

2011 PACER CLASS RULES

Authority:

Pacer Australia
Pacer Australia Incorporated



These Rules are based on the ISAF Equipment Rules of Sailing

INDEX

Part I Administration

Section A - General

- A.1 Introduction
- A.2 Abbreviations
- A.3 Authorities, Responsibilities & Administration
- A.4 Pacer Class Rules
- A.5 Registration Fee, Registration Plate & Sail Numbers
- A.6 Measurement Certificate & Measurement Form

Section B - Certification

- B.1 Compliance
- B.2 Boat Eligibility

Part II Measurement – Requirements & Limitations

Section C - Conditions for Racing

- C.1 Rules
- C.2 Crew, Safety Equipment & Advertising
- C.3 Boat
- C.4 Flotation
- C.5 Spars
- C.6 Sails

Section D - Hull

- D.1 Hull Definitions
- D.2 Hull Measurement Sections & Baseline
- D.3 Hull Shape
- D.4 Hull Construction & Materials
- D.5 Hull Weight
- D.6 Hull Corrector Weights
- D.7 Buoyancy Tanks
- D.8 Keel Strip & Gunwale
- D.9 Hull Fairing
- D.10 Chine Rounding
- D.11 Cockpit & Inside Hull
- D.12 Depth from Sheerline
- D.13 Assembled Hull
- D.14 Hull Options

Section E – Hull Appendages

- E.1 Centreboard
- E.2 Rudder Blade

Section F – Rig

- F.1 Mast
- F.2 Boom
- F.3 Spinnaker Pole
- F.4 Standing Rigging
- F.5 Running Rigging

Section G – Sails

- G.1 Mainsail
- G.2 Jib
- G.3 Spinnaker

Part III – Appendices

Section H – Class Insignia

- H.1 Class Insignia

PART I ADMINISTRATION

Section A– GENERAL

A.1 INTRODUCTION

- A.1.1 The Pacer is a one-design double chined dinghy designed by Jack Holt that was introduced to Australia in 1969
- A.1.2 The Pacer Class Rules are **closed class rules**.
- A.1.3 Compliance with the **class rules** is demonstrated through **certification control** and **equipment inspection**.
- A.1.4 The word “shall” is mandatory and the word “may” is permissive.
- A.1.5 Except where used in headings, for a term printed in “**bold**” type, the ERS definition applies and for a term in “*italic*” type the definition in the RRS applies.

A.2 ABBREVIATIONS

- A.2.1 ISAF International Sailing Federation
- A.2.2 ERS ISAF Equipment Rules of Sailing
- A.2.3 RRS ISAF Racing Rules of Sailing
- A.2.4 YA Yachting Australia

A.3 AUTHORITIES, RESPONSIBILITIES & ADMINISTRATION

- A.3.1 The authority of the class is Pacer Australia.
- A.3.2 Pacer Australia, an **official measurer** or an **equipment inspector** are under no legal responsibility with respect to these **class rules**.
- A.3.3 Pacer Australia administers the Class.
- A.3.4 Pacer Australia may delegate part or all of its functions, as stated in these **class rules**, to an affiliate.

A.4 PACER CLASS RULES

- A.4.1 The Pacer **Class Rules** shall be read in conjunction with the ERS and the special regulations of YA and interpreted in accordance with these rules
- A.4.2 Any interpretation of the Pacer **Class Rules** required at an event shall only be valid during the event and the organising authority shall, as soon as practical after the event, inform Pacer Australia.
- A.4.3 Amendments to the Pacer **Class Rules** shall be approved by Pacer Australia in accordance with the ISAF, YA regulations and the Pacer Australia Constitution.

A.5 REGISTRATION FEE, REGISTRATION PLATE & SAIL NUMBERS

- A.5.1 The Professional Builder of a Pacer **hull** shall pay the Registration Fee to Pacer Australia who shall issue a sail number and a registration plate so marked.
- A.5.2 The Owner of a Pacer **hull** without a registration plate and/or sail number shall pay the Registration Fee to Pacer Australia who shall issue; after **certification** a sail number and a registration plate so marked.

A.6 MEASUREMENT CERTIFICATE & MEASUREMENT FORM

- A.6.1 A Measurement Form is an official document completed by the **official measurer** on behalf of Pacer Australia when a **boat** is measured.
- A.6.2 A Measurement Certificate is an official document issued by the **official measurer** on behalf of Pacer Australia as a record of **certification**.

Section B– CERTIFICATION

B.1 COMPLIANCE

- B.1.1 There are no licensed builders, moulds, kits or suppliers of equipment in the Pacer Class.
- B.1.2 **Certification control** including **fundamental measurement** of the **hull** and **hull appendages, sails**, rigging, **spars** and other equipment is required to demonstrate compliance with the **class rules**; except that an **official measurer** may be authorised by delegation from Pacer Australia to –
- B.1.2.1 **Certify** Pacer equipment at their discretion including Pacer **hulls** produced from glass reinforced plastic in female moulds without conducting **fundamental measurement** of certain items, and
- B.1.2.2 Record on the relevant part of the measurement form the notation “reliable source”; and
- B.1.2.3 Verify this procedure by subjecting to **fundamental measurement** any Pacer **hull** or equipment **certified** by such delegation, when required by Pacer Australia.
- B.1.3 A measurement **certificate** applies to one boat at one time and for one owner(s) who shall be individual member(s) and /or associates of the class association or a recognised organisation, of the class association, and shall become invalid upon a change of ownership or equipment subject to **certification control** including **fundamental measurement**.
- B.1.4 All **boats** constructed before 31 December 2001 measured under these rules shall be subject to “consideration” in relation to any **hull** measurement discrepancies. These **boats** shall be “deemed to measure” where the discrepancy is considered reasonable at the discretion of Pacer Australia.
- B.1.5 Notwithstanding anything contained herein, Pacer Australia has the right to grant, nullify, refuse to grant or withdraw a measurement **certificate** and/or endorsements. Owners are to return their measurement **certificates** to Pacer Australia upon request.

B.2 BOAT ELIGIBILITY

- B.2.1 The **hull** shall have a valid measurement **certificate** issued by an **official measurer**, with **hull appendages, rig and sails** included and **hull corrector weight** details if applicable, except that the **official measurer** must comply with Rule 37 of the Constitution.
- B.2.2 For any repair and/or alteration affecting **fundamental measurement**, an **official measurer** shall verify on the measurement **certificate** that external shape after repair complies with the **class rules**.
- B.2.3 The Registration Plate shall be permanently fixed to the **hull** on the inner surface of transom or rear buoyancy tank.
- B.2.4 Sails shall have current **certification marks** recorded by an **official measurer**.
- B.2.5 Flotation capability requirements are compliance with the relevant YA special regulations for "off the beach boats" or YA approved equivalent; and –
- B.2.5.1 An **official measurer** shall not issue a measurement **certificate**, or on behalf of Pacer Australia shall immediately withdraw a measurement **certificate** for a **boat** where evidence is found of inadequate flotation capability.
- B.2.5.2 The Owner's responsibility shall be to maintain their **boat** to comply with this flotation capability
- B.2.5.3 A race committee may require a **boat** to pass a flotation test

PART II MEASUREMENT – REQUIREMENTS & LIMITATIONS

Section C – CONDITIONS FOR RACING

C.1 RULES

- C.1.1 In addition to the Pacer **Class Rules**, the ERS, the RRS and the YA Special Regulations for Off the Beach boats; Appendix B – the Pacer Sailing Rules shall apply.

C.2 CREW, SAFETY EQUIPMENT & ADVERTISING

- C.2.1 The safety equipment, **personal equipment**, responsibility and limitations of the **crew** and restrictions on advertising are set out in Appendix B – the Pacer Sailing Rules.

C.3 BOAT

- C.3.1 Only one set of equipment shall be used during an event, except when equipment has been lost or damaged beyond repair and with the approval of the race committee.
- C.3.2 **Certification marks** on **sails** may be recorded during an event prior to racing.

C.4 FLOTATION

- C.4.1 Flotation capability requirements are set out in Rule B.2.5

C.5 SPARS

- C.5.1 The mainsail shall be set within the **limit marks**, in accordance with Rules F.1.5, F.1.6 and F.2.3
- C.5.2 Mainsail **luff** and **foot** bolt ropes shall be in the **spar** tracks, except for **luff** and **foot** free distances in Rule G.1.10

C.6 SAILS

- C.6.1 Each **boat** shall have identification on sails that complies with the requirements of *RRS Appendix G* governing class insignia and numbers on **sails**, except that the jib and spinnaker do not require class insignia and numbers on **sails**.

Section D – HULL

D.1 HULL DEFINITIONS

- D.1.1 G – Gunwale / **Sheerline** Intersection of outside face of topside and top of gunwale.
- D.1.2 L – Lower Chine Intersection of bottom panel and bilge panel.
- D.1.3 U – Upper Chine Intersection of bilge panel and topside.
- D.1.4 S – Skin Skin of **hull** under centreline of keel strip.
- D.1.5 E – Stem line extension point Intersection of baseline and prolongation of upper stem
- D.1.6 C – Chine point Intersection of two panels with prolongation near a chine.
- D.1.7 Girth measurements are non-axial athwartships dimensions taken at the measurement sections on the outside of the **hull** between the chine points C located with the “spacers” in Rule D.10.4 when required and within the tolerance in Rule D.10.1

D.2 HULL MEASUREMENT SECTIONS & BASELINE

- D.2.1 **Hull** measurement sections perpendicular to baseline and parallel to plane of aft face of transom measured from aft face of transom.
- D.2.1.1 T – Aft face of transom perpendicular to the baseline
- D.2.1.2 A – 1030mm near the aft end of the centrecase
- D.2.1.3 F – 2150mm near the forward end of the centrecase
- D.2.1.4 B – 2795mm
- D.2.2 **Hull** baseline is an axis in the **hull** centre plane located by two points:
- D.2.2.1 **Hull datum point**: 197mm from the **hull**, excluding the keel strip in the centre plane at T
- D.2.2.2 A point 70mm from the skin of the **hull** in the centre plane at B and 2795mm from T

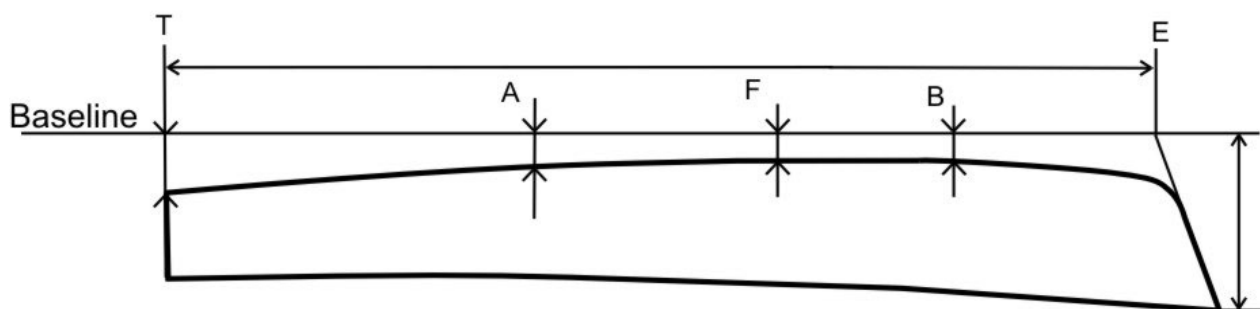
D.3 HULL SHAPE

D.3.1 Distance from baseline to S on the centreline shall be within $\pm 15\text{mm}$ of the measurements below, measured perpendicular to baseline.

D.3.2 Baseline Dimensions

Section	mm
A	100 ± 15
F	50 ± 15

D.3.3 Hull Measurement Sections Diagram



D.3.4 Length of baseline from T to extension E of stem line - $3655 \pm 30\text{mm}$

D.3.5 Baseline to top of stem, where it intersects G - $730 \pm 20\text{mm}$

D.3.6 Length overall, from T to fore edge of stem where extension of stem line intersects G - $3840 \pm 20\text{mm}$

D.3.7 Hull sections shall conform with the following tables and diagram -

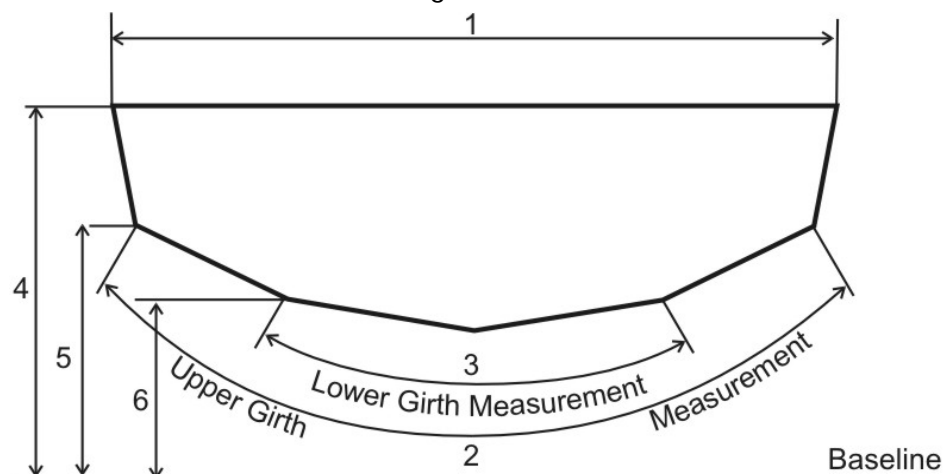
D.3.8 Hull Section Measurements

1	beam at sheerline
2	upper girth measurement between upper chine points C
3	lower girth measurement between lower chine points C
4	height from baseline to sheerline
5	height from baseline to U
6	height from baseline to L

D.3.9 Hull Dimensions

Section	Measurement (mm)					
	1	2	3	4	5	6
T	1276 ± 12	1150	580	480 ± 10	290 ± 10	187
A	1472 ± 18	1295	808 ± 22	515	183	93
F	1335	1240	730	562 ± 13	218	78
B	1010	998 ± 22	540	610	292	142
*Tolerance	± 15	± 20	± 20	± 15	± 12	± 12

* Unless stated with the above measurements

D.3.10 **Hull Dimensions Diagram**D.4 **HULL CONSTRUCTION & MATERIALS**

- D.4.1 **Hull** construction material is wood and/or glass reinforced plastic and/or foam sandwich, which are those, in general use in the Pacer Class and exclude exotic fibres and materials.
- D.4.2 Nominal thickness of wooden **hull** panels, decks, bulkheads and tank sides throughout are 4mm minimum, except bottom panels are 6mm minimum five ply, 2400mm in length from transom section at T.
- D.4.3 **Hull** construction material is of uniform density with less than 10% variation without **ballast**, except where noted in Rule D.4.2

D.5 **HULL WEIGHT**

- D.5.1 **Hull weight:** 59kg minimum
- D.5.2 **Hull** shall be in dry condition including all permanent fixtures and fittings, excluding the **centreboard**, **rudder**, rudder box and tiller.
- D.5.3 Initial weighing shall be done before the **boat** is launched for the first time or after the boat has been kept in a dry condition for at least seven days.

D.6 **HULL CORRECTOR WEIGHTS**

- D.6.1 **Hull corrector weights** where applicable, to a maximum of 5kg shall be permanently fastened under the centre thwart

D.7 **BUOYANCY TANKS**

- D.7.1 Buoyancy tanks are formed by the decking, bulkhead(s), vertical side tank panels, **hull** shell and if installed, the optional rear buoyancy tank.
- D.7.2 Piercing of buoyancy tanks to facilitate the fitting of spinnaker chutes and compasses is specifically forbidden.
- D.7.3 Separate buoyancy compartments: 2 minimum

D.8 KEEL STRIP & GUNWALE

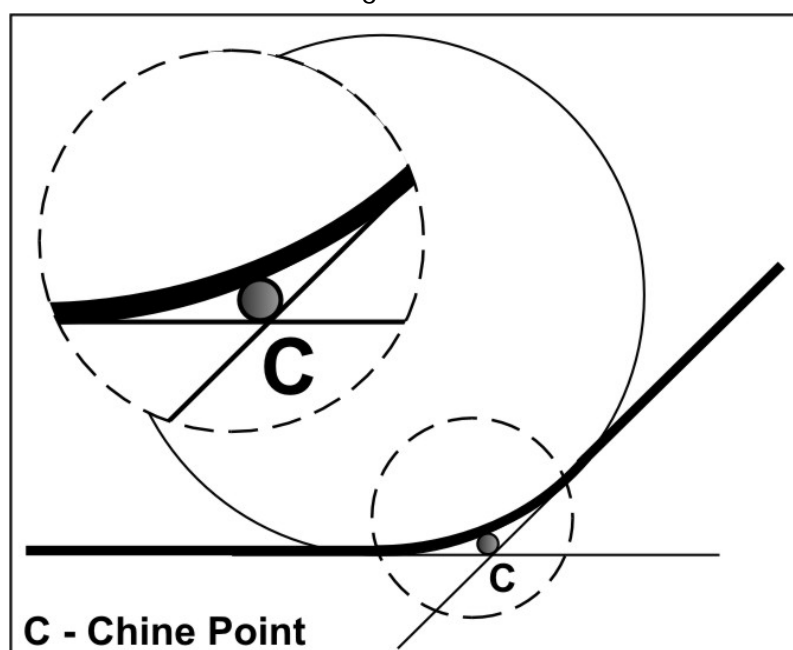
D.8.1	Keel strip length from T:	2770 ± 25mm
D.8.2	Keel strip depth to 2440mm from T:	16 ± 4mm
D.8.3	Keel strip width to 2745mm from T:	21 ± 3mm
	<u>except for:</u>	
D.8.3.1	Total keel strip width for strips along centrecase slot:	70mm maximum
D.8.3.2	Tapered keel strip width within 180mm of centrecase slot:	44 ± 26mm
D.8.4	Gunwale depth:	30 ± 10mm
D.8.5	Gunwale width beyond the topside:	30 ± 12mm

D.9 HULL FAIRING

D.9.1	Panel curvature measured athwartships of the panel	
D.9.1.1	To 2700mm from T including systematic curvature:	2mm maximum.
D.9.1.2	2700mm from T to stem:	5mm maximum
D.9.1.3	Bottom panel 2700mm from T to stem:	15mm maximum

D.10 CHINE ROUNDING

D.10.1	Hull from chine point	1.5mm maximum
D.10.2	Keel strip rounding internal and external radii:	10mm maximum
D.10.3	Bow rounding radii	15mm maximum
D.10.4	Chine Point Diagram	



D.11 COCKPIT & INSIDE HULL

D.11.1 Cockpit and Inside **Hull** Dimensions from Transom:

Point	Distance
Option 1 Forward bulkhead from T	2800 ± 20mm
Option 2 Vee bulkhead forward point at centreline from T	2600 ± 20mm
Aft side of mast at step from T	2490 ± 105mm
Chain plate eyes from T	2185 ± 15mm
Centre thwart forward edge from T	1665 ± 40mm
Centrecase / board pivot from T	2060 ± 40mm

D.11.2 Cockpit width between tank tops:

Option 1		Option 2	
Section	Width	Section	Width
T	750 ± 15mm	T	750 ± 15mm
A	930 ± 40mm	A	930 ± 40mm
F	775 ± 15mm	F	775 ± 15mm
B	432 ± 12mm		

D.11.2.1 In Option 2, the Vee bulkhead is formed with two flat panels intersecting at Vee bulkhead forward point at centreline, aligned within the chain plate eye tolerance at Sheerline, positioned below tank tops and extending to the bottom panels, bilge panels and topside panels.

D.11.2.2 Hulls may include either a Forward bulkhead using Option 1 in Rule D.11.1 and Rule D.11.2 or a Vee bulkhead using Option 2 in Rule D.11.1 and Rule D.11.2.

D.11.2.3 Hulls constructed from wooden panels after 01 January 2012 must include a Vee bulkhead using Option 2 in Rule D.11.1 and Rule D.11.2.

D.11.3 Floor battens inside **hull**

D.11.3.1 Floor battens are mandatory inside the cockpit, except for foam or ply sandwich construction.

D.11.3.2 Four floor battens in the cockpit of 2000mm length with an equal number each side of the centrecase is the minimum requirement.

D.11.3.3 Floor batten section size is a restricted option in Rule D.13.6 and depends the number of floor battens fitted.

D.12 DEPTH FROM SHEERLINE

D.12.1 Depth from Sheerline to tank top:

Section	Depth to Tank Top
T	65 ± 15mm
A	108 ± 12mm
F	128 ± 12mm
B	152 ± 18mm

D.12.2 Depth from **Sheer** to **Mast** bearing surface 458 ± 28mm**D.13 HULL OPTIONS**

D.13.1 Buoyancy tank construction and fitments

D.13.2 Securable inspection ports and drains to buoyancy tanks

D.13.3 Rear buoyancy tank

Width full width between side tanks or full width between topsides
 Height side decks maximum
 Length from T 300mm maximum

D.13.4 Centre case supports

D.13.4.1 Struts fitted from the centre thwart to the centre case.

Thickness: 50mm maximum
 Distance from thwart: 350mm maximum
 Height: thwart maximum

D.13.4.2 Knees fitted athwartships to the forward end of the centre case

Thickness: 18mm maximum
 Distance from centre case 250mm maximum
 Height: centre case maximum
OR including;

D.13.4.3 Extended knees fitted athwartships extending to the side tanks.

Thickness 18mm maximum
 Height above floor 60mm maximum

D.13.5 **Mast** thwart fitted on or level with the deck.

Width fore to aft: 180mm maximum
 Thickness vertical at any point: 150mm maximum
 Height above deck: 40mm maximum

D.13.5.1 **Mast** chocks at thwartD.13.5.2 **Mast** thwart gate – open or closed

D.13.6	Floor battens - alternative size with increased number	
	Section 60 mm by 16 mm	4 maximum
	<u>OR:</u>	
	Section 40 mm by 16 mm	6 maximum
D.13.7	Self-bailers in the cockpit floor:	2 maximum
D.13.8	Transom flaps or equivalent	2 maximum
	Without interference to operation of rudder	
	Combined area:	325 cm ² maximum
D.13.9	Transom drain holes above the side tanks	
	Combined area	65 cm ² maximum
D.13.10	Spinnaker chute bar fixed at sheerline with –	
	Sailcloth cover attached and spinnaker bag	
	Height above sheerline at midpoint	20mm maximum
	Distance from the stem line	460 mm maximum

D.14 ASSEMBLED HULL

D.14.1 MANDATORY

D.14.1.1 **Mast** step shall be non-adjustable while racing.

D.14.1.2 Shroud attachment fittings must be non-adjustable while racing, otherwise type is optional.

D.14.2 OPTIONAL

D.14.2.1 Permanent fittings and fastenings including placement and type, except those specified in the **class rules** and including stiffeners for attachment of fittings.

D.14.2.2 Forestay to stem fitting / coupling type is optional.

D.14.2.3 Compass: one magnetic or electronic compass defined Appendix B – Pacer Sailing Rules

D.14.2.4 Bow cushion conforming to shape of the hull or extending beyond the hull near **sheerline**

D.14.2.5 **Centreboard** raise, lower and hold down systems.

D.14.2.6 **Rudder** blade raise, lower and hold down systems.

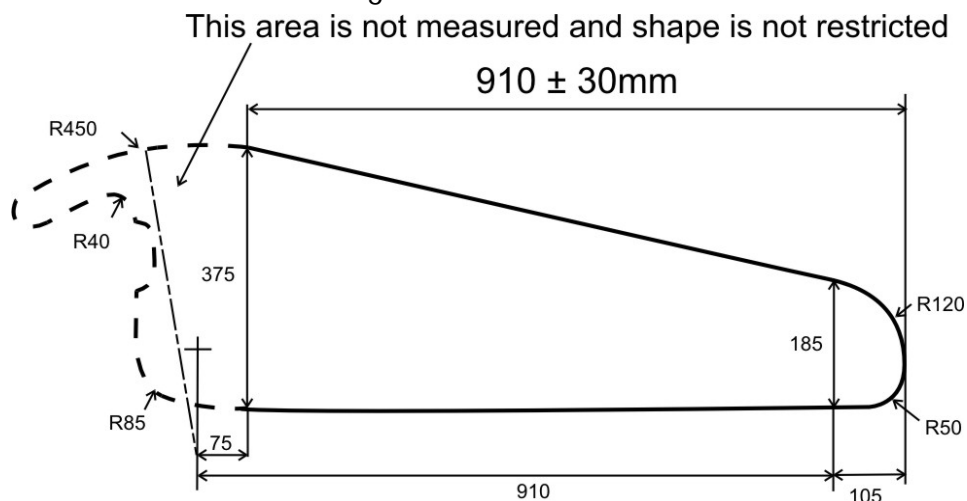
D.14.2.7 Mainsail sheet traveller

D.14.2.8 Unrestricted items such as bow preventers, toe straps within the cockpit, provision for outboard motors, control consoles, **mast** step blocks or timber saddles at hog / tank bulkhead, stowage clips for paddle or spinnaker pole, sailcloth bags and other such equipment are permitted.

Section E– HULL APPENDAGES

E.1 CENTREBOARD

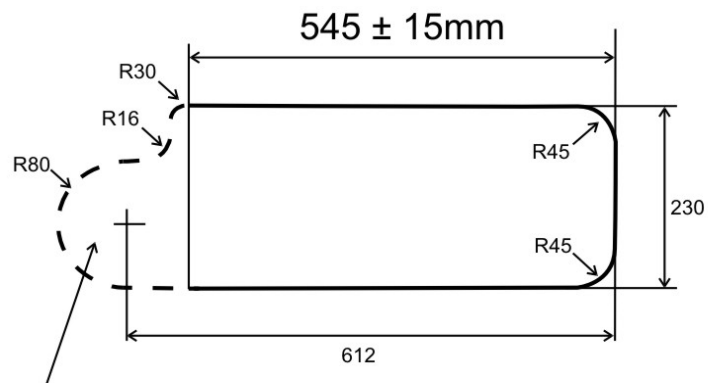
- E.1.1 Construction is of wood and/or glass reinforced plastic and foam sandwich, excluding exotic materials.
- E.1.2 **Centreboard** fairing restriction on sectional thickness is 18.5mm minimum, except 115mm from tip.
- E.1.3 **Centreboard** shall extend $910 \pm 30\text{mm}$ below the skin of the **hull** excluding keel strip with leading edge parallel to the transom for **fundamental measurement**.
- E.1.4 **Centreboard** below the **hull** conforms to a template based on the diagram $\pm 10\text{mm}$.
- E.1.5 Centreboard Diagram



E.2 RUDDER BLADE, RUDDER BOX & TILLER

- E.2.1 **Rudder** blade construction is of wood and/or glass reinforced plastic and foam sandwich, excluding exotic materials.
- E.2.2 **Rudder** box, tiller and tiller extension construction is wood, metal and / or plastic, excluding exotic materials, form and method of fixing are optional.
- E.2.3 Tiller may pass through or over the transom.
- E.2.4 **Rudder** blade shall pivot in the **rudder** box about a single transverse axis.
- E.2.5 **Rudder** blade shall extend $545 \pm 15\text{mm}$ below the **hull** excluding keel strip with leading edge parallel to the transom for **fundamental measurement**.
- E.2.6 **Rudder** blade leading edge offset is 70mm maximum from the plane of the transom with leading edge parallel to the transom for **fundamental measurement**.
- E.2.7 **Rudder** blade below the **hull** conforms to a template based on the diagram $\pm 10\text{mm}$.
- E.2.8 **Rudder** blade fairing restriction on sectional thickness is 18.5mm minimum, except 115mm from tip

E.2.9 Rudder Blade Diagram



This area is not measured and shape is not restricted

Section F – RIG

F.1 MAST

F.1.1 Construction is of extruded non-tapered aluminium alloy

F.1.2 **Mast** section is a shape of width 51.5mm, depth 67mm and uniform wall thickness conforming to the diagram in Rule F.1.11.2

F.1.3 **Mast datum point** is at the aft edge of the lower face of the heel plug at the top of the tenon, being on the **mast bearing surface**.

F.1.4 **Heel point** from the **mast bearing surface** 25mm maximum

F.1.5 The **upper point** is the point that the mainsail shall not be set above

F.1.5.1 **Upper point height** 5590mm maximum

F.1.6 The **lower point** is the point that the top edge of the **boom** shall not be set below

F.1.6.1 **Lower point height** 980mm minimum

F.1.7 Forestay and shroud eye heights 4127 ± 13mm

F.1.8 **Spinnaker hoist height** 4496 ± 76mm

F.1.9 Boom vang lower attachment from **mast datum point** 100mm maximum

F.1.10 **MANDATORY**

F.1.10.1 **Upper limit mark** clearly visible, permanent on the **mast** and width 20 mm minimum.

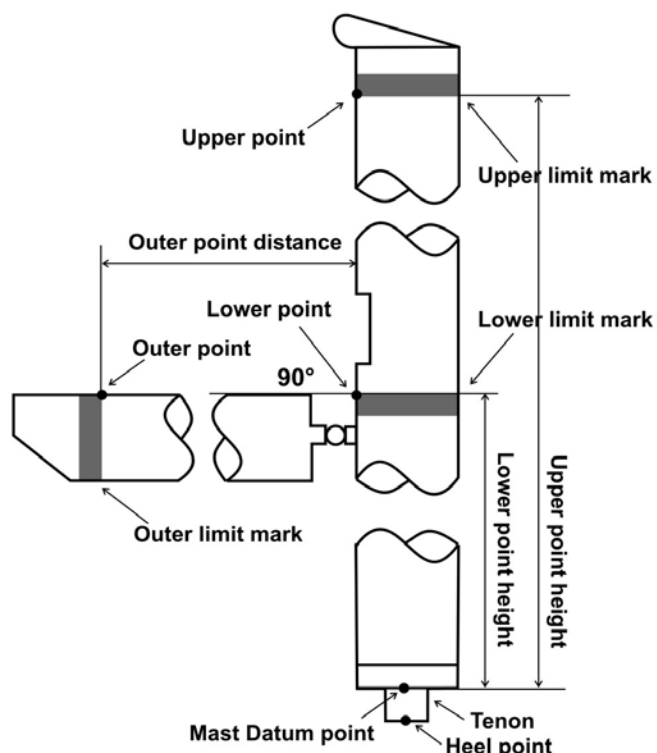
F.1.10.2 **Lower limit mark** clearly visible, permanent on the **mast** and width 20 mm minimum.

F.1.10.3 **Mast core** shall be sealed, except for a **mast base drain hole** of diameter 5mm minimum.

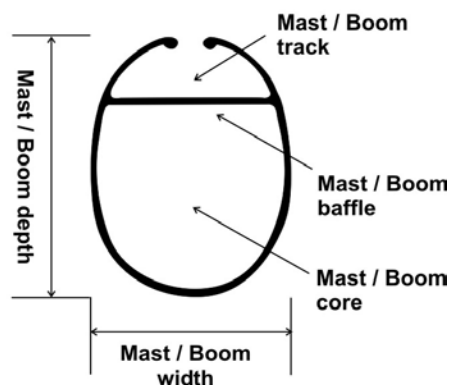
F.1.10.4 Horn cleats on the mast within 700mm of **mast datum point** for the jib and main halyards.

F.1.11 Limit Mark and Mast / Boom Diagrams

F.1.11.1 Limit Mark Diagram



F.1.11.2 Mast / Boom Section Diagram



F.1.12 OPTIONAL

F.1.12.1 **Mast** slots and apertures in the track to permit the hoisting of **sails**

F.1.12.2 Fixed internal **mast** sleeves of timber or aluminium

F.1.12.3 External sleeve or mast protector consisting of a segment of expanded mast section or equivalent fixed to mast and centred at mast thwart height with maximum length 200mm

F.1.12.4 Mechanical wind indicators

F.2 **BOOM**

F.2.1 Construction is of extruded non-tapered aluminium alloy.

F.2.2 The **boom** section is the same as the **mast** or a shape of width 44mm & depth 62mm with uniform wall thickness conforming to the diagram in Rule F.1.11.2

F.2.3 The **outer point** is the point that the mainsail shall not be set beyond.

F.2.3.1 **Outer point distance** 2135mm maximum

F.2.4 **Boom** extension beyond the **outer point** 295mm maximum

F.2.5 **Boom** vang upper attachment from the aft face of the **mast**. 520 ± 40mm

F.2.6 MANDATORY

F.2.6.1 **Outer limit mark** clearly visible, permanent on the **boom** and width 20 mm minimum.

F.2.7 OPTIONAL

F.2.7.1 **Boom** slots and apertures to permit **sail** control systems

F.2.7.2 **Boom** vang, except prescribed attachment points.

F.2.7.3 Mainsail **clew** outhaul control system and placement

F.3 SPINNAKER POLE

F.3.1 Construction is extruded non-tapered aluminium alloy

F.3.2 **Spinnaker pole length** 1830mm maximum

F.4 STANDING RIGGING

F.4.1 Stainless steel wire rope of diameter 2.5mm minimum for one forestay and two sidestays

F.4.2 Shroud attachment fittings must be non-adjustable while racing, otherwise type is optional.

F.5 RUNNING RIGGING

F.5.1 MANDATORY

F.5.1.1 All **sails** shall be capable of being readily raised or lowered with halyards under tension while afloat.

F.5.1.2 Horn cleats on the **mast** shall take the full loads of the jib and main halyards.

F.5.1.3 Jib halyard shall run through one sheave attached to the forestay **mast** fitting.

F.5.1.4 Halyards and all other lines shall run outside the **mast** core.

F.5.1.5 Jib and main halyard purchase 3:1 maximum; attached to the horn cleats

F.5.2 OPTIONAL

F.5.2.1 Sheet, control line and halyard rope materials and sizes

F.5.2.2 Jib and Mainsail cunninghams

F.5.2.3 Jib and Mainsail sheeting systems and placement.

F.5.2.4 Spinnaker retrieval and sheeting systems and placement.

F.5.2.5 **Spinnaker pole** controls.

Section G – SAILS

G.1 MAINSAIL

- G.1.1 Construction is of white or shade of dark blue **single-ply soft sail**; excluding mylar and exotic materials.
- G.1.2 **Ply** weight is uniform throughout the **body of the sail** 160g / m² minimum.
- G.1.3 **Batten pocket** centrelines are at **quarter, half and three quarter leech points** ± 52mm
- G.1.4 The **leech** shall not extend aft of a straight line between the **aft head point** and the upper edge of the top **batten pocket**
- G.1.5 The Class insignia shall be the 'shearwater' according to the diagram in Rule H.1.4, facing the **luff** of the mainsail.
- G.1.6 Bolt rope material is optional
- G.1.7 Tell tail windows of 100 cm² maximum area and 100mm minimum from edge of **sail**.
- G.1.8 Stitching, glues, webbing, woven tapes, bolt ropes on the **luff** and **foot**, corner eyes, nylon headboard, **batten pocket** elastic, **batten pocket** end caps, batten retaining devices, one mainsail **window**, up to three tell tail windows, *sailmakers labels* according to the *RRS*, sail numbers, class insignia, tell tails and a slug at **clew** are permitted.
- G.1.9 The use of extra **ply** at the **foot** of the mainsail to create a shelf foot is permitted.
- G.1.10 Mainsail Dimensions

	Minimum	Maximum
Leech length		4955mm
Top width		115mm
Greatest dimension of headboard from head point		125mm
Quarter width		1880mm
Half width		1500mm
Three-quarter width	945mm	1000mm
Inside batten pocket length of two lower pockets		460mm
Foot free of bolt rope, total from tack and clew		600mm
Luff free of bolt rope from tack		350mm
Distance from optional mainsail window to edge of sail	125mm	
Optional mainsail window area		2000cm ²

G.2 JIB

- G.2.1 Construction is of white or shade of dark blue **single-ply soft sail**; excluding mylar and exotic materials.
- G.2.2 **Ply** weight is uniform throughout the **body of the sail** and 160g / m² minimum
- G.2.3 The **leech** shall not extend aft of a straight line between **aft head point** and **clew point**.

- G.2.4 Tell tail windows of 100 cm² maximum area and 100mm minimum from edge of **sail**.
- G.2.5 Stitching, glues, webbing, woven tapes, corner eyes, one jib window, up to three tell tail windows, sailmakers labels according to *RRS* and tell tales are permitted
- G.2.6 Jib battens are not permitted.
- G.2.7 The **foot** shape shall be formed with a uniform line, whether curved or straight, between the **clew point** and the **tack point** without deviation, except a small radius at these points is permitted.
- G.2.8 The jib shall be a **double luffed sail** with a luff wire.
- G.2.9 Jib Dimensions

	Minimum	Maximum
Luff length		3150mm
Head width		30mm
Leech length		2950mm
Foot median		3050mm
Foot length		1320mm
Vertical depth of optional jib window		200mm
Distance from optional jib window to luff or leech	125mm	
Distance from lower edge of optional jib window to foot	125mm	450mm

G.3 SPINNAKER

- G.3.1 The use of a spinnaker is optional.
- G.3.2 Construction is of woven **single-ply soft sail** and 38 g / m² minimum
- G.3.3 Stitching, glues, webbing, woven tapes, corner eyes, corner rings, recovery line patches and eyes and *sailmakers labels* according to *RRS* are permitted.
- G.3.4 The spinnaker **sail** may be of any colour or combination of colours
- G.3.5 Spinnaker Dimensions (to be measured as a **spinnaker**)

	Minimum	Maximum
Leech length		3965mm
Foot median		4200mm
Foot width		2290mm
Half width		2290mm

PART III APPENDICES

Section H – CLASS INSIGNIA**H.1 CLASS INSIGNIA**

- H.1.1 The Pacer Class Insignia is illustrated in the diagram in Rule H.1.4 and it supercedes all previously recognised insignias attributed to the Pacer Class.
- H.1.2 Previously recognised class insignias shall only be acceptable when pre-existing on original mainsails, registration plates or in other acknowledged historic representations at the discretion of Pacer Australia.
- H.1.3 The Pacer Class insignia shall comprise a representational image of puffinus pacificus, the wedge tailed shearwater on a circular background of diameter 450mm in colours white on mid to dark blue or the reverse (for blue sails) scaled using a 50mm grid in accordance with the diagram.
- H.1.4 Class Insignia Diagram

