APPENDIX 4

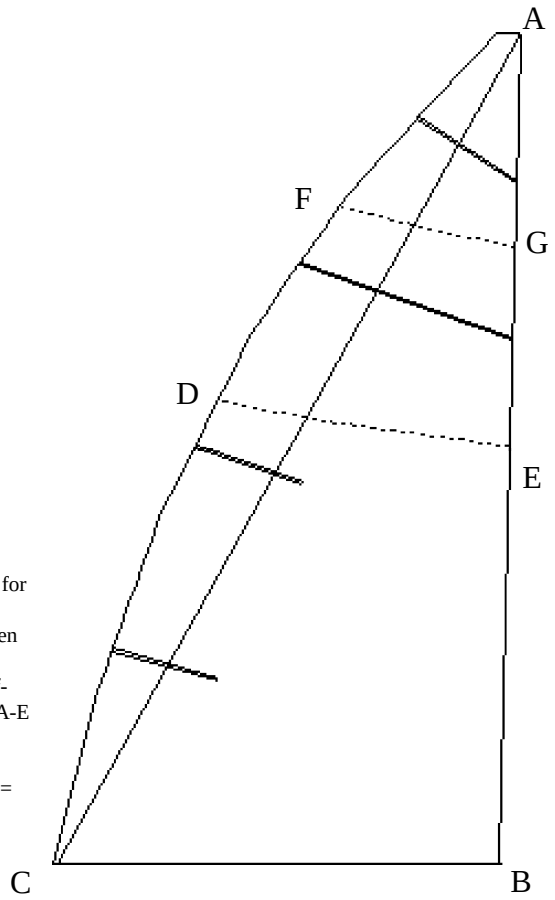
MAINSAIL
Maximum dimensions in millimetres

Batten Pocket Lengths:
No.1 855 full to luff rope
No.2 1565 full to luff rope
No.3 620
No.4 620
Total not to exceed 3600

Spacing on leech measured to lower edge of pocket:

	Min.	Max.
Peak A to No.1	800	880
No.1 to No.2	1150	1250
Elsewhere	1340	1420

NOTES
1. Mainsail to be laid flat and wrinkle-free for measurement.
2. All dimensions measured straight between denoted points.
3. Width at half-height measured from half-leech D (A-D = D-C) to half-luff E (A-E = E-B)
4. Width at 3/4 height measured from 3/4 leech F (A-F = F-D) to 3/4 luff G (A-G = G-E)

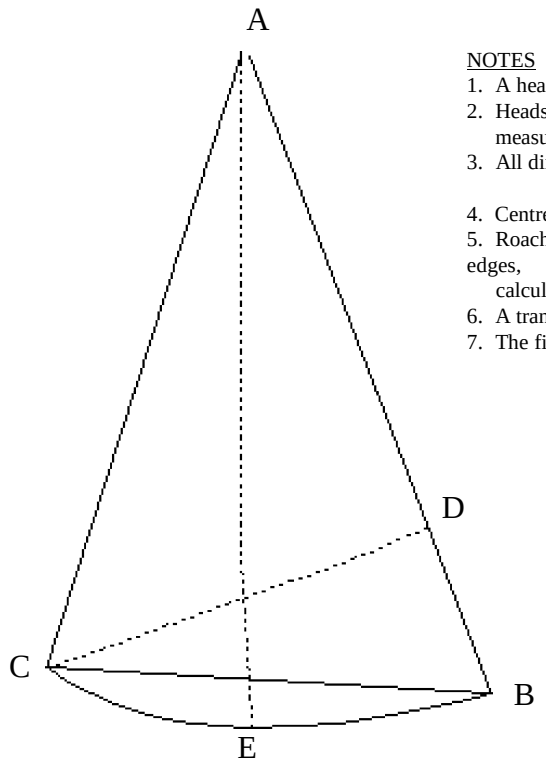


LUFF	A - B	5425
LEECH	A - C	6100
FOOT	B - C	2835
WIDTH AT HALF HEIGHT	D - E	1890
WIDTH AT THREE-QUARTER HEIGHT	F - G	1135
HEADBOARD WIDTH AT ANY POINT		130

MAX. PERMISSIBLE CALCULATED AREA 9.60 SQ. M.

APPENDIX 5

HEADSAILS
Maximum dimensions in millimetres



NOTES
1. A headboard and/or battens are prohibited.
2. Headsail to be laid flat and wrinkle-free for measurement.
3. All dimensions measured straight between denoted points.
4. Centre-foot E is equidistant from B and C.
5. Roaches or hollows are permitted on all edges, but hollows are not deducted in area calculations.
6. A transparent window is optional.
7. The fitting of a wire luff to facilitate roller furling is recommended.

LUFF	A - B	4470
LEECH	A - C	4160
FOOT	B - C	2840
LONGEST PERPENDICULAR TO LUFF	C - D	2590
HEAD TO CENTRE-FOOT	A - E	4330
WIDTH AT HEAD A		30

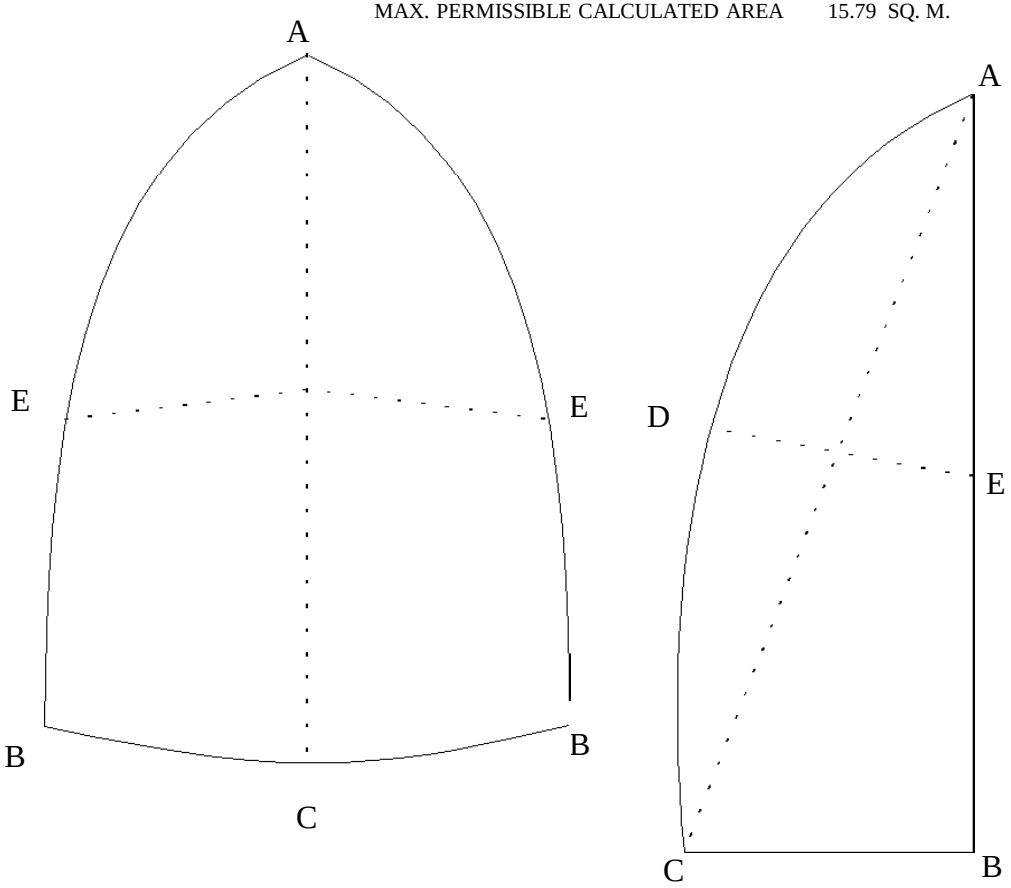
MAX. PERMISSIBLE CALCULATED AREA 6.28 SQ. M.

SPINNAKER APPENDIX 6

Maximum dimensions in millimetres

LUFFS (both to be equal)	A - B	5180
HALF-WIDTH AT FOOT	B - C	1830
HALF-WIDTH AT HALF-HEIGHT	D - E	1830
HEAD TO CENTRE-FOOT	A - C	5500

MAX. PERMISSIBLE CALCULATED AREA 15.79 SQ. M.



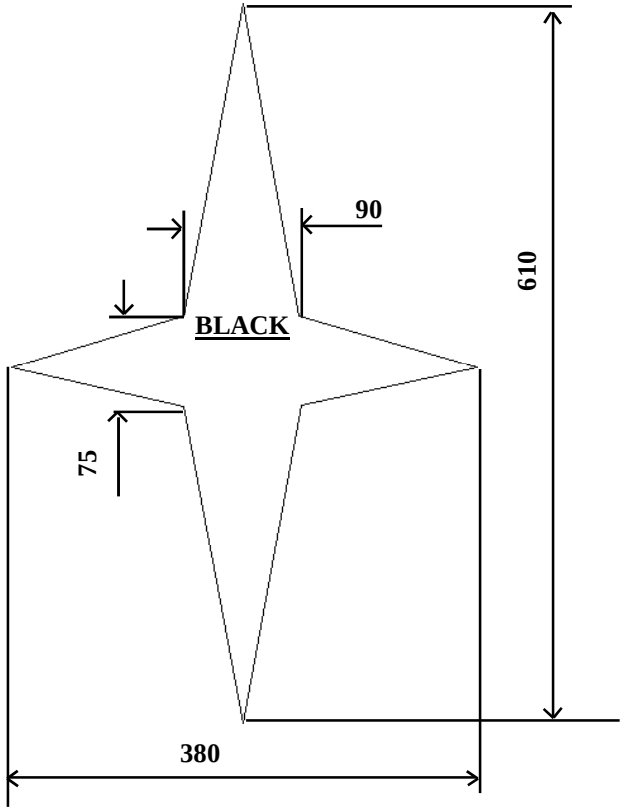
NOTES

1. Headboard is not permitted.
2. Fold in half and lay flat and wrinkle-free for measurement.
3. Head to centre-foot is measured in a straight line A - C.
4. Luff is measured along the edge of luff A - E - B.
5. Half-width at foot is measured along the edge of foot B - C.
6. Half-width at half-height is measured between E (at half-luff A - E = E - B) and D (at half-centrefold A - D = D - C).
7. Area calculation shall be made in all cases.

APPENDIX 3

CLASS INSIGNIA

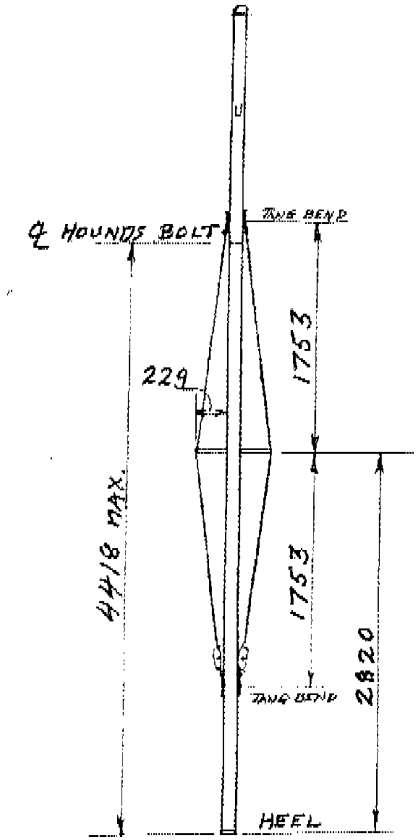
Dimensions in millimetres



NOTES

1. The class insignia is a four-pointed star proportioned to the diagram and coloured black.
2. An insignia of the size shown shall be placed on each side of the mainsail between No.1 and No.2 batten pockets.
3. The long axis of the insignia shall be parallel either to the luff or to a straight line from head to clew.
4. A tolerance of 5% on dimensions is permitted.

OPTIONAL MAST DIAMOND
Dimensions in millimetres



NOTES:

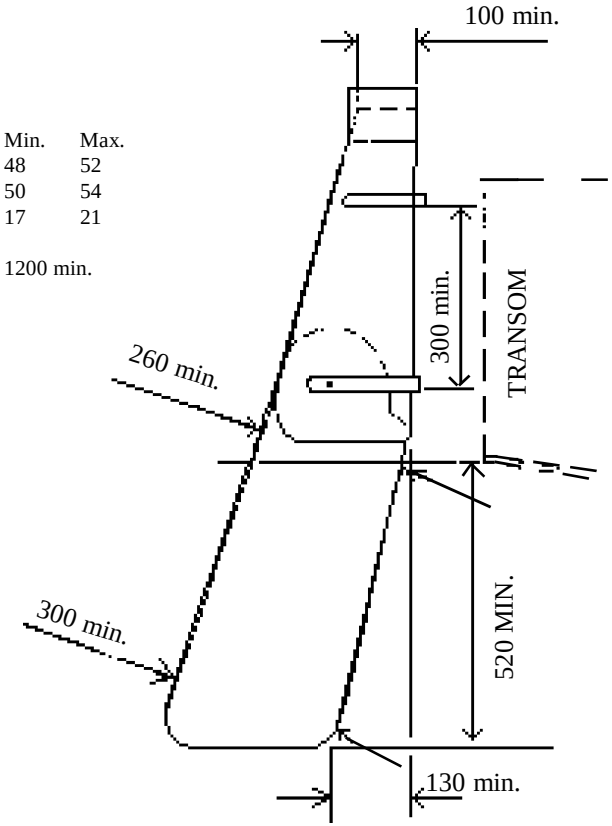
1. The fitting of mast diamond stays is optional, but dimensions shown are recommended to be followed.
2. Wire should be stainless steel 1x19 not over 2.5mm diameter.
3. Rigging screws for the adjustment of tension should be included in the over-all dimensions shown.
4. Tension adjustments shall not be made during a race.

RUDDER ASSEMBLY
Dimensions in millimetres

Material: Wood

Thicknesses:	Min.	Max.
Tiller at stock	48	52
Stock	50	54
Blade	17	21

Tiller length over all 1200 min.



NOTES

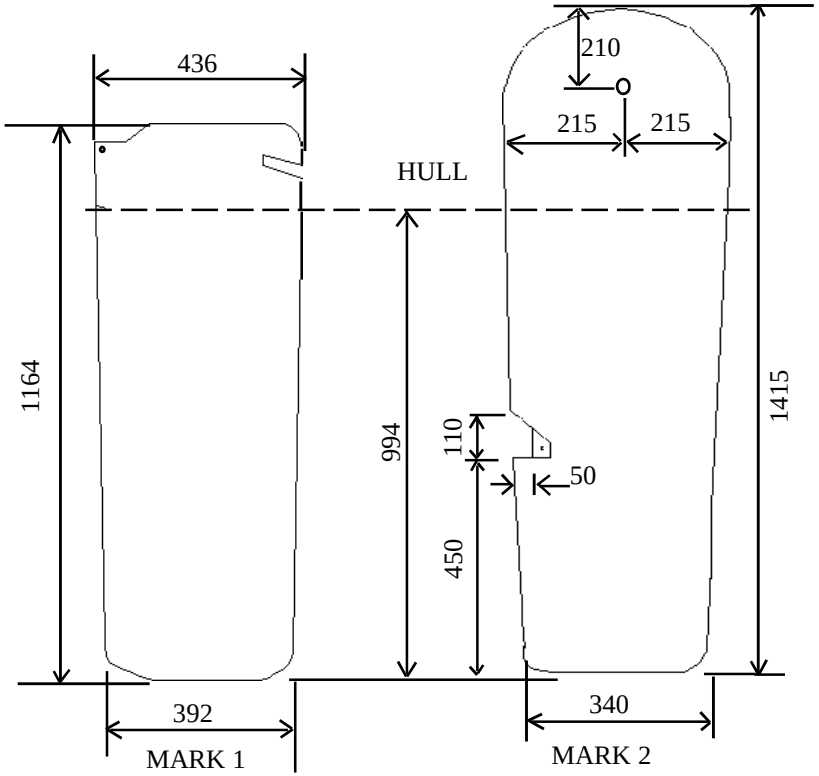
1. Blade thickness must not be less than specified except within 60mm of the leading, trailing, and lower edges.
2. When the blade is in the full-down position, the lower edge shall be at right angles to the forward face of the rudder stock.
3. The blade must be able to be raised so that the leading edge is above the horizontal.
4. Blade hold-downs using friction, elastic or cordage are permitted.

CENTREPLATE APPENDIX 8

Minimum dimensions in millimetres

Material: Cast Iron

	Mark 1	Mark 2
Design weight	70.8 kg	98.0 kg
Minimum permissible weight	63.6 kg	95.3 kg
Lockdown pin hole	Not applicable	Recommended; not shown



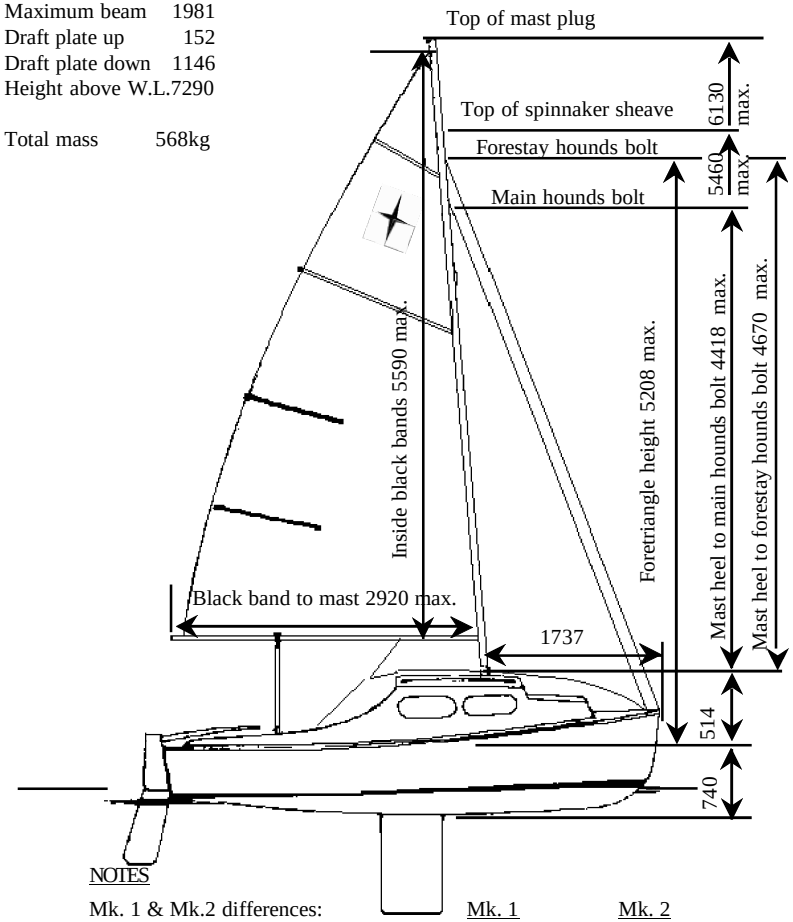
NOTES

1. Mark 1 dimensions are from casting pattern, less 0.9% shrinkage.
2. Minus tolerances on actual centreplates are permitted on linear dimensions: the greater of 3% or 6mm.
3. In normal full-down position, the centreplate should be vertical.
4. Centreplate must be able to pivot far enough to retract fully within the hull.

APPENDIX 1

Dimensions in millimetres

Length over all	5050
Over all beam	2134
Maximum beam	1981
Draft plate up	152
Draft plate down	1146
Height above W.L.	7290
Total mass	568kg



NOTES

Mk. 1 & Mk.2 differences:	Mk. 1	Mk. 2
Cabin top strengthening	Cruciform	Kingpost
Shroud chainplates at:	Gunwale	Cabin top
Centre plate winch in:	Cabin	Cockpit
Centre plate design weight:	70.8 kg.	98.0 kg.
Two buoyancy compartments	Air or foam	Foam
Cabin windows per side	Two	One or two

Mark 1 construction applies to yachts prior to Sail No. 49

10. CREW

10.1 The crew shall comprise at least two persons.

10.2 In championship or other multi-race series for Explorer 16 yachts:

- the skipper shall be 16 years of age or older
- the helmsperson may be the skipper or a member of the crew under the direction of the skipper.

11. SAFETY

11.1 The yacht shall comply with the Australian Yachting Federations' Safety Regulations covering trailable yachts.

11.2 Outboard Motors - whilst racing the following rules are mandatory for Explorer 16's:

- the AYF recommendation as to minimum motor size and capability and fuel capacity,
- the motor is to be mounted directly on the transom in its normal position and ready for immediate operation.

12. LIABILITY DISCLAIMER

12.1 The Explorer 16 Association of Australia Inc. is not responsible for the seaworthiness of a yacht whose membership is accepted or the sufficiency or adequacy of its equipment. It is the sole responsibility of each yacht to decide whether or not to start or to continue in any event in which the Association is concerned.

13. ALTERATIONS TO SPECIFICATION

13.1 Alterations to this specification shall only be made at a General Meeting for which proper notice has been given under the Rules of the Association.

13.2 Any proposal for an alteration shall be given in writing to the Secretary at least two months before the date of the meeting at which it is to be considered, and shall be signed by a proposer and seconder who shall both be financial members.

l3.3 No proposal for alteration shall be passed unless at least two-thirds of the votes cast are in favour of the motion for the alteration.

APPENDICES:

CALCULATION OF SAIL AREAS APPENDIX 9

The following methods of calculation are to be used in determining whether sails are within the specified maximum permissible areas.

Mainsail or Headsail - Ref. diagrams in Appendices 4 & 5:

Semi-perimeter of triangle ABC = (AB + BC + AC)/2 = S mm
Area of triangle ABC = $\sqrt{[S(S - AB)(S - BC)(S - AC)]}$ / 1000000 sq. m.
Area of roach = 2/3 x chord x max. offset perpendicular to chord

Example: Area of a foot roach = [2/3 x BC x P] / 1000000 sq. m.
Area of sail = area of triangle ABC + the sum of areas of roaches, disregarding any negative roach or hollow.

Spinnaker - Ref. diagram in Appendix 6:

Let L = AB or AC, whichever is the greater, then
Area = [AB x BC + 2/3 x (2 x DE - BC) x L] / 1000000 square metres

8. SAILS

8.1 The sail wardrobe for a yacht may consist of a mainsail, storm jib, working jib, genoa and not more than two spinnakers. No more than one foresail and one spinnaker may be set at the one time.

8.2 Sails may be of any make or material.

8.3 The mainsail shall carry the insignia of the Explorer 16 Class and the allotted sail number. The colour of the insignia and the number shall be black and the insignia shall be in accordance with Appendix 3. Numbers shall be 305mm in height.

8.4 Maximum dimensions of the mainsail shall be as shown in Appendix 4. The mainsail when set shall not:

- extend above the lower edge of the mast upper measurement band
- extend aft of the inner edge of the boom measurement band

and the upper surface of the boom at the mast when at right angles to the mast shall not be below the upper edge of the mast lower measurement band.

8.5 Provision shall be incorporated for reefing of the mainsail so as to reduce the luff by at least 1400mm in two or more steps.

8.6 Maximum dimensions of the foresails shall be as shown in Appendix 5.

8.7 Maximum dimensions of the spinnakers shall be as shown in Appendix 6.

8.8 A transparent window is recommended in the genoa. A transparent window is permitted in the working jib.

8.9 Adjustments for luff, leech and foot tensions in main and fore sails are permitted.

8.10 Sail control sheets and fittings are optional.

8.11 Sails made before 5 May 1982 and which are registered with the Association as complying with the original class rules in force at that date, are deemed to be in accordance with this specification.

9. OPTIONAL DEVICES

9.1 Boom Vang: The fitting of a boom vang is permitted,

9.2 Mainsheet Traveller: The fitting of a mainsheet traveller within the cockpit is permitted.

9.3 Tiller Extension: The fitting of a tiller extension is permitted.

9.4 Leaning-out Devices: The fitting of toe straps is permitted.

9.5 Blocks and Cleats: Replacement or addition of blocks or cleats for use with allowed fixtures, sails or rigging are permitted.

9.6 Hull Exterior Fittings: The following fittings to the exterior of the hull are permitted:

9.6.1 Centreplate case slot sealing strips, flexible but otherwise fixed or permanently clamped in position and not protruding more than 8mm below the underside of hull.

9.6.2 Water-speed sensing devices for indicating speed or logging distance travelled.

9.6.3 Depth-sensing devices for depth indication.

9.6.4 Hull drain plugs.

9.6.5 Attachment points for lifelines or towing lines.

9.6.6 Boarding ladders or attachment points for such.

5. RUDDER ASSEMBLY

5.1 The rudder stock, blade and tiller shall be constructed in accordance with Appendix 7. Fibreglass sheathing of the rudder blade is permitted.

5.2 The rudder assembly shall be secured to the hull, and the tiller secured to the rudder stock, in such a manner that they cannot become accidentally detached whilst the yacht is on the water.

6. MAST AND SPARS

6.1 The mast and boom shall be standard aluminium tubular extruded sections as manufactured. No alterations shall be made to the mast or boom sections which would have the effect of reducing the weight or of improving the aerodynamic efficiency. The dimensions of the sections shall be as follows (or if these sections are no longer available, as close to these dimensions as possible):

Mast 90 x 59 x 6100mm (3.5" x 2.34" x 20') Light Spars K04
Boom 64 x 45 x 3050mm (2.5" x 1.75" x 10') Light Spars K01

6.2 The mast step shall be as supplied by the builder.

6.3 Aluminium plugs shall be fitted to the top and bottom of the mast and all fitting attachments shallbe sealed so that the mast will be watertight. Openings to the mast are prohibited.

6.4 Measurement bands, not less than 15mm wide, shall be painted on the mast and boom in a colour contrasting to the background colour, at the positions shown in Appendix 1.

6.5 Spinnaker and Whisker Poles: The spinnaker pole need not be manufactured by the builder and may be of any construction. The maximum length shall not exceed 2438mm when measured from the front of the mast to the extreme point of the spinnaker pole when the pole is placed horizontally in position on the pole ring attached to the mast. A whisker pole of any construction may be used, but not at the same time as the spinnaker pole, and shall not be longer than the spinnaker pole.

7. RIGGING

7.1 Standing rigging shall consist of one shroud each side and one forestay only. No yacht will be allowed to race without a forestay. Shrouds and forestays shall be a minimum of 1/8" (3.2mm) 1x19 stainless steel wire rope, 952kg minimum breaking strain, or other wire of equivalent strength. Shroud and forestay lengths are optional. Adjustment devices for altering the lengths of shrouds or forestay whilst racing are prohibited.

7.2 The shrouds shall terminate at tang fittings (RF349, RF348 or equivalent), secured by a 8mm. (5/16") bolt. The forestay shall terminate at either a hound fitting incorporating a jib halyard sheave (RF558, RF108 or equivalent) secured by the shroud tang bolt and rivets, or at a separate mast hound fitting (RF604 or equivalent) secured by a 6.4 mm. (1/4") bolt and rivets. The jib halyard sheave shall either be incorporated in the hound fitting or a separate jib halyard block attached to a mast hound fitting (RM77 or equivalent) secured by the shroud tang bolt and rivets.

7.3 Main and jib halyards shall be of minimum size 3.5mm 6x19 flexible galvanized steel wire rope (fibre core) 570kg minimum breaking strain, or 1/8" (3.2mm) 7x19 flexible stainless steel wire rope 726 kg minimum breaking strain.

7.4 Mast diamond spreaders fitted in accordance with Appendix 2 are permitted.

7.5 A topping lift for the main boom is permitted.

7.6 A spinnaker pole topping lift and downhaul rigging are optional.

7.7 The positions for attaching fittings and rigging to the mast shall be in accordance with Appendix 1.

1. GENERAL

1.1 The design and manufacture of the Explorer 16 is directed to the establishment of a one-design class.

1.2 The object of this specification is to ensure that for the purpose of class racing, all yachts shall be as alike as possible so that the true test in racing is between crews and not yachts.

1.3 Therefore, any alteration of the hull form or construction, spars, sails, fittings or equipment as supplied by the builder, except as is specifically authorised by this specification, is a breach of this specification, not only in intent but in the substance and is therefore prohibited.

1.4 This specification is complementary to the plans and measurement forms established by the builder. In the event of a discrepancy this specification shall take precedence.

1.5 In this specification, the word “builder” shall mean any manufacturer authorised by J. Botterill &Sons and the Explorer 16 Association of Australia Inc. to build the Explorer 16.

2. MEASUREMENT

2.1 Only the official measurer of the Association shall make the measurements required by this class specification.

2.2 Measurement tolerances as allowed by the builder or by this specification shall not be used to alter the fundamental design of the yacht. The official measurer shall report to the Committee anything which is considered to be a departure from the design of the yacht or to be against the general intent of the specification or the Rules of the Association.

2.3 Measurements of the hull, spars, sails, centreplate and rudder assembly as set out in Appendices 1-9 shall be considered part of this specification. Measurements shown are the maximum sizes permitted, except where a minimum or a specific tolerance is specified.

2.4 Yachts shall carry a sail number as allotted by the builder or as approved by the Committee of the Association. No number shall be duplicated.

3. HULL AND DECK

3.1 The hull and deck shall be built in fibreglass from moulds manufactured and/or supplied by the builder and shall be constructed to comply with the measurement diagram attached hereto as Appendix 1. Re-finishing, painting etc. of the hull is permitted but not to the extent that the general shape of the hull is altered, or that would leave the hull more hydrodynamically efficient or would result in any boat speed advantage over yachts conforming to the design.

3.2 Additional access openings to the hull beyond those supplied by the builder are prohibited. Hatches and stormboards shall be as supplied by the builder. Provision of drain plugs, inspection ports and apertures for compasses or water-speed or depth sensing devices or other allowable accessories are permitted provided these are watertight.

4. CENTREPLATE

4.1 The centreplate shall be as supplied by the builder and shall comply with the measurements shown in Appendix 8.

4.2 A winch shall be installed for the efficient raising and lowering of the centreplate.