



OFFSHORE SPECIAL REGULATIONS



Extracts for Category 4 Monohulls

including
Sail Canada
prescriptions

2015

Version - February 5, 2015

Lake Ontario Offshore Racing Special Regulations Certificate

- Please note that this document outlines safety requirements applicable to Lake Ontario Offshore Racing events based on ISAF Offshore Special Regulations and includes Sail Canada and Lake Ontario Offshore Racing prescriptions.
- The owner and the person in charge maintain the complete and unlimited responsibility to have the boat comply with all of the requirements set out in the Lake Ontario Offshore Special Regulations at the start of the race.
- This document only addresses items over and above government requirements; we encourage owners to arrange for a separate courtesy inspection by their local safe boating authority to ensure minimum government requirements are met.
- A completed and signed copy of this card should be given to the race committee prior to the skippers meeting.

Yacht Name	
Sail Number	
Yacht Club	
Number of Crew	

IMPORTANT A sailboat may be inspected at any time during the period from the Mandatory Participants' Meeting until three hours after her finish. The Race Committee may, at the finish of the race, direct a sailboat to proceed directly to a designated location at Port Credit Yacht Club. A boat which fails to follow such directions or which subsequently fails the inspection may be protested by the Race Committee.

"I hereby declare that I am the owner or person in charge and that I have read and understood Special Regulations and in particular 1.02.1, 1.02.2, and 1.02.3 (Responsibility of Person in Charge)"

Signed _____

Printed Name _____

Date _____

ISAF OFFSHORE SPECIAL REGULATIONS

JANUARY 2014 - DECEMBER 2015

www.sailing.org/specialregs

Extract for Race Category 4 Monohulls

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all amendments from 2003 © International Sailing Federation, (IOM) Ltd.

Including Sail Canada Prescriptions

<http://www.sailing.ca/racing>

Because this is an extract not all paragraph numbers will be present

Amedments

Feb 5, 2015 – 3.14.6 c) Vinyl lifelines

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

Official interpretations of Sail Canada prescriptions shall take precedence over these prescriptions and will be indexed, numbered, dated and displayed on the Sail Canada web page.

http://www.sailing.ca/racing/offshore_racing_and_regulations/special_regulations

Language & Abbreviations Used

Mo - Monohull

Mu - Multihull

" ** " means the item applies to all types of yacht in all Categories except 5 for which see Appendix J or 6 for which see Appendix L.

Guidance notes and recommendations are in italics

Sail Canada prescriptions are printed in blue bold

Sail Canada guidance notes and recommendations are printed in blue bold, italics

LOOR prescriptions are printed in red bold

LOOR guidance notes and recommendations are printed in red bold, italics

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

Administration

The Offshore Special Regulation are administered by the ISAF Special Regulation Sub-Committee whose terms of reference are as follows: (www.sailing.org/regulations)

ISAF Regulation 6.8.8.3 - The Special Regulations Sub-Committee shall:

- (a) be responsible for the maintenance, revision and changes to the ISAF Offshore Special Regulations governing offshore racing, under licence from ORC Ltd. Such changes shall be biennial with revised editions published in January of each even year, except that matters of an urgent nature affecting safety may be dealt with by changes to the Regulations on a shorter time scale;*
- (b) monitor developments in offshore racing relative to the standards of safety and seaworthiness.*

Any queries regarding Sail Canada prescriptions please email: offshore@sailing.ca



SECTION 1 - FUNDAMENTAL AND DEFINITIONS

1.01 Purpose and Use

- 1.01.1 It is the purpose of these Special Regulations to establish uniform minimum equipment, accommodation and training standards for monohull and multihull yachts racing offshore. A Proa is excluded from these regulations.
- 1.01.2 These Special Regulations do not replace, but rather supplement, the requirements of governmental authority, the Racing Rules and the rules of Class Associations and Rating Systems. The attention of persons in charge is called to restrictions in the Rules on the location and movement of equipment.
- 1.01.3 These Special Regulations, adopted internationally, are strongly recommended for use by all organizers of offshore races. Race Committees may select the category deemed most suitable for the type of race to be sailed.

1.02 Responsibility of Person in Charge

1.02.1 The safety of a yacht and her crew is the sole and inescapable responsibility of the person in charge who must do his best to ensure that the yacht is fully found, thoroughly seaworthy and manned by an experienced crew who have undergone appropriate training and are physically fit to face bad weather. He must be satisfied as to the soundness of hull, spars, rigging, sails and all gear. He must 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. He shall also nominate a person to take over the responsibilities of the Person in Charge in the event of his incapacitation.

1.02.2 Neither the establishment of these Special Regulations, their use by race organizers, nor the inspection of a yacht under these Special Regulations in any way limits or reduces the complete and unlimited responsibility of the person in charge.

1.02.3 Decision to race -The responsibility for a yacht's decision to participate in a race or to continue racing is hers alone - RRS Fundamental Rule 4.

1.03 Definitions, Abbreviations, Word Usage

1.03.1 Definitions of Terms used in this document

TABLE 1

Age Date	Month/year of first launch
AIS	Automatic Identification Systems
CEN	Comité Européen de Normalisation
CPR	Cardio-Pulmonary Resuscitation
Coaming	Includes the transverse after limit of the cockpit over which water would run in the event that when the yacht is floating level the cockpit is flooded or filled to overflowing.
DSC	Digital Selective Calling
EN	European Norm
EPFS	Electronic Position-Fixing System
EPIRB	Emergency Position-Indicating Radio Beacon
FA Station	The transverse station at which the upper corner of the transom meets the sheerline.
Foul-Weather Suit	A foul weather suit is clothing designed to keep the wearer dry and maybe either a jacket and trousers worn together, or a single garment comprising jacket and trousers.
GMDSS	Global Maritime Distress & Safety System
GNSS	Global Navigation Satellite System
GPIRB	EPIRB, with integral GPS position-fixing
ITU	International Telecommunications Union

GPS	Global Positioning System
Hatch	The term hatch includes the entire hatch assembly and also the lid or cover as part of that assembly (the part itself may be described as a hatch).
INMARSAT	This is Inmarsat Global Limited, the private company that provides GMDSS satellite distress and safety communications, plus general communications via voice, fax and data
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
ISAF	International Sailing Federation.
ISO	International Standard or International Organization for Standardization.
Lifeline	Rope or wire line rigged as guardrail / guardline around the deck
LOA	Length overall not including pulpits, bowsprits, boomkins etc.
LWL	(Length of) loaded waterline
Monohull	Yacht in which the hull depth in any section does not decrease towards the centre-line.
Moveable 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.
ORC	Offshore Racing Congress (formerly Offshore Racing Council)
OSR	Offshore Special Regulation(s)
Permanently Installed	Means 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
Proa	Asymmetric Catamaran
RRS	ISAF - Racing Rules of Sailing
SAR	Search and Rescue
SART	Search and Rescue Transponder
Series Date	Month & Year of first launch of the first yacht of the production series
SOLAS	Safety of Life at Sea Convention
Safety Line	A tether used to connect a safety harness to a strong point
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
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.
Static Safety Line	A safety line (usually shorter than a safety line carried with a harness) kept clipped on at a work-station
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.

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

In many types of race, ranging from trans-oceanic sailed under adverse conditions to short-course day races sailed in protected waters, seven categories are established, to provide for differences in the minimum standards of safety and accommodation required for such varying circumstances:

2.01.5 Category 4

Short races, close to shore in relatively warm or protected waters normally held in daylight.

2.02 Inspection

A yacht may be inspected at any time. If she does not comply with these Special Regulations her entry may be rejected, or she will be liable to disqualification or such other penalty as may be prescribed by the national authority or the race organizers.

2.03 General Requirements

2.03.1 All equipment required by 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 yacht.

2.03.2 Heavy items:

- a) ballast, ballast tanks and associated equipment shall be permanently installed
- b) heavy movable items including e.g. batteries, stoves, gas bottles, tanks, toolboxes and anchors and chain shall be securely fastened
- c) heavy items for which fixing is not specified in Special Regulations shall be permanently installed or securely fastened, as appropriate

2.03.3 When to show navigation lights

- a) navigation lights (OSR 3.27) shall be shown as required by the International Regulations for Preventing Collision at Sea, (Part C and Technical Annex 1). All yachts shall exhibit sidelights and a sternlight at the required times.

SECTION 3 - STRUCTURAL FEATURES, STABILITY, FIXED EQUIPMENT

3.01 Strength of Build, Ballast and Rig

Yachts shall be strongly built, watertight and, particularly with regard to hulls, decks and cabin trunks capable of withstanding solid water and knockdowns. They must be properly rigged and ballasted, be fully seaworthy and must meet the standards set forth herein. Shrouds shall never be disconnected.

3.02 Watertight Integrity of a Hull

- 3.02.1 A hull, including, deck, coach roof, windows, hatches and all other parts, shall form an integral, essentially watertight unit and any openings in it shall be capable of being immediately secured to maintain this integrity.
- 3.02.2 Centreboard and daggerboard trunks and the like shall not open into the interior of a hull except via a watertight inspection/maintenance hatch of which the opening shall be entirely above the waterline of the yacht floating level in normal trim.
- 3.02.3 A canting keel pivot shall be completely contained within a watertight enclosure which shall comply with OSR 3.02.2. Access points in the watertight enclosure for control and actuation systems or any other purpose shall comply with OSR 3.02.1.
- 3.02.4 Moveable ballast systems shall be fitted with a manual control and actuation secondary system which shall be capable of controlling the full sailing load of the keel in the event of failure of the primary system. Such failures would include electrical and hydraulic failure and mechanical failure of the components and the structure to which it mounts. 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.

3.03 Hull Construction Standards (Scantlings)

* or as from time to time specified by ISAF

3.03.5 *Regular inspection of the keel and keel/hull attachment structure are strongly recommended*

3.04 Stability - Monohulls

- 3.04.2 A yacht shall be designed and built to resist capsize.
- 3.04.5 *A race organizer should require compliance with a minimum stability rule or suitable stability standard. **Sail Canada Note: STIX no less than 14 and AVS no less than 90°; or failing that SSS Base Value no less than 10, may be used as guidelines.***
- 3.04.6 *Use of the ISO or any other index does not guarantee total safety or total freedom of risk from capsize or sinking.*
- 3.04.7 For boats with moveable or variable ballast the method in OSR 3.04.4 shall apply plus the relevant additional requirement of OSR Appendix K.
- 3.04.8 Tanks for variable ballast shall be permanently installed 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.
- 3.04.9 *A boat fitted with moveable and/or variable ballast shall have a maximum static heel angle in the condition of Light Craft Condition (see ISO 12217-2) with moveable ballast moved fully to one side and variable ballast in the condition that produces maximum angle of heel of not greater than 35 degrees.*

3.06 Exits - Monohulls

- 3.06.1 Yachts of LOA of 8.5 m (28 ft) and over with age or series date of January 1995 and after shall have at least two exits. At least one exit shall be located forward of the foremost mast except where structural features prevent its installation.
- 3.06.2 Yachts first launched on or after January 2014 shall have a hatch with the following minimum clear openings in compliance with ISO 9094:
- Circular shape: diameter 450mm;
 - Any other shape: minimum dimension of 380mm and minimum area of 0.18m². The dimension must be large enough to allow for a 380mm diameter circle to be inscribed.
- The measurement of the minimum clear opening is illustrated in Figure 1.

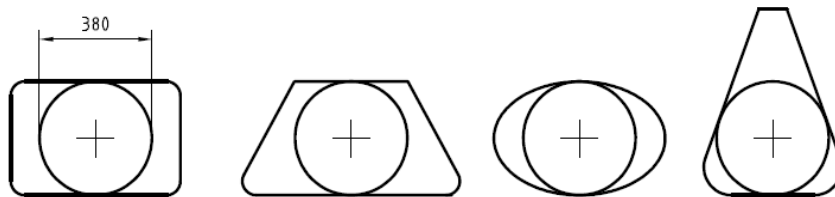


Figure 1 — Measurement of minimum clear opening

- 3.06.3 *when first launched prior to January 2014, if possible have each escape hatch in compliance with the dimensions in OSR 3.07.2(a)(ii);*
- ### 3.08 Hatches & Companionways
- 3.08.1 No hatch forward of the maximum beam station, other than a hatch in the side of a coachroof, shall open in such a way that the lid or cover moves into the open position towards the interior of the hull (excepting ports having an area of less than 0.071m² (110 sq in)).
- 3.08.2 A hatch fitted forward of the maximum beam station, located on the side of the coachroof, opening into the interior of the boat, and of area greater than 0.071m² shall comply with ISO12216 design category A and be clearly labelled and used in accordance with the following instruction: "NOT TO BE OPENED AT SEA" Attention is drawn to SR 3.02.1
- 3.08.3 A hatch shall be:
- a) 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. A yacht may have a maximum of four (two on each side of centerline) hatches that do not conform to this requirement, provided that the opening of each is less than 0.071 sq m (110 sq in). Effective for boats of a series begun after January 1, 2009, a written statement signed by the designer or other person who performed the downflooding analysis shall be carried on board. For purposes of this rule the vessel's displacement condition for the analysis shall be the Light Craft Condition LCC (in conformity with 6.3 of the EN ISO 8666 standard and 3.5.1 of the EN ISO12217-2 standard).

- b) permanently attached
 - c) capable of being firmly shut immediately and remaining firmly shut in a 180 degree capsized (inversion)
- 3.08.4 A companionway hatch shall:
- a) be fitted with a strong securing arrangement which shall be operable from the exterior and interior including when the yacht is inverted
 - b) have any blocking devices
 - i) capable of being retained in position with the hatch open or shut
 - ii) whether or not in position in the hatchway, secured to the yacht (e.g. by lanyard) for the duration of the race, to prevent their being lost overboard
 - iii) permit exit in the event of inversion
- 3.08.5 If the companionway extends below the local sheerline and the boat has a cockpit opening aft to the sea the boat shall comply with one of the following:
- a) the companionway sill shall not extend below the local sheerline. Or
 - b) be in full compliance with all aspects of ISO 11812 to design category A
- 3.08.6 For boats with a cockpit closed aft to the sea where the companionway hatch extends below the local sheerline, the companionway shall be capable of being blocked off up to the level of the local sheerline, provided that the companionway hatch shall continue to give access to the interior with the blocking devices (e.g. washboards) in place

3.09 Cockpits - Attention is Drawn to ISO 11812

- 3.09.1 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.
- 3.09.2 Cockpits must be essentially watertight, that is, all openings to the hull must be capable of being strongly and rigidly secured
- 3.09.3 A bilge pump outlet pipe shall not be connected to a cockpit drain. See OSR 3.09.8 for cockpit drain minimum sizes
- 3.09.4 A cockpit sole shall be at least 2% LWL above LWL (or in IMS yachts first launched before 1/03, at least 2% L above LWL)
- 3.09.5 A bow, lateral, central or stern well shall be considered a cockpit for the purposes of OSR 3.09
- 3.09.6 In cockpits opening aft to the sea structural openings aft shall be not less in area than 50% maximum cockpit depth x maximum cockpit width.

3.09.7 Cockpit Volume

- i) earliest of age or series date before April 1992
the total volume of all cockpits below lowest coamings shall not exceed 9% (LWL x maximum beam x freeboard abreast the cockpit).
- ii) earliest of age or series date April 1992 and after
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
IMS measured boats may instead of the terms LWL, maximum beam, freeboard abreast the cockpit, use the IMS terms L, B and FA.

3.09.8 Cockpit Drains

- See OSR 3.09.1. Cockpit drain cross section area (after allowance for screens if fitted) shall be:-
- a) in yachts with earliest of age or series date before 1/72 or in any yacht under 8.5m (28ft) LOA - at least that of 2 x 25mm diameter (one inch) unobstructed openings or equivalent
 - b) in yachts with earliest of age or series date 1/72 and later - at least that of 4 x 20mm diameter (3/4 inch) unobstructed openings or equivalent

3.10 Sea Cocks or Valves

Sea cocks or valves shall be permanently installed on all through-hull openings below the waterline except integral deck scuppers, speed indicators, depth finders and the like, however a means of closing such openings shall be provided.

3.11 Sheet Winches

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

3.12 Mast Step

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

3.14 Pulpits, Stanchions, Lifelines

3.14.2 Lifeline deflection shall not exceed the following:

- a) When a deflecting force of 40N is applied to a lifeline midway between supports of an upper or single lifeline, the lifeline shall not deflect more than 50mm. This measurement shall be taken at the widest span between supports that are aft of the mast.
- b) When a deflecting force of 40N is applied to a lifeline midway between supports of an intermediate lifeline of all spans that are aft of the mast, deflection shall not exceed 120mm from a straight line between the stanchions.

3.14.3 The following shall be provided:

- a) a bow pulpit with vertical height and openings essentially conforming to Table 7. Bow pulpits may be open but the opening between the pulpit and any part of the boat shall never be greater than 360mm (14.2") (this requirement shall be checked by presenting a 360mm (14.2") circle inside the opening)

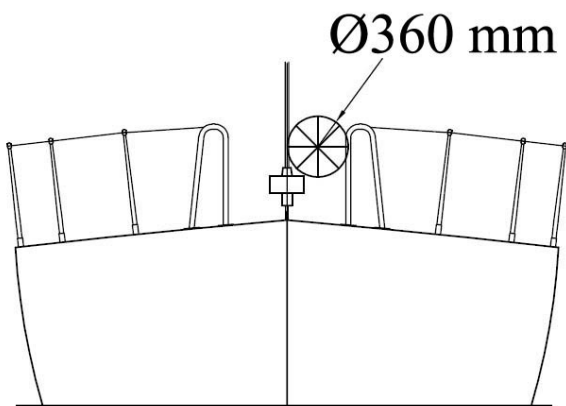


Figure 2 – Diagram Showing Pulpit Opening

- b) a stern pulpit, or lifelines arranged as an adequate substitute, with vertical openings conforming to Table 7
- c) lifelines (guardlines) supported on stanchions, which, with pulpits, shall form an effectively continuous barrier around a working deck for man-overboard prevention. Lifelines shall be permanently supported at intervals of not more than 2.20m (86.6") and shall not pass outboard of supporting stanchions
- d) upper rails of pulpits at no less height above the working deck than the upper lifelines as in Table 7.
- e) Openable upper rails in bow pulpits shall be secured shut whilst racing
- f) Pulpits and stanchions shall be permanently installed. When there are sockets or studs, these shall be through-bolted, bonded or welded. The pulpit(s) and/or stanchions fitted to these shall be mechanically retained without the help of the life-lines. Without sockets or studs, pulpits and/or stanchions shall be through-bolted, bonded or welded.
- g) The bases of pulpits and stanchions shall not be further inboard from the edge of the appropriate working deck than 5% of maximum beam or 150 mm (6 in), whichever is greater.
- h) Stanchion or pulpit or pushpit bases shall not be situated outboard of a working deck. For the purpose of this rule the base shall be taken to include a sleeve or socket into which the tube is fitted but shall exclude a baseplate which carries fixings into the deck or hull.
- i) Provided the complete lifeline enclosure is supported by stanchions and pulpit bases effectively within the working deck, lifeline terminals and support struts may be fixed to a hull aft of the

- working deck
- j) Lifelines need not be fixed to a bow pulpit if they terminate at, or pass through, adequately braced stanchions set inside and overlapping the bow pulpit, provided that the gap between the upper lifeline and the bow pulpit does not exceed 150 mm (6 in).
 - k) Lifelines shall be continuous and fixed only at (or near) the bow and stern. However a bona fide gate shall be permitted in the lifelines on each side of a yacht. Except at its end fittings, the movement of a lifeline in a fore-and-aft direction shall not be constrained. Temporary sleeving in 3.14.6 (c) shall not modify tension in the lifeline.
 - l) Stanchions shall be straight and vertical except that:-
 - i) within the first 50 mm (2 in) 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 in), and
 - ii) stanchions may be angled to not more than 10 degrees from vertical at any point above 50 mm (2 in) from the deck.

m) It is strongly recommended that designs also comply to ISO 15085

3.14.5 Lifeline Height, Vertical Openings, Number of Lifelines

TABLE 7

LOA	earliest of age/series date	minimum requirements	Category
under 8.5 m (28 ft)	before January 1992	single lifeline at a height of no less than 450 mm (18 in) above the working deck. No vertical opening shall exceed 560 mm (22 in).	**
under 8.5 m (28 ft)	January 1992 and after	as for under 8.5 m (28 ft) in table 7 above, except that when an intermediate lifeline is fitted no vertical opening shall exceed 380 mm (15 in).	**
8.5 m (28 ft) and over	before January 1993	double lifeline with upper lifeline at a height of no less than 600 mm (24 in) above the working deck. No vertical opening shall exceed 560 mm (22 in)	**
8.5 m (28 ft) and over	January 1993 and after	as 8.5 m (28 ft) and over in Table 7 above, except that no vertical opening shall exceed 380 mm (15 in).	**
All	all	on yachts with intermediate lifelines the intermediate line shall be not less than 230 mm (9 in) above the working deck.	**

3.14.6 Lifeline Minimum Diameters, Required Materials, Specifications

- a) Lifelines shall be of :
 - stranded stainless steel wire or
 - High Modulus Polyethylene (HMPE) (Dyneema®/Spectra® or equivalent) rope (Braid on braid is recommended)
- b) The minimum diameter **of all lifelines** is specified in table 8 below.
- 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.
Vinyl coated lifelines are permitted in LOOR events. Skippers are required to remove the coating to either side of any apparent rust and verify the integrity of the lifelines; this is particularly important for older yachts with original lifelines or yachts that have been exposed to salt water in the past.
- d) *When stainless wire is used, Grade 316 is recommended.*
- e) When HMPE (Dyneema®/Spectra®) is used, it shall be spliced in accordance with the manufacturer's recommended procedures.
- f) A taut lanyard of synthetic rope may be used to secure lifelines provided the gap it closes does

not exceed 100 mm (4 in). This lanyard shall be replaced annually at a minimum.

- g) 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.

TABLE 8 – Minimum Diameters

LOA	wire	HMPE rope (Single braid)	HMPE Core (Braid on braid)
Under 8.5 m (28ft)	3mm (1/8 in)	4mm (5/32 in)	4mm (5/32 in)
8.5m – 13 m	4mm (5/32 in)	5mm (3/16 in)	5mm (3/16 in)
Over 13 m (43 ft)	5mm (3/16 in)	5mm (3/16 in)	5mm (3/16 in)

3.18 Toilet

3.18.2 A toilet, permanently installed

Black water discharge is not permitted on Lake Ontario

3.19 Bunks

3.19.2 Bunks, permanently installed

3.22 Hand Holds

Adequate hand holds shall be fitted below deck so that crew members may move about safely at sea. *A hand hold should be capable of withstanding without rupture a side force of 1500N*

3.23 Bilge Pumps and Buckets

3.23.1 No bilge pump may discharge into a cockpit unless that cockpit opens aft to the sea.

3.23.2 Bilge pumps shall not be connected to cockpit drains. (OSR 3.09)

3.23.3 Bilge pumps and strum boxes shall be readily accessible for maintenance and for clearing out debris

3.23.4 Unless permanently installed, each bilge pump handle shall be provided with a lanyard or catch or similar device to prevent accidental loss

3.23.5 The following shall be provided:

e) one manual bilge pump

f) two buckets of stout construction each with at least 9 litres (2 UK gallons, 2.4 US gallons) capacity. Each bucket to have a lanyard.

3.24 Compass

3.24.1 The following shall be provided:-

a) a marine magnetic compass, independent of any power supply, permanently installed and correctly adjusted with deviation card, and

3.25 Halyards.

No mast shall have less than two halyards, each capable of hoisting a sail.

3.27 Navigation Lights (see OSR 2.03.3)

3.27.1 Navigation lights shall be mounted so that they will not be masked by sails or the heeling of the yacht.

3.27.2 Navigation lights shall not be mounted below deck level and should be at no less height than immediately under the upper lifeline.

3.27.3 Navigation light intensity

TABLE 11

LOA	<i>Guide to required minimum power rating for an electric bulb in a navigation light</i>
<i>under 12 m (39.4 ft)</i>	<i>10 W</i>
<i>12 m (39.4 ft) and above</i>	<i>25 W</i>

Sail Canada prescribes that compliance with the requirements of the Canadian version of COLREGS shall suffice in satisfying these regulations. COLREGS requirements are as follows;

Table 14

LOA	Light	Luminous	Minimum Range of Visibility
under 12 m (39.4 ft)	Side	0.9 candelas	1 mile

	Stern	4.3 candelas	2 miles
12 m (39.4 ft) and above and less than 50m (164 ft)	Side	4.3 candelas	2 miles
	Stern	4.3 candelas	2 miles

3.27.5 spare bulbs for navigation lights shall be carried, or for lights not dependent on bulbs, appropriate spares.

3.28 Engines, Generators, Fuel

3.28.1 Propulsion Engines

- a) Engines and associated systems shall be installed in accordance with their manufacturers' guidelines and shall be of a type, strength, capacity, and installation suitable for the size and intended use of the yacht.
- b) An inboard propulsion engine when fitted shall: be provided with a permanently installed exhaust, coolant, and fuel supply systems and fuel tank(s); be securely covered; and have adequate protection from the effects of heavy weather.

3.28.2 Generator

A separate generator for electricity is optional. However, when a separate generator is carried it shall be permanently installed, securely covered, and shall have permanently installed exhaust, cooling and fuel supply systems and fuel tank(s), and have adequate protection from the effects of heavy weather.

3.29 Communications Equipment, EPFS (Electronic Position-Fixing System), Radar, AIS

3.29.1 The following shall be provided:

- e) 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). *The handheld receiver should have Digital Selective Calling (DSC) and be equipped with GPS.*
- f) Independent of a main radio transceiver, a radio receiver capable of receiving weather bulletins

3.29.2 *Yachts are reminded that no reflector, active or passive, is a guarantee of detection or tracking by vessel using radar.*

- a) *The attention of persons in charge is drawn to legislation in force or imminent affecting the territorial seas of some countries in which the carriage of an AIS set is or will be mandatory for certain vessels including relatively small craft.*

SECTION 4 - PORTABLE EQUIPMENT & SUPPLIES for the yacht

4.01 Sail Letters & Numbers

4.01.1 Yachts which are not in an ISAF International Class or Recognized Class shall comply with RRS 77 and Appendix G as closely as possible, except that sail numbers allotted by a State authority are acceptable.

4.01.2 Sail numbers and letters of the size carried on the mainsail must be displayed by alternative means when none of the numbered sails is set.

4.03 Soft Wood Plugs

Soft wood plugs, tapered and of the appropriate size, shall be attached or stowed adjacent to the appropriate fitting for every through-hull opening.

4.04 Jackstays, Clipping Points and Static Safety Lines

4.04.1 *LOOR recommends the following Jackstays be provided:*

- a) *attached to through-bolted or welded deck plates or other suitable and strong anchorage fitted on deck, port and starboard of the yacht's centre line to provide secure attachments for safety harness:-*
- b) *comprising stainless steel 1 x 19 wire of minimum diameter 5 mm (3/16 in), high modulus polyethylene (such as Dyneema/Spectra) rope or webbing of equivalent strength;*
- c) *which, when made from stainless steel wire shall be uncoated and used without any sleeving;*
- d) *20kN (2,040 kgf or 4,500 lbf) min breaking strain webbing is recommended;*

4.04.2 Clipping Points:-

LOOR recommends the following Clipping Points be provided-

- a) *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:-*
- b) *which, together with jackstays and static safety lines 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 the deck and the cockpit(s) with the minimum of clipping and unclipping operations.**
- c) *The provision of clipping points shall enable two-thirds of the crew to be simultaneously clipped on without depending on jackstays*
- e) *Warning - U-bolts as clipping points - see OSR 5.02.1(a)*

4.05 Fire Extinguishers

Shall be provided as follows:

4.05.1 Fire extinguishers, at least two, readily accessible in suitable and different parts of the yacht

4.05.4 A fire blanket adjacent to every cooking device with an open flame

4.06 Anchor(s)

4.06.1 An anchor or anchors shall be carried according to the table below:

- a) 1 anchor, readily accessible

4.07 Flashlight(s) and Searchlight(s)

4.07.1 The following shall be provided:-

- a) A watertight, high-powered searchlight, suitable for searching for a person overboard at night and for collision avoidance with spare batteries and bulbs, and
- b) a watertight flashlight with spare batteries and bulb

4.08 First Aid Manual and First Aid Kit

4.08.1 A suitable First Aid Manual shall be provided

In the absence of a National Authority's requirement, the latest edition of one of the following is recommended:-

- b) *First Aid at Sea, by Douglas Justins and Colin Berry, published by Adlard Coles Nautical, London*
- c) *Le Guide de la médecine a distance, by Docteur J Y Chauve, published by Distance Assistance BP33 F-La Baule, cedex, France.*
- d) *'PAN-PAN medico a bordo' in Italian edited by Umberto Verna. www.panpan.it*
- e) *Skipper's Medical Emergency Handbook by Dr Spike Briggs and Dr Campbell Mackenzie www.msos.org.uk*

Sail Canada endorses the above and additionally recommends the following manuals: Advanced First Aid by Peter Eastman, M.D., Cornell Maritime Press and A Comprehensive Guide to Marine Medicine by Eric A. Weiss, M.D. and Michael E. Jacobs, M.D., Adventure Medical Kit.

4.08.2 A First Aid Kit shall be provided

4.08.3 The contents and storage of the First Aid Kit should reflect the guidelines of the Manual carried, the likely conditions and duration of the passage, and the number of people aboard the yacht.

4.09 Foghorn

A foghorn shall be provided

4.10 Radar Reflector

4.10.1 An octahedral passive radar reflector shall be carried with circular sector plates of minimum diameter 30 cm (12") or a reflector with a documented minimum Radar Cross Section (RCS) area of 2 m²

4.11 Navigation Equipment

4.11.1 Charts

Navigational charts (not solely electronic), light list and chart plotting equipment shall be provided

4.12 Safety Equipment Location Chart

A safety equipment location chart in durable waterproof material shall be displayed in the main accommodation where it can best be seen, clearly marked with the location of principal items of safety equipment.

4.13 Echo Sounder or Lead Line

4.13.1 An echo sounder ~~or lead line~~ shall be provided

4.16 Tools and Spare Parts

Tools and spare parts, including effective means to quickly disconnect or sever the standing rigging from the hull shall be provided.

4.17 Yacht's name

Yacht's name shall be on miscellaneous buoyant equipment, such as lifejackets, cushions, lifebuoys, lifeslings, grab bags etc.

4.18 Marine grade retro-reflective material

Marine grade retro-reflective material shall be fitted to lifebuoys, lifeslings, liferafts and lifejackets. See OSRs 5.04, 5.08.

4.22 Lifebuoys

4.22.1 The following shall be provided within reach of the helmsman and ready for instant use:

a) a lifebuoy with a self-igniting light and a drogue

4.22.3 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.

4.22.4 Each lifebuoy or lifesling shall be fitted with marine grade retro-reflective material (4.18).

4.22.5 It is recommended that the colour of each lifebuoy be a safety colour in the yellow-red range.

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.

a) No less than the following pyrotechnic signals shall be provided:

ii 4 of red hand flares LSA III 3.2

iii 2 orange smoke LSA III 3.3

4.24 Heaving Line

a) a heaving line shall be provided 15 m - 25 m (50 ft - 75 ft) length readily accessible to cockpit.

b) the "throwing sock" type is recommended - see Appendix D

4.25 Cockpit Knife

A 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

a) it is strongly recommended that persons in charge consult their designer and sailmaker to decide the most effective size for storm and heavy weather sails. The purpose of these sails is to provide safe propulsion for the yacht in severe weather - they are not intended as part of the racing inventory. The areas below are maxima. Smaller areas are likely to suit some yachts according to their stability and other characteristics.

4.26.2 Sail Inventory

a) an adequate means of reefing the mainsail by at least 30% of the luff length shall be installed (12% shall suffice if a storm jib, number 4 jib, or roller furling genoa is on board)

b) a storm jib is recommended. A furling headsail does not qualify as a storm jib. The recommended sail area should not exceed 5% of the height of the fore triangle squared and should have a luff minimum length 65% of the height of the fore triangle.

b) any storm or heavy-weather jib shall have a luff wire

SECTION 5 - PERSONAL EQUIPMENT

5.01 Lifejacket

- 5.01.1 Each crew member shall have a lifejacket as follows:-
- a)
 - i In accordance with ISO 12402 – 3 (Level 150) or equivalent, including EN 396 or UL 1180
 - ii Lifejackets manufactured after 1 January 2012 shall be in accordance with ISO 12402–3 (Level 150) and shall be fitted with:-
 - an emergency light in accordance with either ISO 12402-8 or SOLAS LSA code 2.2.3.
 - a sprayhood in accordance with ISO 12402-8.
 - a full deck safety harness in accordance with ISO 12401 (ISO 1095) including a crotch or thigh strap (holding down device) as specified in ISO 12401 (ISO 1095).
 - If of an inflatable type either
 - (a) automatic, manual and oral inflation or
 - (b) manual and oral inflation

Notes: ISO 12402 requires Level 150 lifejackets to be fitted with a mandatory whistle and retro-reflective material. Also, when fitted with a safety harness, ISO 12402 requires that this shall be the full safety harness in accordance with ISO 12401. Any equivalent lifejacket shall have equal requirements.

Persons of larger than average build are generally more buoyant than those of average build and so do not require a lifejacket with greater levels of flotation. Wearing a Level 275 lifejacket may hamper entry into liferafts.

- b) fitted with either a crotch strap(s) / thigh straps or a full safety harness in accordance with ISO 12401,

Note: The function of lifejacket crotch/thigh straps is to hold the buoyancy element down. A crew member before a race should adjust a lifejacket to fit then retain that lifejacket for the duration of the race. Correct adjustment is fundamental to the lifejacket functioning correctly.

Sail Canada strongly recommends that lifejackets meet 5.01.1 a) ii above but prescribes that vest or suspender-type lifejackets in accordance with UL 1180 are acceptable for 5.01.1 a) ii. Crotch strap(s) / thigh straps that are functionally equivalent to ISO 12401 will be accepted.

Sail Canada note – ISO 12402, while meeting OSR requirements, is not currently approved by Transport Canada.

Sail Canada note – under Transport Canada 'Safe Boating Guide' available at <http://www.tc.gc.ca/publications/EN/TP511/PDF/HR/TP511E.pdf>, page 72, non-resident boats are permitted to use lifejackets meeting the requirements of the boat's home country. While meeting TC/Coast Guard requirements, this does not waive OSR requirements.

- c) fitted with a lifejacket light in accordance with SOLAS LSA code 2.2.3 (white, >0.75 candelas, >8 hours),
- d) if inflatable have a compressed gas inflation system,
- e) if inflatable, regularly checked for gas retention,
- f) compatible with the wearer's safety harness,
- g) clearly marked with the yacht's or wearer's name,
- j) *It is strongly recommended that a lifejacket has a splashguard / sprayhood See ISO 12402 – 8,*

5.01.4 The person in charge shall personally check each lifejacket at least once annually.

5.02 Safety Harness and Safety Lines (Tethers)

5.02.6 *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. 1m safety lines or the midpoint snaphook on a 2m line should be used for this purpose. The diligent use of a properly adjusted safety harness and the shortest safety line practicable is regarded as by far the most effective way of preventing man overboard incidents.*

5.04 Foul Weather Suits

- b) *it is recommended that a foul weather suit should be fitted with marine-grade retro-reflective material, and should have high-visibility colours on its upper parts and sleeve cuffs. See OSR 4.18*

SECTION 6 - TRAINING

6.04 Routine Training On-Board

6.04.1 *It is recommended that crews should practice safety routines at reasonable intervals including the drill for man-overboard recovery*

6.05 Medical Training

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 (see OSR 6.02.7 and 6.03.3).

6.05.4 *An example model first aid training course is included in Appendix N.*