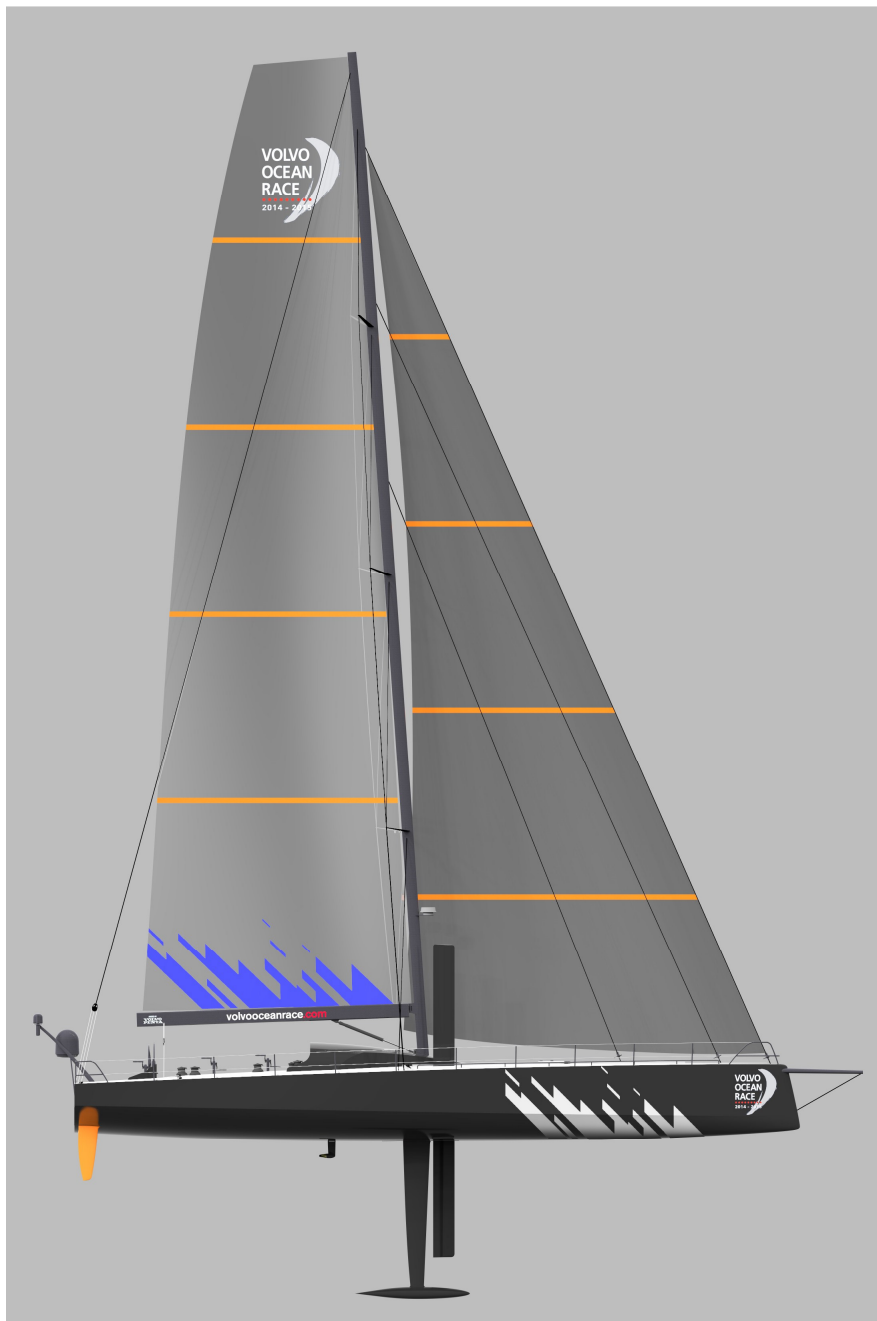


# **VOLVO OCEAN 65**

## **CLASS RULES**

### **2015**

The Volvo Ocean 65 was designed in 2012 by Farr Yacht Design, Ltd



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# INTRODUCTION

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*This introduction forms part of the Class Rules.*

*Volvo Ocean 65 hulls, hull appendages, rigs and sails are manufacturing controlled.*

*Volvo Ocean 65 hulls, hull appendages and rigs shall only be manufactured by licensed manufacturers. Equipment is required to comply with the Volvo Ocean 65 Class specification and is subject to a VOR approved manufacturing control system.*

*Volvo Ocean 65 hulls, hull appendages and rigs may, after having left the manufacturer, only be altered to the extent permitted in Section C of the class rules.*

*Rules regulating the use of equipment during a race are contained in Section C of these class rules, in ERS Part I, the Racing Rules of Sailing and the Notice of Race for or the Sailing Instructions for an event..*

PLEASE REMEMBER:

THESE RULES ARE **CLOSED CLASS RULES** WHERE IT DOES NOT SPECIFICALLY SAY THAT YOU MAY – THEN YOU SHALL NOT.

COMPONENTS, AND THEIR USE, ARE DEFINED BY THEIR DESCRIPTION.

# PART I – ADMINISTRATION

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## Section A – General

### A.1 LANGUAGE

- A.1.1 The official language of the class is English. Except for words defined herein, the meaning of any word shall be determined by reference to the Oxford English Dictionary, Second Revised Edition (2009) – CD Rom Version 4.0 (Oxford University Press 21 May 2009) or any later published version. When there is more than one definition in the Dictionary, the VCA shall determine the appropriate definition.
- A.1.2 When a term is used in **class rule** or construction specification defined sense, it is printed in underline italic type.
- A.1.3 When a term is used in Volvo Ocean Race 2017-2018 Notice of Race (NOR) defined sense, it is printed in underline type.
- A.1.4 When a term is used in the Equipment Rules of Sailing (ERS) defined sense, it is printed in **bold** type.
- A.1.5 When a term is used in the Racing Rules of Sailing (RRS) defined sense, it is printed in *italic* type.
- A.1.6 The words “shall” and “must” are mandatory. The words “may” and “can” are permissive. The word “should” is advisory.
- A.1.7 This **class rule** is a **closed rule**. Anything not specifically permitted by the **class rules** is prohibited.

### A.2 ABBREVIATIONS & DEFINITIONS

#### A.2.1 ABBREVIATIONS

|             |                                               |
|-------------|-----------------------------------------------|
| ERS         | Equipment Rules of Sailing                    |
| ISAF        | International Sailing Federation              |
| NOR         | Notice of Race                                |
| OA          | Organising Authority                          |
| RRS         | Racing Rules of Sailing                       |
| VCA         | Volvo Ocean 65 Class Authority                |
| <u>VOCA</u> | <u>Volvo Ocean 65 Class Association</u>       |
| VLB         | Volvo Ocean 65 Licensed Builder               |
| VO65        | The Volvo Ocean 65 Class of <b>boat</b>       |
| VOR         | Volvo Ocean Race S.L.U.                       |
| <u>VSS</u>  | <u>Volvo Ocean 65 Sail Supplier Agreement</u> |

#### A.2.2 DEFINITIONS

Boatyard means the Volvo Ocean Race official VO65 maintenance facility.

Construction specification means the specification compiled by the suppliers and VLB to build the VO65 as described in the Sale and

Purchase Agreement and detailed in associated documentation that defines the design, construction, assembly and quality control processes as approved by the VCA.

Owner the person or entity that has signed the Sales and Purchase Agreement or their representative. *Who is also a member of VOCA.*

Operation manual the document provided by the VLB to the VOCA which details the use and maintenance of the **boat** as necessary to maintain the validity of any warranty associated with the **boat**.

Quality Assurance Documents the document provided by the VLB to the owner which details the quality controls applied to their **boat**, including all construction issues and resolutions associated.

Race the Volvo Ocean Race 2017-2018.

### A.3 AUTHORITIES

- A.3.1 The **class rules authority** is the VCA, as appointed by VOR and approved by VOCA and ISAF.
- A.3.2 The VCA shall consist of the Volvo Ocean Race's Race Director, VO65 Class Manager, the VOR appointed **equipment inspector** and Head of the Boatyard.
- A.3.3 All decisions of the VCA shall be determined by majority vote.
- A.3.4 Only the VCA may issue or invalidate a **certificate**.
- A.3.5 All correspondence should be addressed to vca@volvooceanrace.com.

### A.4 ADMINISTRATION OF THE CLASS

- A.4.1 VOR, ISAF and VOCA have delegated their administrative functions of the class to the VCA. With the agreement of VOR the VCA may delegate part or all of its functions, as stated in these **class rules**.

### A.5 QUESTIONS

- A.5.1 An owner or the Race Committee may ask a question in writing relating to these **class rules**, the question and the answer shall be copied to VOR and each owner. The answers will not form any part of the **class rule** and are for information purposes only.

### A.6 CLASS RULES AMENDMENTS

- A.6.1 Amendments to these **class rules** may only be made by the VCA, with the approval of the VOR. Amendments may be made at any time.
- A.6.2 VOCA may seek an amendment by submitting a request in writing to the VCA, provided there is a majority agreement of the VOCA members. The VCA may seek third party opinion at its discretion to determine whether an amendment is to be made. All owners shall be given up to 14 days to make comment to the VCA unless an alternative period is requested by a member of VOCA or the VCA with reasoning and agreed upon by the VCA and all VOCA members are informed. The VCA may also seek an amendment directly. After this time a final

decision will be made by the VCA and VOR and posted to all owners, and listed in Appendix F.

## **A.7 CLASS RULES INTERPRETATION**

- A.7.1 An owner may seek an interpretation by submitting a request in writing to the VCA, or the VCA may initiate an interpretation.
- A.7.2 An owner shall not rely on any advice or opinion from a member of the VCA or VOR, or any other party, in matters relating to the interpretation of these **class rules** other than through a written interpretation published by the VCA.
- A.7.3 The VCA is the only body with authority to interpret the **class rules**. If an owner considers an interpretation may incorporate an amendment to the **class rules** the matter shall be referred to VOR. If VOR agrees that aspects of the interpretation could be considered as an amendment and gives approval, a separate amendment shall be issued. If VOR does not approve any aspect that could be considered as an amendment, the matter shall be passed to a protest committee to determine whether the VCA has changed a **class rule** through an interpretation. If the matter relates to ambiguous or inconsistent wording, the protest committee (RRS 91) shall not interpret the **class rules**, but shall be bound by the VCA decision.

## **A.8 PERMITTED CHANGES & ADDITIONS**

- A.8.1 Permitted changes to a VO65 may be made as specified in Appendix F, as approved by the VCA. Appendix F shall be updated when amendments or changes have been made and issued separately to all owners, and forms part of these **class rules**. Changes required to supplied equipment shall be made as specified by the supplier, and approved by the VCA, and VOCA shall be informed. Only the most recently updated Appendix F shall apply.
- A.8.2 An owner may seek approval for a permitted change by submitting a request in writing to the VCA, provided there is majority agreement of all the VOCA members. The request shall include reasoning and details of all associated work. The VCA may also instigate a permitted change. Any and all changes that may alter a VO65 component from its original condition, other than that associated with branding alone, shall require approval in writing, and shall be included in the permitted changes table in appendix F. Any change that is made that is not listed in Appendix F invalidates a certificate (see A.12).

## **A.9 SAIL NUMBERS**

- A.9.1 Unless changed in another rule *RRS Appendix G* shall apply.

## **A.10 CERTIFICATION**

- A.10.1 When the VCA concludes that the **boat** complies with the **class rules**, having carried out all necessary checks and measurement to ensure that the construction specification has been met in its entirety and that all quality assurance tests and documentation have been completed,

and that the final assembly has been approved, it shall issue a **certificate** as in Appendix E.

A.10.2 A copy of the **certificate** will be supplied to the owner, the OA, VOCA and VOR.

A.10.3 A **certificate** shall remain valid when a component has been replaced with another component of the same part reference, with approval of the VCA.

## A.11 SPARE

## A.12 INVALID CERTIFICATES

A.12.1 A **certificate** becomes invalid when:

- (a) following an inspection the VCA determines that a **boat** does not comply with the **class rule**, that **boat's certificate** shall be made invalid,
- (b) following an inspection the VCA determines that a **boat** has been modified, tampered with or repaired in any way that has not been approved in writing by the VCA for that particular **boat**, that **boat's certificate** shall be made invalid until such time as the work can be rectified in a manner approved by the VCA and the **boat** has been inspected and is **class rule** compliant.
- (c) there is a change to any items recorded on the **certificate** as required under A.10.
- (d) the **certificate** is withdrawn by the VCA,
- (e) a new **certificate** is issued,
- (f) there is a change of ownership.
- (g) the *owner* does not maintain their membership of VOCA.

## A.13 RE-CERTIFICATION

A.13.1 The VCA may issue a **certificate** to a previously certified **boat** provided the cause of original certificate being invalidated has been rectified.

## A.14 RETENTION OF CERTIFICATION DOCUMENTS

A.14.1 The VCA and VLB shall retain the original documentation upon which the current **certificate** is based, including all quality assurance documents.

## Section B – Boat Eligibility

For a **boat** to be eligible for *racing*, it shall comply with the rules in this section.

### B.1 CLASS RULES AND CERTIFICATION

B.1.1 The boat shall:

- (a) be in compliance with the **class rules** at all times unless written approval is provided by the VCA and OA.
- (b) have a valid **certificate**.
- (c) have valid **certification marks** as required
- (d) not be altered in any way without written approval of the VCA.

### B.2 FLOTATION CHECKS

B.2.1 The **certificate** shall detail the **corrector weight** locations and values as considered to be satisfactory by the VCA to standardise floatation through measurement and correction of weight and longitudinal centre of gravity.

### B.3 CLASS MARKINGS

- B.3.1 A project plaque including the VO65 boat reference number shall be affixed to the aft port face of bulkhead H.
- B.3.2 A Builders mark shall be affixed to the aft starboard face of bulkhead D.
- B.3.3 Every VSS supplied sail shall carry identification and VO65 sail reference.



## PART II – REQUIREMENTS AND LIMITATIONS

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The **crew** and the **boat** shall comply with the rules in this Part II when *racing*. In case of conflict Section C shall prevail.

The rules in Part II are **closed class rules**. **Certification control** and **equipment inspection** shall be carried out in accordance with the ERS except where varied in this Part.

### Section C – Conditions for Racing

#### C.1 RULES

When the NOR or SI's so state the following RRS may be enforced.

C.1.1 RRS shall apply with the following amendments and deletions:

- (a) RRS 42.2 (a), (b) and (d) may be deleted or amended by the SI's.
- (b) RRS 50.2 does not apply.
- (c) RRS 50.3 is deleted and replaced with:

An outrigger shall only be used to assist in the sheeting of a sail on the leeward side of the **boat** using a designated outrigger attachment point. NOR or SIs shall specify which legs of a course the outriggers may be set and used on. Unless specified they shall not be set ready for use

- (d) RRS 51 is changed in that:
  - (1) Moveable equipment when not being used for its intended purpose shall be stored below decks, except sails when not in use may be stored below or above decks, these items may be moved to any position inside the hull between bulkheads B and H.
  - (2) Sails and moveable deck equipment when above deck; may be stowed anywhere within an area formed by the Lifelines, Stanchions & Pulpits, except on the aerial frame, life rafts or in the area between the life rafts and the aft pedestal.
  - (3) No items of equipment other than those specified in Appendix I may be stored aft of bulkhead H, the **crew** shall not enter these areas except: briefly to perform a necessary task. Garbage may be stored forwards of bulkhead B.
  - (4) No action shall be taken to alter stability by retaining or moving water or other fluids either above or below decks other than in the forward and aft ballast tanks or as permitted in rule C.5.
  - (5) For heavy items or when a member of the VCA decides that items are on-board for the purpose of ballast the items will be retained in a position between bulkheads B and H as close to the longitudinal centre of gravity and the centreline of the boat as possible and shall not be considered as moveable

equipment.

- (e) RRS 52 does not apply to the operation of the **canting keel**.
- (f) RRS 55 add a second sentence: However discarding small amounts of what are generally accepted as biodegradable items such as food scraps and elastic or wool bands when setting a sail is permitted.
- (g) The title of *RRS* 60.2 is deleted and replaced with: The Race Committee or the VCA may
- (h) The text of *RRS* 64.1 first paragraph is deleted and replaced with:  
When the *IJ* decides that a boat that is a *party* to a protest hearing has broken a *rule* the *IJ* may impose penalties other than disqualification. A penalty shall be imposed whether or not the applicable *rule* was mentioned in the *protest*. If a boat has broken a *rule* when not *racing*, her penalty shall apply to the race sailed nearest in time to that of the incident. However,  
Note: *RRS* 64.1 (a), (b) and (c) remain unchanged.
- (i) RRS 78.1 is deleted and replaced with: The *Owner* and any other person in charge shall ensure that the boat is maintained to comply with her **class rules** and that her VO65 class certificate remains valid.
- (j) RRS 78.3 is deleted and replaced with: When an **equipment inspector** or a member of the VCA decides that a **boat** does not comply with the **class rules**, he shall report the matter in writing to the Race Committee who shall report the matter to the *IJ* and may result in a hearing.

C.1.2 The ERS Part I, II and III shall apply.

## C.2 CREW

**Crew** limitations as stated in the NOR or SI shall apply.

## C.3 PERSONAL EQUIPMENT

- C.3.1 The bunks are only for **crew** members to sleep and rest on with the exception of bedding and personal gear bags no other items, equipment, gear, food or spares shall be stored or stacked on any of the bunks at any time while *Racing*. The maximum weight of personal gear and clothing (that is not required to be on-board by another rule) shall be 12kg for each person on-board. A non-exhaustive list of personal gear is:
- (a) gear bag
  - (b) underwear
  - (c) inner-layer clothing
  - (d) clothing
  - (e) personal electronics
  - (f) toiletries
  - (g) hats, boots, shoes

## C.4 ADVERTISING

### C.4.1 LIMITATIONS

Advertising shall only be displayed in accordance the ISAF Advertising Code (See ISAF Regulation 20), and Appendix G.

## C.5 PORTABLE EQUIPMENT

C.5.1 All items shown in Appendix H & I shall be fixed in these locations. Items not included in the diagram that the VCA determines shall be fixed as close to the centreline and the LCG of the **boat** as possible. All fixed items shall remain in their position until the **boat** finishes and is inspected or released by the VCA or **equipment inspector** or retires.

### C.5.2 MOVEABLE EQUIPMENT

When the NOR or SIs for an event so state the following rules may be included.

Items and equipment that may be moved for the purposes of altering trim and stability unless fixed under rule C.5.1 are:

- (a) Sails and battens
- (b) Portable electronics
- (c) Personal items and equipment
- (d) Food and drink, including containers and bags
- (e) Running rigging
- (f) Constant wear survival suits
- (g) Outriggers
- (h) Stacking posts
- (i) Wet weather gear
- (j) Spares and tools
- (k) Other equipment not specified or sealed.

The total weight of the moveable equipment may be limited by NOR or SIs.

C.5.3 Prior to *racing*, items and equipment not to be moved and or opened while *racing* will be sealed and shall remain sealed in the position indicated in the diagram contained in Appendix I.

## C.6 BOAT

### C.6.1 Modifications, maintenance and repair

- (a) No modifications are permitted unless specified by an amendment to the **class rule** or with the prior written approval of the VCA, who may require such work to be carried out by the Boatyard.
- (b) All maintenance shall be carried out in a way that the boat is retained in the original condition as when first launched, unless changes are made as a result of an amendment to the **class rules**. The Boatyard service documents shall be maintained at all times.
- (c) Repairs may only be carried out by the Boatyard or other parties approved by the VCA. If an owner considers that any repair may be necessary, they shall inform the VCA as soon as possible, who

shall determine what action shall be taken in consultation with the owner, Boatyard, VLB and any relevant suppliers.

- (d) The supplied deck screens may be replaced with any commercially available alternative, provided it does not increase the level of communication from the boat.
- (e) All components shall be retained in compliance with the construction specification. Where any components or fittings are replaced, they shall be purchased from manufacturers (either directly or through an agent) approved by the VCA and VLB. Copies of all invoices, except those referred to in section C of the operation manual, shall be retained and provided to the VCA on request. All such invoices shall include the words “in compliance with the VO65 construction specification”.
- (f) Lifelines may be replaced with team supplied lifelines provided they meet the same specifications and ISAF Offshore Safety Regulations, and that no covers or padding is fitted.
- (g) Cradles, mooring lines and fenders supplied as part of the construction specification are not considered to be part of the **boat**.

#### C.6.2 CORRECTOR WEIGHTS

- (a) The boat shall be weighed prior to branding during the final stages of the structural and systems assembly immediately prior to hand over to the owner for branding purposes. The minimum weight in this condition shall be carried between the two defined lifting points at the central lifting point and the runner chainplates, with lifting gear positioned such that the load is applied to the load cells in a vertical direction only. The recorded weights combined weight shall not be greater than 6325kgs.
- (b) **Corrector weight** canisters as specified in the construction specification shall be permanently fastened to the aft face of bulkhead B and the aft face of Bulkhead H. When the **boat** weight is less than that specified in C.6.2(a), **corrector weights** shall be distributed between the **corrector weight** canisters as determined by the VCA following calculation of the longitudinal centre of gravity (LCG) to ensure that the resulting LCG is 1.524m aft of station 5. See also B.2.
- (c) The combined total weight of such **corrector weights** shall not exceed 80kgs. See also rule B.1.1.
- (d) **Corrector weights** shall only be applied and adjusted as specified by the VCA to achieve the weights and LCG as defined in rules C.6.2(a) & (b) above, and once installed shall not be removed or moved unless by the VCA, those values shall reflect those shown on the **certificate**.
- (e) **Corrector weights** may only be modified by the VCA. The VCA will only consider modifying **corrector weights** if, as a result of any repair covered by warranty to the composite structure, or a single VCA approved repair resulting from a single event, where the boat weight is calculated to have increased by greater than 5kgs, or the

boom weight is calculated to have increased by greater than 2.0kgs. Cumulative increases in weight shall not be considered.

#### C.6.3 POST CONSTRUCTION REFERENCE WEIGHT

- (a) At the discretion of the VCA, following any significant maintenance, class approved upgrades, branding alterations or period of dormancy, a **boat** may be weighed in a check measurement condition, as determined by the VCA, to establish a new reference point. At this stage calculations shall be made by the VCA, and the corrector weights may be adjusted by the VCA to maintain the **boat** in compliance with rule C.6.2.

### C.7 Hull

#### C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) Foot chocks as specified in the construction specification, if installed, shall be permanently fastened on the cockpit sole prior to racing. They are optional.
- (b) An additional set of helmsman platform support hinges may be fitted above or below the manufacturer installed set. The manufacturer installed set may also be repositioned. Additionally, the helmsman platform support legs may be cut to optimise the platform height and angle at the team's discretion. The helmsman platforms may also be replaced or modified, provided the resulting platforms weigh a minimum of 4.7kgs each, utilise the same, unmodified support hinges and do not contain any titanium or honeycomb core.
- (c) Additional chafe pads may be fitted to the deck provided they perform no task other than protecting the deck and equipment, and do not alter the lead of any rigging.
- (d) A soft grip covering may be fitted onto the steering wheels, navigation seats and media seat.
- (e) Self contained LED lights may be fitted to the interior, and shall not be connected to the ship's batteries or power supply.
- (f) Winch handles may be replaced with any commercially available winch handle, and may not be modified. No modifications other than those given in these rules C.7.1(a) to (f) are permitted unless specified by an amendment to the **class rules**.
- (g) All maintenance shall be carried out in a way that the **hull** shape is retained in the original condition as when first measured to establish **corrector weight** distribution.
- (h) The outermost surfaces of the **hull** may be sanded and cleaned provided only the surface finish is affected, and the effect of the sanding is consistent over the surface of the **hull** below the **water plane**.
- (i) Waxing, polishing and application of small quantities of friction-reducing compounds (for example, McLube) on the **hull** is permitted provided the intention and effect is to polish only.

- (j) Only paint systems generically specified as two-component linear polyester saturated aliphatic polyurethane, two-component epoxy urethane, or two-component acrylic urethane may be used as the outermost surface finish of the **hull**. No materials other than manufacturer-supplied retardants, accelerants, thinners and pigments shall be added. Similarly, the specific gravity of the paint shall not be altered with any material other than those specified above.
- (k) The transom mounted hatch may not be painted, coated or otherwise obscured unless permitted in the NOR or SIs.
- (l) High visibility paint as approved by the VCA shall be applied as specified below and shown in Appendix D.
  - (1) A VCA approved orange oval around the **canting keel** root of at least 5.00m<sup>2</sup> of the shape given in appendix D.
  - (2) A VCA approved orange, pink or yellow block of colour on the deck, forwards of the aft edge of the coachroof combing, (as shown in Appendix D) of a minimum area of 1.00m<sup>2</sup>. The perimeter of the block of colour shall not have hollows, and the distance from any one point on the perimeter, measured perpendicular to the edge shall not be less than 300mm.
  - (3) A line of contrasting colour of no less than 10mm thickness on the deck denoting a safe working distance of 1.300m from the centre of the FB500 dome when in use.
- (m) The application of vinyl, mylar or other plastic film over the surface of the **hull** for advertising or branding is permitted, provided that the film shall not be specially textured or otherwise manufactured in a way that could improve the character of the flow of water inside the boundary layer.
- (n) Repairs may only be carried out by [the Boatyard or other](#) parties authorised by VCA. If an owner considers that any repair may be necessary, they shall inform the VCA as soon as possible, who shall determine what action shall be taken.
- (o) All components shall be retained in compliance with the construction specification.

## C.8 HULL APPENDAGES

### C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) No modifications are permitted unless specified by an amendment to the **class rules**.
- (b) All maintenance shall be carried out in a way that the **hull appendage** is retained in the original condition as when first launched.
- (c) Waxing, polishing and application of small quantities of friction-reducing compounds (for example, McLube) on the **hull appendages** are permitted provided the intention and effect is to polish only.

- (d) Only paint systems generically specified as two-component linear polyester saturated aliphatic polyurethane, two-component epoxy urethane, or two-component acrylic urethane may be used as the outermost surface finish of the **canting keel**. No materials other than manufacturer-supplied retardants, accelerants, thinners and pigments shall be added. Similarly, the specific gravity of the paint shall not be altered with any material other than those specified above.
- (e) The rudder blade (the surfaces that extend outside of the hull) shall be of a high visibility orange as approved by the VCA. The rudders should be repainted in the case of colour fade, wear and tear, or repair.
- (f) Other than the leading edge, no paint systems shall be applied to the **bilgeboards**. However, painting may be permitted in the event of damage and repair to any part of the **bilgeboards** with written approval of the VCA.
- (g) The outermost surfaces of the **hull appendages** may be sanded and cleaned provided only the surface finish is affected, and the effect of the sanding is consistent over the surface of the **appendage**.
- (h) Repairs may only be carried out by authorised parties. If an owner considers that any repair may be necessary, they shall inform the VCA immediately, who shall determine what action shall be taken.
- (i) All components shall be retained in compliance with the construction specification.
- (j) At the discretion of the VCA, builder templates may be positioned against the **fin**, **rudders** and **bilgeboards** at anytime to confirm continued compliance with the original shape as built within the build tolerance as defined in the construction specification. Builder templates may not be used by an owner to optimise the shape of an **appendage**, and are solely for the purpose as described above, and may only be used by VLB and/or the VCA.

#### C.8.2 FIN

##### WEIGHT

The weight of the fin as specified in the construction specification shall not be less than 1630kgs.

#### C.8.3 BULB

##### WEIGHT

The weight of the **bulb** as specified in the construction specification shall not be less than 3500kgs.

#### C.8.4 CANTING KEEL

##### (a) WEIGHT

The weight of the assembled **canting keel** shall be 5241.5kgs.

## (b) CORRECTOR WEIGHT

- (1) When the **canting keel** weight is less than the minimum requirement, **corrector weights** shall be located in the **bulb** weight pocket aft.
- (2) The total weight of such **corrector weights** shall not exceed 60kgs.
- (3) **Corrector weights** shall only be applied and adjusted by a member of the VCA.
- (4) **Corrector weights** shall be sealed and the **bulb** weight pocket may only be opened with written approval of the VCA and in the presence of a VCA appointed representative.
- (5) The **corrector weight** shall be recorded on the **certificate**.

## (c) USE

- (1) No foam or other material may be fitted inside the **canting keel** wet box to reduce the internal volume that water may occupy whilst *racing*.
- (2) The join between the hull and **canting keel** area cover plates shall not be faired over and the retaining bolts shall remain exposed such that the cover plates can be removed without the need for any filler, fairing compounds or paint being removed and reapplied.

## C.8.5 RUDDERS

## (a) WEIGHT

The weight of each **rudder** shall be recorded on the **certificate**.

## (b) USE

- (1) Both port and starboard **rudders** shall be installed at all times whilst *racing*.
- (2) All components of the steering system shall remain installed and fully functional at all times whilst *racing*.
- (3) All components of the emergency steering system shall remain on board at all times in the locations specified in the *operation manual*, unless in use due to failure of the primary steering system.

## C.8.6 BILGEBOARDS

## (a) WEIGHT

The weight of each **bilgeboard** shall be recorded on the **certificate**.

## (b) USE

- (1) The **bilgeboards** shall be in their casings and bearing housings at all times whilst *racing*.
- (2) All components of the lifting system shall remain installed and fully functional at all times whilst *racing*.



- (3) No loads shall be applied to the **bilgeboards** or their bearings by the **crew** in an attempt to alter the angle of attack of the **bilgeboards** in anyway.
- (4) No foam or other material may be fitted inside the **bilgeboard** casing to reduce the internal volume that water may occupy whilst *racing*.
- (5) The join between the hull and the bearing cover plates shall not be faired over and the retaining bolts shall remain exposed such that the cover plates can be removed without the need for any filler, fairing compounds or pint being removed and reapplied.
- (6) The openings for the **bilgeboards** in the bearing cover plates on deck and hull may increased in size to allow for movement in the bearings without loading the cover plates.
- (7) It is permitted to fair over the dog bone cover plates on the **bilgeboards** to the same level as the surrounding surface.

## C.9 RIG

### C.9.1 MODIFICATIONS, MAINTENANCE AND REPAIR

- (a) No modifications are permitted unless specified by an amendment or change to the **class rules**.
- (b) All maintenance shall be carried out in a way that the rig is retained in the original condition as when first launched.
- (c) Repairs may only be carried out by [the Boatyard or other](#) authorised parties. If an owner considers that any repair may be necessary, they shall inform the VCA as soon as possible, who shall determine what action shall be taken.
- (d) All components shall be retained in compliance with the construction specification.

### C.9.2 FITTINGS

- (a) USE
  - (1) All fittings shall remain in place as required by the **class rules** at all times whilst *racing*.
  - (2) The mast mounted radar and radar reflector along with any associated brackets and wiring may be removed if specified in the NOR or SIs.
  - (3) Running rigging shall remain lead unless being replaced or repaired.
  - (4) Standing rigging shall not be adjusted whilst *racing*.

### C.9.3 MAST

- (a) DIMENSIONS
 

All dimensions shall be in compliance with the construction specification.
- (b) WEIGHT

- (1) The weight of the **mast** as specified in the construction specification shall not be less than 522kgs.
  - (2) The vertical centre of gravity of the **mast** as specified in the construction specification shall not be less than 13.670m above the **mast datum point**.
- (c) CORRECTOR WEIGHT
- (1) When the **mast** weight is less than the minimum requirement and/or the centre of gravity is below the minimum point, **corrector weights** shall be added to bring the weight and centre of gravity within the limitations.
  - (2) The total weight of such **corrector weights** shall not exceed 12kgs.
  - (3) **Corrector weights** shall only be applied by the VCA, or a VCA appointed representative and adjusted as specified by the VCA and shall reflect those values shown on the **certificate**.
- (d) USE
- (1) **Standing rigging** tension and mast step load shall be within the manufacturer's guidelines as defined in the operation manual. This includes all lashing lengths and general rig tune.
  - (2) **Halyards** shall remain lead, and shall not be "moused out" at any time whilst *racing* except when being replaced or repaired.
  - (3) **Running backstays** shall remain locked in place at the **spar** connection at all times whilst *racing*, and the tails shall remain fully lead and shall not be "moused out" at any time whilst *racing* except when being replaced or repaired.
  - (4) Adhesive tape may be applied to the rig provided it is to temporarily hold items in place and/or to reduce friction on sails and rigging. It may not be used for the purpose of improving aerodynamics.

#### C.9.4 BOOM

##### (a) DIMENSIONS

All dimensions shall be in compliance with the construction specification.

##### (b) WEIGHT

The weight of the **boom** as specified in Appendix E shall not be less than 74kgs.

##### (c) CORRECTOR WEIGHT

- (1) When the **boom** weight is less than the minimum requirement, **corrector weights** shall be located at the gooseneck connection area of the **boom**.
- (2) The total weight of such **corrector weights** shall not exceed 5kgs.

- (3) **Corrector weights** shall only be applied and adjusted as specified by the VCA and shall reflect those values shown on the **certificate**.

- (d) USE

At all times whilst *racing* the **boom** shall remain attached to the **mast spar** and all reef lines shall remain led.

#### C.9.5 BOWSPRIT

- (a) DIMENSIONS

All dimensions shall be in compliance with the construction specification.

- (b) WEIGHT

The weight of the **bowsprit** shall be recorded on the **certificate**.

- (c) USE

The **bowsprit** shall remain attached to the **hull** and all tack lines, pull backlines and associated fittings shall remain lead.

#### C.9.6 STANDING RIGGING

- (a) DIMENSIONS

All dimensions shall be in compliance with the construction specification.

- (b) USE

At all times whilst *racing* standing rigging shall not be adjusted.

#### C.9.7 RUNNING RIGGING

- (a) DIMENSIONS

- (1) All dimensions and specifications shall be in compliance with the operation manual.
- (2) When supplied **running rigging** is required by the NOR or SIs, no modifications shall be made to this rigging except that markers/stoppers may be stitched into it. Lengths shall not be adjusted.
- (3) Additional lashings no larger than 4mm in outside diameter and bungee cord no larger than 6mm in outside diameter may be used to retain equipment and lace lifelines etc. However they may not be used directly as sail or appendage control lines, or for stacking purposes. Clips may be fitted to the ends.
- (4) Sail ties and sail stacking straps may be carried onboard provided they are not used to stack equipment other than sails. And are not used as **running rigging**.

## (b) USE

All running rigging shall only be led in compliance with the construction specification and the operation manual.

**C.10 SAILS****C.10.1 MODIFICATIONS, MAINTENANCE AND REPAIR**

- (a) **Sails** shall not be altered in any way except as permitted by these **class rules**.
- (b) Routine maintenance such as re-stitching damaged or worn stitching is permitted without re-measurement and re-certification. However, all repairs and maintenance to any sails produced under the VSS shall be carried out by the Boatyard unless prior approval is granted by the VCA.
- (c) Battens shall be placed in the **batten pockets**. Only supplied battens may be used in the designated **batten pocket** for any sail produced under the VSS.

**C.10.2 LIMITATIONS**

- (a) A storm jib shall always be carried on board.
- (b) Additionally, not more than one mainsail, one J-1, one J-2, one J-3, one A-3 gennaker, one FR-0 and one MH-0 may be carried aboard.
- (c) The NOR or SIs may require that all or specific sails produced under the VSS shall be the only sails aboard at any time within the time controlled by such documents.

**C.10.3 MAINSAIL**

## (a) USE

- (1) The **sail** shall be hoisted on a **halyard**, which shall remain attached to the **head** of the **sail** at all times whilst hoisted.
- (2) The **sail** shall always be set with the headboard car engaged in a lock.

## (b) LIMITATIONS

- (1) The **half width** (MHW) shall not be greater than 6.23m.
- (2) The **three-quarter width** (MTW) shall not be greater than 4.93m.
- (3) The **upper width** (MUW), measured between the **upper luff point** and the **upper leech point** shall not be greater than 3.63m.

The **upper luff point** being the point on the **luff** equidistant from the **head point** and the **three-quarter luff point**.

The **upper leech point** being the point on the **leech** equidistant from the **head point** and the **three-quarter leech point**.

#### C.10.4 J-1 HEADSAIL

##### (a) USE

- (1) The J-1 shall be hoisted on the J-1 halyard (see Appendix C), which shall remain attached to the **head** of the **sail** at all times whilst hoisted, and the halyard lock shall be engaged when set. The **luff** shall be attached by hanks to the **forestay**.

##### (b) LIMITATIONS

- (1) The **luff length** (LL) shall not be greater than 27.60m.
- (2) The **luff perpendicular** (LP) shall not be greater than 8.82m.
- (3) The **half width** (HHW) shall not be greater than 4.81m.
- (4) The **three-quarter width** (HTW) shall not be greater than 2.64m.

#### C.10.5 J-2 HEADSAIL

##### (a) USE

- (1) The J-2 shall be hoisted on the J-2 halyard only (see Appendix C), which shall remain attached to the **head** of the **sail** at all times whilst hoisted, and the halyard lock shall be engaged when set. The **tack** shall be fixed at deck to the J-2 tack ram (see Appendix C).

##### (b) LIMITATIONS

- (1) The **luff length** (LL) shall not be greater than 22.58m.
- (2) The **luff perpendicular** (LP) shall not be greater than 7.80m.
- (3) The **half width** (HHW) shall not be greater than 3.73m.
- (4) The **three-quarter width** (HTW) shall not be greater than 1.88m

#### C.10.6 J-3 HEADSAIL

##### (a) USE

- (1) The J-3 shall be hoisted on the J-3 halyard only (see Appendix C), which shall remain attached to the **head** of the **sail** at all times whilst hoisted, and the halyard lock shall be engaged when set. The **tack** shall be fixed at deck to the J-3 tack ram (see Appendix C).

##### (b) LIMITATIONS

- (1) The **luff length** (LL) shall not be greater than 16.71m.
- (2) The **luff perpendicular** (LP) shall not be greater than 5.43m.
- (3) The **half width** (HHW) shall not be greater than 2.57m.
- (4) The **three-quarter width** (HTW) shall not be greater than 1.30m.

#### C.10.7 STORM JIB

##### (a) USE

- (1) The storm jib shall be hoisted on a **halyard**, which shall remain attached to the **head** of the **sail** at all times whilst hoisted. The arrangement shall permit hoisting and lowering of the **sail** whilst afloat.

- (2) The storm jib may be hoisted on its integral bolt rope, or using hanks and a separate stay.

(b) LIMITATIONS

- (1) The **luff length** (LL) shall not be greater than 14.00m.
- (2) The **luff perpendicular** (LP) shall not be greater than 4.40m.
- (3) The **half width** (HHW) shall not be greater than 2.03m.
- (4) The **three-quarter width** (HTW) shall not be greater than 1.02m.

C.10.8 A-3 GENNAKER

(a) USE

- (1) The **sail** shall be hoisted on a masthead halyard (see Appendix C), which shall remain attached to the **head** of the **sail** at all times whilst hoisted, and the halyard lock shall be engaged when set.

(b) LIMITATIONS

- (1) The **luff length** (SLU) shall not be greater than 31.06m.
- (2) The **leech length** (SLE) shall not be greater than 30.55m.
- (3) The **half width** (SHW) shall not be greater than 15.09m.
- (4) The **foot length** (SF) shall not be greater than 20.52m.

C.10.9 FR-0 FRACTIONAL CODE ZERO

(a) USE

- (1) The **sail** shall be hoisted on a fractional halyard (see Appendix C), which shall remain attached to the **head** of the **sail** at all times whilst hoisted, and the halyard lock shall be engaged when set.

(b) LIMITATIONS

- (1) The **luff length** (SLU) shall not be greater than 28.96m.
- (2) The **leech length** (SLE) shall not be greater than 25.46m.
- (3) The **half width** (SHW) shall not be greater than 9.21m.
- (4) The **foot length** (SF) shall not be greater than 17.30m.

C.10.10MH-0 MASTHEAD CODE ZERO

(a) USE

- (1) The **sail** shall be hoisted on a masthead halyard (see Appendix C), which shall remain attached to the **head** of the **sail** at all times whilst hoisted, and the halyard lock shall be engaged when set.

(b) LIMITATIONS

- (1) The **luff length** (SLU) shall not be greater than 30.94m.
- (2) The **leech length** (SLE) shall not be greater than 28.58m.
- (3) The **half width** (SHW) shall not be greater than 10.87m.
- (4) The **foot length** (SF) shall not be greater than 20.15m.

## Section D – Hull

### D.1 PARTS

#### D.1.1 MANDATORY

Unless specifically stated otherwise, all items supplied with the boat are mandatory to be onboard.

When a repair is required and the repair requires the removal of a builders mark, datum point or other measurement mark the VCA shall be informed in writing and shall respond in writing prior to the builders mark, datum or measurement mark being removed.

### D.2 GENERAL

#### D.2.1 RULES

The **hull** shall comply with the **class rules** in force as specified in the NOR or SI.

#### D.2.2 CERTIFICATION

See Rule A.10.

#### D.2.3 MODIFICATIONS, MAINTENANCE AND REPAIR

See Rule C.7.

#### D.2.4 DEFINITIONS

##### (a) HULL DATUM POINT

The **hull datum point** is the intersection of the designed **waterplane** with the **hull** on centre line at the bow.

##### (b) FORWARD HULL BUILDERS MARKS

Reference marks established on the hull surface on each side 300mm above the designed **waterplane** and 1.379m aft of **hull datum point**.

##### (c) MID HULL BUILDERS MARKS

Reference marks established on the hull surface on each side 300mm above the designed **waterplane** and 10.379m aft of **hull datum point**.

##### (d) AFT HULL BUILDERS MARKS

Reference marks established on the **hull** surface on each side 300mm above the designed **waterplane** and 910mm forwards of the aft most part of the **hull** 19.379m aft of **hull datum point**.

All builders marks shall be permanently marked using a stainless steel crosshead screw, positioned by the VCA. These shall not be removed and shall remain visible at all times.

#### D.2.5 IDENTIFICATION

See rules B.3.1 & B.3.2.

#### D.2.6 BUILDERS

(a) The hull shall be built by VLB.

(b) All moulds shall be approved by VOR and VCA.

**D.3 HULL SHELL**

The **hull** shell shall be built in accordance with the construction specification.

**D.4 DECK**

The deck shall be built in accordance with the construction specification.

**D.5 BULKHEADS AND INTERNAL STRUCTURE**

The bulkheads and internal structure be built in accordance with the construction specification.

**D.6 ASSEMBLED HULL**

The assembled hull shall be completed in accordance with the construction specification, and shall include all components shown and listed in Appendix A. No additional components shall be added.

**D.6.1 DIMENSIONS AND WEIGHT**

All dimensions shall be in compliance with the construction specification and shall be confirmed during construction by the VCA to meet the requirements of the quality assurance documents. The VCA may carry out any post construction checks at their discretion to confirm continued compliance with the construction specification.



## Section E – Hull Appendages

### E.1 PARTS

All items supplied with the appendages detailed in rule C.8.

### E.2 GENERAL

#### E.2.1 RULES

**Hull appendages** shall comply with the **class rules** in force as specified in the NOR or SI.

#### E.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

See Rule C.8.

#### E.2.3 CERTIFICATION

See Rule A.10.

#### E.2.4 MANUFACTURERS

- (a) The **hull appendages** shall be made by GML.
- (b) All moulds shall be approved by VOR.

#### E.2.5 MATERIALS AND CONSTRUCTION

The **hull appendages** shall be manufactured in accordance with the construction specification.

#### E.2.6 FITTINGS

All fittings shall be installed as specified in the construction specification and operation manual.

#### E.2.7 DIMENSIONS AND WEIGHT

As specified in Rule C.8 and the construction specification. The VCA may carry out any post construction checks at their discretion to confirm continued compliance with the construction specification.

## Section F – Rig

### F.1 PARTS

All items detailed in rule C.9 & Appendix C.

### F.2 GENERAL

#### F.2.1 RULES

- (a) The **spars** and their fittings shall comply with the **class rules** in force as specified in the NOR or SI.
- (b) The standing and running **rigging** shall comply with the **class rules**.

#### F.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

See Rule C.9.

#### F.2.3 CERTIFICATION

- (a) The VCA, or a VCA appointed representative shall **certify spars** and shall sign and date the **certification mark**.
- (b) The VCA, or a VCA appointed representative shall **certify** standing and running **rigging**.

#### F.2.4 DEFINITIONS

##### (a) MAST DATUM POINT

The **mast datum point** is the builder's reference mark 1000mm above the **mast** heel.

#### F.2.5 MANUFACTURER

The **spars** shall be manufactured by Southern Spars NZ.

#### F.2.6 MATERIALS AND CONSTRUCTION

The **spars** shall be manufactured in accordance with the construction specification.

#### F.2.7 FITTINGS

All fittings as specified in Appendix C shall be installed as specified in the construction specification and operation manual.

#### F.2.8 DIMENSIONS AND WEIGHT

As specified in Rule C.9 and the construction specification. The VCA may carry out any post construction checks at their discretion to confirm continued compliance with the construction specification.

### F.3 STANDING RIGGING

#### F.3.1 MANUFACTURER

The **standing rigging** shall be manufactured by Composite Rigging.

#### F.3.2 MATERIALS AND CONSTRUCTION

All standing rigging shall be manufactured in accordance with the construction specification.

**F.3.3 FITTINGS**

All fittings as specified shall be installed as stated in the construction specification and operation manual.

**F.3.4 DIMENSIONS AND WEIGHT**

As specified in the construction specification. The VCA may carry out any post construction checks at their discretion to confirm continued compliance with the construction specification.

**F.4 RUNNING RIGGING****F.4.1 MANUFACTURER**

When specified in the NOR, the **running rigging** on-board shall be manufactured by the approved supplier only.

**F.4.2 MATERIALS AND CONSTRUCTION**

All running rigging shall be manufactured in accordance with the operation manual.

**F.4.3 FITTINGS**

All fittings shall be installed as specified in the operation manual.

## Section G – Sails

### G.1 GENERAL

#### G.1.1 RULES

**Sails** shall comply with the **class rules** in force as specified in the NOR or SI.

#### G.1.2 CERTIFICATION

The VCA may appoint one or more **equipment inspectors** to measure and **certify sails**.

#### G.1.3 IDENTIFICATION

The class insignia shall conform to the dimensions and requirements as detailed in Appendix G.

#### G.1.4 COATINGS TO RACE SAILS

The NOR, SIs or VSS may specify branding requirements on **sails**.

## PART III – APPENDICES

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The rules in Part III are **closed class rules**. Measurement shall be carried out in accordance with the ERS except where varied in this Part.

APPENDIX A – DECK LAYOUT

APPENDIX B – SYSTEMS LAYOUT

APPENDIX C – RIG GEOMETRY

APPENDIX D – HIGH VISIBILITY PAINT COVERAGE

APPENDIX E – CLASS CERTIFICATE

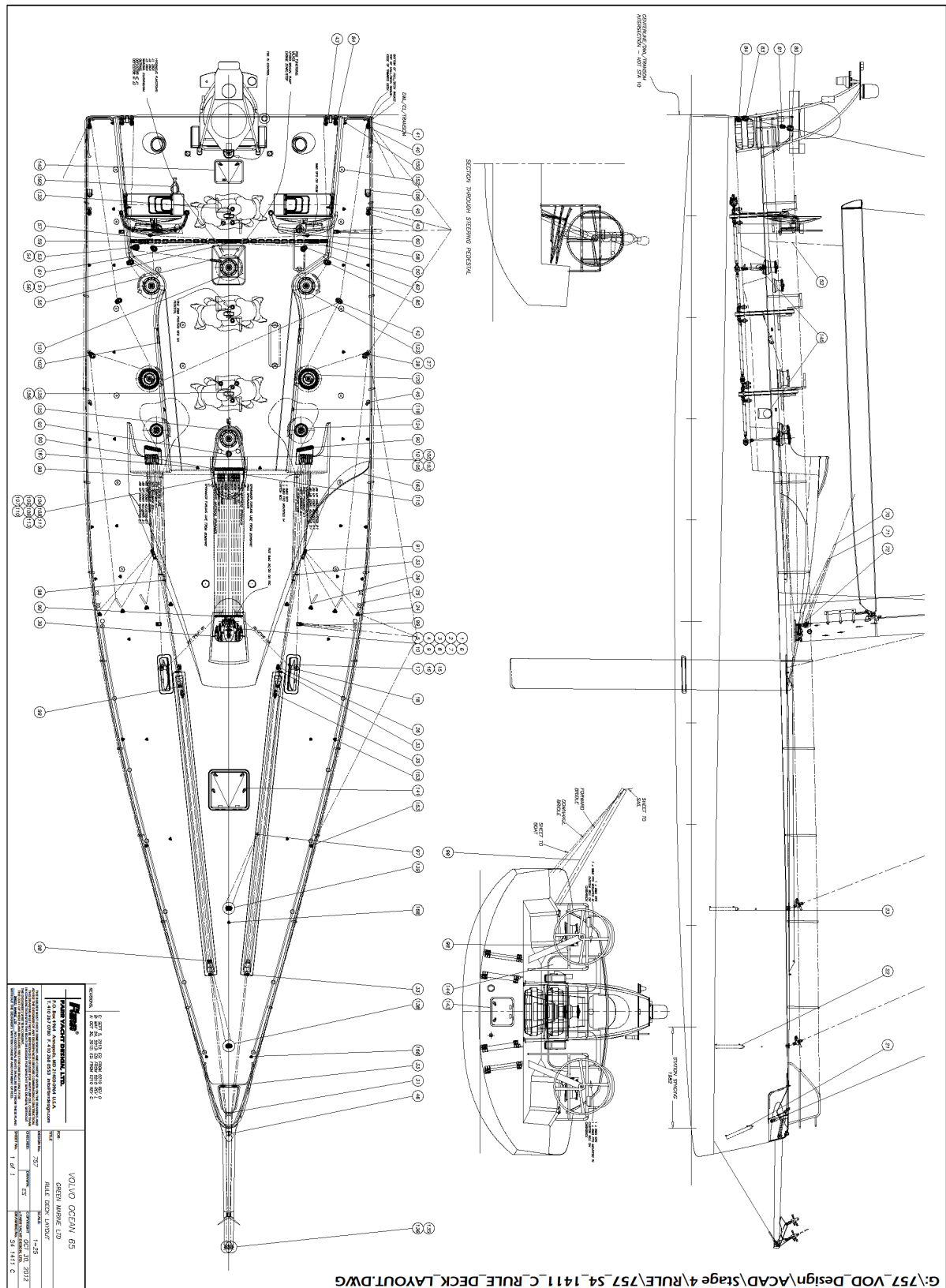
APPENDIX F – PERMITTED CHANGES & ADDITIONS – posted separately

APPENDIX G – BRANDING

APPENDIX H– SAFETY EQUIPMENT

APPENDIX I – SAFETY EQUIPMENT LAYOUT

## APPENDIX A – DECK LAYOUT



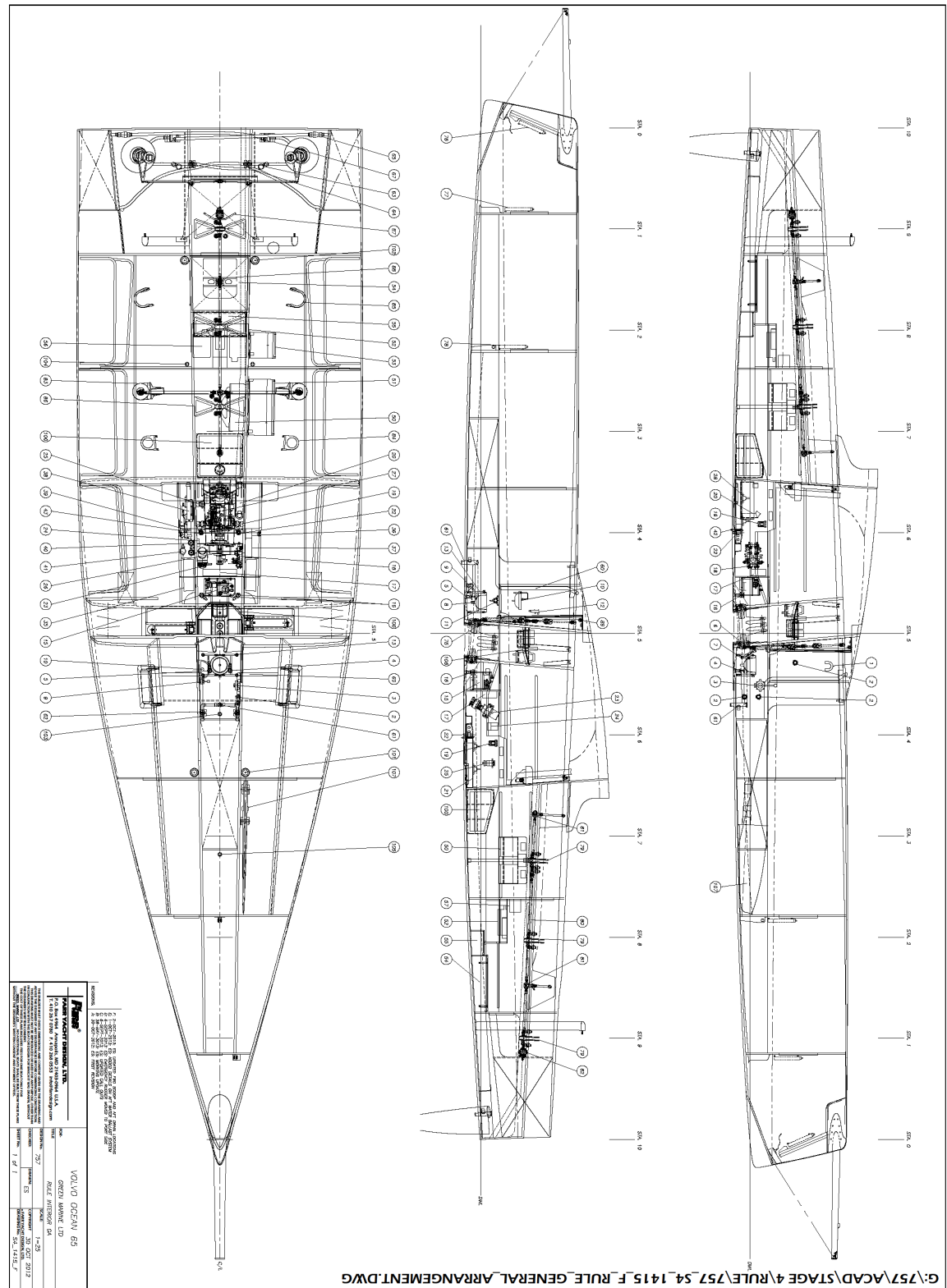
## DECK LAYOUT PARTS LIST

| Number         | Item                                  | Brand                 | Part                                                 | Quantity |
|----------------|---------------------------------------|-----------------------|------------------------------------------------------|----------|
| <b>BLOCKS,</b> |                                       |                       |                                                      |          |
|                | <i>Blocks at Mast Collar:</i>         |                       |                                                      |          |
| 1              | MASTHEAD HALYARD TURNING BLOCK        | WINMAR                | BH64                                                 | 2        |
| 2              | FRACTIONAL HALYARD TURNING BLOCK      | WINMAR                | BH64                                                 | 1        |
| 3              | J1 HALYARD TURNING BLOCK              | WINMAR                | BH64                                                 | 1        |
| 4              | J2 HALYARD TURNING BLOCK              | WINMAR                | BH64                                                 | 1        |
| 5              | J3 HALYARD TURNING BLOCK              | WINMAR                | BH64                                                 | 1        |
| 6              | MAIN HALYARD TURNING BLOCK            | WINMAR                | BH64                                                 | 1        |
| 7              | MAINSAIL REEF TURNING BLOCK           | WINMAR                | 2xBH64; BHW64                                        | 3        |
| 8              | BOOMVANG TURNING BLOCK                | KOHLHOFF              | THIMBLE 50A                                          | 1        |
| 9              | DAGGERBOARD UP TURNING BLOCK          | WINMAR                | BH76                                                 | 2        |
| 10             | TRIP LINES                            | KARVER                | 2x PF830030(T); 1 x PF830030(S)                      | 3        |
|                | <i>Daggerboard</i>                    |                       |                                                      |          |
| 15             | DOWN DEAD END                         | Q.I. CARBON           |                                                      | 2        |
| 16             | DOWN DECK FERRULE                     | VO65 CUSTOM           |                                                      | 2        |
| 17             | DOWN 90 BLOCK                         | KARVER                | KBR50                                                | 2        |
| 18             | UP DEFLECTOR BLOCK                    | ANTAL                 | 801.045                                              | 2        |
|                | <i>Jib:</i>                           |                       |                                                      |          |
| 21             | J1 TACK CYLINDER                      | NAVTEC                | A284-33-J030A                                        | 1        |
| 22             | J2 TACK CYLINDER                      | NAVTEC                | A284-64-J015A                                        | 1        |
| 23             | J3 TACK CYLINDER                      | NAVTEC                | A284-52-J006A                                        | 1        |
| 24             | HEADSAIL SHEETING PADEYES             | WICHARD               | 56506 TI                                             | 8        |
| 25             | HEADSAIL RING ON SHEET                | VO65 CUSTOM           |                                                      |          |
| 26             | HEADSAIL UP/DOWN BLOCK                | VO65 CUSTOM           |                                                      | 6        |
| 27             | HEADSAIL SHEET TURNING BLOCK          | HARKEN                | C10194                                               | 2        |
| 28             | HEADSAIL SHEET TURNING BLOCK PADEYE   | BLEW STOUB            | LASH TANG                                            | 2        |
|                | <i>Spinnaker:</i>                     |                       |                                                      |          |
| 33             | FAIRLEAD FOR TACKLINE AND PULL BACK   | GREEN MARINE          | 0578-67-004; 0578-67-030 at Aft Outboard Line Tunnel | 6/2      |
| 35             | FOREGUY FLOATING PURCHASE BLOCK 2:1   | WINMAR                | CUSTOM 70mm SHEAVE                                   | 2        |
| 36             | FOREGUY 180 DEG TURNING BLOCK 6:1     | HARKEN                | C10555                                               | 2        |
| 39             | SPINNAKER FURLING LINE FAIRLEAD       | GREEN MARINE          | 0578-67-005                                          | 2        |
| 40             | SPINNAKER SHEET BLOCK                 | HARKEN                | C10151                                               | 4        |
| 41             | SPINNAKER SHEET BLOCK PADEYE          | SPINLOCK              | PD-12C                                               | 2        |
| 42             | SPINNAKER SHEET FOOT BLOCK            | HARKEN                | C10558                                               | 2        |
| 43             | MH0 SHEET BLOCK                       | HARKEN                | C10151                                               | 2        |
| 44             | MH0 DEFLECTOR BLOCK                   | HARKEN                | HC8832                                               | 2        |
| 45             | SHEER SHEETING PADEYE                 | BLEW STOUB            | LASH TANG                                            | 4        |
| 46             | EMERGENCY SPINNAKER TACK PADEYE       | SPINLOCK              | PD-12CR                                              | 1        |
|                | <i>Main:</i>                          |                       |                                                      |          |
| 50             | MAINSHEET DEADEND                     | VO65 CUSTOM           | PIN IN COCKPIT SIDE                                  | 1        |
| 51             | MAINSHEET BLOCK ON CAR                | HARKEN                | C10125                                               | 2        |
| 52             | MAINSHEET BLOCK ON BOOM               | HARKEN                | C10150                                               | 1        |
| 53             | MAINSHEET TURNING BLOCK AT TRACK END  | HARKEN                | C11072                                               | 1        |
| 54             | MAINSHEET TURNING BLOCK PADEYE        | VO65 CUSTOM           | PIN IN COCKPIT SIDE                                  | 1        |
| 55             | MAINSHEET SHEAVES ON PEDESTAL         | WINMAR                | 76mm RACING SHEAVE                                   | 2        |
| 56             | TRAVELLER CAR                         | HARKEN                | C10413                                               | 1        |
| 57             | TRAVELLER TRACK                       | HARKEN                | C11048                                               | 1        |
| 58             | TRAVELLER TRACK ENDSTOP               | HARKEN OR FABRICATED  | FABRICATED ON COCKPIT SIDE                           | 2        |
| 59             | TRAVELLER TRACK CODE 0 PINSTOP        | HARKEN                | C8978                                                | 2        |
| 60             | TRAVELLER DEADEND PADEYE              | HARKEN                | 688                                                  | 2        |
| 61             | TRAVELLER BLOCK ON CAR                | HARKEN                | 3230                                                 | 2        |
| 62             | TRAVELLER TURNING BLOCK               | HARKEN                | 3234                                                 | 2        |
| 70             | VANG UPPER 2:1 BLOCK                  | VO65 CUSTOM           | THIMBLE                                              | 1        |
| 71             | VANG UPPER 6:1 BLOCK                  | KOHLHOFF              | THIMBLE60A                                           | 1        |
| 72             | VANG LOWER 180 BLOCK                  | KOHLHOFF              | THIMBLE 50A                                          | 1        |
|                | <i>Runner:</i>                        |                       |                                                      |          |
| 80             | RUNNER FLYING BLOCK                   | HARKEN                | C10482                                               | 2        |
| 81             | RUNNER FIDDLE BLOCK                   | HARKEN                | C10150                                               | 2        |
| 83             | RUNNER LOWER 180 BLOCK                | HARKEN                | C10193                                               | 2        |
| 84             | RUNNER TURNING BLOCK                  | HARKEN                | C10150                                               | 2        |
| 85             | RUNNER TURNING BLOCK ON DECK          | HARKEN                | C10558                                               | 2        |
|                | <i>Misc:</i>                          |                       |                                                      |          |
| 90             | ORGANIZERS                            | SPINLOCK              | VO65 CUSTOM                                          | 3        |
| 91             | ORGANIZER AT FWD OUTBOARD LINE TUNNEL | SPINLOCK              | VO65 CUSTOM                                          | 2        |
| 92             | SHEAVE AT CENTERLINE PIT              | ANTAL                 | 821.100                                              | 1        |
| 96             | ORGANIZER AT MASTBASE                 | GREEN MARINE          | 0578-67-003                                          |          |
| 97             | FURLING FAIRLEADS TO ENTER FOOTSTOP   | GREEN MARINE          | 0578-67-002                                          |          |
| 98             | FAIRLEAD FOR FURLING LINES            | GREEN MARINE          | 0578-67-005                                          | 2        |
| 99             | OUTRIGGER                             | SOUTHERN SPARS CUSTOM | VO65 CUSTOM                                          | 2        |

| Number          | Item                             | Brand       | Part            | Quantity |
|-----------------|----------------------------------|-------------|-----------------|----------|
| <b>CLUTCHES</b> |                                  |             |                 |          |
| 100             | HEADSAIL UP/DOWN 2:1             | SPINLOCK    | XXC             | 6        |
| 101             | FOREGUY 6:1                      | SPINLOCK    | XXC             | 2        |
| 102             | TRAVELLER                        | SPINLOCK    | XCS             | 2        |
| 103             | BOWSPRIT FURLER PULL BACK LINE   | SPINLOCK    | XCS             | 2        |
| 104             | DAGGERBOARD UP                   | SPINLOCK    | XTS             | 2        |
| 105             | DAGGERBOARD DOWN                 | SPINLOCK    | XCS             | 2        |
| 106             | MASTHEAD HALYARDS (PARKING ONLY) | SPINLOCK    | XTS             | 2        |
| 107             | J1 HALYARD                       | SPINLOCK    | XTS             | 1        |
| 108             | J2 HALYARD                       | SPINLOCK    | XTS             | 1        |
| 109             | J3 HALYARD                       | SPINLOCK    | XTS             | 1        |
| 110             | FRAC SPINNAKER HALYARD           | SPINLOCK    | XTS             | 1        |
| 111             | VANG (PARKING ONLY)              | SPINLOCK    | XCS             | 1        |
| 113             | MAIN HALYARD 2:1(PARKING ONLY)   | SPINLOCK    | XCS             | 1        |
| 115             | TRIP LINE CLEATS                 | HARKEN      | 472             | 7        |
| 116             | COCKPIT CLEATS                   | HARKEN      | 280             | 4        |
| <b>WINCHES</b>  |                                  |             |                 |          |
| 120             | Primaries                        | HARKEN      | B1111.3 ST CAA  | 2        |
| 121             | Mainsheet                        | HARKEN      | B990.3 ST FD    | 1        |
| 122             | Driven Pit                       | HARKEN      | B990.3 ST FD    | 1        |
| 123             | Runners                          | HARKEN      | B990.3 ST FD    | 2        |
| 124             | Pit                              | HARKEN      | B65.2 STR       | 2        |
| 125             | Pedestals                        | HARKEN      | MX 2 Spd Carbon | 3        |
| 126             | Pedestal Handles                 | HARKEN      | F84265000       | 6        |
| 132             | Buttons                          | HARKEN      |                 | 9        |
| <b>FURLING</b>  |                                  |             |                 |          |
| 135             | A3 TOP DOWN FURLER               | KZ Marine   | KZ10G           | 1        |
| 136             | MH0 Furler                       | KZ Marine   | KZ10            | 1        |
| 138             | J2 Furler                        | KZ Marine   | KZ10            | 1        |
| 139             | J3 Furler                        | KZ Marine   | KZ10            | 1        |
| <b>HATCHES</b>  |                                  |             |                 |          |
| 140             | Cockpit Floor Hatch              | Lewmar      |                 |          |
| 141             | Foredeck Hatch Frame             | Lewmar      |                 |          |
| 143             | Transom Hatch                    | Lewmar      |                 |          |
| 144             | Companionway Hatch               | FABRICATED  |                 |          |
| 145             | Cockpit Side Ventilation         | RWO         | R4063           |          |
| <b>STACKING</b> |                                  |             |                 |          |
| 150             | STACKING PADEYES                 | WICHARD     | 6504            | 28       |
| 153             | STACKING PADEYES/BRIDAL POINTS   | WICHARD     | 6505            | 4        |
| 152             | STACKING POST SOCKETS            | VO65 CUSTOM | VO65 CUSTOM     | 20       |
| <b>MECHANIC</b> |                                  |             |                 |          |
| 156             | WATER BALLAST VENT               | VO65 CUSTOM | VO65 CUSTOM     | 4        |
| 160             | MANUAL BILGE PUMP                | PLASTIMO    | 1038            | 1        |
| <b>SAFETY</b>   |                                  |             |                 |          |
| 166             | JACKLINE PADEYE ON BOW           | WICHARD     | 6504            | 2        |
| 167             | COCKPIT PADEYES                  | WICHARD     | 6504            | 2        |
| 168             | TRACER PADEYES                   | WICHARD     | 6504            | 1        |



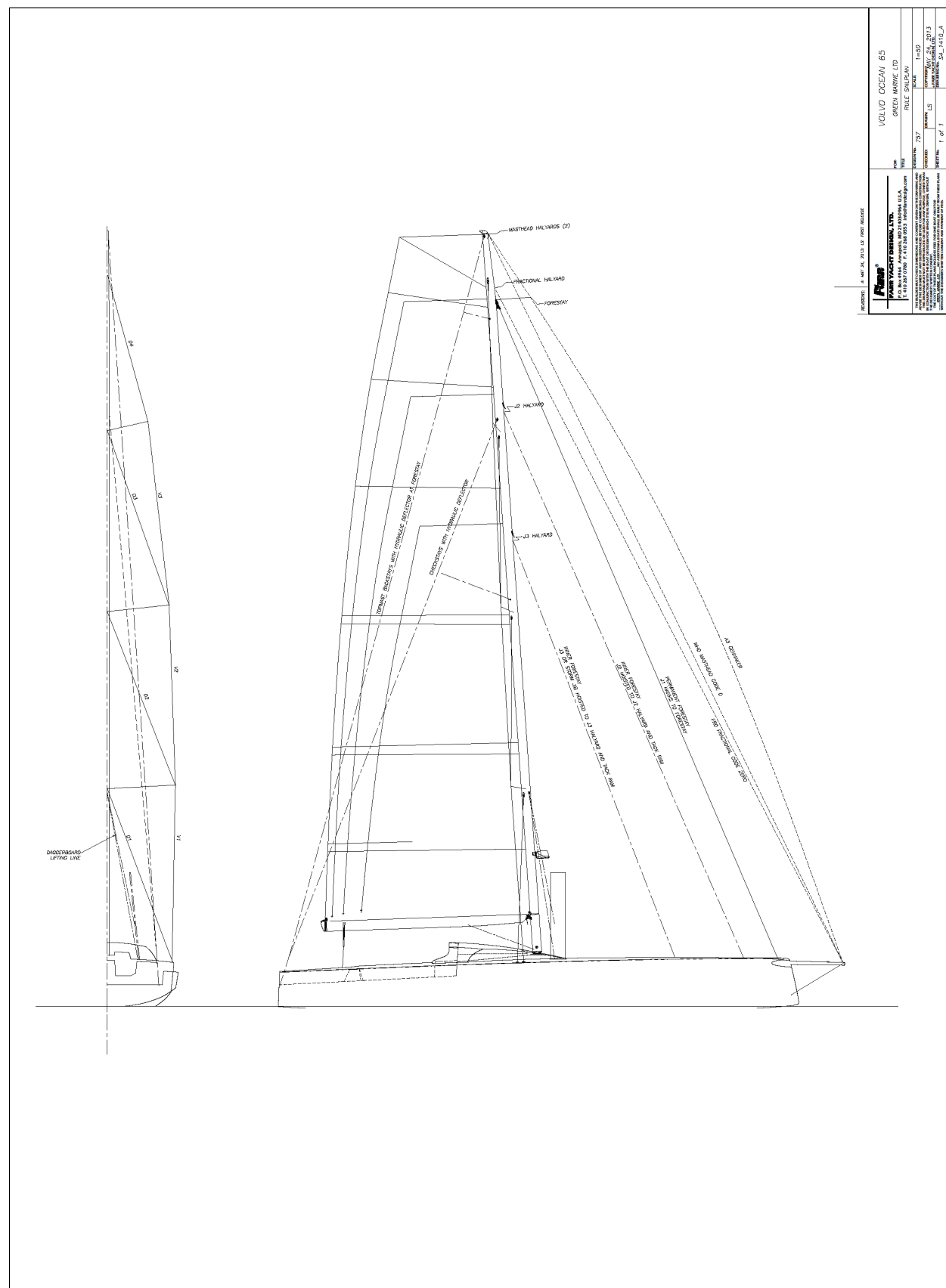
APPENDIX B – SYSTEMS LAYOUT



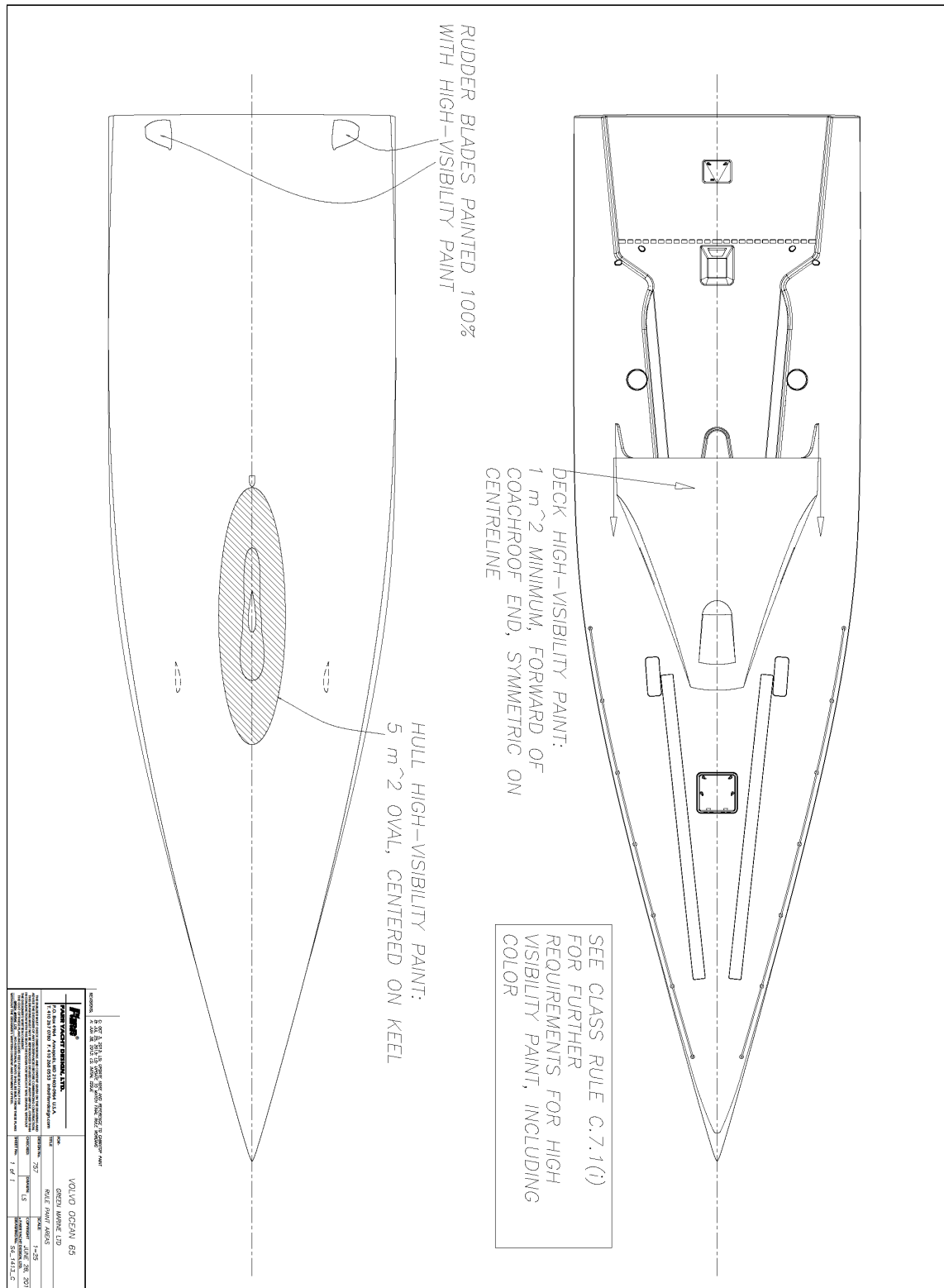
## SYSTEMS LAYOUT – PARTS LIST

| Number           | Item                          | Number                    | Item                                 |
|------------------|-------------------------------|---------------------------|--------------------------------------|
| <b>HEAD</b>      |                               | <b>NAV AND MEDIA</b>      |                                      |
| 1                | Siphon Break                  | 50                        | Nav Station                          |
| 2                | Y-Valve                       | 51                        | Nav Station Seat                     |
| 3                | Whale Gusher Titan            | 52                        | Media Desk                           |
| 4                | Sea Outlet Thru-hull          | 53                        | Media Desk Seat                      |
| 5                | Sea Intlet Thru-hull          | 54                        | Safety Equipment Locker              |
| 6                | Sink/Mast Y-Valve Drain       | 55                        | Media Gear Locker                    |
| 7                | Sink/Mast/Head Y-Valve Drain  | 56                        | Pelican Case Storage                 |
| 8                | Head                          | 57                        | Hard Drive Storage                   |
| 9                | Head and Sink Inlet Pump      | <b>WATER BALLAST</b>      |                                      |
| 10               | Sink and Faucet               | 60                        | Forward Ballast Tank Vent            |
| 11               | Sink/Spray Y-Valve            | 61                        | Forward Ballast Scoop                |
| 12               | Head Spray                    | 62                        | Forward Gate Valve                   |
| 13               | Head Gimble                   | 63                        | Aft Ballast Scoop                    |
| <b>MACHINERY</b> |                               | 64                        | Aft Gate Valve                       |
|                  | <u>Central</u>                | 65                        | Aft Check Valve                      |
| 15               | Water Tank                    | 67                        | Aft Ballast Pump                     |
| 16               | Galley In/Out Valves          | <b>DECK RELATED ITEMS</b> |                                      |
| 17               | Electronic Box                | 75                        | Mast Control Rams                    |
| 18               | Cariboni Manifold             | 76                        | J1 Tack Ram                          |
| 19               | Water Strainer                | 77                        | J2 Tack Ram                          |
| 20               | Exhaust Wet Box               | 78                        | J3 Tack Ram                          |
| 21               | Engine Bed                    | 79                        | Grinding Pedestal                    |
| 22               | Engine Sea Water Inlet        | 80                        | Winch Drive Shaft                    |
| 23               | Cariboni DC Pump              | 81                        | Winch Bevel Box                      |
| 24               | Soft Start Box for DC Pump    | 82                        | Rotary Pump                          |
| 25               | Fuel Filter                   | 83                        | Primary Winch Support Structure      |
| 26               | Cariboni PTO                  | 84                        | Outboard Pit Winch Support Structure |
| 27               | Main Engine                   | 85                        | Runner Winch Support Structure       |
| 28               | Engine Mounts                 | 86                        | Grinding Pedestal Support Structure  |
|                  |                               | 87                        | Rotary Pump Support Structure        |
|                  | <u>Outboard Compartments</u>  | 88                        | Main Winch Support Structure         |
| 35               | Mastervolt Battery            | 89                        | Dead End for Mast Control Ram        |
| 36               | Keel PLC - Small Box          | <b>MISC.</b>              |                                      |
| 37               | Keel PLC - Large Box          | 100                       | Fuel Tank                            |
| 38               | Watermaker High Pressure Unit | 101                       | Fwd Endoscope                        |
| 39               | Watermaker Strainer           | 102                       | Aft Endoscope                        |
| 40               | Watermaker Pumps              | 103                       | Fwd Speedo                           |
| 41               | Watermaker Filter             | 104                       | Aft Speedo                           |
| 42               | Watermaker Inlet              | 105                       | Depth Transducer                     |
| 43               | Watermaker Accumulator Tank   | 106                       | Galley                               |
|                  |                               | 107                       | Emergency Rudder                     |

APPENDIX C – RIG GEOMETRY



## APPENDIX D – HIGH VISIBILITY PAINT COVERAGE



## APPENDIX E – CLASS CERTIFICATE

## VOLVO OCEAN 65 CLASS



**One Design Measurement Certificate**  
**VO65-0-01**

**Yacht's Name** TBC

**National Letters and Sail Number** TBC

**Hull Number** 0

**Owner(s)** TBC

**Part numbers**

|                 |          |
|-----------------|----------|
| Keel            | 700-00   |
| Port bilgeboard | 700-100- |
| Stbd bilgeboard | 700-100- |
| Rudder #1       | 700-101- |
| Rudder #2       | 700-101- |
| Rudder #3       | 700-101- |

|               |          |
|---------------|----------|
| Mast          | 700-515- |
| Boom          | 700-525- |
| Bowsprit      | 700-105- |
| Port keel ram | 0        |
| Stbd keel ram | 0        |

**Hull corrector weights**

|                   |         |
|-------------------|---------|
| Forward Port      | 0.00 kg |
| Forward Starboard | 0.00 kg |
| Aft Port          | 0.00 kg |
| Aft Starboard     | 0.00 kg |

**Mast corrector weights**

|                              |         |
|------------------------------|---------|
| Butt                         | 0.0 kg  |
| Lower spreaders (combined)   | 0.0 kg  |
| Middle spreaders (combined)  | 0.0 kg  |
| Upper spreaders (combined)   | 0.0 kg  |
| Mast VCG (inc correctors)    | 0.000 m |
| Mast weight (inc correctors) | 0.0 kg  |

**Appendage weights**

|                       |        |
|-----------------------|--------|
| Keel (inc corrector)  | 0.0 kg |
| Keel corrector weight | 0.0 kg |
| Keel corrector seal   | 0.0 kg |
| Port bilgeboard       | 0.0kgs |
| Stbd bilgeboard       | 0.0kgs |
| Rudder #1             | 0.0kgs |
| Rudder #2             | 0.0kgs |
| Rudder #3             | 0.0kgs |

**Spar weights**

|                       |        |
|-----------------------|--------|
| Boom corrector weight | 0.0kgs |
| Boom (inc corrector)  | 0.0kgs |
| Bowsprit weight       | 0.0kgs |

**Keel canting angle**

|                   | Max     | Limiter |
|-------------------|---------|---------|
| Keel to port      | 0.0 deg | 0.0 deg |
| Keel to starboard | 0.0 deg | 0.0 deg |

**VALIDATION**

This yacht has been manufactured by Green Marine Ltd in accordance with the Volvo Ocean 65 Class Rule and has been found by the VCA to be in compliance with the Rule.

Date of certification 00/01/1900

Supersedes Certificate No and Date Original Certificate

Class Project Manager

## APPENDIX G: ADVERTISING & BRANDING

These rules apply at all times except where stated within these rules

### G.1 GENERAL

Unless expressly authorised in advance, or unless required or prescribed by the *OA*, *Owners* shall ensure that no trademark, name, logo or other symbol or device is displayed on any external or visible surface or part of any equipment specified in Appendix G – Safety equipment and shall further ensure that no right to display such words or symbols has or shall be granted by the *Owner* to any third party. *Owners* shall ensure that all such trademarks, names, logos or other symbols or devices so authorised, required or prescribed by Appendix G shall be displayed prominently and visibly at all times on such equipment and shall not be obscured other than as may be required by the NOR with VOR agreement.

### G.2 HULL

G.2.1 Bow logos shall be displayed on the topsides, on both sides of the **hull**, aft of the bow. No other logo shall be used for this purpose than those produced using the *VCA* supplied .eps files unless as noted in rule H.2.5. The bow logo shall be painted on the bow prior to the **Boat** being clear coated in the position indicated below and the logo on the port side shall be the same orientation for port and starboard as the class logo in the diagram (bow logo) below, ensuring the original shape, size, colours, dimensions and form are maintained. The negative version of the logo (white letters as shown in the mainsail diagram) is to be used on all backgrounds other than white or very light colours when the positive version of the logo is to be used (blue letters), for confirmation of the correct version contact the *VCA*.

G.2.2 The dimensions of the logo shall be; height 1.330m x width 1.190m and shall be centred on the vertical centreline between the waterline and the deck level, using the outer measurement of the logo.

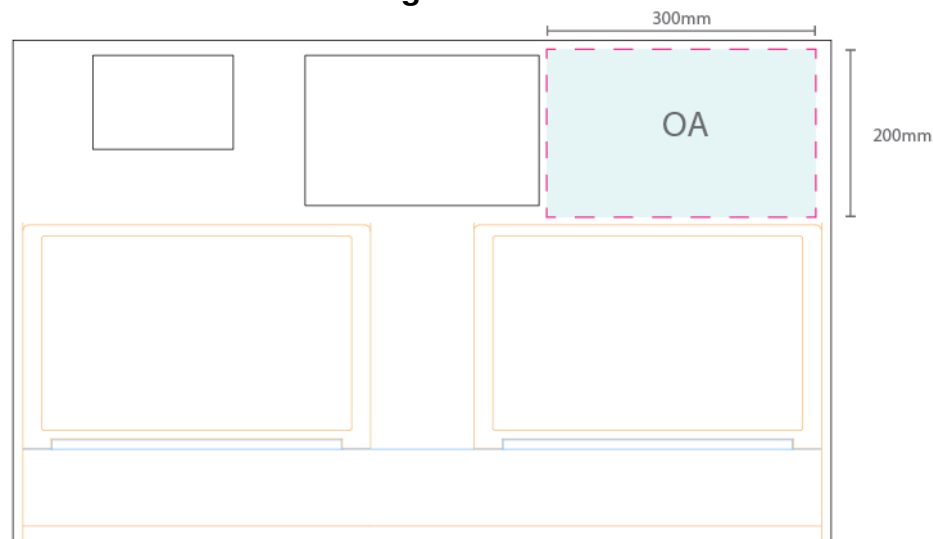
G.2.3 The front edge of the logo shall be 0.500m from the bow-deck intersection.

G.2.4 The first 2.000m of the topsides of both sides of the **hull** shall be a single uninterrupted colour or, alternately, may feature a continuous graphic background, which shall, at the sole judgement of the *VCA*, permit the clear legibility of the bow logo when it is applied. Under no circumstances shall the bow logo be permitted to appear within a box or other shape intended to create separation from topside background colour or graphic.

G.2.5 When an alternative logo is required on the bow area by NOR then the bow logo shall be covered by vinyl material of the same colour as the background, and the NOR required logo shall be placed on top of this. In such a case VOR shall be consulted and an alternative VOR logo position and size shall be specified.

**Bow Logo (starboard)****G.3 INTERIOR**

- G.3.1 An area 0.300m x 0.200m as indicated in the diagram below (Navigator's desk) shall be for the sole use of VOR.

**Navigator's desk****G.4 TRANSOM**

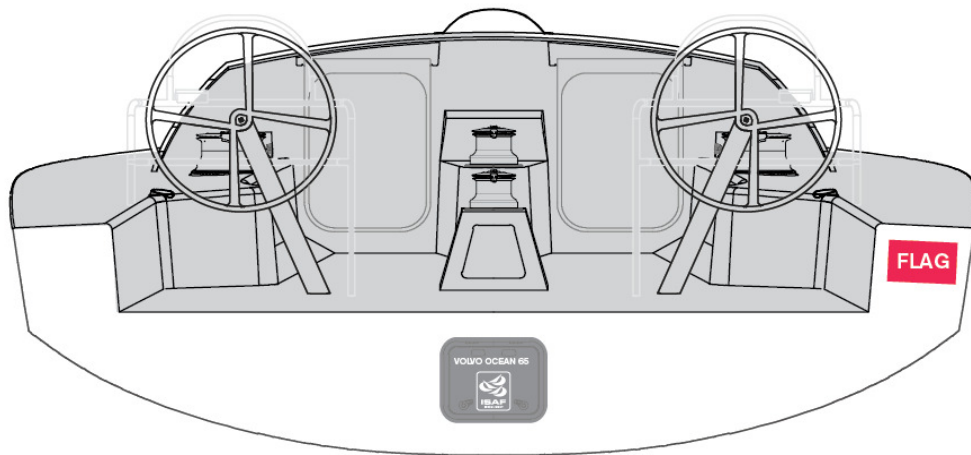
- G.4.1 The escape hatch in the transom shall not be painted or covered in vinyl, except for the Volvo Ocean 65 word mark and the *ISAF* logo both of which shall be supplied by the VCA and applied according to the diagram shown with the exact location as specified in material supplied with the logos.

- (a) The **boat** shall display its chosen country flag in the starboard upper section of the transom as indicated in the transom diagram below to the following specifications:

- (1) for standard flags 0.360m x 0.220m

- (2) for non standard or square flags a minimum area of 770mm<sup>2</sup>
  - (3) the flag will be placed centrally on the panel 0.110m below deck level and parallel to the line of the deck
  - (4) The logo shall be either applied as an adhesive logo or painted
- (b) On the remainder of the transom the *Owner* shall incorporate into its design the name of the **boat** and the yacht club(s) it represents, the Yacht Clubs depiction may be the burgee, name or abbreviation or a combination of these.

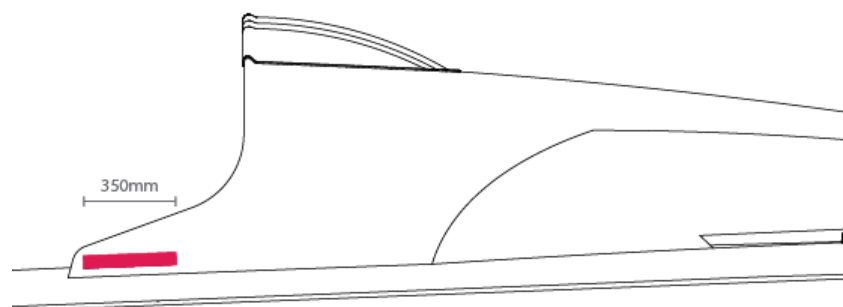
**Transom diagram**



## **G.5 COACH ROOF**

- G.5.1 The Volvo Ocean 65 word mark on both sides of the coach roof at the aft end close to the deck. No other logo shall be used for this purpose the logo shall be produced using the OA supplied .eps files. The logo shall be painted on the coach roof prior to the *Boat* being clear coated in the position 50mm forward of the intersection of the aft edge of the coach roof and the deck and 35mm above the deck the diagram (coach roof logo) below, ensuring the original shape, size, colours, dimensions and form are maintained. The negative version of the logo (white letters as shown in the mainsail diagram) is to be used on all backgrounds other than white or very light colours when the positive version of the logo is to be used (blue letters).

**Coach roof logo**





## G.6 SPARS

G.6.1 The entire main boom shall be for the sole use of VOR.

## G.7 AERIAL FRAME

G.7.1 All surfaces of the aerial frame and its installed equipment shall be for the sole use of VOR.

## G.8 MAINSAIL

G.8.1 The class logo shall be placed on the top of the **mainsail** according to the diagram below (Volvo Ocean 65 mainsail logo). The class logo shall be placed at the same height on both sides of the mainsail. As a minimum both sides of the head of the mainsail including the background area of the logo measured from 0.400m below the lowest point of the logo perpendicular to the **luff** shall be painted using paint, varnish, ink or adhesive vinyl in a single solid colour which may be a continuation of the colour for the adjoining portion of the sail. In the event the mainsail colour is carried to the head of the sail no part of any branding shall be above the line shown in the diagram 0.400m below the lowest part of the logo. The background area shall be such that the reverse logo cannot be seen through the sail. The negative version of the logo (as shown in the diagram) is to be used on all backgrounds other than white or very light colours when the positive version of the logo is to be used (blue letters), for confirmation of the correct version contact the VCA.

### Volvo Ocean 65 mainsail logo



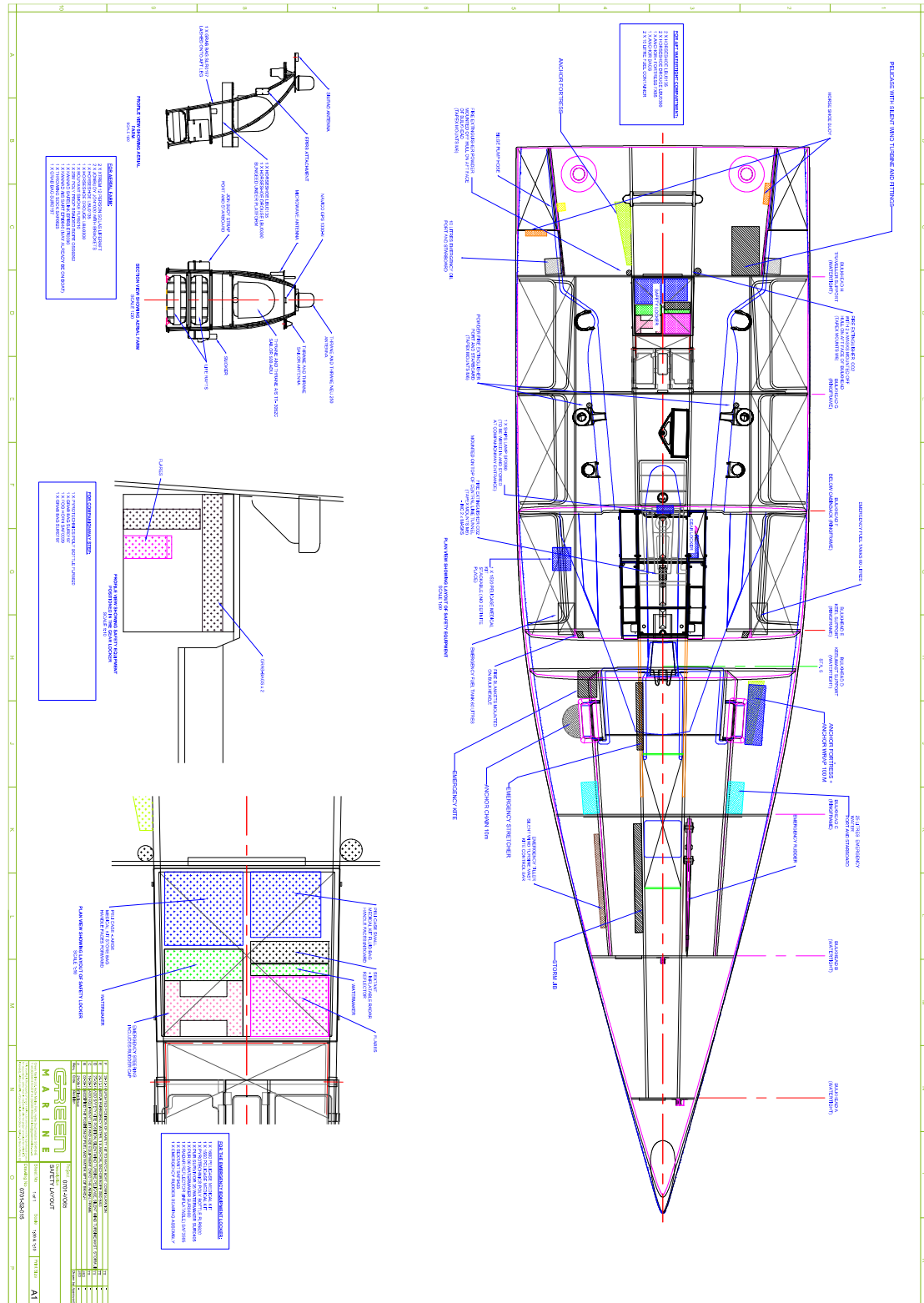
## APPENDIX H: SAFETY EQUIPMENT

|   |                                                                   |                              |
|---|-------------------------------------------------------------------|------------------------------|
|   | <b>Aerial Frame</b>                                               |                              |
| 1 | Liferaft 1                                                        | Aerial frame                 |
| 1 | Liferaft 2                                                        | Aerial frame                 |
| 1 | Horseshoe and drogue                                              | Aerial frame                 |
| 1 | Dbl. Inflatable Horseshoe                                         | Aerial frame                 |
| 1 | Bouyant Smoke                                                     | Aerial frame                 |
| 1 | Lifebuoy Light                                                    | Aerial frame                 |
| 1 | 25 metres of floating line                                        | Aerial frame                 |
| 1 | Heaving line (throwing sock)                                      | Aerial frame                 |
| 1 | Jonbuoy MkV                                                       | Aerial frame                 |
| 1 | Jonbuoy MkV                                                       | Aerial frame                 |
| 1 | Kannad Safelink, Cat 1 406Mhz EPIRB                               | Aerial frame                 |
| 1 | Line between runner chainplates                                   | Transom                      |
|   | <b>Aerial Frame or aft water tight comp</b>                       |                              |
|   | Grab bag 1                                                        | <b>Attached to the frame</b> |
| 1 | Flashlight + spare batteries                                      | Grab bag 1                   |
| 1 | Handheld VHF/DSC inc. GPS (includes Handheld GPS position fixing) | Grab bag 1                   |
| 1 | Kannad R10 AIS SRS                                                | Grab bag 1                   |
| 5 | Cyalume sticks                                                    | Grab bag 1                   |
| 1 | Bucket with a lanyard                                             | Grab bag 1                   |
| 1 | Pur 06 Watermaker + bag                                           | Grab bag 1                   |
|   | <b>Aft watertight compartment</b>                                 |                              |
| 1 | Anchor – Fortress FX85                                            | Aft watertight compartment   |
| 1 | 2kg Dry Powder Extinguisher                                       | Aft watertight compartment   |
| 1 | 2kg Co2 Fire Extinguisher                                         | Aft watertight compartment   |
| 1 | Dreager Parat C Smoke Hood                                        | Aft watertight compartment   |
| 1 | Dreager Parat C Smoke Hood                                        | Aft watertight compartment   |
| 1 | 10 Litres Emergency hydraulic oil                                 | Aft watertight compartment   |
| 1 | 10 Litres Emergency hydraulic oil                                 | Aft watertight compartment   |
|   | <b>Emergency Equipment Locker</b>                                 |                              |
| 1 | Medical Spare supply box 1                                        | Aft Equipment Locker         |
| 1 | Medical Spare supply box 2                                        | Aft Equipment Locker         |
| 1 | Ecomax Radar Reflector (inflatable)                               | Aft Equipment Locker         |
| 1 | Sextant – Davis Mk3                                               | Aft Equipment Locker         |
| 4 | Lifejacket Rearming Kits (Cylinder, Auto Head, Clips etc.)        | Aft Equipment Locker         |
| 1 | Kannad AIS SART                                                   | Aft Equipment Locker         |
| 1 | PUR Survivor 35 Watermaker                                        | Aft Equipment Locker         |
| 1 | Poly bottle of flares                                             | Aft Equipment Locker         |
| 1 | Emergency rudder bearing                                          | Aft Equipment Locker         |
| 1 | Emergency Nav lights                                              | Aft Equipment Locker         |

|            |                                                                   |                                    |
|------------|-------------------------------------------------------------------|------------------------------------|
|            | <b>Port equipment locker</b>                                      |                                    |
| 1          | Grab bag 2                                                        | <b>Attach to the soft eye</b>      |
| 1          | Flashlight+spare batteries                                        | Grab bag 2                         |
| 1          | Handheld VHF/DSC inc. GPS (includes Handheld GPS position fixing) | Grab bag 2                         |
| 1          | Kannad R10 AIS SRS                                                | Grab bag 2                         |
| 5          | Cyalume sticks                                                    | Grab bag 2                         |
| 1          | Fog Horn (oral)                                                   | Grab bag 2                         |
| 1          | Bucket with a lanyard                                             | Grab bag 2                         |
| 1          | Poly bottle of flares                                             |                                    |
| 1          | Swimmer Grab Bag                                                  |                                    |
| 1          | Lifejacket                                                        | Swimmer Grab Bag                   |
| 50m        | 8mm Polypropylene Braided Rope                                    | Swimmer Grab Bag                   |
| 1          | Swimmer of the Watch Fins                                         | Swimmer Grab Bag                   |
| 1          | Goggles                                                           | Swimmer Grab Bag                   |
| 1          | Hydraulic pump                                                    |                                    |
|            | <b>Between Bulkheads B &amp; H</b>                                |                                    |
| 1 per crew | Life jackets                                                      | Internal Stackable                 |
| 2          | Lifejacket Storage Bags                                           | Internal Stackable                 |
| 1 per crew | Lifejacket Lights                                                 | Internal Stackable                 |
| 18         | Waterproof Torch & Strobe Combined                                | Internal Stackable                 |
| 12         | Knife – Folding Blade, Blunt Nose                                 | Internal Stackable                 |
| 1 per crew | 2 Hook Lifeline with Strain Indicator                             | Internal Stackable                 |
| 3          | 3 Hook Lifeline with Strain Indicator                             | Internal Stackable                 |
| 14         | Kannad R10 AIS SRS                                                | Internal Stackable                 |
| 1 per crew | Wet weather gear                                                  | Internal Stackable                 |
| 1 per crew | Survival suits                                                    | Internal Stackable                 |
| 1          | Anchor – Fortress FX85                                            | port side                          |
| 1          | 12mm Galvanised Chain                                             | Stbd side                          |
| 2          | Galvanised shackles                                               | Stbd side                          |
| 1x100m     | Nylon Octoplait Anchor line                                       | port side                          |
| 1          | 25 litres Emergency drinking water                                | port side                          |
| 1          | 25 litres Emergency drinking water                                | Stbd side                          |
| 1          | Storm jib                                                         | stbd side of longitudinal          |
| 1          | Emergency rudder                                                  | Port side of longitudinal          |
| 1          | Emergency tiller                                                  | Stbd side of outboard longitudinal |
| 1          | Body splint                                                       | Stbd side of longitudinal          |
| 2          | 2kg Dry Powder Extinguisher                                       | Navigation area                    |
| 1          | 2kg Co2 Fire Extinguisher                                         | Top of central line tunnel         |
| 2          | Dreager Parat C Smoke Hood                                        | With CO2 extinguisher              |

|   |                                   |                            |
|---|-----------------------------------|----------------------------|
| 1 | Fire Blanket                      | Galley area                |
| 1 | Fire Blanket                      | Or by main hatch           |
| 1 | Ships Power Lamp                  | Top of central line tunnel |
| 1 | Emergency fuel-to the line        | Port                       |
| 1 | Emergency fuel-to the line        | Starboard                  |
| 1 | Boat righting instructions        | Bulkhead                   |
| 1 | SOLAS No: 1 Poster                | Bulkhead                   |
| 1 | Stowage chart                     | Bulkhead                   |
| 1 | Code of Practice Training Manual  |                            |
|   | Wooden plugs                      | Each skin fitting          |
| 1 | Day medical bag                   | Internal stackable         |
| 1 | Phone case                        | Optional                   |
| 1 | Volvo Penta spares                | Internal Stackable         |
| 2 | Emergency bilge pump and pipework |                            |
| 1 | Endoscope – 8mm KS Mari           |                            |

## APPENDIX I: SAFETY EQUIPMENT LAYOUT



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