pass through adequately braced stanchions set inside and overlapping the bow pulpit
**		i)	When a deflecting force of 4 kg (8.8 #) 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
Mu0,1,2,3,4	3.14.2		**Special Requirements for Pulpits, Stanchions, Lifelines on Multihulls**
Mu0,1,2,3,4			When on a boat it is impractical to precisely follow OSR regarding pulpits, stanchions, lifelines, the regulations for monohulls shall be followed as closely as possible
	3.14.3		Spare number
	3.14.4		Spare number
	3.14.5		Spare number
	3.14.6		**Lifeline Specifications**
Mo0,1,2,3	3.14.6	a)	Lifelines of stranded stainless steel wire
Mo4,Mu**	3.14.6	a)	Lifelines of either:
Mo4,Mu**	3.14.6	a)	i) stranded stainless steel wire
	3.14.6	a)	ii) HMPE
**	3.14.6	b)	The minimum diameter is specified in table 8 below
**	3.14.6	c)	Stainless steel lifelines shall be uncoated and used without close-fitting sleeving, however, temporary sleeving may be fitted provided it is regularly removed for inspection
**	3.14.6	d)	A lanyard of synthetic rope may be used to secure lifelines provided the gap it closes does not exceed 100 mm (4"). This lanyard shall be replaced annually
**	3.14.6	e)	All components of the lifeline enclosure system shall have a breaking strength no less than the lifeline
Mo4,Mu**	3.14.6	f)	When HMPE is used, it shall be protected from chafe and spliced in accordance with the manufacturer's recommended procedures

LH	wire	HMPE rope (Single braid)	HMPE Core (Braid on braid)
under 8.5m (28ft)	3mm (1/8 in)	4mm (5/32 in)	4mm (5/32 in)
8.5m - 13m	4mm (5/32 in)	5mm (3/16 in)	5mm (3/16 in)
over 13m (42 ft 8 in)	5mm (3/16 in)	5mm (3/16 in)	5mm (3/16 in)

	3.15		**Multihull Nets or Trampolines**
Mu0,1,2,3,4	3.15.1		The words "net" and "trampoline" are interchangeable. A net shall be:
Mu0,1,2,3,4	3.15.1	a)	essentially horizontal
Mu0,1,2,3,4	3.15.1	b)	made from durable woven webbing, water permeable fabric, or mesh with openings not larger than 5 cm (2") in any dimension. Attachment points shall be planned to avoid chafe. The junction between a net and a boat shall present no risk of foot trapping
Mu0,1,2,3,4	3.15.1	c)	solidly fixed at regular intervals on transverse and longitudinal support lines and shall be fine-stitched to a bolt rope
Mu0,1,2,3,4	3.15.1	d)	able to carry the full weight of the crew either in normal working conditions at sea or in case of capsize when the boat is inverted
	3.15.2		**Trimarans with Double Crossbeams**
	3.15.2		A trimaran with double crossbeams shall have nets on each side covering:-
Mu0,1,2,3,4	3.15.2	a)	the area formed by the crossbeams, central hull and outriggers
	3.15.2	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
	3.15.2	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:-

	3.15.2	d)	OSR 3.15.2(c) is not a requirement when cockpit coamings and/or lifelines are present which comply with the minimum height requirements in OSR 3.14
	3.15.3		**Trimarans with Single Crossbeams**
Mu0,1,2,3,4			A trimaran with a single crossbeam 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)
	3.16		**Catamarans**
Mu0,1,2,3,4	3.16		A catamaran shall have nets covering the area defined:
Mu0,1,2,3,4	3.16	a)	laterally by the hulls; and
Mu0,1,2,3,4	3.16	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
	3.17		**Toe Rail or Foot - Stop**
Mo0,1,2,3	3.17.1		Permanently installed toe rail of minimum height 25 mm (1"), located as close as practicable to the stanchion bases, around the foredeck from abreast the mast
Mo0,1,2,3	3.17.2		An additional lifeline of between 25-50 mm (1-2") high is permitted in lieu of a toe rail on a boat with Primary Launch before 1984.
	3.18		**Toilet**
MoMu0,1,2	3.18.1		Permanently installed toilet
MoMu3,4	3.18.2		Permanently installed toilet or fitted bucket
	3.19		**Bunks**
MoMu0	3.19.1		Permanently installed bunk for each crewmember
MoMu1,2,3,4	3.19.2		Permanently installed bunks
	3.20		**Cooking Facilities**
MoMu0,1,2,3	3.20.1		Permanently installed cooking stove, capable of being operated safely at sea, with fuel shutoff control
	3.21		**Drinking Water Tanks & Drinking Water**
	3.21.1		**Drinking Water Tanks**
MoMu0	3.21.1		Permanently installed delivery pump and water tanks dividing the water supply into at least three compartments
MoMu1	3.21.1		Permanently installed delivery pump and water tanks dividing the water supply into at least two compartments
MoMu2,3	3.21.1		Permanently installed delivery pump and water tank(s)
	3.21.2		**Drinking Water**
MoMu0	3.21.2		Equipment (which may include watermakers and tanks containing water) permanently installed to provide at least 3 l (0.8 US Gal) of drinking water per person per day for the likely duration of the voyage
	3.21.3		**Emergency Drinking Water**
MoMu1,2,3	3.21.3		At least 9 l (2.4 US Gal) of drinking water for emergency use in a dedicated and sealed container or container(s)
MoMu0	3.21.3	a)	in the absence of a power driven watermaker, at least 1 l (0.26 US Gal) per person per day in at least two separate containers shall be provided for the expected duration of the voyage
MoMu0	3.21.3	b)	when a power-driven watermaker is on board, at least 500 ml (0.13 US Gal) per person per day in at least two separate containers shall be provided for the expected duration of the voyage
MoMu0	3.21.3	c)	facilities shall be provided to collect rainwater for drinking purposes including when dismasted
	3.22		**Hand Holds**
**	3.22.1		Adequate hand holds fitted below deck
	3.23		**Bilge Pumps and Buckets**
**	3.23.1	a)	two strong buckets, each with a lanyard and of at least 9 l (2.4 US Gal) capacity
Mo0,1,2	3.23.1	b)	two permanently installed manual bilge pumps, one operable from above, the other from below deck

Mo3Mu0,1,2	3.23.1	b)	one permanently installed manual bilge pump
Mo4	3.23.1	b)	one manual bilge pump
Mu0,1,2,3,4	3.23.1	c)	provision to pump out all watertight compartments (except those filled with impermeable buoyancy)
**	3.23.2		All required permanently installed bilge pumps shall be operable with all cockpit seats, hatches and companionways shut and with permanently installed discharge pipe(s) of sufficient capacity
**	3.23.3		Bilge pumps shall not be connected to cockpit drains and shall not discharge into a Closed Cockpit
**	3.23.4		Bilge pumps shall be readily accessible for maintenance and for clearing out debris
**	3.23.5		All removable bilge pump handles retained by a lanyard
	3.24		**Compass**
MoMu0,1,2,3	3.24		Marine magnetic compass capable of being used as a steering compass:
MoMu0,1,2,3,4	3.24	a)	Permanently installed marine magnetic steering compass, independent of any power supply, correctly adjusted with deviation card
MoMu0,1,2,3	3.24	b)	a second compass which may be hand-held and/or electronic
	3.25		**Halyards**
**	3.25	a)	A minimum of two halyards, each capable of hoisting a sail, on each mast
MoMu0,1,2,3	3.25	b)	No halyard shall be locked, lashed or otherwise secured to the mast in a way that requires a person to go aloft in order to lower a sail in a controlled manner, except for a headsail in use with a furling device
	3.26		**Bow Fairlead**
Mo0	3.26		Bow fairlead, closed or closable and a cleat or securing arrangement, suitable for towing, permanently installed
	3.27		**Navigation Lights**
	3.27.1		that conform to the International Regulations for Preventing Collisions at Sea (Part C and Technical Annex I) and shall be exhibited as required by those regulations.
**	3.27.2		mounted above sheerline and so that they will not be masked by sails or the heeling of the boat
MoMu0,1,2,3	3.27.3		reserve lights having the same specifications as above, and that can be powered independently
**	3.27.4		spare bulbs (not required for LED)
	3.28		**Engines, Generators, Fuel**
	3.28.1		**Propulsion Engines**
**	3.28.1	a)	engines and associated systems installed in accordance with their manufacturers' guidelines and suitable for the size and intended use of the boat
MoMu0,1,2,3	3.28.1	b)	an engine which provides a minimum speed in knots of (1.8 x WLWL in metres) or (W LWL in feet)
Mo0,1,2Mu0	3.28.1	c)	inboard engine
Mu1,2,3	3.28.1	c)	inboard engine, however if less than 12.0 m (39'-4") LH either an inboard engine, or an outboard engine together with permanently installed power supply systems
Mo3	3.28.1	c)	either an inboard or outboard engine, with associated power supply systems, all securely fastened
**	3.28.1	d)	an inboard combustion engine shall have a permanently installed exhaust, cooling system, fuel supply, fuel tank(s) and shall have adequate heavy weather protection
**	3.28.1	e)	an inboard electrical engine, when fitted, shall be provided with a permanently installed power supply, adequate heavy weather protection and have an engine control system.
	3.28.2		**Generator**
**	3.28.2		If an optional generator separate from the propulsion engine is carried, it shall be installed in accordance with the manufacturer's guidelines
	3.28.3		**Liquid Fuel Systems**
MoMu0,1,2,3	3.28.3	a)	All fuel tanks for storage of liquid fuels shall be rigid (but may have permanently installed flexible linings) and shall have a shutoff valve

MoMu0,1,2,3	3.28.3	b)	At the start a boat with a combustion engine shall carry sufficient fuel to meet charging requirements for the duration of the race and to motor at the above minimum speed for at least 5 hours
	3.28.4		**Battery Systems**
MoMu0,1,2,3	3.28.4	a)	a dedicated engine/generator starting battery when an electric starter is the only method for starting the engine and/or separate generator
**	3.28.4	b)	batteries installed after 2011 shall be of the sealed type from which liquid electrolyte cannot escape
**	3.28.4	c)	At the start a boat with an electric engine shall carry sufficient capacity to meet electrical requirements for the duration of the race and to motor at the above minimum speed for at least 5 hours
	3.29		**Communications Equipment, GPS, Radar, AIS**
MoMu0,1,2,3	3.29.01		a marine radio transceiver with an emergency antenna when the regular antenna depends upon the mast
MoMu0,1,2,3	3.29.02		if the marine radio transceiver is a VHF:
MoMu0,1,2,3	3.29.02	a)	a minimum rated output power of 25 W
MoMu0,1,2	3.29.02	b)	a masthead antenna not less than 38 cm (15") in length and co-axial feeder cable with not more than 40% power loss
MoMu3	3.29.02	b)	a masthead antenna and co-axial feeder cable with not more than 40% power loss
MoMu1,2,3	3.29.02	c)	be DSC capable if installed after 2015
MoMu1,2,3	3.29.02	d)	(unique to the boat), 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
MoMu0	3.29.02	e)	a marine VHF DSC radio covering all international and US marine channels and meeting ITU class D
MoMu0	3.29.03	a)	at least two hand-held satellite telephones, watertight or with waterproof covers and internal batteries. When not in use each to be stowed in a grab bag (see OSR 4.21)
MoMu1	3.29.03	b)	One hand-held satellite telephone, watertight or with waterproof cover and internal battery
MoMu0	3.29.04		at least two hand-held marine VHF transceivers each with min 5 W output power, watertight or with waterproof covers. When not in use to be stowed in a grab bag (see OSR 4.21)
MoMu1,2,3,4	3.29.05		a hand-held marine VHF transceiver, watertight or with a waterproof cover. When not in use to be stowed in a grab bag or emergency container (see OSR 4.21)
**	3.29.06		a second radio receiver, which may be the handheld VHF in 3.29.5 above, capable of receiving weather bulletins
MoMu0	3.29.07		a direction-finding radio receiver operating on 121.5 MHz to take a bearing on a PLB or EPIRB, or an alternative device for crew overboard location when each crew member has an appropriate personal unit (see OSR 5.07);
MoMu3	3.29.08		a GPS
MoMu0	3.29.09		a Standard-C satellite terminal (GMDSS) shall be permanently installed and permanently powered up for the duration of the race and for which the race committee shall have polling authority
MoMu0	3.29.10		an MF/HF marine SSB transceiver (GMDSS/DSC) with at least 125 W transmitter power and frequency range from at least 1.6 to 29.9 MHz with permanently installed antenna and earth
MoMu0	3.29.11		an active radar set permanently installed either:
MoMu0	3.29.11	a)	a pulse (magnetron) unit with not less than 4 kW PEP and an antenna unit with a maximum dimension not less than 533 mm; or
MoMu0	3.29.11	b)	a frequency modulated continuous wave (FMCW) Broadband Radar™ unit. The radar antenna unit shall remain essentially horizontal when the boat is heeled and at least 7 m (23') above the water. Installations in place before January 2006 shall comply as closely as possible with OSR 3.29.11 a)
Mu0	3.29.12		a class A AIS Transponder which either:
Mo0,1,2,3 Mu1,2,3	3.29.13		an AIS Transponder which either:
MoMu0,1,2,3	3.29.13	a)	shares the masthead VHF antenna via a low loss AIS antenna splitter; or

MoMu0,1,2,3	3.29.13	b)	has a dedicated AIS antenna not less than 38 cm (15") in length mounted with its base not less than 3 m (10') above the Waterline and co-axial feeder cable with not more than 40% power loss

SECTION 4 - PORTABLE EQUIPMENT

			A boat shall have:
	4.01		**Sail Letters & Numbers**
**	4.01.1		Identification on sails which complies with RRS 77 and RRS Appendix G
MoMu0,1,2,3	4.01.2		RORC Prescription: OSR 4.01.2 is amended to read: After the start when sail numbers are not displayed elsewhere (sails down) they shall be displayed on the port quarter. It is particularly important that all vessels can be easily identified so that they can be excluded from any search and rescue operation.
	4.02		**Search and Rescue Visibility**
MoMu0	4.02.1		A 4 m² (43 ft²) area of highly-visible pink, orange or yellow on the coachroof and/or deck
Mo1,Mu1,2	4.02.1		A 1 m² (11 ft²) solid area of highly-visible pink, orange or yellow capable of being displayed on the coachroof and/or deck
Mu0,1,2,3,4	4.02.2		A 1 m² (11 ft²) area of highly-visible pink, orange or yellow showing when the boat is inverted
	4.04		**Soft Wood Plugs**
**	4.03.1		A tapered soft wood plug stowed adjacent to every through-hull opening
	4.04		**Jackstays and Clipping Points**
MoMu0,1,2,3	4.04		Permanently Installed fittings for jackstay ends and clipping points
MoMu0,1,2,3	4.04.1		Jackstays which shall:
MoMu0,1,2,3	4.04.1	a)	be independent on each side of the deck
MoMu0,1,2,3	4.04.1	b)	enable a crewmember to move readily between the working areas on deck and the cockpit(s) with the minimum of clipping and unclipping operations
MoMu0,1,2,3	4.04.1	c)	have a breaking strength of 2040 kg (4500#) and be uncoated and nonsleeved stainless steel 1 x 19 wire of minimum diameter 5 mm (3/16"), webbing or HMPE rope
MoMu0,1,2,3	4.04.2		Clipping points which shall:
MoMu0,1,2,3	4.04.2	a)	be adjacent to stations such as the helm, sheet winches and masts, where crewmembers work
MoMu0,1,2,3	4.04.2	b)	enable a crewmember to clip on before coming on deck and unclip after going below
MoMu0,1,2,3	4.04.2	c)	enable two-thirds of the crew to be simultaneously clipped on without depending on jackstays
Mu0,1,2,3	4.04.2	d)	on a trimaran with a rudder on the outrigger, permit a crewmember to repair the steering mechanism whilst attached to a clipping point
	4.05		**Fire Fighting Equipment**
**	4.05.1		A fire blanket adjacent to every cooking device with an open flame
MoMu0	4.05.2		3 fire extinguishers, each with 2 kg of dry powder or equivalent, in different parts of the boat, one system of which is to deal with fire in a machinery space
MoMu1,2,3	4.05.2		2 fire extinguishers, each with 2 kg each of dry powder or equivalent, in different parts of the boat
MoMu4	4.05.2		2 fire extinguishers in different parts of the boat
	4.06		**Anchors**
MoMu0	4.06		Anchors, chain and rope which comply with relevant class rules or the rules of a recognised Classification Society (e.g. Lloyd's, DNV, etc.)
MoMu1,2,3	4.06		2 unmodified anchors that meet the anchor manufacturer's recommendation based on the boat's dimensions with suitable combination of chain and rope, ready for immediate assembly, and ready for deployment within 5 minutes except that for a boat less than 8.5 m (28') LH there shall be 1 anchor meeting the same criteria
MoMu4	4.06		1 un-modified anchor that meets the anchor manufacturer's recommendation based on the boat's dimensions with suitable combination of chain and rope, ready for immediate assembly, and ready for deployment within 5 minutes.

	4.07		**Flashlights and Searchlights**
**	4.07		Watertight lights with spare batteries and bulbs as follows:
MoMu0,1,2,3	4.07	a)	a searchlight, suitable for searching for a person overboard at night and for collision avoidance
MoMu0,1,2,3	4.07	b)	a flashlight in addition to 4.07 a)
Mu3,4	4.07	c)	the watertight flashlight in OSR 4.07 b) shall be stowed in the grab bag or emergency container
MoMu0	4.07	d)	a high-intensity heavy duty searchlight powered by the boat's batteries, instantly available for use on deck and in the cockpit
MoMu0,1,2,3	4.07	e)	RORC Prescription: a floating waterproof torch for use in the event of man overboard at night, which can be thrown into the sea as a marker.
	4.08		**First Aid Manual and First Aid Kit**
**	4.08.1		A First Aid Manual and First Aid Kit. The contents and storage of the First Aid Kit shall reflect the likely conditions and duration of the passage, and the number of crew
	4.09		**Foghorn**
**	4.09.1		A foghorn
	4.10		**Radar Reflector**
**	4.10.1		A passive radar reflector with:
**	4.10.1	a)	octahedral circular plates of minimum diameter 30 cm (12"), or
**	4.10.1	b)	octahedral rectangular plates of minimum diagonal dimension 40 cm (16"), or
**	4.10.1	c)	a non-octahedral reflector with a documented Root Mean Square minimum Radar Cross Section (RCS) area of 2 m² (22 ft²) from 0-360° of azimuth and ±20° of heel
MoMu0	4.10.2		A Radar Target Enhancer (RTE) which complies with ISO 8729-2:2009 or equivalent
	4.11		**Navigation Equipment**
**	4.11.1		Navigational charts (not solely electronic), light list and chart plotting equipment
	4.12		**Safety Equipment Location Chart**
**	4.12.1		A safety equipment location diagram in durable waterproof material, clearly displayed in the main accommodation, marked with the location of principal items of safety equipment
	4.13		**Depth, Speed and Distance Instruments**
MoMu0,1,2,3	4.13.1		A knotmeter or distance measuring instrument (log)
MoMu,1,2,3,4	4.13.2		A depth sounder
MoMu0	4.13.2		Two independent depth sounders
	4.14		**Spare Number**
	4.15		**Emergency Steering**
MoMu0,1,2,3	4.15.1		An emergency tiller capable of being fitted to the rudder stock except when
MoMu0,1,2,3	4.15.1	a)	the principal method of steering is by means of an unbreakable metal tiller
MoMu0,1,2,3	4.15.	b)	there are two methods (e.g. tillers, wheels) of controlling a rudder, neither of which shares components with the other except for the rudder stock
MoMu0,1,2,3	4.15.2		A proven method of emergency steering with the rudder disabled
	4.16		**Tools and Spare Parts**
**	4.16.1		Tools and spare parts, suitable for the duration and nature of the passage
**	4.16.2		An effective means to quickly disconnect or sever the standing rigging from the boat
	4.17		**Boat's name**
**	4.17.1		The boat's name on miscellaneous buoyant equipment, such as lifejackets, cushions, lifebuoys, recovery slings, grab bags etc.
	4.18		**Retro-reflective material**
**	4.18		Marine grade retro-reflective material on lifebuoys, recovery slings, liferafts and lifejackets

Equipment	Pack 1 > 24h	Pack 2 < 24h	In liferaft	In liferaft or in grab bag
Portable buoyant baler easily operable by hand	1	1	X	
Sponge	2	2	X	
Pair of buoyant paddles with handles (not mitts) tied into raft adjacent to an entrance	1	1	X	
First-Aid Kit including at least 2 tubes of sunscreen. All dressings must be capable of being effectively used in wet conditions. The first aid kit shall be clearly marked and shall be re-sealable.	1	0		X
Whistle	1	1	X	
Waterproof torch with 6 h duration and separate battery and bulb or complementary torch	2	1	X	
Signalling mirror	1	1	X	
Anti-seasickness pills, per person	6	6		X
Seasickness bag with simple effective closure system, per person	1	1		X
Red hand flares in accordance with SOLAS LSA Code Chapter III, 3.2	6	3	3 min	X
Red parachute flares in accordance with SOLAS LSA Code Chapter III, 3.1	2	2	1 min	X
Thermal protective aids in accordance with SOLAS LSA Code Chapter III, 2.5	2	0		X
Repair outfit to enable survivors to repair leaks in any or all of the inflatable compartments. Repair systems must work when wet and be capable of being applied during violent motion.	1	1	X	
Air pump or bellows which shall be simple, robust and complete, with all necessary connections (loose parts shall be captive to the main apparatus) ready for instant use to enable air to be pumped into any or all of the inflatable compartments. The air pump or bellows shall be designed and built specifically for easy operation by hand	1	1	X	
Drinking water per person, in containers of each not more than 500mL	1.5L	0	1.5L	Xa
Food per person	10,000 kj	0		X

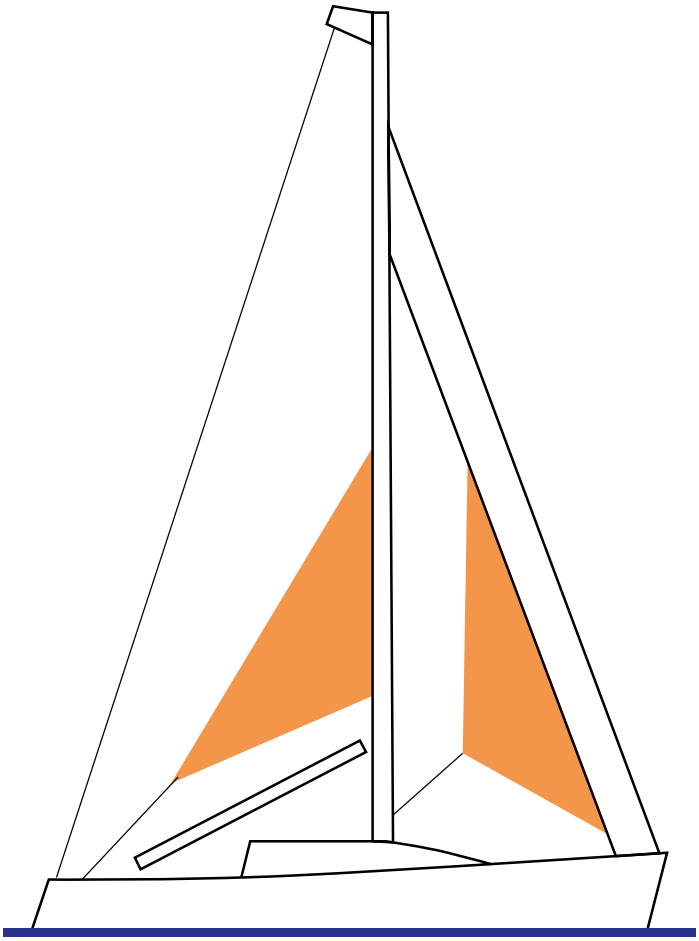
	4.19		**EPIRBs**
MoMu0	**4.19.1**		Two water and manually activated 406 MHz EPIRBs
MoMu1,2	**4.19.1**		A water and manually activated 406 MHz EPIRB
MoMu0,1,2	**4.19.2**		A 406 MHz EPIRB registered after 2015 shall include an internal GPS
MoMu0,1,2	**4.19.3**		All EPIRBs registered with the appropriate authority associated with the country code in the hexadecimal identification (15 Hex ID) of the beacon. A beacon can be registered online with the Cospas-Sarsat IBRD if the country does not provide a registration facility and the country has allowed direct registration in the IBRD
	4.20		**Liferafts**
	4.20.1		**Liferaft Construction**
MoMu1,2	**4.20.1**	**a)**	One or more inflatable liferafts with a total capacity to accommodate at least the total number of people on board which complies with:
MoMu1,2	**4.20.1**	**a)**	i) SOLAS LSA Code 1997 Chapter IV or later version; or
MoMu1,2	**4.20.1**	**a)**	ii) ISO 9650-1:2005, Type 1, Group A - Small Craft - Inflatable; or
MoMu1,2	**4.20.1**	**a)**	iii) ISAF liferafts manufactured before 2016 until replacement is due at end of service life; or
MoMu1,2	**4.20.1**	**a)**	iv) ORC liferafts manufactured before 2003 until replacement is due at end of service life

MoMu0	4.20.1	b)	A sufficient number of liferafts so that in the event of any one liferaft being lost or rendered unserviceable, sufficient aggregate capacity remains for all crewmembers
MoMu0	4.20.1	c)	Liferafts shall comply with SOLAS LSA code 1997 Chapter IV or later version
	4.20.2		**Minimum Liferaft Equipment**
MoMu0,1,2	4.20.2	a)	A SOLAS liferaft shall contain as a minimum a SOLAS A pack;
MuMo1	4.20.2	b)	An ISO 9650 liferaft shall contain as a minimum Pack 1 (greater than 24 hour pack);
MuMo2	4.20.2	c)	An ISO 9650 liferaft shall contain as a minimum Pack 2 (less than 24 hour pack);
MoMu1,2	4.20.2	d)	The minimum contents of the ISO liferaft equipment packs are listed below. Not all items are necessarily packed within the liferaft. Some items are permitted to be carried within an accompanying waterproof grab bag which shall be in a readily accessible location:
	*Drinking water in the grab bag (if any) may be replaced with a desalinator device		
	4.20.3		**Liferaft Packing and Stowage**
MoMu0,1,2	4.20.3	a)	Each liferaft shall be packed either in:-
MoMu0,1,2	4.20.3	a)	i) a rigid container securely stowed on the working deck, in the cockpit or in an open space; or:-
MoMu0,1,2	4.20.3	a)	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
MoMu1,2	4.20.3	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
MoMu0,1,2	4.20.3	c)	On a multihull or on a monohull with moveable ballast the liferaft shall be readily deployable whether or not the boat is inverted
MoMu0,1,2	4.20.3	d)	The end of each liferaft painter should be securely fastened to the boat
MoMu0,1,2	4.20.3	e)	Each raft shall be capable of being got to the lifelines or launched within 15 seconds
	4.20.4		Spare Number
MoMu0,1,2	4.20.5		**Liferaft Servicing**
MoMu0,1,2	4.20.5	a)	A liferaft shall be serviced at a manufacturer authorized service station at the following maximum intervals:
MoMu0,1,2	4.20.5	a)	i) SOLAS liferafts annually
MoMu0,1,2	4.20.5	a)	ii) ISO 9650 canister packed liferafts every 3 years
MoMu0,1,2	4.20.5	a)	iii) ISO 9650 valise packed liferafts every 3 years except that hired liferafts shall be serviced annually
MoMu0,1,2	4.20.5	a)	iv) ISAF liferafts annually
MoMu0,1,2	4.20.5	a)	v) ORC liferafts annually
MoMu0,1,2	4.20.5	b)	Servicing certificates (original or a copy) on board
	4.21		**Grab Bags**
Mo3Mu3,4	4.21		Either a watertight compartment or a grab bag, readily accessible whether or not the boat is inverted, with the following minimum contents:
Mo3Mu3,4	4.21	a)	a watertight hand-held marine VHF transceiver with spare batteries
Mo3Mu3,4	4.21	b)	a watertight flashlight with spare batteries and bulb
Mo3Mu3,4	4.21	c)	3 red hand flares
Mo3Mu3,4	4.21	d)	a watertight strobe light with spare batteries
Mo3Mu3,4	4.21	e)	a knife
**	4.21	f)	If a grab bag is provided it shall have inherent flotation, at least 0.1 m^2 (1 ft^2) area of fluorescent orange colour on the outside, shall be marked with the name of the boat, and shall have a lanyard and clip
	4.22		**Crew Overboard Identification and Recovery**
	4.22.1		**Locator Beacons**
MoMu0	4.22.1	a)	A PLB (Personal Locator Beacon) equipped with 406Mhz and 121.5Mhz for each crew member
MoMu0,1,2	4.22.1	b)	An AIS personal crew overboard beacon for each crew member

MoMu0	4.22.1	c)	A personal unit in addition to the PLB in OSR 4.22.1 b) if the location device carried by the boat in accordance with OSR 3.29.07 requires it;
MoMu0,1,2	4.22.1	d)	Where possible every PLB shall be registered with the appropriate authority associated with the country code in the hexadecimal identification (15 Hex ID) of the beacon. A beacon can be registered online with the Cospas-Sarsat IBRD if the country does not provide a registration facility and the country has allowed direct registration in the IBRD
	4.22.2		GPS Crew Overboard Position
MoMu0	4.22.2	a)	A GPS capable of recording a crew overboard position, within 10 seconds, and monitoring that position, and
MoMu0	4.22.2	b)	connected to an emergency button immediately accessible to a helmsman which will sound an audible alarm in the accommodation and simultaneously send an appropriate signal to the GPS
MoMu1,2	4.22.2	c)	A GPS capable of recording a crew overboard position, within 10 seconds, and monitoring that position
MoMu3,4	4.22.3		a lifebuoy with a self-igniting light, a whistle and a drogue within reach of the helmsman and ready for immediate use
MoMu0,1,2	4.22.3		a lifebuoy with a self-igniting light, a whistle and a drogue
MoMu0,1,2	4.22.4		In addition to 4.22.3 above, within reach of the helmsman and ready for immediate use, a second lifebuoy equipped with:
MoMu0,1,2	4.22.4	a)	a whistle, a drogue, a self-igniting light and
MoMu0,1,2	4.22.4	b)	a pole and flag. The pole shall be either permanently extended or be capable of being fully automatically extended
MoMu0	4.22.4	c)	Each lifebuoy shall be equipped with a sachet of fluorescein dye
MoMu0,1,2	4.22.5		At least one lifebuoy shall depend entirely on permanent buoyancy (e.g. foam)
**	4.22.6		Each inflatable lifebuoy and any automatic device shall be tested and serviced at intervals in accordance with its manufacturer's instructions
**	4.22.7		A heaving line, no less than 6 mm (1/4")diameter, 15 - 25 m (50 - 75') long, readily accessible to cockpit
MoMu0,1,2,3	4.22.8		A recovery sling which includes a:
MoMu0,1,2,3	4.22.8	a)	buoyant line of length no less than the shorter of 4 times LH or 36m (120')
MoMu0,1,2,3	4.22.8	b)	buoyancy section (horseshoe) with no less than 90 N (20#) buoyancy
MoMu0,1,2,3	4.22.8	c)	minimum strength capable to hoist a crewmember aboard
	4.23		**Pyrotechnic and Light Signals**
**	4.23.1		Pyrotechnic signals shall be provided conforming to SOLAS LSA Code Chapter III Visual Signals and not older than the stamped expiry date (if any) or if no expiry date stamped , not older than 4 years.

Race Category	Red Hand Flares LSA III 3.2	Orange Smoke LSA III 3.3
MoMu0,1,2,3	4	2
MoMu4		2

	4.24		Spare Number
	4.25		**Cockpit Knife**
**	4.25.1		strong, sharp knife, sheathed and securely restrained shall be provided readily accessible from the deck or a cockpit
	4.26		**Storm & Heavy Weather Sails**
	4.26.1		**Design**
MoMu1,2			
**	4.26.1	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)
**	4.26.1	b)	Aromatic polyamides, carbon and similar fibres shall not be used in a trysail or storm jib but HMPE and similar materials are permitted



**	4.26.1	c)	Sheeting positions on deck for each storm and heavy-weather sail
**	4.26.1	d)	Sheeting positions for the trysail independent of the boom
	4.26.2		**Sail Areas**
**	4.26.2		The maximum area of storm and heavy weather sails shall be lesser of the areas below or as specified by the boat designer or sailmaker.
MoMu0,1,2,3	4.26.2	a)	**A heavy-weather jib (or heavy-weather sail in a boat with no forestay) with:**
**	4.26.2	a)	i) area of 13.5% height of the foretriangle squared
**	4.26.2	a)	ii) readily available means, independent of a luff groove, to attach to the stay
MoMu0,1,2	4.26.2	b)	**A storm jib with:**
MoMu0,1,2	4.26.2	b)	i) area of 5% height of the foretriangle squared
MoMu0,1,2	4.26.2	b)	i) area of 13.5% height of the foretriangle squared
MoMu0,1,2	4.26.2	b)	iii) permanently attached means, independent of a luff groove, to attach to the stay
**	4.26.2	c)	For sails made after 2011: Storm and heavy weather jib areas calculated as: (0.255 x luff length x (luff perpendicular + 2 x half width))
MoMu0,1,2	4.26.2	d)	**A storm trysail with:**
MoMu0,1,2	4.26.2	d)	i) area of 17.5% mainsail hoist (P) x mainsail foot length (E)
MoMu0,1,2	4.26.2	d)	ii) For sails made after 2011:The storm trysail are calculated as (0.5 x leech length x shortest distance between tack point and leech)
MoMu0,1,2	4.26.2	d)	iii) no headboard
MoMu0,1,2	4.26.2	d)	iv) no battens
MoMu0,1,2	4.26.2	d)	v) sail number and letters on both sides, as large as practicable

MoMu0,1,2	4.26.2	d)	vi) 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
	4.26.3		**Sail Inventory**
MoMu1,2	4.26.3	e)	i) either a storm trysail as defined in OSR 4.26.2 d), or mainsail reefing to reduce the luff by at least 50% (or rotating wing mast if suitable)
MoMu3	4.26.3	e)	ii) either a storm trysail as defined in OSR 4.26.2 d), or mainsail reefing to reduce the luff by at least 40% (or rotating wing mast if suitable)
MoMu4	4.26.3	e)	iii) either mainsail reefing to reduce the luff by 12.5% or a heavy-weather jib as defined in 4.26.2 a) (or heavy-weather sail in a boat with no forestay)
	4.27		**Drogue, Sea Anchor**
MoMu0	4.27.1		A drogue for deployment over the stern, or a sea anchor or parachute anchor for deployment at the bow, complete with all necessary gear (see Appendix K)
	4.28		**Spare Number**
	4.29		**Deck Bags**
Mo0	4.29.1		If permitted by the Notice of Race, Sailing Instructions or Class Rules, bags for storing sails on deck shall be:
Mo0	4.29.1	a)	so constructed to ensure rapid draining of water
Mo0	4.29.1	b)	securely fastened in such a way that the integrity of deck fittings e.g. stanchions and lifelines, is not compromised
	4.30		**Emergency Pumps**
Mo0,1,2	4.30.1		either fixed or portable pump to remove ingress water from any compartment.
Mo0,1,2	4.30.1	a)	This pump shall:
Mo0,1,2	4.30.1	b)	have a minimum rated capacity of 200 l/min
Mo0,1,2	4.30.1	c)	be operated by battery, main engine powered or a separate engine
Mo0,1,2	4.30.1	d)	if portable electric-powered, power cables to be terminated with alligator clips
Mo0,1,2	4.30.1	e)	have sufficient hose to discharge directly overboard or into the cockpit.
Mo0,1,2	4.30.1	f)	A combination of permanently installed and portable pumps may be combined to meet the above requirement.

SECTION 5 - PERSONAL EQUIPMENT

**			Each crew member shall have:
	5.01		**Lifejacket**
**	5.01.1		A lifejacket which shall:
**	5.01.1	a)	i) if manufactured before 2012 comply with ISO 12402 - 3 (Level 150) or equivalent, including EN 396 or UL 1180 and:
**	5.01.1	a)	i) if inflatable have a gas inflation system
**	5.01.1	a)	i) have crotch/thigh straps (ride up prevention system (RUPS))
MoMu0,1,2	5.01.1	a)	i) have an integral safety harness in compliance with OSR 5.02
**	5.01.1	a)	ii) if manufactured after 2011 comply with ISO 12402-3 (Level 150) and be fitted with a whistle, lifting loop, reflective material automatic/manual gas inflation system
**	5.01.1	a)	ii) crotch/thigh straps (ride up prevention system (RUPS))
MoMu0,1,2	5.01.1	a)	ii) an integral safety harness in compliance with OSR 5.02
MoMu0,1,2,3	5.01.1	b)	have an emergency position indicating light in accordance with either ISO 12402-8 or SOLAS LSA code 2.2.3
**	5.01.1	c)	be clearly marked with the boat's or wearer's name
MoMu0,1,2,3	5.01.1	d)	have a sprayhood in accordance with ISO 12402-8
MoMu0	5.01.1	e)	have a PLB unit (as with other types of EPIRB, should be properly registered with the appropriate authority)

MoMu0,1,2,3	5.01.2		A boat shall carry at least one gas inflatable lifejacket spare cylinder and, if appropriate, spare activation head for each type of lifejacket on board.
MoMu0,1,2	5.01.3		A boat shall carry at least one spare lifejacket as required in OSR 5.01.1, except a PLB described in 5.01.1
**	5.01.4		The person in charge shall personally check each lifejacket at least once annually.
	5.01.5		RORC Prescription: A combined harness and lifejacket shall be worn when on deck:
MoMu0,1,2,3	5.01.5	a)	between the hours of sunset and sunrise
MoMu0,1,2,3	5.01.5	b)	when alone on deck
MoMu0,1,2,3	5.01.5	c)	when reefed
MoMu0,1,2,3	5.01.5	d)	when the true wind speed is 25 knots or above
MoMu0,1,2,3	5.01.5	e)	when the visibility is less than 1 nautical mile
	5.02		**Safety Harness and Tethers**
MoMu0,1,2,3	5.02.1		A harness that complies with ISO 12401 or equivalent
	5.02.2		A tether that shall:
MoMu0,1,2,3	5.02.2	a)	comply with ISO 12401 or equivalent
MoMu0,1,2,3	5.02.2	b)	not exceed 2 m (6'-6") including the length of the hooks
	5.02.2	c)	have self-closing hooks
MoMu0,1,2,3	5.02.2	d)	have overload indicator flag embedded in the stitching
MoMu0,1,2,3	5.02.2	e)	be manufactured after 2000
MoMu0,1,2,3	5.02.3		All of the crew shall have either:
MoMu0,1,2,3	5.02.3	a)	a tether not exceeding 1m(3'3") including the length of the hooks, or
MoMu0,1,2,3	5.02.3	b)	an intermediate self-closing hook on a 2 m (6'-6") tether
MoMu0	5.02.3	c)	a boat shall carry spare harnesses and tethers as required in OSR 5.02 above sufficient for at least 10% of the crewmembers (minimum one unit)
MoMu0,1,2,3	5.02.4		A tether which has been overloaded shall be replaced
	5.03		**Personal Location Lights**
MoMu0	5.03.1		Two packs of miniflares or two personal location lights (either SOLAS or strobe): one to be attached to, or carried on, the person when on deck at night
	5.04		**Foul Weather Suits**
MoMu0	5.04	a)	A foul weather suit with hood
	5.05		**Knife**
MoMu0	5.05.1		A knife, to be worn on the person at all times
	5.06		**Flashlight**
MoMu0	5.06.1		A buoyant watertight flashlight
MoMu0,1,2,3	5.06.2		RORC Prescription: at night, each crew member shall carry a waterproof torch/light
	5.07		**Survival Equipment**
MoMu0	5.07.1		an immersion suit (attention is drawn to EN ISO 15027-1 constant wear suits, and EN ISO 15027-2 abandonment suits and the LSA Code Chapter II, 2,3);
	5.08		**Diving Equipment**
MoMu0	5.08.1		The boat shall have at least two diving suits each to cover the entire body and including gloves, fins and portable air supplies

SECTION 6 - TRAINING

MoMu0	6.01.1	Every member of a crew including the Person in Charge shall have undertaken training within the five years before the start of the race in OSR 6.02 Training Topics
MoMu0,1,2	6.01.2	At least 30% but not fewer than two members of a crew, including the Person in Charge shall have undertaken training within the five years before the start of the race in OSR 6.02 Training Topics
MoMu3	6.01.3	When there are only two crewmembers, at least one shall have undertaken training within the five years before the start of the race in OSR 6.02 Training Topics

MoMu0,1,2	**6.01.4**		Except as otherwise provided in the Notice of Race, an in-date certificate gained at a World Sailing/ISAF Approved Offshore Personal Survival Training course shall be accepted by a race organizing authority as evidence of compliance with Special Regulation 6.01. See Appendix G - Model Training Course, for further details.
	6.02		**Training Topics**
	6.02.1		Giving Assistance to Other Craft
	6.02.2		Personal Safety Gear, theory and practice
	6.02.3		Care and Maintenance of Safety Gear
	6.02.4		Fire Precautions and Firefighting, theory and practical
	6.02.5		Crew Overboard Identification and Recovery
	6.02.6		Hypothermia, Cold Shock and Drowning
	6.02.7		Crew Health
	6.02.8		Marine Weather
	6.02.9		Heavy Weather
	6.02.10		Storm Sails
	6.02.11		Damage Control
	6.02.12		Damage Control
	6.02.13		Pyrotechnics and Signalling Gear, theory and practical
	6.02.14		Emergency Communications, theory and practical
	6.02.15		Liferafts and Abandon Ship, theory and practical
	6.03		**Spare Number**
	6.04		**Routine Training On-Board**
**	**6.04**		At least annually the crews shall practice the drills for:
**	**6.04**		Crew-Overboard Recovery
**	**6.04**		Abandonment of vessel
	6.05		**Medical Training**
MoMu0	**6.05.1**		At least one crewmember shall have a valid STCW A-VI/4-2 (Proficiency In Medical Care) certificate or equivalent
MoMu0	**6.05.2**		In addition to 6.05.1 another crewmember shall have a valid first aid certificate completed within the last five years meeting:
MoMu1	**6.05.2**		At least two crewmembers shall have a valid first aid certificate completed within the last five years meeting:
MoMu2	**6.05.2**		At least one crewmember shall have a valid first aid certificate completed within the last five years meeting:
MoMu0,1,2	**6.05.2**	a)	A certificate listed on the World Sailing website www.sailing.org/specialregs of MNA recognised courses
MoMu0,1,2	**6.05.2**	b)	STCW First Aid Training complying with A-VI/1-3 - Elementary First Aid or higher STCW level
MoMu3,4	**6.05.3**		At least one member of the crew shall be familiar with First Aid procedures, hypothermia, drowning, cardio-pulmonary resuscitation and relevant communications systems
	6.06		**Diving Training**
MoMu0	**6.06.1**		At least 30% of the crew shall have received appropriate diving training to enable them to carry out basic repairs underwater and to provide assistance if necessary in recovery of a crew overboard.

APPENDICES TO SPECIAL REGULATIONS

Appendix A - Moveable and Variable Ballast
Appendix B - For Inshore Racing
Appendix C - For Inshore Dinghy Racing
Appendix D - A guide to ISO and other Standards
Appendix E - World Sailing Code for the organisation of Oceanic Races
Appendix F - Standard Inspection Card
Appendix G - Model Training Course
Appendix H - Model First Aid Training Course
Appendix J - Hypothermia
Appendix K - Drogues and Sea Anchors
Appendix L - Model Keel and Rudder Inspection Procedure

RORC PRESCRIPTIONS TO THE WORLD SAILING OFFSHORE SPECIAL REGULATIONS

Mu2,3,4	**3.07.3**		Replace OSR 3.07.3 with:
			Multihulls shall have escape hatch(es) as detailed in OSR 3.07.2
**	**4.01.2**		Amend to read: After the start when sail numbers are not displayed elsewhere (sails down) they shall be displayed on the port quarter. It is particularly important that all vessels can be easily identified so that they can be excluded from any search and rescue operation.
**	**4.07**		Add to 4.07
	4.07	e)	a floating waterproof torch for use in the event of man overboard at night, which can be thrown into the sea as a marker.
MoMu0,1,2,3	**5.01.5**		A combined harness and lifejacket shall be worn when on deck:
MoMu0,1,2,3	**5.01.5**	a)	between the hours of sunset and sunrise
MoMu0,1,2,3	**5.01.5**	b)	when alone on deck
MoMu0,1,2,3	**5.01.5**	c)	when reefed
MoMu0,1,2,3	**5.01.5**	d)	when the true wind speed is 25 knots or above
MoMu0,1,2,3	**5.01.5**	e)	when the visibility is less than 1 nautical mile
MoMu0,1,2,3	**5.06.2**		at night, each crew member shall carry a waterproof torch/light.

APPENDIX 2 WORLD SAILING INSHORE SPECIAL REGULATIONS

Special Regulations for inshore racing are intended for use in short races, close to shore in relatively warm and protected waters where adequate shelter and/or effective rescue is available all along the course, held in daylight only.

All the items relevant to Special Regulations for inshore racing are included in World Sailing Offshore Special Regulations Appendix B, shown below.

Part A Basic

The following regulations shall be observed:-

1.02 **Responsibility of Person in Charge**

1.02.1 Under RRS 4 the responsibility for a boat's decision to participate in a race or continue racing is hers alone. The safety of a boat and her crew is the sole and inescapable responsibility of the Person in Charge who shall do his best to ensure that the boat is fully found, thoroughly seaworthy and manned by an experienced and appropriately trained crew who are physically fit to face bad weather. The person in charge shall also assign a person to take over his/her responsibilities in the event of his/her incapacitation.

2.03.1 All equipment required by OSR 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.

3.02 **Watertight Integrity of a Boat**

A boat shall be essentially watertight and all openings shall be capable of being immediately secured. Centreboard, 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.

Part B Portable Equipment

The following shall be provided:

3.23 one strong bucket with a lanyard and of at least 9 litres (2.4 US Gal) capacity

3.24 one compass (a hand-held is acceptable)

4.05 one fire extinguisher required if electrical system, engine or stove on board

4.06 one anchor

4.22 a lifebuoy with a drogue

4.22.5 A heaving line, no less than 6 mm (1/4") diameter, 15 - 25 m (50 - 75') long, readily accessible to cockpit

4.25 A strong, sharp knife, sheathed and securely restrained shall be provided readily accessible from the deck or a cockpit.

5.01.1 each crew member shall have:

A personal flotation device which shall:

a) be equipped with a whistle

c) clearly marked with yacht's or wearer's name

d) if inflatable, regularly checked for air retention,

Unless otherwise specified by a boat's applicable class rules or by sailing instructions, personal flotation devices shall have at least 150N buoyancy, arranged to securely suspend an unconscious man face upwards at approximately 45 degrees to the water surface.