



# IRC

International Rating Certificate



# Agenda



- \*Introduction
- \*General Principles
- \*Event Inspection Policies
- \*Event Inspection
- \*Feedback and Q&A

# Equipment Inspection

## What we are trying to achieve?

- \* Competitor confidence across the fleet
- \* Not too onerous, balance between equipment control and allowing boats to prepare and practice
- \* Competitor education
- \* Safety
- \* Policing equipment

# General Principles

## RRS, ERS, IRC Rule



- \* Racing Rules of Sailing
  - \* RRS 78 Compliance with Class Rules; Certificates
  - \* RRS 92 Technical Committee
- \* Equipment Rules of Sailing
  - \* C.4.3 Equipment Inspection
  - \* C.4.6 Equipment Inspector
- \* IRC Rule
  - \* Rule 8.10 Equipment Inspection
  - \* Rule 10 Rating Protests

# RRS – Technical Committee



## 92 TECHNICAL COMMITTEE

**92.1** A technical committee shall be a committee of **at least one member** and be appointed by the organizing authority or the race committee or as prescribed in the World Sailing Regulations.

**92.2** The technical committee shall conduct equipment inspection and event measurement as directed by the organizing authority and as required by the *rules*.

- 60.4** A technical committee may
- (a) protest a boat, but not as a result of information arising from a request for redress or an invalid *protest*, or from a report from a person with a *conflict of interest* other than the representative of the boat herself. However, it shall protest a boat if it decides that a boat or personal equipment does not comply with the class rules or with rule 50;
  - (b) request redress for a boat; or
  - (c) report to the protest committee requesting action under rule 60.3(d) or 69.2(b).



# ERS – Equipment Inspection

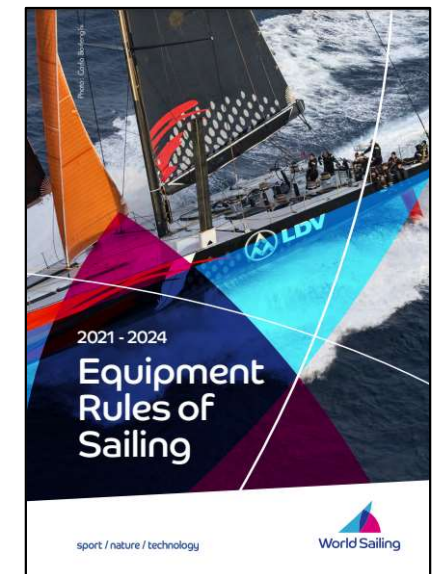


## C.4.3 Equipment Inspection

Control carried out at an event as required by the notice of race and the sailing instructions which may include **fundamental measurement**.

## C.4.6 Equipment Inspector

A person appointed by a technical committee to carry out **equipment inspection**.



- \* Equipment Inspector does not have to be an IRC measurer, but requires knowledge of measurement and inspection.



# IRC Rule



8.10.3 If during **Equipment Inspection** by an **Equipment Inspector**, or during measurement carried out under Rules 10.2 or 13.6, any rated dimension is found to exceed a maximum value or to be less than a minimum value, then the **boat** is not in compliance with her certificate.

8.10.4 Attention is drawn to Rule 13 and to RRS 78, Compliance with Class Rules; Certificates.

## 10 RATING PROTESTS

10.1 As permitted by the RRS, a rating protest may be submitted to a protest committee. A protest committee may refer the matter to the Rating Authority with the appropriate fee.

10.2 In the event of protest, the **boat**'s rated data may be re-measured by an authorised measurer.



# In case of rule infringement



- \* It's owner's responsibility to comply with certificate
  - \* Get permission from Race Committee/Jury to make changes or dispensation (i.e. not seeking competitive advantage).
- \* Pre-event – put it right, unless suspected RRS 2 (or RRS 69)
- \* Post-race – protest RRS 78



# RRS 78



## **78 COMPLIANCE WITH CLASS RULES; CERTIFICATES**

- 78.1** While a boat is *racing*, her owner and any other person in charge shall ensure that the boat is maintained to comply with her class rules and that her measurement or rating certificate, if any, remains valid. In addition, the boat shall also comply at other times specified in the class rules, the notice of race or the sailing instructions.

# RRS 2



## 2 FAIR SAILING

A boat and her owner shall compete in compliance with recognized principles of sportsmanship and fair play. A boat may be penalized under this rule only if it is clearly established that these principles have been violated. The penalty shall be a disqualification that is not excludable.

# Pre-event Inspection



- \* **Facilities:**

- \* Large indoor area required for sail inspections, minimum 20m x 10m to measure one sail at a time. A large area is preferable and will allow measuring 2 sails at a time.
- \* Carpet/wood floor, lighting, wifi and power are essential.

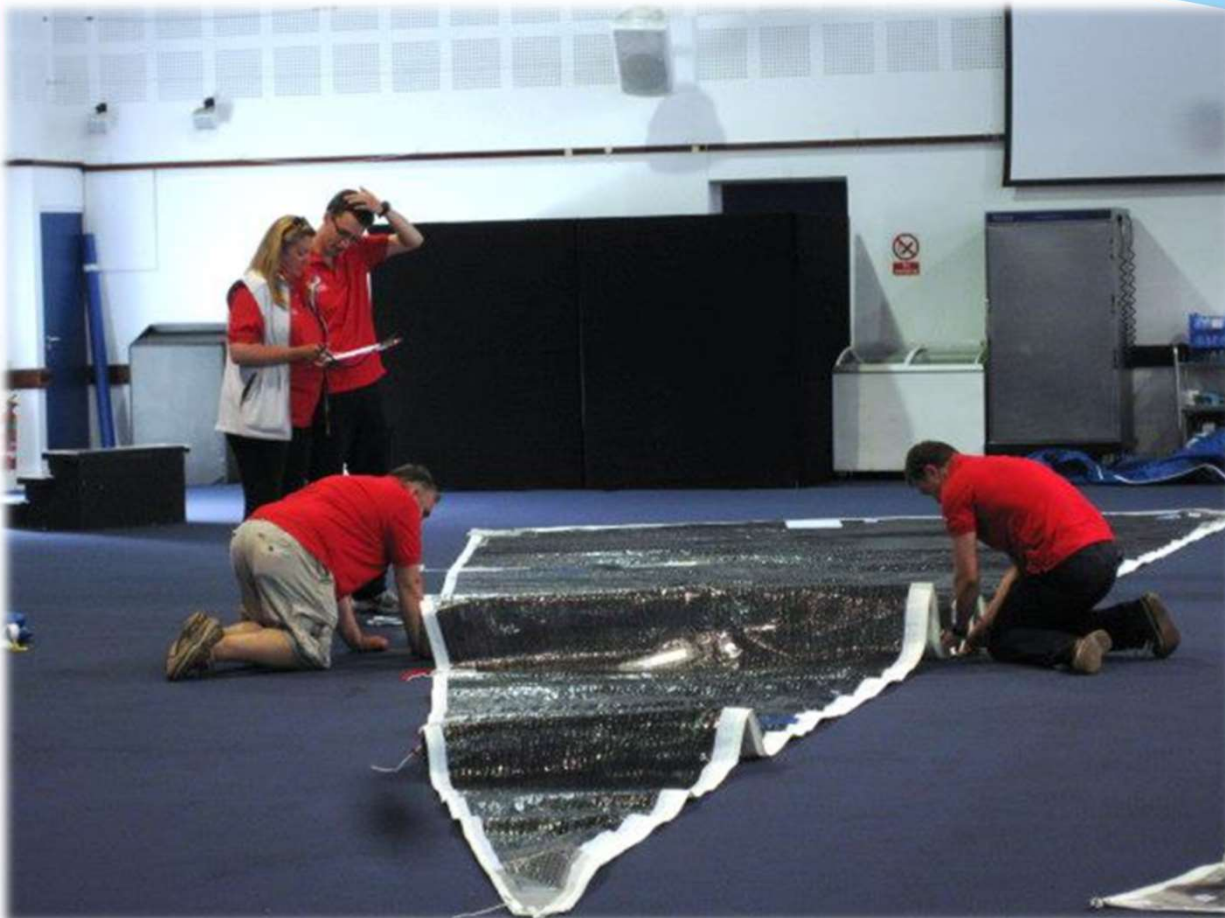
- \* **Team:**

- \* 2 measurers, 4 (or more!) knowledgeable volunteers

- \* **Roles:**

- \* 2 measurers - sails inspection with 2 volunteers
- \* 2 measurers and volunteer - boat inspection random certificate data checks
- \* 1 admin/ratings: front of house, checking in owners, checking certificates, etc

# Facilities





# Pre-event Inspection



- \* **Schedule:**
- \* Saturday 10:00 – 17:00 (to 18:00 to clear up any outstanding issues)
- \* Sunday 09:00 – 17:00 (to 18:00 to clear up any outstanding issues)
- \* Monday 09:00 – lunch
- \* Boats allocated an inspection time slot of ~20 minutes per boat. With a 15 minute break time after 5 boats to allow for catch up time.
- \* First 2-3 boats on the first day allocated 30 minutes to allow time to get inspection processes working
- \* OSR inspections can be done on the same schedule and coordinated with OSR inspection team.
- \* A measurement worksheet will be completed for each boat.

# Pre-event Inspection



## \* Inspections:

1. Sail Inspections will consist of measurement of mainsail, headsail and/or spinnaker dimensions (depending on requested sails). HSA and SPA will be calculated when dimensions are measured.
2. Boat inspections will consist of the following:
  - a. P and E bands check (and measurement if in doubt)
  - b. Aft rigging check
  - c. Cushions, tables and doors with a pictures
  - d. STL measurement
  - e. Internal ballast check



# Post Race Inspection



- \* **Facilities:**

- \* Rib is required, large indoor area in case of sail inspections for repairs (local yacht haven sailmaker loft may be suitable)
- \* Alternatively, but less preferable, checks can be done as boats arrive at the dock.

- \* **Team:**

- \* 2 measurers and 1 volunteer (rib driver TBC)

- \* **Roles and Schedule:**

- \* Check 2 to 3 boats directly after finishing for sails and other on the water rating data simple checks.
- \* Reason to choose boat: e.g. boat leading the Class after penultimate race of the day unless previously inspected, then next boat and so on. (results are not immediately available)

# Policies



## \* **Technical Committee**

1. The Event Technical Committee (TC) (as listed above) are appointed in accordance with Racing Rules of Sailing 92. The chairman is .....
2. Any decisions regarding a measurement or re-rating a boat shall be made only by the full Event Technical Committee.

## \* **Communications to Competitors**

1. Measurers shall not offer advice to competitors and always conduct equipment inspection with another member of the measurement team.
2. Measurers shall communicate and answer questions in a language that any attending measurement team and sailors all understand to avoid confusion or suspicion.

# Policies



## \* **Measurement Schedule**

1. Changes to a team's scheduled timeslot may be permitted by the TC if a timeslot is available or provided that if an alternative slot is not available the affected team finds and agrees with another team for the swap.
2. All teams shall present their full set of equipment as requested during their assigned timeslot. When part(s) of the equipment are not ready for inspection during that time, the affected team may arrange with the TC for an appropriate timeslot at a later time.

# Policies



## \* Pre-race Procedures

1. In all verified cases of non-compliance, the exact nature and detailed description of the non-compliance shall be recorded on the inspection forms and the affected team notified.
2. No corrections / modifications are to be performed inside the Equipment Inspection Area, unless explicitly permitted by the TC.
3. Each team shall present only one item for each inspected or controlled piece of equipment. The TC may permit the withdrawal of the first item of equipment and its substitution by a second item of equipment.
4. The TC shall notify the Race Committee about any boats that have not satisfactorily completed equipment inspection after the end of the pre-race equipment inspection period.

# Policies



## \* **Post-race Inspections**

1. Inspections may be performed in a pro-active role, as approved by the TC. These inspections will be performed by the Measurer working together with the respective TC member(s) as a team.
2. Dock inspections may include any items relevant to each Event as agreed in advance by the TC, such as internal ballast, event limitation marks and boat fittings that are limited by the IRC Certificate.
3. If an item of equipment does not comply with the event equipment rules the TC shall protest, except in the following circumstances:
4. Where equipment is damaged or lost and needs repair or replacement in accordance with the NoR/SIs.
5. Once the event has started, pre-race inspections are to be avoided, except where a competitor directly asks for a specific check in his boat.

# Policies



## \* Post-race Inspections

6. Measurer boats will be crewed by an Event Measurer and another member.
7. At the finish, Measurer boats will be positioned near a committee boat in order to get near the boats as soon as possible after the boats finish. They will keep clear of any active race committee or media boats.
8. Post-Race on the water inspection will include such items as agreed in advance by the TC for each Event.
9. After the last race of each day, boats may be escorted back to shore for more detailed inspections. These inspections will be performed at the Dock or in the Equipment Inspection Area. Boats selected for shore inspection shall be informed so at the finish, and coach or other boats shall be prohibited from coming close during the trip back to the sailing venue unless permitted by the Measurer. Shore controls will be performed with the assistance of other Measurers.
10. The operator of a Measurer boat will promptly advise the Course Race Officer if they believe their boat has substantially affected one or more boats racing.
11. Avoid post race inspection after the last race, unless suspect infringement.



# Options



## On Boat Checks

- Compliance with IRC Certificate

- Compliance with OSR Special Regulations Category (Safety Equipment)

## Off Boat Checks (if facilities allow)

- Sail Measurement

# IRC Certificate



**IRC GBR**  
RORC Rating Office  
www.rorcrating.com +44(0)1590 677030 info@rorcrating.com

**IRC**

**BOAT:**  
Name: BEAUTIFUL ZELDA  
Sail Number: GBR1666R  
Design: JUNIPER 32  
Cert No.: 6676  
Crew No.: 8 (680 kg)

**TCC: 1.101**  
**Year: 2022**  
**ENDORSED CERTIFICATE**  
Valid from: 24 Mar 22 15:45:20  
Expires: 31 Dec 22  
No Spinnaker TCC: 1.096

**NOTES:**  
Issue: Revalidation  
Seahorse weighed & measured - Table Removed  
Sail data IHC

HULL		OVERHANGS		HULL KEEL & ENGINE NOTES	
LH	10.75	BO	0.45	Series Date: 2001, Age Date: 2009	
LWP	9.29	x	0.17	Internal ballast: 50 kg	
Hull Beam:	3.51	h	0.10	Weight includes batteries/cushions	
Boat Weight:	4900	SO	1.01	200L water ballast per side	
DLR	194	y	0.23	Low vsg solid steel+bulb keel. No wing keel	
Draft:	2.10			Inboard engine : Weight 114 kg	
Bulb weight:	2390			2 blade folding/feathering propeller	
				Hull Factor: 10.8	

RIG & MAINSAIL		MIZZEN		HEADSAIL		FLYING HEADSAIL		SPINNAKER	
P	16.00	PY	—	HSA	44.02	FSA	67.83	SPA	84.97
E	5.02	EY	—	HLUmax	13.70	FLU	17.00	SLU	17.00
J	4.05	LLY	—	HLU	13.70	FLP	7.00	SLE	15.50
FL	14.81	LPY	—	HLP	6.54	FUW	1.00	SFL	7.50
MUW	1.10	ID#		HUW	0.82	FTW	2.25	SHW	6.00
MTW	1.00			HTW	1.85	FHW	4.50	ID#	48504
MIHW	3.25			HHW	3.27	FSFL	7.00		
ID#	45189			ID#	74345	FSHW	5.00	SPL	4.10
						ID#	74589	STL	5.00

**RIG & SAIL NOTES**  
Bermudian Sloop, Rig Factor: 1.044  
Max number of spinnakers carried: 2  
Max number of flying headsails carried: 1, STLFHmax: 5.00 m  
Spinnaker pole(s) AND bowsprit/deck tack point  
NO whisker pole set to leeward  
Single hurling headsail plus OSR H/W jib

**OWNER**  
Howells, J  
c/o Seahorse Rating Ltd  
SOH13SE

**STABILITY & SAFETY**  
STIX: 33  
AVS: 129  
SSS: 24  
ISO/IRC Design Category: A  
World Sailing Plan Review: N/A  
World Sailing OSR compliant lifelines fitted

IRC Rule 5.6 Change of ownership and/or changes in sail number will automatically invalidate the rating certificate.  
IRC Rule 5.9 Physical changes which might affect the performance of the boat shall be declared and may invalidate the rating certificate.  
IRC Rule 13.7 The accuracy of the measurements supplied shall be the owner's responsibility.  
IRC Rule 13.4 It is a breach of the Rules of IRC for any owner or individual to intentionally supply false information.

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- \* Possible Items to Check:
- \* Internal Ballast
- \* Rig Dimensions
- \* Sails
- \* Rig Details
- \* Rig Adjustment
- \* Use of Stored Power
- \* Outboard Engines
- \* Use of Water Ballast
- \* Review Certificate notes

# Pre Event Preparation



## Before the Event:

Check Notice of Race & Sailing Instructions for Amendments in relation to IRC / OSR Criteria.

Prepare checklists / distribute as required.

Prepare an inspection schedule and distribute to competitors.

Review certificates.

# Internal Fit Out

## \*Items to Check

- \*Configuration:- Does the configuration look like there are items missing?
- \*If an Owner has declared items removed doors, cookers, tables etc this should be identified in the certificate notes.

### NOTES:

Issue: Amendment - weighed and measured 5/21

Seahorse weighed and overhangs RORC measured 5/21; rig RORC meas 5/21; table removed; water ballast not in use

Sail data North IHC 5/21



# Rig & Rigging



- \* Configuration:- Does the configuration match the certificate?
- \* Mast Material – Carbon, Wood, Aluminium
- \* No of Spreaders
- \* Aft Rigging – No of Sets
- \* Rigging Material Rated options:
  - \* Wire
  - \* Rod
  - \* Composite
  - \* Rod with composite forestay
  - \* Wire with rod forestay
  - \* Wire with composite forestay.



Carbon Mast, Rod standing rigging  
Mast foot/forestay not adjusted while racing  
2 Spreader/Jumper (sets)  
1 Aft Rigging (Sets)  
Manual power only for running rigging



# Furling Headsail

- \* Boats with a furling headsail & HLP greater than  $1.3 \times J$  can be rated for either:
- \* A single furling headsail or:
- \* A single furling headsail & a heavy weather jib
- \* Check that its understood the headsail can't be changed and also that the headsail area is greater than 95% of the rated headsail area.
- \* Reference IRC Rule 21.8

## RIG & SAIL NOTES

Bermudian Sloop, Rig Factor: 1.044

Max number of spinnakers carried: 2

Max number of flying headsails carried: 1, STLFHmax: 5.00 m

Spinnaker pole(s) AND bowsprit/deck tack point

NO whisker pole set to leeward

Single furling headsail plus OSR H/W jib



# P & E



- \* **Items to Check**

- \* Are they in position?
- \* Do they look like they could have moved – nicely painted or stretched pvc tape?
- \* If you are planning on checking P bands advise teams to have someone available to go up the rig.



# Spinnaker Poles & Bowsprits

## \* Items to Check

- \* Configuration:- Does the configuration match the certificate?
- \* STL (Bowsprit / Sail Tacked on Deck) / SPL (Spinnaker Pole Length): - Potential to check measurements against certificates. A quick check for bowsprits is to measure STL from Forestay (STL – J). If any discrepancy found then measure from forward face of mast.

### RIG & SAIL NOTES

Bermudian Sloop, Rig Factor: 1.044

Max number of spinnakers carried: 2

Max number of flying headsails carried: 1, STLFHmax: 5.00 m

Spinnaker pole(s) AND bowsprit/deck tack point

NO whisker pole set to leeward

Single furling headsail plus OSR H/W jib

### SPINNAKER

SPA 84.97

SLU 17.00

SLE 15.50

SFL 7.50

SHW 6.00

ID# 48594

SPL 4.10

STL 5.00



# Stored Power

- \* **IRC Rates Stored Power with 3 Options**
- \* Options are: Manual Only, Backstay Only or Running Rigging (Sheets etc)
- \* All running rigging – Look for evidence of powered winches – Buttons etc

3 Spreader/Jumper (sets)  
2 Aft Rigging (Sets)  
Manual power only for running rigging



3 Spreader/Jumper (sets)  
2 Aft Rigging (Sets)  
Stored power used for backstay only



3 Spreader/Jumper (sets)  
2 Aft Rigging (Sets)  
Stored power used for running rigging

# Forestay & Mast Foot Adjustment



## \* IRC Rates Stored Power

- \* 21.1.6 (b) A **boat** fitted with or carrying on board systems to adjust the forestay while *racing* shall declare this to the Rating Authority. This includes a system with the power system disconnected or removed from the **boat**. The **boat** may then adjust the forestay while *racing*, but shall not detach the forestay. Locked conventional turnbuckles that are not adjusted while *racing* need not be declared.
- \* A **boat** fitted with or carrying on board systems, to adjust the mast foot while *racing* shall declare this to the Rating Authority. Unless the **boat** declares that such systems will not be used while *racing*, the **boat** may then adjust the mast foot vertically and/or longitudinally while *racing*.

Aluminium Mast, Rod rigging with composite forestay  
Forestay only may be adjusted while racing  
3 Spreader/Jumper (sets)  
2 Aft Rigging (Sets)  
Manual power only for running rigging

**STABILITY & SAFETY**





# Internal Ballast

- \* IRC Certificate will list if internal ballast is Fitted and the amount in kg
- \* Visual check or approximate volume calculation
- \*  $\text{Length (m)} \times \text{Width (m)} \times \text{Height (m)} \times 11,000 = \text{Weight in kg}$



# Sail Event Limitation

- \* **Sail Measurement or Event Limitation**
  - \* IRC Rule 21.1.5 (d)\* restricts swapping sails for regattas run on consecutive days.
  - \* Option to use Event Limitation stickers / stamps to control swapping sails.
  - \* \*Unless modified by a Notice of Race
- (d) during a regatta run on consecutive days, including any lay days, the **sails** on board shall remain the same and be on board for all races. This Rule may be amended by Notice of Race.





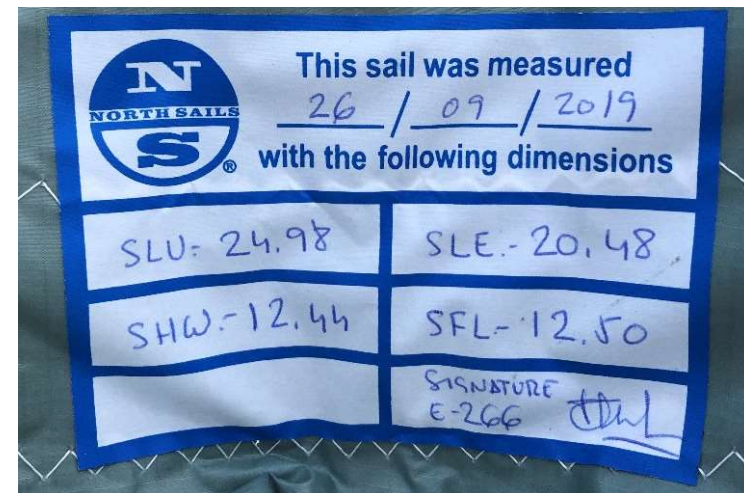
# Checks on Sails

## \*Items to Check

- \*Check sail is measured – IHC Label, RYA Label or Measurement Stickers
- \*IHC Sticker Reference Number for largest sail on IRC Certificate
- \*If Measurement on sails, option to check Areas / Dimensions against certificate,
- \*Useful to have spreadsheet ready to calculate headsail & spinnaker areas.

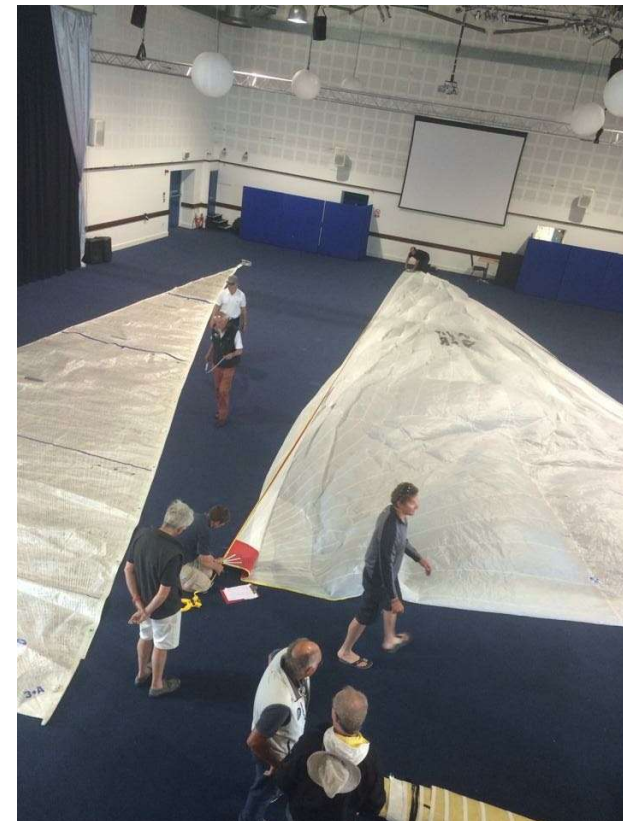


HEADSAIL	
- HSA	44.92
- HLUmax	13.70
- HLU	13.70
- HLP	6.54
HUW	0.82
HTW	1.65
HHW	3.27
ID#	74345



# Sail Measurement

- \* Decide on sails to be measured in advance,
- \* Remind teams to be ready:- Battens out, Leech lines eased, Cables out of Code Zeros
- \* Don't just choose the largest



# Sail Condition for Check

- \* Make sure they are dry! If wet consider putting them to the back of the queue.
- \* Also if battens not removed depending on timing send them to the back. Useful to have a batten prodder and screwdrivers available for teams to borrow to keep the process flowing.
- \* Leech line won't have been eased, mark line so the original position can be reproduced.





# OSR / Safety Checks



## \* Items to Check

- \* Decide on process items to check based on Inshore / Offshore race & OSR Category,
- \* Provide checklists to competitors in advance. Either event specific or OSR Category generic lists on World Sailing Website.
- \* Don't forget to pick up any event NOR amendments to OSR Requirements.
- \* Inshore Only – Regatta perhaps focus on making sure the heavy items are in place,
- \* Offshore Race – More focus on the detail,
- \* Aim to check the same items on all boats.



## World Championships – October 2021

Compliance with the Class Rules and Special Regulations are the responsibility of the Owner / Person in Charge. Boats may be spot checked during Equipment Inspection or Post Race.

### WORLD SAILING SPECIAL REGULATIONS: CATEGORY 4 EQUIPMENT & CS50 Class Rules

1.	2.04.2	Batteries and other heavy equipment fastened down	.....
2.	3.14.1 & RRS49.2	Lifelines taut	.....
3.	3.23.1(a)	2 Buckets with lanyards	.....
4.	4.03	Softwood Plugs.	.....
5.	4.05	2 Fire Extinguishers in different part of the boat	.....
6.	4.06	1 Anchor (minimum weight 8.0kg) with minimum 30 meter of 8mm rope and chain for a minimum combined total weight of 25kg,	.....
7.	4.07	1 Flashlight with Spare bulbs & batteries	.....
8.	4.08	First aid kit and manual	.....
9.	4.09	Foghorn	.....
10.	4.10	Radar Reflector	.....
11.	4.16.2	Hacksaw / Bolt croppers (or equivalent to cut rigging)	.....
12.	4.22.3	Lifebuoy with light. Whistle and drogue within reach of the helmsman & ready for immediate use	.....
13.	4.22.7	Heaving line - Min 6mm dia & 15 – 25m long readily accessible to cockpit	.....
14.	4.23.1	Flares: 2 orange smoke flares:	.....
15.	4.25	Cockpit knife	.....
16.	4.26.2 (a)	Storm jib OR mainsail reef 2 & reef line	.....
17.	5.01	150 N Lifejackets fitted with crotch/thigh straps.	.....

### SAIL MEASUREMENT CHECKS

Sails will be spot checked by the Technical Committee for Certification Marks & CS50 Sail Cards

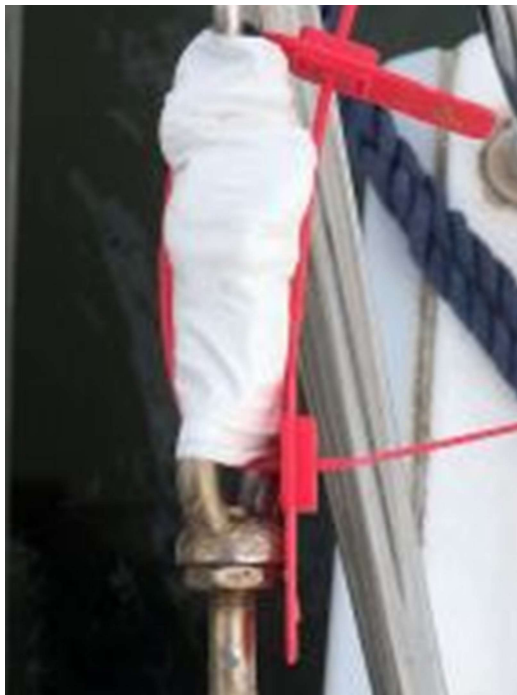
The full compliance with OSR ([www.sailing.org](http://www.sailing.org)) is the sole responsibility of the person in charge and it cannot be limited to the present inspection card (OSR 1.02). The OSR do not replace, but rather supplement, the requirements of governmental authority, or any other rules or regulations (OSR 1.01.2).

PLEASE NOTE THAT OTHER ITEMS MAY BE CHECKED AT ANY TIME DURING THE REGATTA

# Lifeline Tension

## \* Requirement Detailed in OSR

- i) When a deflecting force of 4 kg (8.8 #) is applied to a lifeline at the mid-point of the longest span between supports that are aft of the mast, the deflection shall not exceed:
  - i 50 mm (2") for an upper or single lifeline
  - ii 120 mm (4 ¾") for an intermediate lifeline



# Possible Post Race Checks



Sails on Board – Number of Spinnakers

Safety Equipment Especially Heavy  
Items – Anchors, Fire Extinguishers

Removal of internal items, tables, doors  
etc

Crew Number

Internal Ballast



# Post Race Sails Checks



- \* Number of Spinnakers / Flying Headsails
- \* Check aft & under bunks for extra spinnakers
- \* Area check on sail used in race, if the numbers don't match the certificate follow up by measuring the sail ashore

build this sail, which loft did?				
SLU	17.05	ID: <input type="text"/>		
SLE	15.00			
SFL	8.00			
SHW	5.92			
		SHW < 75% SFL - check data		
		Calc SPA	<input type="text" value="84.27"/>	Fr
build this sail, which loft did?				

# Changing Sails During a Regatta



- \*The default IRC Rule 21.1.5 is that for a regatta run on consecutive days the sails on board should remain the same.



# Outboards

- \* **Items to Check**
- \* If the boat is rated with an outboard check it's onboard & weight matches certificate
- \* Either weigh the engine or manufacturers information plate / internet spec check



# Thank you



\*Any questions?

\*[www.ircrating.org](http://www.ircrating.org)

\*[info@rorcrating.com](mailto:info@rorcrating.com)

March 2022