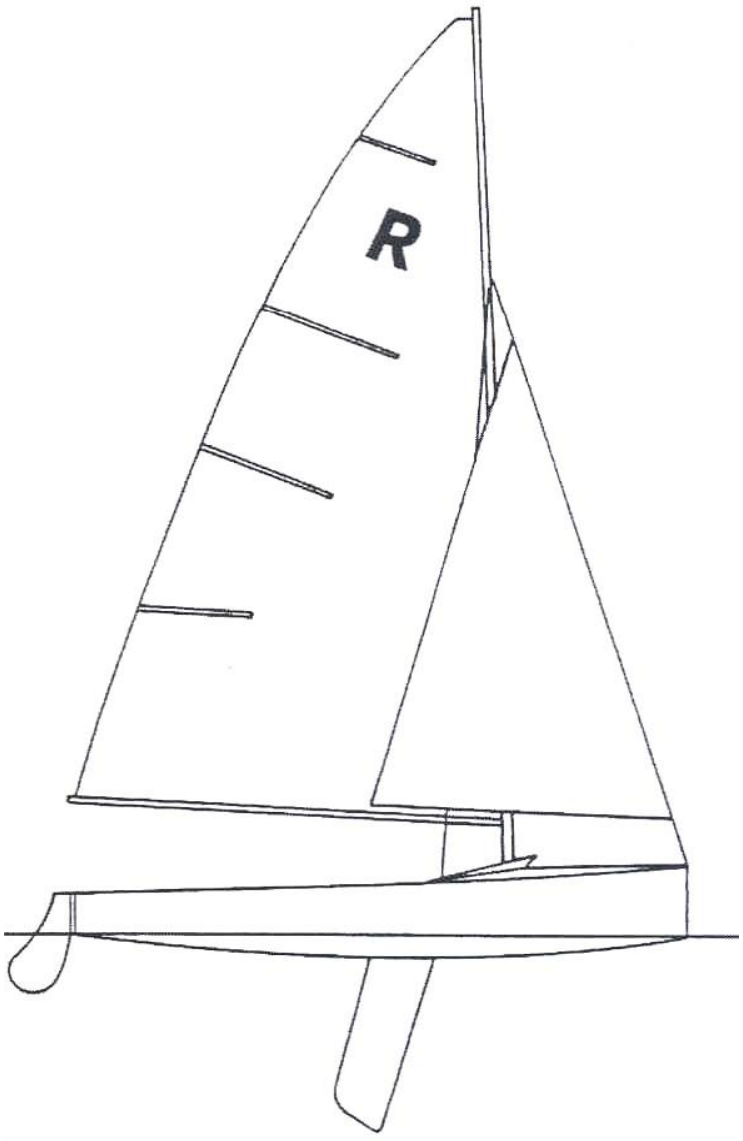
NATIONAL
REDWING
CLASS RULES
2016



The Redwing was designed in 1937 by Uffa Fox and was adopted as a National recognised class in 1954

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INTRODUCTION

National Redwing hulls, hull appendages, rigs and sails are measurement/manufacturing controlled.

National Redwing hulls, rigs and sails shall only be manufactured by licensed manufacturers. Equipment is required to comply with the National Redwing Building Specification and is subject to an RYA approved manufacturing control system. Manufacturer of National Redwing hull appendages is optional.

Provision is made for In-House Certification (IHC) of sails in accordance with ISAF guidelines.

National Redwing hulls, hull appendages, rigs and sails may, after having left the manufacturer, only is altered to the extent permitted in Section C of the class rules.

Owners and crews should be aware that compliance with rules in Section C is NOT checked as part of the certification process.

Rules regulating the use of equipment during a race are contained in Section C of these class rules, in ERS Part I and in the Racing Rules of Sailing.

This introduction only provides an informal background and the National Redwing Class Rules proper begin on the next page.

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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 word "shall" is mandatory and the word "may" is permissive.

A.2 ABBREVIATIONS

A.2.1

ISAF	International Sailing Federation
RYA	Royal Yachting Association
NRCA	National Redwing Class Association
ERS	Equipment Rules of Sailing
RRS	Racing Rules of Sailing

A.3 AUTHORITIES

A.3.1 The national authority of the class is the RYA, who shall co-operate with the NRCA in all matters concerning these rules.

A.3.2 Notwithstanding anything contained herein, the **certification authority** has the authority to withdraw a **certificate**.

A.4 ISAF RULES

A.4.1 These **class rules** shall be read in conjunction with the ERS.

A.4.2 Except where used in headings, when a term is printed in "**bold**" the definition in the ERS applies and when a term is printed in "*italics"* the definition in the RRS applies.

A.6 CLASS RULES VARIATIONS

A.6.1 At Class Events – see RRS 87.1.d) – ISAF Regulation 26.5(f) applies. At all other events RRS 87 applies.

A.7 CLASS RULES AMENDMENTS

A.7.1 Amendments to these **class rules** are subject to the approval of the RYA.

A.8 CLASS RULES INTERPRETATION

A.8.1 Interpretation of **class rules** shall be made by the RYA, who may consult the NRCA.

A.8.2 In the event of discrepancy between these rules, the measurement form and/or any plans, the matter shall be referred to the RYA.

A.9 BUILDING FEE RECIEPT

A.9.1 The licensed hull builder shall pay the building fee to the RYA.

A.9.2 The RYA shall, after having received the building Fee for the hull, send the building fee receipt and the sail number to the licensed hull builder.

A.9.3. The building fee is not applicable to members of the Looe Sailing Club.

A.10 SAIL NUMBERS

A.10.1 Sail numbers shall be issued by the RYA.

A.11 HULL CERTIFICATION

A.11.1 A **certificate** shall record the following information:

(a) Class
(b) **Certification authority**
(c) Sail number issued by the **certification authority**
(d) Owner
(e) Builder/Manufacturers details
(f) The hull weight and the weight and number of any correctors if fitted.
(g) Date of issue of initial **certificate**
(h) Date of issue of **certificate**
(i) Validity of flotation

A.12 INITIAL HULL CERTIFICATION

A.12.1 For a **certificate** to be issued to hull not previously **certified**:

(a) **Certification control** shall be carried out by the **official measurer** who shall complete the appropriate documentation.
(b) The documentation and **certification** fee shall be sent to the **certification authority**.
(c) Upon receipt of a satisfactorily completed documentation and **certification** fee, the **certification authority** may issue a **certificate**.

A.13 VALIDITY OF CERTIFICATE

A.13.1 A hull **certificate** becomes invalid upon:

(a) The change to any items recorded on the hull **certificate** as required under A.11.
(b) Withdrawal by the **certification authority**.
(c) The issue of a new **certificate**.

A.14 HULL RE-CERTIFICATION

A.14.1 The **certification authority** may issue a **certificate** to a previously certified hull:

(a) When it is invalidated under A.13.1 (a), after receipt of the old **certificate**, and **certification** fee.

(b) When it is invalidated under A.13.1 (b), at its discretion.

(c) In other cases, by application of the procedure in A.12.

A.15 RETENTION OF CERTIFICATION DOCUMENTATION

A.15.1 The **certification authority** shall:

(a) Retain the original documentation upon which the current **certificate** is based.

Section B – Boat Eligibility

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

B.1 CLASS RULES AND CERTIFICATION

B.1.1 The boat shall:

(a) Be in compliance with the National Redwing **class rules**.

(b) Have a valid hull measurement **certificate**.

B.2 FLOTATION CHECKS

B.2.1 The hull measurement **certificate** shall carry a satisfactorily flotation check confirmation.

B.2.2 A race committee may require that a boat shall pass a flotation test in accordance with Part III,

B.3 CLASS ASSOCIATION MEMBERSHIP

B.3.1 Owners shall be Class Association Members to be eligible to sail in any NRCA events.

PART II – REQUIREMENTS AND LIMITATIONS

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

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

Section C – Conditions for Racing

C.1 GENERAL

C.1.1 **RULES**

(a) The ERS Part I – Use of Equipment shall apply.

(b) RRS 49.1 is amended such that the use of a trapeze system is permitted.

C.2 CREW

C.2.1 LIMITATIONS

(a) The **crew** shall consist of two persons.

(b) No **crew** member shall be substituted during an event of less than 6 consecutive days, unless agreed by the Race Committee.

C.3 PERSONAL EQUIPMENT

C.3.1 MANDATORY

(a) The boat shall be equipped with **personal buoyancy** for each crew member to the minimum standard ISO 12402/5.

C.3.2 OPTIONAL

(a) Hiking harness.

(b) Trapeze harness.

C.4 ADVERTISING

C.4.1 LIMITATIONS

(a) For the purposes of advertising the National Redwing Dinghy falls under of the ISAF Advertising Code Category A.

C.5 PORTABLE EQUIPMENT

C.5.1 FOR USE

(a) MANDATORY

(1) Hand bailer or hand pump or bucket

(b) OPTIONAL

(1) Electronic or mechanical timing devices

(2) One compass

(3) Headsail Pole(s) – a maximum of two may be carried or a flyaway system is permitted

C.5.2 NOT FOR USE

(a) MANDATORY

(1) Two paddles minimum 900 mm long.

(b) OPTIONAL

(1) Towing rope minimum 10 m long of not less than 10 mm in diameter.

C.6 BOAT

C.6.1 FLOTATION

(a) The **hull** shall have flotation elements.

C.7 HULL

C.7.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Basic maintenance and repair to the **hull**, including polishing and re-finishing is permitted.

C.7.2 FITTINGS

(a) USE

(1) Drainage plugs shall be kept in place at all times.

(2) Each shroud shall pass through a hole in the deck.

	minimum	maximum
Diameter of hole		30mm
Centre of hole to **sheerline**		105mm
Centre of hole to Section 1	2525mm	2605mm

C.8 HULL APPENDAGES

C.8.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Basic maintenance and repair to the hull appendages, including polishing and re-finishing is permitted.

C.8.2 FITTINGS

(a) USE

(1) Both the **centreboard** and **rudder** may be adjustable, but when in their lowest position; the fore edge of either appendage shall be angled forward no more than 90° to the baseline.

C.8.3 LIMITATIONS

(a) Only one **centreboard** and one **rudder** blade shall be used during an event of less than 6 consecutive days, except when a hull appendage has been lost or damaged beyond repair.

C.8.4 CENTREBOARD

(a) DIMENSIONS

	minimum	maximum
The vertical distance from the lowest point of the **centreboard** when fully lowered to the underside of the garboard plank in way of the **centreboard** lowest point	…1269 mm	

(b) USE

(1) The **centreboard** may be raised and lowered whilst *racing*.

C.8.5 RUDDER

(a) DIMENSIONS

	minimum	maximum
The vertical distance from the lowest point of the **rudder**, in its lowest position, to the underside of the garboard plank at section 1	660 mm	

(b) USE

(1) The **rudder** blade shall be in its fully lowered position whilst *racing.*

C.9 RIG

C.9.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) Basic maintenance and repair to the **rig**, including polishing is permitted.

C.9.2 LIMITATIONS

(a) Only one set of **spars** and standing **rigging** shall be used during an event of less than 6 consecutive days, except when an item has been lost or damaged beyond repair.

C.9.3 MAST

(a) DIMENSIONS

	minimum	maximum
The distance from the aft side of the mast at the top of the mast step to section 1.....	2990 mm	3050 mm

(b) USE

(1) The **spar** shall be stepped in the mast step in such a way that the **heel point** shall not be capable of moving more than 5mm.

(2) The **heel point**, when stepped, shall be not more than 20mm above the centreboard case extension.

C.9.4 BOOM

(a) DIMENSIONS

	minimum	maximum
Limit mark width	…10 mm	
Boom **outer point distance** - …		2972mm

(b) USE

(1) The intersection of the aft edge of the mast **spar** and the top of the boom spar, each extended as necessary, shall not be below the **lower point.**

C.9.5 STANDING RIGGING

(a) USE

(1) Rigging links and rigging screws shall not be adjusted whilst *racing*.

C.9.6 RUNNING RIGGING

(a) USE

(1) The mainsail sheeting system is optional.

(2) The headsail sheet shall be led outside the shrouds.

(3) The flyaway pole system is optional

(b) FITTINGS

(1) The kicking strap rigging is optional

(2) .The mainsail clew outhaul rigging is optional.

(3) .The mainsail cunningham control rigging is optional.

(4) The flyaway pole rigging system is optional.

C.10 SAILS

C.10.1 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) **Sails** shall not be altered in any way except as permitted by these **class rules**.

(b) Routine maintenance such as minor repair or re-stitching is permitted without re-measurement and re-**certification**.

C.10.2 LIMITATIONS

(a) Not more than 1 mainsail and 1 jib shall be carried aboard whilst *racing*.

C.10.3 MAINSAIL

(a) IDENTIFICATION

The national letters and sail numbers shall comply with the RRS except where prescribed otherwise in these **class rules**.

(b) USE

(1) The sail shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the sail at sea.

(2) The highest visible point of the sail, projected at 90° to the mast spar, shall not be set above the **upper limit mark**. The intersection of the leech and the top of the boom spar, each extended as necessary, shall not be behind the fore side of the boom **outer limit mark**.

(3) **Luff** and **foot** bolt ropes shall be in the spar grooves or tracks.

C.10.4 JIB

(a) USE

(1) The sail shall be hoisted on a halyard. The arrangement shall permit hoisting and lowering of the sail at sea.

Section D – Hull

D.1 PARTS

D.1.1 MANDATORY

(a) **Hull** shell
(b) Deck
(c) Buoyancy Tanks/bags
(d) Gunwale Rubbing Strakes
(e) Bulkheads
(f) Thwarts
(g) Transom
(h) Stem post
(i) Breakwater
(j) Floorboards

D.1.2 OPTIONAL

(a) Bulkheads

D.2 GENERAL

D.2.1 RULES

(a) The **hull** shall comply with the **class rules** in force at the time of initial **certification**.

D.2.2 CERTIFICATION

See Rule A.12

D.2.3 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) The hull shell, deck and bulkheads shall not be altered in any way except as permitted by these **class rules**.

(b) Holes not bigger than necessary for the installation fittings and passage of lines may be made in the hull shell, deck or bulkheads.

(c) Routine maintenance such as minor repairs, painting and polishing is permitted without re-measurement and re-**certification**.

(d) If any hull moulding is repaired in any other way than described in D.2.3(c), an **official measurer** shall verify on the **certificate** that the external shape is the same as before the repair and that no substantial stiffness, or other, advantage has been gained as a result of the repair. The **official measurer** shall also describe the details of the repair on the **certificate**.

D.2.4 DEFINITIONS

(a) HULL DATUM POINT

The **hull datum point** is a point on the longitudinal centreline where the extension of the aft face of the transom intersects the extension of the line of the outside of the **hull**.

D.2.5 IDENTIFICATION

(a) The **hull** shall have the sail number cut or moulded into the centre thwart in Arabic numerals of not less than 25mm in height

D.2.6 BUILDERS

(a) The **hull** shall built by a builder licensed by the RYA.

D.3 HULL SHELL

D.3.1 MATERIALS

(a) The **hull** shell shall be built from planking: solid wood of optional species (prior to 31 August 1995, the hull may be constructed of glued plywood planking)

(b) Timbers shall be built from hard wood (not applicable to hulls built prior to 31 August 1995 where the hull may be constructed of glued plywood planking)

(c) Keel, Hog, Bilge Keels, Transom and centre board case sides shall be made from hard wood.

D.3.2 CONSTRUCTION

(a) The hull shell shall have not more than 12 planks and not less than 11 planks (including the garboard plank) each side of the centreline.

(b) Each plank shall be of uniform thickness of not less than 9mm, (BS nominal throughout)

(c) The exposed width of any plank shall be not more than 127mm.

(d) Each plank shall overlap the next plank nearer the garboard on the outside.

(e) Timbering and metal through fastening is required where the planks are made of solid wood.

(f) Where timbers are required by these rules they shall be not less than 12mm by 12mm in section and not less than 175mm centres for and aft.

(g) An additional strengthening timber or bulkhead may be fitted to the hull, positioned between a point 3050mm forward of section 1 and 50mm aft of the shroud anchor plates.

(h) In hulls constructed with timbers, the planks, where overlapped, shall be through fastened to each timber.

(i) In hulls constructed with timbers, the planks shall be through fastened not less than once between timbers.

(j) Except as permitted in Rule D.3.2.(l). and D.3.2.(m), where the surfaces of the planks are in contact at the lands, only the plank nearer the keel may be bevelled.

(k) Between the stem and 380mm aft of the stem the lands may be bevelled or rabbitted together towards the end of the boat.

(l) Between the transom and 380mm forward of the transom the lands may be bevelled or rabbitted together towards the end of the boat.

(m) Between 380mm aft of the stem and 380mm forward of the transom, except as permitted in Rule D.3.2.(o) , each plank shall project its full thickness over the plank which it overlaps.

(o) The exposed edges of the plank, whether inside or outside, may be rounded off to a radius not exceeding the plank thickness.

(p) The transom may have a tiller port and no more than two ports provided that the total cross sectional area for each port can be contained in a rectangle not exceeding 130mm by 260mm with the 260mm dimension being parallel to the sheer level. Such ports may be fitted with covering flaps.

(r) The keel shall run the full length of the hull and shall be not more than 90mm in exposed width. The exposed depth of the keel, for the full length of the hull, including the depth of the keel band shall be not more than 40mm nor less than 30mm.

(s) A stem and keel band of brass or aluminium shall be fitted on and over the full length of the stem and keel. Keel bands shall also be fitted on both sides of the centreboard slot. The stem, keel bands and bands on both sides of the centreboard slot shall be not more than 6mm in depth nor more than 12mm in width.

(t) A centreboard case shall be fitted, each side of which shall be not less than 20mm in thickness. The width of the centreboard slot between the centreboard case sides and through the keel shall be not more than 27mm.

(u) One bilge keel shall be fitted to each side of the outside hull over a land. The after end of each bilge keel shall be not less than 600mm or more than 1200mm forward of section 1. Each bilge keel shall be not less than 1828mm in length, and shall be not less than 20mm in width or less than 20mm in depth. Each bilge keel may be tapered towards its end for not more than 150mm from either end. Both exposed edges may have a radius of not more than 10mm. Each bilge keel shall be not more than 500mm or less than 435mm at section 3, and not more than 500mm or less than 490mm at section 4 from the centreline of the keel.

(v) At no point shall the distance between a template in position and a steel tape stretched across the lands in way of the section be more than 25mm.

D.4 DECK

D.4.1 MATERIALS

(a) The deck shall be built from marine plywood.

(b) The breakwater shall be of timber.

D.4.2 CONSTRUCTION

(a) The deck shall be 6mm in BS nominal plywood thickness.

(b) The position and dimensions of the deck shall be in accordance with the building plans.

(c) The breakwater shall be fitted on top of the deck and shall extend diagonally from the hull centreline aft either side of the hull to the sheer line.

D.5 BUOYANCY TANKS

D.5.1 CONSTRUCTION

(a) Buoyancy equipment shall comprise of either a single front buoyancy tank or a buoyancy bag together with side buoyancy bags.

(b) There shall be not less than three single buoyancy units and the flooding of any single unit shall leave not less than 135kg total positive buoyancy. A unit(s) contained within another unit shall be counted with that unit as a single unit. The flooding of any single unit shall be assumed to flood all units within it unless the latter is of the foam type.

(c) One inspection hole in each buoyancy tank is permitted, provided that the watertight integrity of the buoyancy tank is maintained and covers are capable of resisting accidental dislodgement.

(d) Draining holes in buoyancy tanks are permitted, provided that the watertight integrity of the buoyancy tank is maintained and plugs are capable of resisting accidental dislodgement.

(e) Provision shall be made for emptying built-in units.

(f) A built-in unit may be fitted in the bow area only. If fitted it shall not extend aft of the forward edge of the mast heel.

D.5.2 INFLATABLE BUOYANCY UNITS

(a) Each unit, with the exception of a shaped bow unit, shall have a minimum of two retaining straps, the total number of straps being determined by the requirement of one strap per 350mm, or part thereof, of maximum overall length of each unit. Each strap shall be securely attached to the hull in two places. Each inflatable unit shall be properly inflated and all openings effectively closed by stoppers.

(b) Inflatable units may be place anywhere in the hull.

D.6 GUNWALE AND RUBBING STRAKES

D.6.1 MATERIALS

(a) The rubbing strakes shall be of hard wood timber

D.6.2 CONSTRUCTION

(a) The rubbing strake shall run unbroken on each gunwale, fitted on each side of the hull at the sheer level outside the sheer line.

D.7 BULKHEADS

D.7.1 MATERIALS

(a) The construction of the bulkhead may be solid wood or plywood.

D.7.2 CONSTRUCTION

(a) A strengthening bulkhead of timber or marine ply may be fitted.

D.8 THWARTS

D.8.1 MATERIALS

(a) Thwarts shall be of hard wood.

D.8.2 CONSTRUCTION

(a) The position and dimensions of the mast thwart shall be in accordance with the building plans.

D.9 ASSEMBLED HULL

D.9.1 FITTINGS

(a) MANDATORY

The following fittings shall be positioned in accordance with the building plans.

(i) Shroud plates

(ii) Forestay fitting

(iii) Mainsheet track with one traveller

(iv) Mast step

(v) Headsail sheet fairleads which shall be fitted at deck level with the external bearing surface not less than 724mm from the hull centreline. Sliding fittings may be fitted.

(vi) Not less than two floorboards, one each side of the hull centre line. Floorboards may be made of one or more sections but shall be not less than 2400mm in length. The total plan area of floorboards shall be not less than 0.72m². (Not applicable to boats of glued ply construction)

(b) OPTIONAL

(i) Muscle-box or highfield lever for the jib halyard

(ii) Mainsail fittings, including centre and/or transom mainsheet fittings, sheet blocks, fairleads and cleats.

(iii) Mainsail Cunningham blocks, fairleads and cleats, kicking strap fittings and mainsail clew outhaul fittings

(iv) Headsail sheet cleats

(v) Toe straps not capable of extending outboard

(vi) Stowage clips for paddle(s), headsail pole, and other equipment

(vii) Tiller lock

(viii) Mast chocks

(ix) Suction bailers, having a total effective cross-sectional area (i.e. area of the smallest hole or holes through which all the extracted water passes) of not more than 1300mm². The width or length of any part of a suction bailer which projects beyond the surface of the hull shall be not more

than 75mm. Not more than two suction bailers may be fitted in line athwart ships. No suction bailer shall be within 150mm of an athwart ships plane passing through another suction bailer.

D.9.2 DIMENSIONS

The keel line shall be taken as the intersection line from transom to stem of the hull shell and the hull centre plane.

The sections shall be taken as vertical, transverse planes at the following positions:

Section 1: at 0 mm from **hull datum point** as defined in D.2.3

Section 2: at 1067 mm from **hull datum point** as defined in D.2.3

Section 3: at 2134 mm from **hull datum point** as defined in D.2.3

Section 4: at 3200 mm from **hull datum point** as defined in D.2.3

Section 5: at 3658 mm from **hull datum point** as defined in D.2.3

The baseline shall be on the centre plane of the **hull** at the following vertical distances:

at section 1 : 280 mm from the hull shell

at section 5 : 60 mm from the hull shell

	minimum	maximum
Hull length	…4254 mm	…4280 mm
Vertical distance from baseline to underside of **hull** shell;		
at section 2 …	…130 mm .	…144 mm
at section 3 …	…26 mm ...	…40 mm
at section 4 …	…10 mm ...	…25 mm
Beam of hull, excluding rubbing strakes and fittings, at sheer line;		
at section 1 …	…975mm	… 1025mm
at section 2 …	… 1360mm	… 1410mm
at section 3 …	… 1480mm	… 1530mm
at section 4…	… 1170mm	… 1220mm
at section 5…	… 835mm .	… 885mm
Longitudinal distance from **hull datum point** as defined in D.2.3;		
to fore end of centreboard slot	…2485 mm	…2530 mm
to aft end of centreboard slot	…1015 mm	…1060 mm
to centre of centreboard pivot (if fitted)	…2375 mm	…2425 mm

Height of centreboard pivot (if fitted) above hog……..35mm……..50mm

Mast thwarts,

Upper surface above the hog…….620mm……625mm

Fore and aft width of mast thwart……..200mm

Fore edge of mast slot to stem excluding band and/or bow fitting..1220mm

Longitudinal distance from the stem (excluding stem band and/or bow plate)

to aft point of mast spar hole at deck..... .....1220 mm

Longitudinal distance from **hull datum point** as defined
in D.2.3 to centre of shroud plate holes ..... …*2525* mm …*2605* mm
Transom thickness…… 19 mm

Hog,
Width…….100mm……140mm
Height…….10mm……...25mm
Gunwale rubbing strakes;
Depth .... …26 mm
width .... …20 mm
Stem Post
Width ..... 40mm ... …60 mm
Depth ..... 25mm ... …40 mm
Bilge Keels,
Aft edge forward of section 1……....600mm..…1200mm
Bilgekeel length……1828mm
Width……20mm
Depth……20mm
Distance from keel centreline at Section 3……....435mm.…..500mm
Distance from keel centreline at Section 4…….490mm.…..500mm
Breakwater,
Aft of stem from stem head along centreline… ……..915mm 1000mm
Aft of stem from stem head at sheerline…….....1600mm . 1730mm
Height above deck……...56mm……76mm
Plan for and aft……150mm

D.9.3 WEIGHTS

	minimum	maximum
Hull weight	…125 kg	

No fixed fitting that is included within the **hull** during initial weighing shall be removed without the **hull** being re-weighed.

D.9.4 HULL CORRECTOR WEIGHTS

(a) Minimum of two corrector weights of up to 4.5kg shall be permanently fastened to the **hull** when the **hull** weight is less than the minimum requirement.

(b) The total weight of such corrector weights shall not exceed 9 kg. See also rules A.13.1.(a) and B.1.1.

Section E – Hull Appendages

E.1 PARTS

E.1.1 MANDATORY

(a) **Centreboard**

(b) **Rudder**

E.2 GENERAL

E.2.1 RULES

(a) **Hull appendages** shall comply with these **class rules.**

E.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) **Hull appendages** shall not be altered in any way except as permitted by these class rules.

E.2.3 MANUFACTURERS

(a) The **hull appendage** manufacturers are optional.

E.3 CENTREBOARD

E.3.2 MATERIALS

(a) The **centreboard** shall be manufactured from hard wood or iron.

(b) The **centreboard** may be covered with any coating, but the finish shall not be reinforced.

E.3.4 CONSTRUCTION

(a) Subject to rules.E.3.6(a) and E.3.6(b), the shape of the **centreboard**, after finishing, shall conform to the dimensions and requirements as detailed in the building plans.

E.3.5 FITTINGS

(a) OPTIONAL

(1) Friction pad

(2) Handle or stops

E.3.6 DIMENSIONS.

		minimum	**maximum**
(a)	The fore edge of the centreboard may be bevelled but, if bevelled, such bevel shall not extend more than aft from the fore edge.		26mm
(b)	The aft edge of the centreboard may be bevelled but, if bevelled, such bevel shall not extend more than forward from the aft edge.		52mm
(c)	Subject to rules E.3.6(a) and E.3.6(b), the centreboard shall be not less than in thickness.	16 mm	

E.4 RUDDER BLADE, RUDDER STOCK AND TILLER

E.4.3 MANUFACTURERS

(a) The manufacturer of the **rudder** stock is optional

(b) The manufacturer of the tiller is optional

E.4.4 MATERIALS

(a) The **rudder** blade shall be manufactured from hard wood.

(b) The **rudder** blade may be covered with any coating but the finish shall not be reinforced.

(c) The materials of the **rudder** stock shall be optional.

(d) The materials of the tiller shall be optional.

E.4.5 CONSTRUCTION

(a) Subject to rules E4.7(a),E.4.7(b) and E.4.7(c), the shape of the rudder blade, after finishing, shall conform to the dimensions and requirements as detailed in the building plans.

E.4.6 FITTINGS

(a) MANDATORY

(1) One tiller

(b) OPTIONAL

(1) One tiller extension.

E.4.7 DIMENSIONS

	minimum	maximum
(a) The fore edge of the rudder blade may be bevelled but, if bevelled, such bevel shall not extend more than aft from the fore edge.		26mm
(b) The aft edge of the centreboard may be bevelled but, if bevelled, such bevel shall not extend more than forward from the aft edge.		52mm
(c) Subject to rules E.4.7(a) and E.4.7(b), the rudder shall be not less than in thickness	16mm	

Section F – Rig

F.1 PARTS

F.1.1 MANDATORY

(a) Mast

(b) Boom

(c) Standing rigging

(d) Running rigging

F.1.2 OPTIONAL

(a) Headsail pole

F.2 GENERAL

F.2.1 RULES

(a) The **spars** and their fittings shall comply with these **class rules**.

(b) The standing and running rigging shall comply with these **class rules.**

F.2.2 MODIFICATIONS, MAINTENANCE AND REPAIR

(a) **Spars** shall not be altered in any way except as permitted by these **class rules.**

(b) Routine maintenance such as re-rigging is permitted.

F.2.3 DEFINITIONS

(a) MAST DATUM POINT

The **mast datum point** is the **heel point.**

F.2.5 MANUFACTURER

(a) The mast shall be manufactured only by manufacturers approved to do so by the RYA, (as .from 1st March 1995 the approved manufacturer is Superspar, section M2)

(b) Masts manufactured before 28th February 1995 shall comply with the rules effective at the time of manufacture.

(c) The boom shall be manufactured only by manufacturers approved to do so by the RYA, (As from 1 August 1993 the approved manufacturer is Superspar: section *B2).*

(d) Booms manufactured before 31st July 1993 shall comply with the rules effective at the time of manufacture

F.3 MAST

F.3.1 MATERIALS

(a) The mast shall be of aluminium alloy extrusion (90% aluminium content).

(b) The permitted surface finish may be anodised or painted

F.3.2 CONSTRUCTION

(a) The mast extrusion shall include a continuous sail groove, which shall be an integral part of the extrusion. It may be anodised.

(b) Subject to rules, F.2.5.(a) and F.2.5.(b), the external shape of the mast shall conform to the dimensions and requirements as detailed in the Class plans.

F.3.3 FITTINGS

(a) MANDATORY

(1) Shroud tangs

(2) One set of spreaders

(3) Mainsail halyard sheave box

(4) Headsail halyard sheave box

(5) Heel fitting with sheaves for halyards
(6) Headsail pole fitting
(7) Gooseneck

(b) OPTIONAL
(1) One mechanical wind indicator
(2) Compass bracket
(3) Muscle box or high field lever
(4) Kicking strap attachment

F.3.5 DIMENSIONS

	minimum	maximum
Mast length		… 7578mm
Mast limit mark width	… 10mm	
Lower point height		… 1067mm
Upper point height		… 7468mm
Forestay height		5335mm
Shroud height		5335mm
Trapeze height		5335mm

Mast curvature - A set due to distortions of up to 50mm between **Lower Point** and **Upper Point** is permitted.

Mast cross section between **upper point** and **lower point**

Fore and aft	70mm	…80mm
Transverse	50mm	60mm

Headsail pole fitting:
projection ... …50 mm

F.4 BOOM

F.4.1 MATERIALS

(a) The boom shall be of aluminium alloy extrusion (90% aluminium content)
(b) Permitted surface finish. It may be anodised.

F.4.2 CONSTRUCTION

(a) The **spar** extrusion and shall include a continuous sail groove which shall be an integral part of the extrusion.
(b) Permanently bent booms are not permitted, but a set due to distortions of up to 30mm between the boom measurement band and the foremost point of the boom is permitted.
(c) Subject to rules, F.2.5.(c) and F.2.5.(d), the external shape of the boom shall conform to the dimensions and requirements as detailed in the Class plans.

F.4.3 FITTINGS

(a) MANDATORY
(1) Mainsheet blocks with attachments

(2) Clew outhaul blocks and attachments

(3) Kicking strap fitting

(4) Gooseneck attachment

(b) OPTIONAL

(1) Not more than two wire strops for mainsheet blocks

F.4.5 DIMENSIONS

	minimum	maximum
Boom spar curvature - A set due to distortions of up to 30mm between the boom **outer point** and the inner end of the boom is permitted.		
Boom spar cross section between inner end and the **outer point**;		
vertical	70mm	90mm
transverse	50mm	70mm

F.5 HEADSAIL POLE

F.5.1 MANUFACTURER

(a) Manufacturer is optional.

F.5.2 MATERIALS

(a) The headsail pole may be of any material.

F.5.3 FITTINGS

(a) Fittings are optional.

F.5.4 DIMENSIONS

	minimum	maximum
Headsail pole length, including fittings	…	…2000 mm

F.6 NOT USED

F.7 STANDING RIGGING

F.7.1 MATERIALS

(a) The standing rigging shall be of stainless or galvanised steel. multi-strand wire.

F.7.2 CONSTRUCTION

(a) MANDATORY

(1) A forestay of minimum 2mm diameter “non-faired” (multi-strand) wire

(2) Shrouds of minimum 2mm diameter “non faired” (multi-strand) wire

(b) OPTIONAL

(1) Two trapeze wires one each side. They shall only be used to support the weight of one person at any one time.

F.7.3 FITTINGS

(a) MANDATORY

(1) Two shroud spreaders. The shrouds shall bear on the shroud spreaders.

(b) OPTIONAL

(1) Forestay fittings are optional.

(2) Shroud fittings are optional, although shroud tension levers are prohibited.

F.7.4 DIMENSIONS

	minimum	maximum
Forestay diameter	…2 mm	
Shroud diameter	…2 mm	

F.8 RUNNING RIGGING

F.8.1 MATERIALS

(a) Materials are optional.

F.8.2 CONSTRUCTION

(a) MANDATORY

(1) Mainsail halyard

(2) Mainsail sheet

(3) Kicking strap

(4) Headsail halyard

(5) Headsail sheets

(b) OPTIONAL

(1) Mainsail Cunningham line

(2) Mainsail outhaul

Section G – Sails

G.1 PARTS

G.1.1 MANDATORY

(a) Mainsail

(b) Headsail

G.2 GENERAL

G.2.1 RULES

(a) **Sails** shall comply with the **class rules** in force at the time of **certification**.

(b) **Sails** shall be red in colour.

G.2.2 CERTIFICATION

(a) The **official measurer** shall **certify** mainsails and headsails in the **tack** and shall sign and date the **certification mark.**

(b) An MNA may appoint one or more persons at a sail maker to measure and **certify** sails produced by that manufacturer in accordance with the ISAF In-house Certification Guidelines.

G.2.3 SAILMAKER

(a) **Sails** shall be manufactured only by manufacturers licenced by the RYA.

G.3 MAINSAIL

G.3.1 IDENTIFICATION

(a) The sail numbers, letters and sail emblem shall be of such size and so placed as laid down in the ISAF Racing Rules of Sailing Appendix G. The class insignia shall not be shown on headsails.

G.3.2 MATERIALS

(a) The **ply** fibres shall be of polyester.

(b) **Stiffening** is permitted

(c) **Sail reinforcement** shall consist of the same **ply** as the **body of the sail**.

G.3.3 CONSTRUCTION

(a) The construction shall be: **soft sail, single ply sail.**

(b) The **body of the sail** shall consist of the same **woven ply** throughout except that within 300mm of the **foot**, a different **woven ply** may be used.

(c) The sail shall have four **batten pockets** in the **leech.**

(d) The following are permitted: Stitching, glues, tapes, bolt ropes, corner eyes, headboard with fixings, Cunningham eye or pulley, **batten pocket** patches, **batten pocket** elastic, **batten pocket** end caps, mast and boom slides, leech line with cleat, one **window**, tell tales, sail shape indicator stripes and items as permitted or prescribed by other applicable rules

(e) The **leech** shall not extend aft of straight lines between

(1) the **aft head point** and the intersection of the **leech** and the upper edge of the nearest **batten pocket**,

(2) the intersection of the **leech** and the lower edge of a **batten pocket** and the intersection of the **leech** and the upper edge of an adjacent **batten pocket** below,

(3) the **clew point** and the intersection of the **leech** and the lower edge of the nearest **batten pocket**.

(f) The bolt rope on the foot of the sail shall terminate 420 mm + or – 10mm from the tack point.

G.3.4 DIMENSIONS

	minimum	maximum
Luff length	…6350 mm	…6400 mm
Foot length.....	…2840 mm	…2890 mm

Leech length ..... …6785 mm …6835 mm
Quarter width ..... …2470 mm …2520 mm
Half width ..... …1865 mm …1915 mm
Three-quarter width ..... …1065 mm …1115 mm
Top width .... …130 mm
Weight of **ply** of the **body of the sail** ..... … 205g/m^2
Primary reinforcement at the corners .... …650 mm
And elsewhere ..... 100 mm
Secondary reinforcement:
from sail corner measurement points ....1200 mm
for flutter patches .... …175 mm
for chafing patches .... …175 mm
for batten pocket patches .... …175 mm
Tabling width at bolt ropes .... …65 mm
Seam width .... …20 mm
Window area .... …0.5 m^2
Window to **sail edge** ..... …100 mm
Extension of headboard from **head point** .... …110 mm
Batten pocket length:
uppermost pocket: inside .... …535mm
lowermost pocket: inside .... …785mm
intermediate pockets: **i**nside ..... . …1025mm
Head point to intersection of **leech** and centreline of
uppermost **batten pocket**..... …1465mm …1515mm
Clew point to intersection of **leech** and centreline of
lowermost **batten pocket** ..... …1250mm..... 1300mm

G.4 HEADSAIL

G.4.1 MATERIALS

(a) The **ply** fibres shall be of polyester.
(b) **Sail reinforcement** shall consist of the same **ply** as the **body of the sail**.

G.4.2 CONSTRUCTION

(a) The construction shall be: **soft sail, single ply sail**.
(b) The **body of the sail** shall consist of the same **woven ply** throughout.
(c) The **leech** shall not extend beyond a straight line from the **aft head point** to the **clew point**.
(d) The following are permitted: Stitching, glues, tapes, corner eyes, hanks, two **window(s)**, tell tales and items as permitted or prescribed by other applicable *rules*.

G.4.3 DIMENSIONS

	minimum	maximum
Luff length	…3915 mm	…3965mm
Leech length	…3860 mm	…3910 mm
Foot median		…3960 mm
Foot length	…2030 mm	…2080 mm
Top width	… 50 mm	
Weight of **ply** of the **body of the sail**	… 205g/m^2	
Primary reinforcement at corners only..... ..	…350 mm	
Secondary reinforcement:		
from **sail corner measurement points**	…900 mm	
for **flutter patches**	…150 mm	
for **chafing patches**	…150 mm	
for **batten pocket patches**	…150 mm	
Tabling width	…40 mm	
Seam width	…15 mm	
Window area	…0.5 m^2	
Window to **sail edge**	…130 mm	

Battens and **batten pocket** are not permitted:

PART III – APPENDICES

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

Section H

H.1 DIAGRAMS

Diagrams included in this section are not to scale and are for reference only.

(a) Diagram 1, Hull plan, side view.

(b) Diagram 2, Hull plan, overhead view

(c) Diagram 3, Mast and boom.

H.2 FLOATATION TEST INSTRUCTIONS

'Immersion Test' - the boat with mast stepped, but with boom, sails and all loose gear removed, shall when swamped, float for 15 minutes approximately level with the whole length of the gunwale clear of the water with a weight of 200kg distributed as uniformly as possible between 1500mm and 3400mm aft of the stem. The weight shall be made up of persons not immersed above the knees and/or cast iron or denser material. Security and air tightness shall be further tested with the swamped boat floating on its beam ends for not less than one minute to port and one minute to starboard while supporting a minimum crew weight of 135kg. For this test the mast may be supported above its upper band. After these tests any defects shall be made good and re-tested and the Measurer shall inspect the buoyancy units for leakage and their fastenings for security. Built in tanks may not contain more than 10.0 litres of water after the test.

'Inspection Test' - the Measurer shall carefully check the condition and fastenings of all attached buoyancy units and the soundness of the built-in tank. In all cases where the Measurer is not satisfied an Immersion Test shall be carried out.

There are two categories of test – the "Immersion Test" and the "Inspection". All new boats shall have to fulfil the requirements of an "Immersion Test" prior to initial certification. After initial certification, boats with built-in bow buoyancy may have their buoyancy endorsements renewed annually after fulfilling the requirements of an "Inspection", and boats with bow bags or rigid buoyancy units in the bow may have their buoyancy endorsements renewed twice by "Inspection" after an "Immersion Test", but every 36 months an "Immersion Test" is obligatory.

On completion of satisfactory test/inspection, the owner shall sign and date the buoyancy endorsement on the measurement certificate and arrange for such signature to be witnessed and endorsed by a club official.

DIAGRAM 1

REDWING SECTION

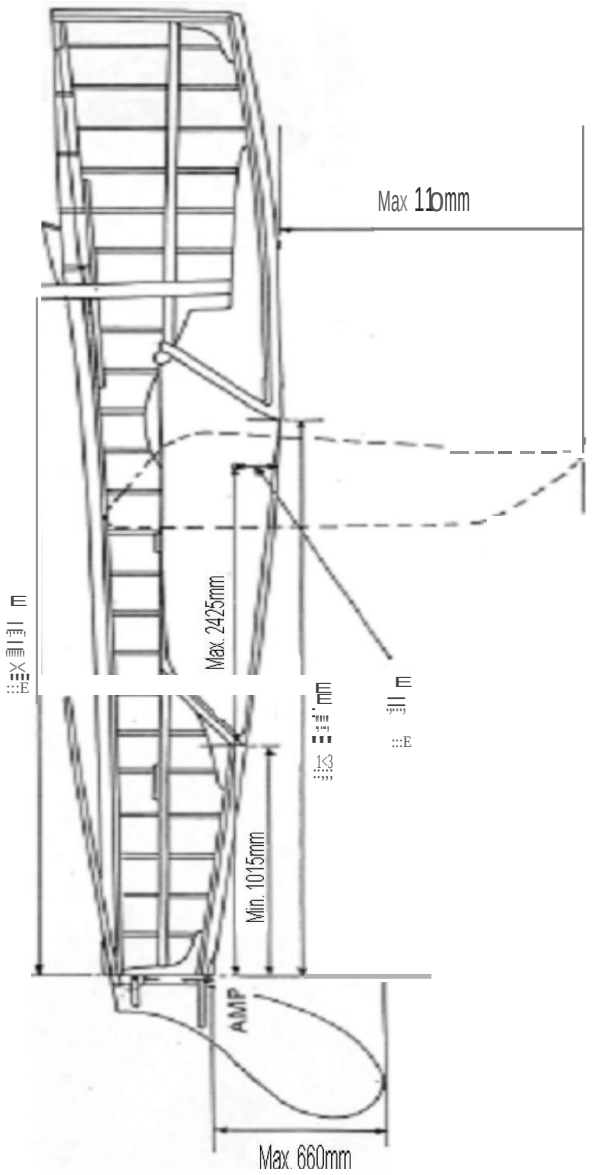


DIAGRAM 2
REDWING PLAN

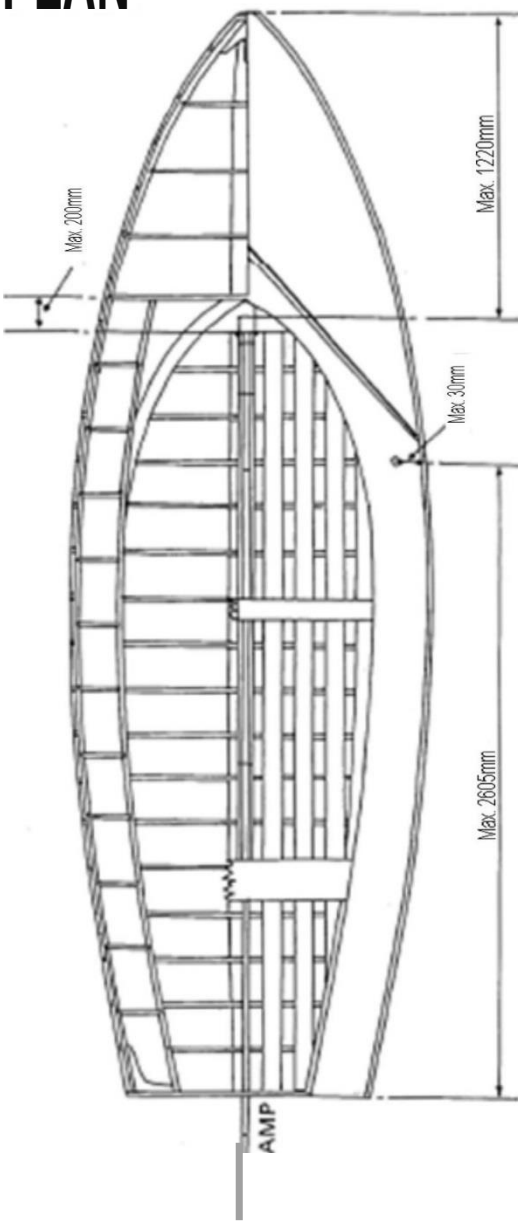
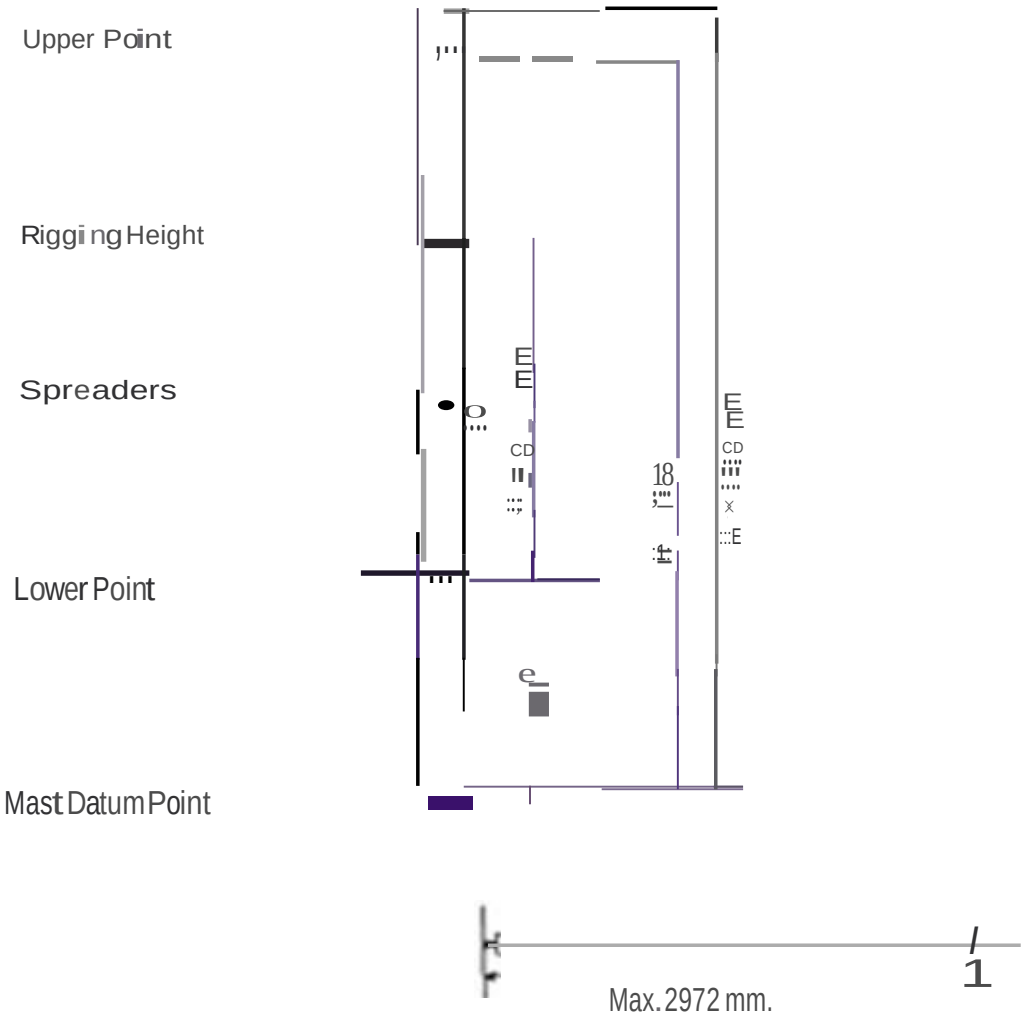


DIAGRAM 3
MAST & BOOM



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