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Class Rules

International RS AERO Class Association

The RS Aero was designed by Jo Richards and RS Sailing and adopted as a World Sailing Class in 2015

sport / nature / technology

World Sailing
Class Association

PART I – ADMINISTRATION

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INTRODUCTION

This introduction only provides an informal background and statement of the class objective and the International RS Aero Class Rules proper begin on the next page.

Background -
The RS Aero is a one-design racing **boat**, suitable for adult and youth sailors for training, racing and general fun. The RS Aero features 4 different rigs to allow competition for all levels of ability, age and size. These are the RS Aero 5, RS Aero 6, RS Aero 7 and RS Aero 9.

Spirit of the Class -
The design principle of the class is that the racing results should depend solely on the attributes and skills of the crew rather than differences between boats and the way that they are rigged. The objective of these class rules is to implement this concept in practice. If you want to make a change ask yourself ”why”; if the answer is ”to make the boat faster”, then check these Rules because it is likely to be illegal.

General -

RS Aero hulls, hull appendages, rigs and sails shall only be manufactured by licensed manufacturers. Equipment is required to comply with the RS Aero Building Specification and is subject to an approved manufacturing control system.

Rules regulating the use of RS Aero’s during a race are contained in section C of these Class Rules, and in the Racing Rules of Sailing.

PLEASE REMEMBER:

THESE RULES ARE CLOSED CLASS RULES meaning:
ANY CHANGE NOT SPECIFICALLY PERMITTED BY THESE CLASS RULES IS PROHIBITED.

THUS CONTROL OF COMPONENT AND EQUIPMENT SPECIFICATION IS UNDERTAKEN BY THE LIC

PART I – ADMINISTRATION

Section A – General

A.1 LANGUAGE

A.1.1 The official language of the class is English and in case of dispute over translation the English text shall prevail.

A.1.2 The words “shall” and “will” are mandatory and the word “may” is permissive.

A.2 DEFINITIONS

As used in this document, the following terms shall have the following meanings:

A.2.1

MNA - World Sailing Member National Authority

ICA - RS Aero International Class Association

NCA - National RS Aero Class Association

ERS - Equipment Rules of Sailing

RRS - Racing Rules of Sailing

LIC - Licensors, namely Copyright Holder and RS Sailing

LM - RS, and Licensed Manufacturer under an Agreement with LIC

NOR - Notice of Race

SI - Sailing Instructions

Copyright Holder - Jo Richards

RS Sailing - H Taylor & Son (Brockley) Limited trading as RS Sailing

Class Rules - these rules for the RS Aero

boat - RS Aero **boat** including hull, rig, foils, sail and fittings

Originally Supplied - the **boat**, equipment and parts as supplied by RS or a distributor authorised by RS to supply the **boat**

Rigging Manual - the Rigging Manual provided by LIC and submitted to World Sailing and displayed on the ICA website documents section at www.rsaerosailing.org.

Building Specification - specification for building the RS Aero as provided by LIC and submitted to World Sailing

A.2.2 In addition the following terms when used in this document shall have the following meaning:

Maintenance

Maintenance shall constitute work required to retain the original condition of an item of equipment whilst compensating for normal wear and tear in order to achieve its maximum useful life. This includes preventative maintenance which shall be taken as the systematic inspection, detection and prevention of incipient failures before they become actual or major failures.

Paint

Application of an additional layer or layers of a Permitted Material to the surface. The purpose of painting is to replace existing surface protection on a like for like basis. Painting may require prior preparation of the surface which may involve light abrasion but not fairing unless otherwise permitted.

Polish

Application of small quantities of permitted polishing compounds (as published on the ICA website from time to time) on the **hull**, foils and rig of the **boat** in order to clean and reduce surface roughness only.

Sanding

Removal, solely for a purpose specifically permitted in these Rules, including for Repair of a component, of part of the outermost surface through use of an

abrasive material with or without a lubricating agent, which after final repair does not alter the shape of a component or texture of the surface of the Oringially Supplied item.

Re-finishing

See painting, polishing and sanding solely in order to complete a Repair.

Cleaning

The application of small quantities of detergents or similar agents the purpose of which is to remove residue on the surface which was not part of the original or subsequently modified surface.

Fairing

The removal or reshaping of irregularities within the surface form.

Repair

Corrective action following unintended and genuine damage to a component, or a manufacturing defect. Repairs shall be carried out using only Permitted Material in the same weight and amount as Originally Supplied. Repair of a manufacturing defect shall only be made after prior approval from LM. Repairs shall constitute work required to restore the original condition of an item of equipment whilst compensating for any additional material required to return the component to its original characteristics, including by filling, sanding and polishing. Any repair shall (i) only be to the damaged area, and (ii) not be used to reinforce or strengthen a part.

Permitted material

The same material as used in the manufacture of the relevant part of the **boat** and as specified in the Construction Manual. A list shall be published on the ICA website from time to time; if you are uncertain then you must consult with the LIC before proceeding.

A.3 AUTHORITIES

A.3.1 The international Class Rules authority of the class is World Sailing which shall co-operate with the LIC in all matters concerning these Class Rules and regulation of the RS Aero.

A.3.2 None of World Sailing, the ICA, an NCA, an MNA or LIC have any liability for losses (direct or consequential) or otherwise in respect of these Class Rules or the RS Aero or events.

A.4 ADMINISTRATION OF THE CLASS

A.4.1 World Sailing has delegated administration of the Class to the ICA which shall co-operate in all respects with the LIC and not act contrary to LIC's interests. The ICA may delegate part of its administrative functions to the NCAs subject to the NCAs abiding by these Class Rules.

A.4.2 In countries where there is no NCA, or the NCA does not wish to have an administrative function, its administrative functions shall be carried out by the ICA in co-operation with the NCA or the MNA.

A.5 WORLD SAILING RULES

A.5.1 These Class Rules shall be read in conjunction with the ERS and RRS.

A.5.2 Except where defined in sections A.2.1 and A.2.2 above to the extent that they are consistent with these Class Rules the definitions in the ERS and RRS apply. Except where used in headings, when a term is printed in "**bold**" the definition in the ERS applies, when a term is printed in "*italics*" the definition in the RRS applies and when a term begins with a capital letter the definition in these Class Rules applies.

A.6 CLASS RULES VARIATIONS

A.6.1 At Class events RRS 87 and World Sailing Regulation 10.11 apply.

A.7 CLASS RULES AMENDMENTS

A.7.1 Amendments to these Class Rules are subject to the approval of World Sailing and LIC in consultation with the ICA.

A.8 INTERNATIONAL CLASS FEE AND WORLD SAILING BUILDING PLAQUE

A.8.1 RS Sailing shall pay the International Class Fee and shall send the Building Plaque to the LM.

A.9 CLASS RULES INTERPRETATION

A.9.1 Interpretations of these Class Rules may be made from time to time and shall be made in accordance with World Sailing Regulation 10 except that the interpretation shall be made by (i) World Sailing in consultation with LIC, or (ii) by LIC in consultation with ICA, which interpretation shall then forthwith be notified to World Sailing, who shall agree, amend or reject that interpretation; any rejection will include reasons and a suggested change.

A.9.2 The LIC in consultation with World Sailing may from time to time issue guidance and interpretations of the Building Specification which shall be published on the ICAs website and shall be binding.

A.10 SAIL NUMBERS

A.10.1 Save as provided in A.10.3 sail numbers shall be issued by the LIC.

A.10.2 Save as provided in A.10.3 sail numbers shall correspond to the hull number. However, competitors may request permission in writing to the Technical Committee (or at a regatta, for that regatta only, the Chief Measurer) to use a different sail number to the hull number. Permission will only be granted in exceptional cases and the Committee/Chief Measurer's decision shall be final.

A.10.3 The following sail numbers may at their option be used by the top 9 placed crew of the immediately preceding World Championships (in order of placing):

51 – 59 – Aero 5

61 – 69 – Aero 6

71 – 79 – Aero 7

91 – 99 – Aero 9

A.11 MANUFACTURE

A.11.1 All **hulls,** mast sections, boom, **sails**, **hull appendages**, tillers and rudder stocks shall only be manufactured by a LM (and only to the extent permitted by the license) and only supplied by RS, or an RS licensed distributor for the class and shall carry a LIC equipment label certifying it as Originally Supplied.

A.11.2 All production moulds used for manufacture of the **boat** shall be prior approved by the LIC and taken from the Master Plug/mold governed by the Building Specification.

Section B – Boat Eligibility

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

B.1 CLASS ASSOCIATION MARKINGS

B.1 A valid Class Association Sticker, if required by the ICA and/or NCA, shall be affixed to the hull on the transom.

B.2 CLASS RULES & BUILDING SPECIFICATION COMPLIANCE

B.2.1 The **boat** and all equipment shall comply in all respects with the Class Rules, the Building Specification (save as permitted to be varied by these Class Rules) in force at the time of manufacture, and to the extent that they are not inconsistent, the ERS and RRS.

B.2.2 All **hulls,** mast sections, booms, **sails**, daggerboards, rudder blades, tillers and rudder stocks shall:

(i) only be manufactured by a LM who shall only produce them from moulds taken from the Master Plugs/molds held by LIC and in accordance with the Building Specification; the moulds and products from the moulds shall not be altered other than as prior approved in writing by LIC;

(ii) only be supplied by RS, or an RS authorised distributor for the **boat**; and

(iii) shall carry a LIC equipment label certifying it as Originally Supplied.

B.3 EQUIPMENT INSPECTIONS

B.3.1 All equipment inspections shall be carried out in accordance with the ERS except where varied in these Class Rules.

B.3.2 Equipment Inspectors at an event will as required verify that equipment has been produced by LMs and has not been subsequently altered (other than as is permitted within these Class Rules) using whatever inspection methods they deem appropriate, including discussions with the ICA Chief Measurer, LIC and/or comparison with a reference sample of the type of equipment presented for inspection. Should this comparison reveal deviation greater than what the Equipment Inspector considers being within manufacturing tolerances, the following procedure shall be adopted:

(a) the LIC or Chief Measurer of the ICA (if the LIC cannot be contacted) shall be consulted and provided with full details of the specification or item in question of the offending **boat**.

(b) the LIC will or the Chief Measurer will after taking direction from the LIC give a final ruling in line with the LICs direction regarding the correct specification or interpretation of the Building Specification as the case may require. That ruling will be referred to the Race Committee for actioning.

(c) If the LIC or Chief Measurer is not contactable prior to the end of a Regatta the matter will be reported to Race committee, who may make a ruling and will also promptly report full details of all items of equipment lying outside the accepted deviation, corresponding Building Specification/s or Class Rules to the LIC.

(d) If any specification/s of the disputed **boat** or item of equipment does not comply with the Class Rules or deviates from the Building Specification/s or is not supplied by RS, an RS licensed distributor for the class or an LM (where required by the Class Rules) then the LIC will make a final decision regarding use of the equipment at future events.

PART II – REQUIREMENTS & LIMITATIONS

The **crew** and the **boat** shall comply with these Class Rules and the Building Specification including without limitation the following Part II when racing. In case of conflict the following section C shall prevail.

These Class Rules are **closed class rules** where anything not specifically permitted by the Class Rules is prohibited**:** compliance with these Class Rules is demonstrated through original design control.

Section C – Conditions for Racing

C.1 GENERAL

C.1.1 RULES

(a) RRS G1.3(a) is changed so that only one Class insignia on one side of the sail is required.

(b) RRS G1.3(a) is changed so that national letters and sail numbers are not required to be wholly above an arc whose centre is the head point and whose radius is 60% of the leech length.

(c) RRS 42.2 is changed by adding: "Where stipulated in the SI, if the average wind speed is clearly over 10 knots across the course the race committee may signal in accordance with RRS Appendix P5 that pumping, rocking and ooching are permitted, except (i) prior to the start, and (ii) when the **boat** is on a leg of the course designated in the SI as a windward leg." this changes RRS 42.2(a), RRS 42.2(b), RRS 42.2(c).

(d) RRS Appendix G1.3(c) & (d) shall not apply.

C.1.2 CONFIGURATION

(a) The RS Aero may be raced with either the RS Aero 5, RS Aero 6, RS Aero 7 or RS Aero 9 rig. A **boat** shall nominate the rig size used at the start of a regatta series and this shall apply to all races. In the event that no rig size is stipulated at registration, the sail used in the first race shall be deemed to be the rig entered on the form.

(b) The RS Aero class rules cover three classes of boat determined by rig size:

- RS Aero 5
- RS Aero 6

- RS Aero 7
- RS Aero 9

If there are not sufficient numbers of **boat**s of an individual class of one rig size at an event, then the notice of race or sailing instruction may proscribe that **boats** race together. Recommended standard wording for this can be seen in Section H.

(c) It is not permitted to change a rig on the water.

(d) The vang cleat fitting shall always be removable without the use of tools.

C.1.3 SUPPLIED EQUIPMENT

Where **boat**s and/or equipment is supplied to the entire fleet for a regatta series:

(a) Competitors shall use the equipment as supplied.

(b) Competitors may use their own ropes (including mainsheet, control lines, halyard), shock cord, compass, wind vane and tiller extension.

(c) Removal or alteration of fittings and repairs are prohibited (other than any mainsheet cleats) without the permission of the race committee.

(d) Changes, additions, or alterations to the spars, hull and fittings are prohibited except as provided in C.5 below provided that they can be fitted without piercing, bonding or otherwise marking the hull or spars and are removed after the last race.

(e) Wet or dry sanding of the hulls or any other equipment is prohibited.

(f) The use of waxes, polishing compounds or similar is prohibited. Competitors may wash their **boat** with detergent and water.

C.2 ADVERTISING & DECORATION

C.2.1 Advertising is permitted in accordance with World Sailing Regulation 20 (advertising code) but the sail window shall not be covered by advertising or other material.

C.2.2 Vinyl or other plastic film or paint may be added to the hull above the chine only, and/or to the sail, solely for the purpose of displaying advertising, the boat name or decoration, provided that the film/paint shall not be specially textured or otherwise used in a way that could improve the character of the flow of water or air inside the boundary layer.

C.2.3 Any advertising on the sail will only be displayed in the brown coloured area shown in Annex 2 below designated for sponsors. Any advertising that involves cutting or any alteration to a sail other than painting, printing or attaching film shall only be put in place by a LM.

C.3 CREW

C.3.1 LIMITATIONS

The **crew** shall consist of one person.

C.3.2 MEMBERSHIP

To be eligible to compete in events run under the auspices of an NCA or ICA the **crew** must be a current member of their NCA, or ICA where no NCA is in place

C.4 PERSONAL EQUIPMENT

C.4.1 MANDATORY

(a) The **boat** shall be equipped with a **personal flotation device** (PFD) for the crew to the minimum standard ISO 12402-5, (level 50, or USCG Type III, or AUS PFD II or equivalent.

(b) The use of inflatable personal flotation devices is not permitted.

C.4.2 COMPETITOR CLOTHING AND EQUIPMENT

(a) Each **crew** member may wear a helmet that shall be to the minimum standard EN1385 or EN1077 or equivalent. This may be made mandatory by the Notice of Race and/or Sailing Instructions.

(b) Each **crew** member may wear body protection, if the body protection also acts as a personal flotation device it shall be to the minimum standard in C.4.1(a). This may be made mandatory by the Notice of Race and/or Sailing Instructions.

C.5 PORTABLE EQUIPMENT

C.5.1 OPTIONAL

The following optional equipment and items may be used and attached to the hull or rig providing that attachments do not puncture and are not bonded to the surface of the **boat**:

(a) one or more devices that can display only information relating to:
- Time (date)
- Compass heading

No device may display any information relating to speed; boat performance; actual and relative position; previous/ historical heading (lift/ header indicator); VMG; distance to a point/ line; and environment factors {including tide, waves, water depth, temperature, air pressure and wind speed}.

(b) The compass mount shall be fixed to the deck on the centerline between the back of the mast and the front of the vang cleat and may use the Originally Supplied bayonet attachment; in addition to the deck fixing a rope or shock cord may be used as a safety line in case the mount becomes detached (but not to hold it in place in normal use).

(c) Non-electronic maps, charts, port/starboard stickers, a racing signal code flags chart, and a marking pencil or pen.

(d) Mobile phone, solely for emergency communications

(e) Bags, drink bottle/s, safety equipment, paddle, loose clothing, food and/or drinks.

(f) Any additional equipment required by the Sailing Instructions for the event.

(g) GPS tracking and recording device provided that the data and output is only available to the crew onshore after a race has

finished and not during a race.

(h) Camera to record video and pictures provided that the data and output is not available to be viewed or used by the crew until he/she is onshore after a race has finished and not during a race; it may be used for producing broadcasts to the general public during a race but it must not be viewed or used by the **crew** during a race.

(i) A towing line provided that it is attached to an existing fitting, spar or toe strap.

(j) Up to 2 mechanical wind indication devices may be fitted to the mast.

(k) Up to 2 mast head floats.

(l) mounts, fittings, rope, shock cord, Velcro, and cable ties for attaching any of equipment/items (a) to (k) in this section and the equipment referred to in C.5.2 below to the **boat** providing that attachments do not puncture the surface of the **boat,** spars, sail, or **hull appendages**, and can be removed without damage to any of them. The mount for a mechanical wind indication device at the top of the mast will use the Originally supplied fitting or be screwed in place using the original screw holes.

C.5.2 ELECTRONIC EQUIPMENT

In addition to the optional equipment referred to in C.5.1, where stipulated in the SI and where supplied by the Organising Authority, one or more devices may be used which have the capability to measure, display, record and broadcast information relating to the **boat**'s position, heading, header and lift information, VMG, time, and/or speed. Such devices will not provide any information or data to the **crew** during a race.

C.6 BOAT

C.6.1 MODIFICATIONS, MAINTENANCE AND REPAIR

C.6.1.1 The **boat**, spars, **sail, hull appendages**, control lines, attachment points and means, blocks, mainsheet, halyard, traveller, vang, vang cleat fitting, Cunningham, traveller end retainers, traveller block, gooseneck, outhaul and toe strap shall be rigged, arranged and have the purchases as Originally Supplied and as shown in the Rigging Manual save as otherwise allowed to be changed by these class rules.

C.6.1.2 Wet or dry sanding or Fairing of the **hull, hull appendages, sails** or any other Originally Supplied equipment other than as specifically permitted in these Class Rules is prohibited.

C.6.1.3 MODIFICATIONS

The following is permitted without approval; unless stated otherwise. Items mentioned in this section may be obtained from any manufacturer or supplier providing that any replacement is a like for like type, weight and size as the Originally Supplied item, and performs the same function and does not modify the effective purchase, or rigging or sheeting position:

(a) Polishing of the **hull**, **hull appendages**, **mast** and **boom** is permitted provided that the intention or effect is not to lighten the equipment or improve or alter the material shape from that Originally Supplied.

(b) Lubricant on fittings, mast join, mast collar, gooseneck, gooseneck pulleys, boom end (to enable the clew strap to slide more easily); boom end pulley, mast track, and sail (only in the direct vicinity of the tell-tales) only; it shall not be used on the **hull, hull appendages** or elsewhere.

(c) The tips of the surface ridges of the non-slip on the deck and/or cockpit floor may be very lightly sanded to reduce its sharpness and make it less abrasive; however, only the tops of the peaks may be abraded, the texture must be maintained. If the texture becomes relatively smooth (however this occurs), it must be reinstated to its Originally supplied state. NOTE: the grip may not be substantially reduced, and the areas may not be sanded smooth (except as provided in C.6.1.3 (z) below for padding).

(d) Calibration marks of any kind.

(e) Additional drainage holes in the stern and inspection hatches in the deck provided they do not compromise the watertight integrity or reduce the weight of the hull.

(f) Packing wedges no thicker than 5mm may be fitted under cleats.

(g) 1 x Cam cleat may be screwed to each side-deck for the mainsheet but only in the designated area marked on the deck and as illustrated in the Rigging Manual; an RS Sailing supplied detachable single central swivel cam base and cam cleat may be attached to the eyelet at the end of the toe strap as shown in the Rigging Manual (no other fitting may be used and it must be detachable without removing screws or the like).

(h) One of the rudder pintles may be drilled and pinned to further secure the rudder stock to the **boat**.

(i) The cleat on the tiller to secure the rudder downhaul may be substituted for an auto-release type of similar size.

(j) One single righting line of maximum length of 1.5 meters may be attached to each side of the hull attached to the location of the rear most plastic barrel under the gunwale shown in the RS Aero Rigging Manual, or to the short strop extending between the through gunwale holes for the overdeck Cunningham and outhaul secondary control lines(as shown in the RS Aero Rigging Manual), along with shock cord from the free end running around through the RS Sailing supplied bow fairlead under the gunwale.

(k) The Originally Supplied tiller may be shortened but the length shall be no less than 700mm.

(l) A single tiller extension of any material and length may be used.

(m) Shockcord of maximum diameter 6mm with optional attachment hook/s:

(i) for centralising the tiller.

(ii) around the toe strap webbing to hold it up.

(iii) to retract or reduce slack in ropes when released/uncleated (including to pull the outhaul and Cunningham controls off).

(iv) may be used with or without a hook to retract the Cunningham by temporarily connecting to or passing through a loop in the main halyard, but the shockcord and hook must be easily removable from the halyard within 5 seconds so that the main halyard can be easily fully lowered without any knot/s needing to be undone.

The shockcord and/or hook may not change the function or performance of any fitting or rope and must not pass through or attach to any sail cringle.

(n) Any of the mainsheet blocks may be replaced by a ratchet block of similar size to the block as Originally Supplied.

(o) It is permitted to "re-lead" the tails/secondary lines of the Cunningham and outhaul lines only (including to swap to the inner or outer side deck cleat) and to use additional rope, rings (or closed thimbles in place of rings) and blocks for the sole purpose of routing to tidy the Cunningham and outhaul line tails provided that no further holes are drilled in the hull or rig. All additional blocks or rings shall be attached by separate rope or shock cord. The use of adhesive is not permitted. The redundant barrel tube fittings on the sides of the **boat** (but not the bow fairlead) and their screws, and through deck angled exit barrels may be removed but the holes must be filled and made watertight.

(p) It is permitted to attach to the gooseneck a block of no more than 20mm diameter using rope tied around the vang gooseneck block (the attached block being no more 60mm from the gooseneck block) and to lead the vang rope through that attached block rather than the gooseneck block.

(q) A "JC" strap with a maximum shockcord thickness of 8mm may be fitted as shown in the Rigging Manual to pull the boom forward whilst sailing downwind.

(r) Silicon sealant, elastic polyurethane, or adhesive may be used to retain and seal screws and/or bolts in place and placed on the ends to cover exposed sharp edges.

(s) The **daggerboard** shall be secured to the **boat** with shockcord, and/or rope, which may include a snap hook and ring; a small rope loop may be tied to a traveller retainer and the **daggerboard** shockcord may pass through it to deflect that shockcord.

(t) Two opposing sections of the central region of the **daggerboard** handle may be bound together with tape and/or whipping to form a single upstanding grab handle, so long as this does not change its function.

(u) The screws attaching the bottom rudder gudgeon may be replaced by bolts, and up to 2 washers may be used each side between the bolt head and the gudgeon.

(v) The Cunningham secondary line double block tied to the hull (not the floating one) may be replaced by 2 x single blocks of equivalent size but must be attached to the hull in the same way and in the same location.

(w) Padding of maximum thickness of 3mm may be stuck (using adhesive) to the (i) cockpit floor and/or (ii) deck adjacent the centreboard case, but if it is, it must cover the entirety of the non-slip in that area and follow the outline of that non-slip. Any padding must

be single colour black, white or grey. It may not contain any logo other than RS. It is permitted to sand the non-slip surface to obtain a good adhesion surface for the padding, however, if the padding is removed, the non-slip must be reinstated to its Originally supplied state. NOTE: (i) padding may not be placed elsewhere, and (ii) padding must be adhered to the hull over the entirety of one face/surface (temporary adhesive breakdown within 10mm of edge excluded).

(x) Originally Supplied 16mm and 18mm (and imperial similar sizes) blocks may be changed for similar blocks up to 20mm diameter.

(y) use of flexible adhesive tape is in general unrestricted, except that such material shall not be used in such a way as to create a fitting or extend or alter a function or performance of a fitting, part or rope.

(z) use of flexible adhesive padding of maximum thickness of 3mm and maximum of 30mm wide on one side of blocks and the rear end of the boom, except that such material shall not be used in such a way as to create a fitting or extend or alter a function or performance of a fitting or part.

C 6.1.4 MAINTENANCE

(a) Maintenance of the **rig**, fittings, fastenings, ropes and shockcord is permitted and includes: (i) the replacement of fastenings and fittings with alternatives provided that the equipment is replaced in the Originally Supplied position using the same fitting and fastening as that Originally Supplied unless otherwise permitted by these Class Rules; and (ii) upgrading of one or more parts and any layout from that Originally Supplied when the **boat** was purchased to that as supplied on new **boats** by an LM which was not supplied with the original **boat**.

(b) the following parts or equipment may be replaced using parts obtained from any supplier provided that the replacement is placed in the same position and attached in the same way and is a like for like type, weight and similar size as the Originally Supplied item and does not alter the velocity ratio or purchase, and performs the same function (rope sizes are shown in Annex 1 below but may be of any material):

(i) Blocks
(ii) Bungs
(iii) Cam and clam cleats (but only on a like for like basis)
(iv) Control lines, running rigging, ropes and lashings.
(v) Main Halyard maximum purchase ratio 1:1
(vi) Main sheet
(vii) Rudder downhaul lines
(viii) Daggerboard handle
(ix) Daggerboard retaining shockcord and clip
(x) Shackles, swivels, clips and pins
(xi) the **daggerboard** case packing may be replaced provided it is with a soft compliant fibrous material or a like for like material and does not extend more than 30mm into the case from the top or bottom, or beyond the surface defined by a straight edge held perpendicular to the centreline and dragged along the bottom of the

hull, and does not allow the **daggerboard** to pivot/gybe within the case

(c) The watertight integrity of the **hull** shall be maintained. It is the responsibility of the owner to ensure at all times the water-tightness and sea worthiness of the **boat**.

(d) The breather and drainage holes and stern drainage flaps shall all remain open, operational and unrestricted.

(e) Maintenance may include re-application of moulded deck non-slip areas with a similar material providing similar grip to the Originally Supplied in the event of wear.

C6.1.5 REPAIR

(a) Repairs may be carried out provided the repair:
(i) arises as a result of genuine and unintended damage,
(ii) is only made to the minimum extent necessary to reinstate the item to its Originally Supplied condition and shape,
(iii) only uses Permitted material,
(iv) complies with these Class Rules, and
(v) is done in such a way that the shape, weight distribution, characteristics, performance and function of the item as Originally Supplied are not affected.

Any repair shall not be used to reinforce an existing part, change the shape or add a function. Any repair which is substantial, or exceeds more than 5% of the total area of the item, or may alter the weight, profile, structure, air and/or water tight integrity of the item shall be referred to and be prior approved by LIC (which may impose such conditions as it considers appropriate, including stipulating the repairer) before being carried out in order to be in compliance with these Class Rules; the LIC may require the Repair to be carried out by LIC or a repairer appointed by LIC. Repairs to the sail must use a similar type and weight of material to the Originally Supplied. Repair to the sail exceeding 5% of the area or which are to the luff or bolt rope shall only be made by LIC or its designated repairer. Replacement of the entire window on a like for like basis is permitted if it is damaged beyond repair. If you are in doubt whether the damage may be repaired by you without approval of LIC you will refer full details to and consult LIC for determination by LIC.

(b) No item/s may be painted other than in the immediate area of a repair or as permitted in C.2.2 above for advertising.

C.6.2 LIMITATIONS

Only one **hull**, rudder stock, tiller, tiller extension, set of **hull appendages**, set of spars, and **sail** shall be used in any one event, except when lost or damaged beyond repair. Any replacement shall only be made with the approval of the Race Committee.

C.7 HULL

C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Modifications, repairs and maintenance may be carried out but only in accordance with these Class Rules

(b) Chips and scratches in the **hull**, deck and **hull appendages** may be filled. The Repair must comply with C.6.1.5. (Advisory note: re-finishing and fairing of the **hull** and **hull appendages** is not permitted except to the extent required for localised repair according to this rule.)

C.8 HULL APPENDAGES

C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Modifications, maintenance and repairs may be carried out but only in accordance with these Class Rules.

(b) The location and size of the holes in the **rudder, rudder** bush and **daggerboard** as Originally Supplied shall not be altered.

(c) The rope handle holes in the **daggerboard** shall not be lowered below the line of the deck adjacent to the daggerboard case and the **daggerboard** and daggerboard handle shall not be altered to enable said holes to be lowered below that line.

(d) It is not permitted to vary the designed chord width or profile shape of either the **rudder** or the **daggerboard** from that Originally Supplied.

(e) The sides of the head of the **rudder** and plastic bush only may be packed or sanded to maintain a good fit in the rudder stock.

(f) Any molding imperfection on the leading/front and bottom edge of each Originally Supplied foil below the stock (but not the head of the foil) may be removed by sanding, filling and/or painting.

(g) The single supplied chamfer on the trailing edge of the **rudder** and **daggerboard** (but not the head) may be sanded, filled and/or painted provided that the distance from the rear edge of the foil to the inner edge of the chamfer (measured parallel with the chord) shall not exceed 5mm. The side of a foil originally supplied without a chamfer may not be altered.

(h) It is not permitted to vary the designed chord width, profile or shape of either the **rudder** or the **daggerboard** from that Originally Supplied.

C.9 RIG

C.9.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Modifications, maintenance and repairs may be carried out but only in accordance with these Class Rules.

(b) The mast and boom only may be painted with a UV protective coat provided that it does not change the bend characteristics of the mast or boom.

(c) In each case, the distance between the boom and the most distant part of the mainsheet block will be no more than 170mm.

C.9.2 LIMITATIONS

The corresponding bottom mast section shall only be used with the corresponding sail, for example the Aero 5 bottom mast section shall be used with the Aero 5 sail and not with any other size sail.

C.9.3 RUNNING RIGGING

9.3.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) The total purchase ratio in each of the control line systems shall not exceed: vang –16:1, Cunningham – 8:1 outhaul – 4:1.

(b) Control lines, running rigging and ropes cannot be tapered except for those which are Originally Supplied as tapered, or as permitted in these Class Rules

(c) The mainsheet shall be uniform diameter throughout its length.
(d) The traveller shall be a single non-tapered line which will allow the traveller block to move from one side to the other. No block (other than the mainsheet traveller block), fittings (other than the 2 traveller end retainers), ropes, shock cord or anything else may be attached to either end to the traveller rope. The traveller rope shall not extend more than 250mm above the deck at its highest part.

(e) the vang secondary line (which goes through the cleat) may be tapered.

(f) The following rigging fittings that are designed to be adjustable may be adjusted when not racing using the fitting functionality –top 2 batten tensioners.

9.3.2 USE

(a) Save as permitted in C.6.1.3, running rigging shall be led through and attached to the fittings supplied for the function as shown in the Rigging Manual.

(b) The crew may control the mainsheet from any section of the mainsheet system.

C.10 SAILS

C.10.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Modifications, maintenance and repairs may be carried out but only in accordance with these Class Rules.

(b) The upper two full-length Originally Supplied battens may be shaved/sanded to reduce the thickness and their length may be changed. For the avoidance of doubt this does not apply to the remaining battens; whose length cannot be changed, and which (including ends) will not be altered or sanded.

(c) Only Originally Supplied battens shall be used.

(d) Additional tell tails and leach ribbons may be added to the sail.

(e) Routine maintenance to repair minor tears or un-stitching such as sewing, mending and patching is permitted provided that this does not alter the shape or characteristics of the **sail** and provided it complies with rule C.6.1.5 above. For the avoidance of doubt, **sails** shall not be recut, and the shape may not be changed or otherwise altered, and no aspect of the sail may be changed for any reason

other than effecting necessary repairs and as permitted by these Class Rules. Any repair shall not be used to reinforce an existing part or add a function.

C.10.2 LIMITATIONS

(a) Except as provided in sections C.6.2 above and H.3 below, not more than 1 **sail** shall be used during an event.

C.10.3 USE

(a) A halyard shall be used to hoist and lower the sail and must permit hoisting and lowering of the sail afloat. The luff bolt rope shall be in the mast track.

(b) The tack strap may be adjusted using fittings and straps as Originally Supplied; on those sails where the strap is supplied stitched to lock it in one place, that stitching may be removed.

C.10.4 MAINSAIL

(a) IDENTIFICATION

(i) The Class Insignia shall be the RS Aero class logo relevant to the rig size as prescribed by the LIC and shall be displayed on the port side only between the 2nd and 3rd batten pockets from the head point, as shown in Annex 2 below.

(ii) RRS Appendix G1.2 is amended as follows`:

All sail numbers shall be black and the same size and style as Originally Supplied. The RS Aero 5 and RS Aero 6 shall comply with the specifications in the RRS Appendix G1.2 for **boat**s under 3.5 metres (namely use minimum 230mm high sail numbers and letters with a spacing between adjoining characters of minimum 45mm). The RS Aero 7 & RS Aero 9 shall comply with the specifications in the RRS Appendix G1.2 for **boat**s not under 3.5 metres (namely use minimum 300mm high sail numbers and letters with a spacing between adjoining characters of minimum 60mm).

(iii) The sail numbers shall be displayed on each side of the mainsail within the top two-thirds of the section between the 3rd and 4th batten down, and according to the position that is shown in Annex 2 below.

(iv) When supplied, all sails shall include the supplied coloured identification flash at the back of the window in the location shown in Annex 2 below to indicate its rig size; Aero 9's being pink, Aero 7's yellow, Aero 6's purple, and Aero 5s light blue. Stickers used shall only be those supplied by LM's/RS and shall not be trimmed.

(v) RRS Appendix G1.1 (b) and G.1.3(c) are amended as follows.

When used, the national letters of the crew shall be black, shall be the same size and spacing as the sail numbers, and displayed only in the relevant area shown in Annex 2 below - above and below the bottom batten pocket with the letters on the starboard side being higher and adjacent and above the batten pocket, and the letters on the port side being adjacent and below the pocket.

(vi) A **crew** who has won an RS Aero World Championship may add a 45mm diameter gold dot for each World Championship title won below the 2nd batten pocket from the head point and immediately above the class insignia.

(vii) The name of the **crew** may be applied on one or both sides of the sail, immediately below the bottom batten and any national letters (see (v) above), and no closer than 60 mm to the leech

(b) NATIONAL FLAGS

(i) Where stipulated in the NOR or SI, all crew when racing in any Class World Championship or Continental Championship shall display the national flag of the **crew** in the relevant area shown in the drawing in Annex 2 below. The national flag is optional at all other events.

(ii) Flags shall only be ordered and purchased through the ICA and shall not be trimmed or cut.

Section D – Hull

D.1 MANUFACTURERS

Hulls shall be manufactured in compliance with Class Rules A.11 & B.2 above

D.2 IDENTIFICATION

Each **hull** shall carry at least one moulded CIN (Craft Identification Number).

D.4 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction Manual

D.5 PROTOTYPES

Two prototype hulls were produced prior to formal production of the **boat**. These hulls shall be permitted to participate in events until 1 October 2018 using rigs, foils and fittings and otherwise complying with these Class Rules.

Section E – Hull Appendages

E.1 MANUFACTURERS

Hull appendages shall be manufactured in compliance with Class Rules A.11 & B.2 above

E.2 PARTS

(a) Daggerboard

(b) Rudder Blade

(c) Rudder stock

(d) Tiller

E.3 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction

Section F – Rig

F.1 MANUFACTURER

Rigs shall be manufactured in compliance with Class Rules A.11 & B.2 above.

F.2 PARTS

(a) Mast comprising top mast section and bottom mast section for Aero 5, Aero 6, Aero 7 and Aero 9 respectively

(b) Boom

(c) Running rigging

F.3 MATERIALS, CONSTRUCTION AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction Manual.

Section G – Sails

G.1 MANUFACTURER

Sails shall be manufactured in compliance with Class Rules A.11 & B.2 above

G.2 PARTS

(a) Mainsail for Aero 5, Aero 6, Aero 7 and Aero 9 respectively

G.3 MATERIALS, CONSTRUCTION, AND DIMENSIONS

Shall comply with the World Sailing approved Builders Construction Manual.

PART III – EVENT RULES

NOTE: For World, World Sailing, or continental championship the rules of this Part H shall not be invoked. For National championships one or more rules of this Part H may be invoked in the SIs. For Area and Seasonal (eg Spring, Winter) championships, local club racing and other minor events the following may be applied by the OA.

H.1 FLEET SPLITS

H.1.1 MULTI RIG FLEETS

Under this rule the nominated or all RS Aeros may race together as one fleet and may use time correction as defined in H.2.1. However, if there are sufficient entries in an RS Aero class, that class/es shall preferably race independently without time correction.

H.2 TIME CORRECTION

H.2.1 TIME CORRECTION FACTORS

It is recommended that the following division factor (which may be amended from time to time as shown on the ICA website at www.rsaerosailing.org.) be applied to the elapsed time to calculate the corrected times for scoring of multiple rig fleets:

Aero 9 – 0.960

Aero 7 – 1.000

Aero 6 – 1.035

Aero 5 – 1.070

The nominated rig (9, 7, 6, or 5) will be used for any time correction factor. Alternatively, some fleets may prefer to use the yardstick in place in their country from time to time.

H.3 RIG CHANGES

H.3.1 Using a larger sail than stipulated at registration in a series will constitute a new regatta entry and be scored separately from any races using a smaller sail.

H.3.2 For yardstick events and other series or events where change is not prohibited, a competitor may use a rig size and sail during a race or series of races which is smaller, but not larger, than stipulated on registration, without disqualification. Their yardstick and results however shall be calculated at all times for that series as that for the rig size initially entered.

H.4 CREW

H.4.1 The **crew** may for the entire series consist of more than one person for club racing and local regattas, but not other championships and regattas.

H.5 OTHER

H.5.1 The rudder stock, tiller, tiller extension, and **hull appendages** may be changed during a regatta, this is a change to rule C.6.2 in the circumstances of this Part III.

H.5.2 A sail may be changed for one of the same size during a regatta.

H.5.3 In addition to the optional equipment referred to in C.5.1, in a race or series of races which are not world, world sailing, continental or national championship events, one or more devices may be used in events which (unless prohibited in the SIs) have the capability to measure, display, and record information relating only to the **boat**'s position, heading, header and lift information, time, and/or speed. such devices may not indicate to the crew during a race time or distance to or location in relation to marks, start/finish lines, or other **boat**s.

ANNEX 1

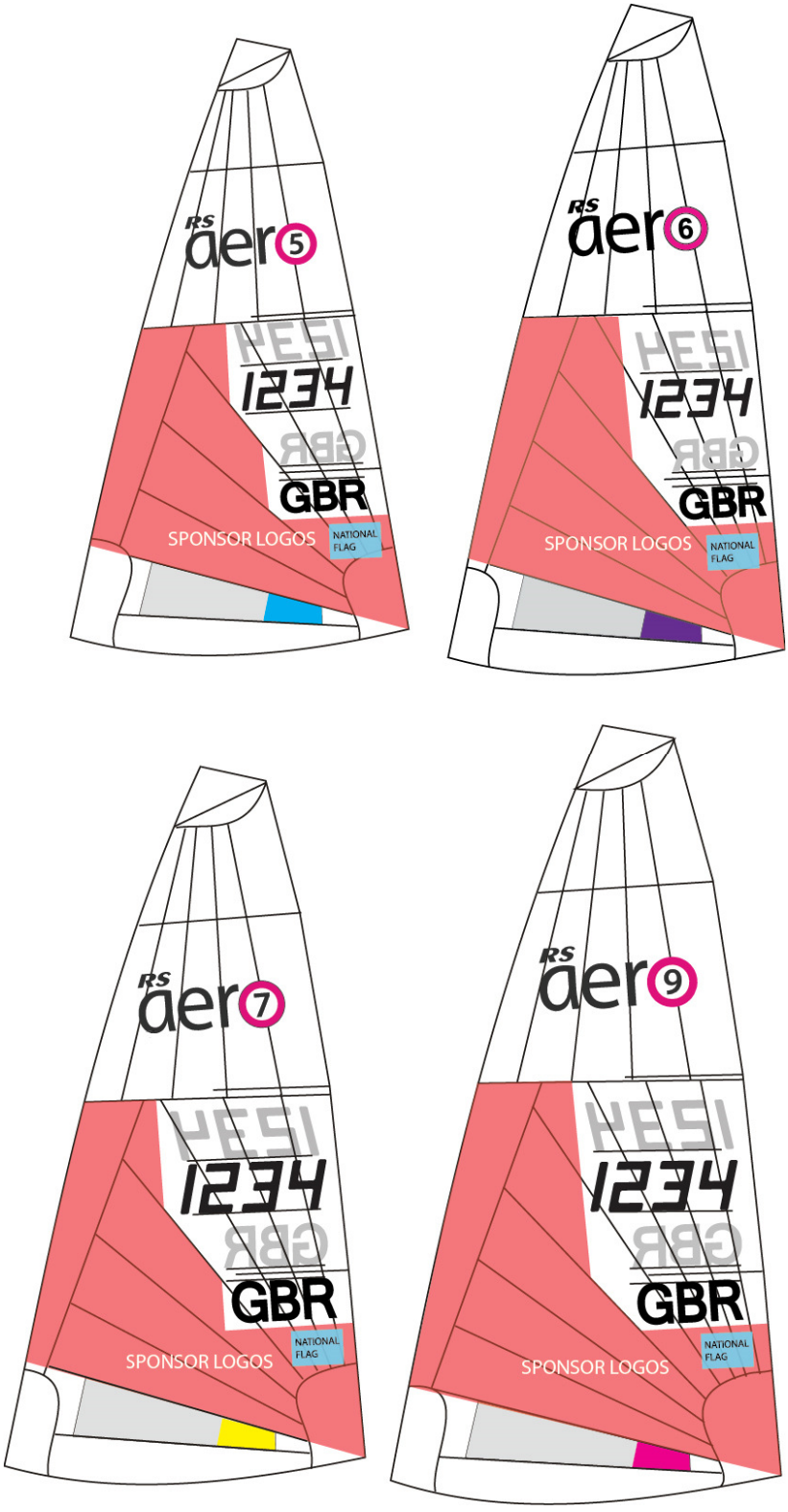
ROPE SIZES

DIMENSIONS (all in metric sizes)

		Recommended length (m)	Recommended diameter (mm)	Minimum Diameter
Mainsheet		9.2m	8mm	6mm
Outhaul (primary line in boom)		3.10m	4mm	3mm
Outhaul Control line (secondary) - Overdeck		5.2m	4mm	3mm
Downhaul/Cunningham Primary Line		0.9m	4mm	2.5mm
Downhaul/Cunningham Secondary Line - Overdeck		7m	4mm	3mm
Lashing for blocks for control lines– Overdeck		0.25m	2mm	1mm
Sidedeck Overdeck control strop (x2)		0.19m	3mm	2mm
Control Line take-up shockcord		2m	3mm	1.5mm
Vang Primary Strop		2m	4mm	2.5mm
Vang Secondary/control line		5.6m	4mm	2.5mm
Main Halyard Primary		0.9m	5mm	3mm
Main Halyard Tail		10.5m	3mm	1.5mm
Traveller		0.7m	4mm	3mm
Rudder Downhaul primary		0.7m	4mm	2mm
Rudder Downhaul secondary		1.10m	4mm	3mm
Toestrap elastic		0.6m	4mm	3mm
Daggerboard shockcord or rope		1.1m	4mm	3mm
JC Strap (optional)		2m	6mm	
Righting line (optional)		1.5m (x2)	4mm	

ANNEX 2

LAYOUT



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RS Aeros at the Columbia River Gorge, Oregon, USA during the RS Aero North American Champs, June 2019. By Bill Symes, CGRA