

# International Cadet Class Rules

**RULES dating from March 2006**

Authority: INTERNATIONAL SAILING FEDERATION (ISAF), ARIADNE HOUSE, TOWN QUAY, SOUTHAMPTON, HANTS SO14 2AQ, ENGLAND

Date of International Status: 1958

## ADMINISTRATION

### SECTION A - GENERAL

#### **A.1 Type of Class Rules**

A.1.1 These are closed class rules.

A.1.2 Plans, measurement diagrams and measurement forms are complementary to these rules. Any interpretation shall be made by the ISAF in consultation with the ICCA.

#### **A.2 Language**

A.2.1 The official language of the class is English and in case of dispute over translation the English text shall prevail.

A.2.2 The word "shall" is mandatory and the word "may" is permissive.

#### **A.3 Abbreviations**

A.3.1 ISAF International Sailing Federation

MNA ISAF Member National Authority

ICCA International Cadet Class Association

NCCA National Cadet Class Association

ERS Equipment Rules of Sailing

RRS Racing Rules of Sailing

#### **A.4 Authorities and Responsibilities**

A.4.1 The international authority of the class is the ISAF, which shall co-operate with the ICCA in all matters concerning these class rules.

A.4.2 Neither the ISAF, the MNA, the ICCA, an NCCA nor an official measurer is legally responsible in respect of these class rules or accuracy of measurement and no claim arising from them can be entertained.

A.4.3 Notwithstanding anything contained herein, the MNA has the authority to withdraw a certificate and shall do so on the request of the ISAF or ICCA.

#### **A.5 Administration of the Class**

A.5.1 ISAF has delegated its administrative functions of the class to MNA's. The MNA may delegate part or all of its functions, as stated in these class rules, to an NCCA.

A.5.2 In countries where there is no MNA, or the MNA does not wish to administer the class, its functions as stated in these class rules shall be carried out by the ICCA which may delegate the administration to an NCCA.

#### **A.6 ISAF Rules**

A.6.1 These class rules shall be read in conjunction with the ERS. Where a term is used in its defined sense, it is printed in "bold" type if defined in the ERS and in "*italic*" type if defined in the RRS.

#### **A.7 Sailing Instructions**

A.7.1 These class rules shall not be varied by sailing instructions except as provided by A.7.2.

A.7.2 At World, Continental or Regional Championships the sailing instructions may vary these class rules only with the agreement of the ICCA.

A.7.3 The sailing instructions, where possible, shall include the statement that the Class Flag shall be International Code Flag Y.

#### **A.8 Amendments to Class Rules**

A.8.1 Amendments to these class rules shall be proposed by the ICCA and require to be approved by the ISAF.

#### **A.9 Interpretation of Class Rules - General**

A.9.1 The Cadet is a One-Design race dinghy for a crew of two junior sailors. The intention of these rules is that the boats shall be as alike as possible in all respect affecting speed and ease of handling in order that racing success must depend on the skill of the crew. No modifications or additional fittings are allowed without the written approval of the ISAF or the ICCA..

A.9.2 Interpretation of class rules, except as provided by A.10, must be made in accordance with the ISAF Regulations.

A.9.3 In the event of discrepancy between these rules, the measurement form, measurement diagrams and/or the plans, the matter shall be referred to the ISAF.

#### **A.10 Interpretation of the Class Rules – At an Event**

A.10.1 Any interpretation of class rules required at an event will only be made by an International Jury constituted in accordance with the RRS. Such interpretation shall only be valid during the event and the organising authority shall, as soon as practical after the event, inform the ISAF, the MNA and the ICCA of such interpretation.

#### **A.11 International Class Fee(s) and ISAF Plaque**

A.11.1 The building fee is regulated by the by-laws of the ICCA. The plaque will be obtained from ISAF but ordered and paid for through the ICCA.

A.11.2 The builder of the Cadet hull must pay the whole fee to his MNA or NCCA as appropriate who shall forward to the treasurer of the ICCA the fee less the amount retainable by the Association. The ICCA will register the hull and issue an international sail number and obtain from the ISAF their plaque for submittance to the new owner. A replacement plaque (“R” plaque) is also to come from ISAF and ordered (with fee) from ICCA.

A.11.3 The ISAF shall issue for each fee payment an ISAF plaque bearing the allotted sail number. The ICCA shall send to the boat’s first private owner confirmation that the building fee has been paid.

A.11.4 Eligibility for World Championships requires that all participating boats whatever their age are required to carry an ISAF plaque.

#### **A.12 Identification on Sail**

A.12.1 The identification number displayed on sails will be the building plaque number (except where an “R” plaque has been issued ) with national letters on mainsail.

#### **A.13 Initial Certification and measurement**

A.13.1 For a boat not previously certified, all items required to be measured by the measurement form shall be measured by an official measurer and the details entered onto the form. Only a measurer officially recognised by an NCCA may measure a boat, its spars, sails, and equipment and sign measurement forms or certificates.

A.13.2 The measurement form, together with any certification fee, shall be sent to the MNA or NCCA as appropriate in the country where the boat is to be registered after completion of measurement.

A.13.3 Upon receipt of a satisfactorily completed measurement form and the fee the MNA or NCCA as appropriate may issue a certificate. The MNA shall retain the original measurement form, which shall be transferred to the new MNA when a boat is exported.

A.13.4 The measurer shall report on the measurement form anything, which he considers to be a departure from the intended nature and design of the boat, or to be against the general interest of the class, and a certificate may be refused, even if the specific requirements of the rules are satisfied.

A.13.5 A measurer shall not measure a boat, spars, sails, or equipment owned or built by himself, or in which he is an interested party or has a vested interest.

A.13.6. All boats, spars, sails and equipment shall comply with the current rules or those Class Rules applying to them at the time of their initial certification or endorsement. Any alterations, replacements or repairs shall comply with the current Class Rules and shall carry appropriate Class labels to illustrate compliance.

A.13.7 All boats, spars, sails and equipment will be liable to re-measurement at the discretion of the ICCA, NCCA or race committee.

A.13.8 Once an International Cadet has been measured and a certificate obtained, certificates shall be renewed annually only after the successful completion of the buoyancy test, which shall be made under the supervision of a measurer, club appointed measurer or Squadron Captain.

A.13.9 Any boat taking part in international, national or open events is liable to re-measurement or partial re-measurement at the discretion of the ICCA.

A.13.10 Since 1 January 1998, new hulls registered are to the Cadet Mark IV design and built by licensed builders.

#### **A.14 Validity of Certificates**

A.14.1 A measurement certificate is issued by the National Class Association when the original or certified true copy of the measurement form, is registered by them.

A.14.2 The measurement certificate is only valid when the owner is a current member of a National Class Association or, when there is no National Class Association in his nation, of the ICCA.

A.14.3 A certificate becomes invalid upon:

- a) The date of expiration 31<sup>st</sup> December in Northern Hemisphere, 30<sup>th</sup> June in Southern Hemisphere.
- b) Change of ownership.
- c) Any alteration or repair to items required to be measured by the class measurement form, other than permitted routine maintenance.
- d) Any alteration to corrector weights.

## **A.15 Re-Certification**

- A.15.1 Upon expiration the owner shall apply to the MNA to revalidate the certificate together with any fee that may be required. A revalidated certificate will then be issued to the owner.
- A.15.2 Upon change of ownership the new owner shall apply to the MNA for a new certificate, returning the old certificate together with any re-certification fee that may be required. A new certificate will then be issued to the new owner.
- A.15.3 Upon alteration or repair to an item required to be measured by the measurement form the relevant item shall be re-measured by an official measurer and the details entered on a new form. The new form together with the old certificate and any re-certification fee that may be required shall be sent to the MNA or NCCA as appropriate in the country where the boat is registered. A new certificate may then be issued to the new owner.
- A.15.4 Upon alteration to corrector weights the boat shall be re-weighed by an official measurer and the details entered on the old invalid certificate. The old certificate and any re-certification fee that may be required shall be sent to the MNA or NCCA as appropriate. A new certificate may then be issued to the owner.
- A.15.5 In the interest of furthering the Cadet Class the International Executive committee may wish to consider other styles or methods of construction; if this should entail any deviation from these rules then the prospective builder shall first apply to the International committee with all details. No dispensation will be allowed that is considered detrimental to the existing boats or that appears to be unsound in any way. If a dispensation is approved then a licence will be issued to that builder by the ICCA.

## **SECTION B - BOAT ELIGIBILITY**

For a boat to be eligible to *race*, the rules in this section shall be complied with.

### **B.1 Certificate**

- B.1.1 The hull shall have a valid certificate including corrector weight details.

### **B.2 Certification Marks**

- B.2.1 The sail number of the boat (without the "C" or national letter) shall be permanently marked in contrasting colour (carved or engraved) on the port side of the outside of the transom in figures no less than 25 mm in height.
- B.2.2 The hull shall carry the builders fee plaque fixed on the aft bulkhead in the cockpit, or on the inside of the transom on the Mark IV.
- B.2.3 The mainsail shall carry the Cadet "C" emblem the national letter(s) and sail number placed in accordance with ISAF racing rules, appendix G and section G below.
- B.2.4 Each sail may carry sail maker's marks in accordance with Appendix 1 ISAF advertising code.
- B.2.5 All emblems, marks and numbers shall be of a durable material securely attached.

### **B.3 Flotation Check**

- B.3.1 The certificate shall carry a satisfactory buoyancy endorsement.

## **SECTION C - CONDITIONS FOR RACING**

### **C.1 Crew**

#### **C.1.1 LIMITATIONS**

- a) The crew shall consist of 2 persons.
- b) Age. The maximum age is seventeen years on December 31<sup>st</sup>

### **C.2 Advertising**

#### **C.2.1 LIMITATIONS**

The boat may display only such advertising as permitted by Appendix 1 ISAF advertising code, regulation 20.3.2 category C.

### **C.3 Equipment**

#### **C.3.1 At all times when racing**

- a) Helm and crew shall wear effective personal buoyancy, properly secured, outside all clothing.
- b) Hatch covers and drainage plugs shall be securely fastened.
- c) A painter which shall float and be of minimum diameter 6mm and minimum length 5m shall be attached to the bow ring.
- d) A paddle shall be carried, properly secured in the boat.
- e) Mark I or II dinghies shall carry a strong bucket of minimum 5 litres capacity, tied to the boat.
- f) Luff and foot bolt ropes/shock cord shall be in the spar groves or tracks.
- g) The function of permitted fittings shall not be extended or added to.
- h) The leading edge of the rudder blade in its vertical position shall be a maximum of 55mm from aft edge of keel.

## SECTION D - HULL

### D.1 General

#### D.1.1 MEASUREMENT

a) Measurement shall be carried out in accordance with the ERS

#### D.1.2 MAINTENANCE

Routine maintenance such as painting and polishing is permitted, but an altered or repaired hull shall be re-measured and re-certified with the new certificate showing the dates of initial and new fundamental measurement.

### D.2 Certification

D.2.1 The hull shall comply with the class rules in force at the time of initial fundamental measurement.

### D.3 Identification

The hull shall carry the ISAF Plaque placed on the aft bulkhead in the cockpit, or on the inside of the transom on the Cadet Mark IV.

### D.4 Builders

D.4.1 The Cadet may only be built by a licensed builder on licensed moulds.

D.4.2 Professional builders will be responsible for supplying boats within the measurement rules and specifications. The builder shall at his own expense correct or replace any boat which fails to pass measurement, provided that the boat is submitted for measurement within 12 months of purchase.

D.4.3 The Mark IV Cadet is the design specifically approved by the ICCA. Boats to this design shall be built by a licensed builder from licensed moulds and shall conform to the building specification as approved by the ICCA. Mark IV hulls shall be measured using the respective measurement supplements and the measurement certificates clearly marked Mark IV.

D.4.4 With effect from 1 January 1998, only licenses for building new Mark IV Cadets are valid.

D.4.5 Internal details of construction of the hull may be varied as considered necessary by the builder to suit the materials and/or building techniques used only after consultation with the Technical Committee of the ICCA.

### D.5 Hull Shell

#### D.5.1 CONSTRUCTION

- (a) Any rounding on the chines or intersection of planes on the outside of the hull shall not extend beyond 4 mm from the point of the intersection of the two adjacent planes.
- (b) The chine angles at sections 3 and 8 shall be a minimum of 114° and a maximum of 122°.

### D.6 Deck

#### D.6.1 CONSTRUCTION

- (a) The Mark II side decks shall be a maximum of 355 mm in plan width. The width of the flat surface of the side deck shall be a minimum of 335 mm. The carlins shall not project more than 50 mm below the surface of the side deck.
- (b) The Mark III (GRP) and Mark IV side decks shall be as shown in the respective specification/measurement supplements. The Mark III (wood) side deck structure shall be as described below and illustrated on diagrams A & B.
- (c) At any point between 650 mm and 2100 mm forward of datum A, the horizontal width of the side deck structure, including the rubbing strip, measured to a point 25 mm below the top of the deck surface shall be between 210 mm and 240 mm. The deck surfaces shall not fall below the shear line nor rise more than 25 mm above it.
- (d) There shall be suitable finger grips or grab slots on each side at least 20 mm deep extending along the length of the sidedeck at least between 750 mm and 2100 mm from Datum A.

### D.7 Buoyancy Tanks

#### D.7.1 CONSTRUCTION

- (a) Whenever afloat the boat shall be capable of passing the tests described in D.7.1(b).  
For Cadet Mk I buoyancy shall be provided by suitable buoyancy bags. For Cadet Mk II buoyancy shall be provided by at least two separate watertight compartments. For Cadet Mk III and IV buoyancy shall be provided by at least three watertight compartments. Buoyancy shall not be added by the fitting of a false or double bottom. One inspection hole of circular shape of minimum diameter 90mm, a maximum of 150mm diameter shall be provided in each buoyancy compartment. A second inspection hole may be provided in the bow and stern bulkhead. Drain holes are optional. Each hole shall be provided with a suitable detachable cover capable of resisting accidental dislodgement by any means.

- (b) All boats shall be tested for buoyancy with corrector weights, if any, in place. For the test, the boat, with deck and fixed fittings, shall be stripped of all loose gear, including sails, booms, rudder, tiller and centreboard, but leaving the mast stepped and shrouds and forestay set up. 125 kg of crew weight shall be placed aboard the floating boat and the boat flooded such that the water is above the level of the top of the centreboard case. After 15 minutes in this condition the boat shall be capsized for one minute to port and one minute to starboard, then the boat shall be drained. Any water in the watertight compartments shall be measured. This shall not exceed 2 litres in total or 1 litre in any individual compartment. In addition to this test, the measurer shall inspect all buoyancy apparatus, bulkheads, and inspection holes and their covers, and satisfy himself that all are in sound condition.
- (c) Boats shall be tested:
  - All Cadet Mark IV boats shall be tested as outlined in D.7. within twelve months of their initial air pressure test.
  - At intervals thereafter of not more than one year between each satisfactory test (annual buoyancy test).
- (d) The measurer or Squadron Captain, when fully satisfied that all the requirements for buoyancy have been met, will endorse the test on the boat's certificate.

## **D.8 Rubbing Strakes, Keel and Chine Bands**

### D.8.1

- (a) In the case of GRP hulls the gunwale rubbing bead, keel and chine rubbing bands may be integrally moulded and a radius not exceeding 6 mm may be used where the skin meets the keel. In the case of GRP construction the hull measurements do not include the sealing lip at edge of deck.
- (b) The rubbing bead or deck overhang shall be of GRP, plastic or wood, depth on the inner face shall be not less than 18 mm nor more than 25 mm width not less than 8 mm nor more than 50 mm when measured at right angles to the side of the hull and shall extend at the edge of the deck from fore transom to aft transom.

### D.8.2 Rubbing Bands

Rubbing bands shall be of convex or flat section strip of brass, light alloy or plastic having a minimum cross-sectional dimension of 10 mm by 2 mm shall be fitted to the keel and chines. The keel band(s) shall run the full length of the keel and skeg (except in way of self bailer in keel) and shall be double for the full length of the centreboard slot. The chine bands shall be a minimum of 1219 mm each, positioned a minimum of 600mm from the stern transom.

## **D.9 Keel**

### D.9.1 CONSTRUCTION

- (a) The keel shall run continuously from the fore transom to the aft transom and shall be of section as per D.9.1(c)
- (b) The skeg shall start at a point not less than 965 mm or more than 1005 mm forward from Datum "A" (see measurement plan drawing 1) and shall run aft to the aft end of keel. The lower surface of the skeg shall be a straight line fore and aft.
- (c) The following dimensions are minimum unless stated otherwise:
 

(i) Width of keel throughout its length	76 mm
(ii) Thickness of keel throughout its length	11 mm
(iii) Width of skeg, upper surface in contact with keel tapering at forward end to 20 mm	38 mm
(iv) Width of skeg, lower surface	19 mm
(v) Depth of skeg at aft end	76 mm
(vi) Radius at fore end of keel and aft end of skeg	25 mm (±5 mm)
(vii) Radius at edges of keel throughout its length	10 mm (max)
(viii) Aft edge of keel to Datum line A	51mm (±5 mm)
- (d) The position and internal dimensions of the centreboard case and the slot in the keel shall be in accordance with the measurement plan drawing 3. When measured mid-way between each end of the inside of the centreboard case, the top of the case shall be a minimum of 290 mm above the under surface of the keel. The width of the centreboard case (internal) shall be the same as the width of the slot in the keel and a minimum of 15 mm and the slot shall be parallel.

## **D.10 Thwarts**

### D.10.1 CONSTRUCTION

A thwart, a minimum of 102 mm in width shall be fitted. The aft edge of the thwart shall be a minimum of 1416 mm and a maximum of 1470 mm forward of Datum "A". The mainsheet block can be mounted on an extension, of maximum dimensions 250mm (athwartship) x 75mm on the centre line.

## D.11 Hull

### D.11.1 FITTINGS

The fittings are illustrated in the measurement plan drawing 4, and may be made of various materials but their general design shall not be altered to incorporate other uses, nor can fittings be added to the boat unless expressly permitted in these rules or an official amendment thereto currently in force. Variations from the measurement plan drawings to enable fittings to be put to additional uses is not permitted.

- (a) **Mandatory** The following fittings shall be positioned in accordance with the measurement diagram:
- (i) A mast step block containing a 29 mm x 29 mm square socket and whose upper face is not more than 46mm above the shear. The mast tenon socket, a minimum depth 13mm, shall not prevent the heel of the mast resting on the upper face of the mast step
  - (ii) Splash or spray guards shall be provided, one each side of the centre line. For Mark III and earlier marks the minimum length shall be 840 mm, minimum height above the deck at the centre line 38 mm and tapering in a straight line to a minimum height above deck at the outer ends of 19 mm. They shall be fitted or moulded to the foredeck in position as shown on measurement plan drawing 3. The section through the splashguards shall have a minimum base width of 12 mm, and a minimum radius to the top edge of 3 mm. In the case of GRP deck mouldings the minimum width shall be 12 mm at the top. Splash or spray guards for the Mark IV shall be as specified in the Mark IV measurement supplement.
  - (iii) A towing fitting made of stainless or galvanised steel shall be strongly attached to the fore transom at least 230 mm below the top of the transom.
  - (iv) A bow plate to attach the forestay and headsail shall be fitted on the centreline at the bow such that the tack point for the foresail shall be aft of and a maximum of 50 mm from the upper edge of the fore transom (projected if necessary).
  - (v) Two hull shroud plates or U bolts shall be fitted 1835 mm  $\pm$ 25 mm from datum A (1838mm  $\pm$ 25 mm if measured along deck).
  - (vi) Headsail fairleads  
Two headsail fairleads shall be fitted. They may be combined with the hull shroud plates or fixed to the deck so that the bearing surface of the fairlead is a maximum of 50 mm from the outer edge of the deck. Two headsail sheet cam cleats may be fitted inboard of the headsail sheet fairlead and placed a minimum of 1735 mm from "Datum A".
  - (vii) Halyard cleats for the mainsail and headsail halyards shall be fixed on the forward bulkhead near the boat centreline.
  - (viii) For the stern sheeting arrangement, a single free running block or a fairlead, and a fixed eye for the mainsheet shall be fixed 254 mm  $\pm$ 10 mm either side of the boat centreline on the deck at the aft transom. The single block may incorporate a swivel fitting. For centre sheeting, the attachment points shall be 254  $\pm$ 10 mm from the centre line and no further forward than 10 mm from the aft edge of the transom.
  - (ix) Transom gudgeon and pintle for the rudder shall be fitted on the centreline.
  - (x) Toe straps shall be fixed in the hull for the crew and helmsperson. They may be fixed or adjustable, positioned to suit. The toe strap webbing may be of optional length and width.
  - (xi) Shock cord shall be fitted and fixed at either end of the centreboard case to retain the centreboard in the down position.
  - (xii) A kicking strap eye plate must be fitted on the centreline, and may be combined with the mast plate.
- (b) **Optional**
- (i) Mainsail Cunningham block, fairlead and cleat.
  - (ii) Fairleads for the spinnaker sheets (when fitted) must be fitted between 690mm and 1120mm from datum line "A". One cleat for the spinnaker sheet may be fitted on either side of the boat in the vicinity of the fairlead. One additional cleat for the spinnaker brace/guy may be fitted on either side of the boat and may be incorporated with the open fairlead referred to in D.11.1.(b) (xi). The cleat shall not extend beyond the gunwale.
  - (iii) A maximum of two lacing hooks are permitted to hold the spinnaker halyard.
  - (iv) A spinnaker halyard shall go through a cleat or fairlead either on the foredeck or on the forward bulkhead within 100mm of deck level. In addition the fall (tail) of the halyard may be led through no more than two fairleads or single blocks. One cleat may be fitted in any position.
  - (v) Lifting handles are optional, but if fitted, four handles made of suitable material shall conform to the dimensions shown on measurement plan drawing 3 (Mark II version) and shall be strongly fitted within  $\pm$ 50 mm of the positions indicated on the same drawing.
  - (vi) A maximum of two self-bailers are allowed.

- (vii) It is permissible to have an open compartment (for spinnaker and other loose gear), provided that it extends aft no more than 400 mm from the forward bulkhead.
  - (viii) Stowage clips for paddle(s), spinnaker pole, sail bags and other equipment.
  - (ix) A drain hole of 20 mm ( $\pm$  5 mm) may be provided in each buoyancy compartment.
  - (x) A protective plate may be fixed to the mast step so as to form the upper surface.
  - (xi) One open fairlead may be fitted on each side of the boat to fairlead the spinnaker guys. It shall not project beyond the gunwale.
  - (xii) One compass and mounting bracket only may be fitted. This may be fixed in any position provided that it is not a hazard to the helm or crew and buoyancy tanks remain watertight with the compass removed.
  - (xiii) Strips of non-metallic material may be fitted in the centreboard slot within 30mm of the top and of the bottom of the slot with a uniform width of opening. Additional non-metallic material may be placed within 30mm of each end at the top and bottom of the slot to act as positioning and protection of the centreboard.
  - (xiv) Such blocks cleats and fairleads as necessary for the operation of a spinnaker pole uphaul / downhaul system.
  - (xv) A cleat for the jib Cunningham may be fitted on the foredeck.
- (c) **Prohibited**  
With the exception of equipment, which only calculates time and date, all other electronic instruments are prohibited for use on board International Cadet Class Boats.

#### D.11.2 HULL WEIGHT

The boat shall be weighed dry. The hull with the deck and fixed fittings, but stripped of all loose gear, such as sails, spars, rudder, centreboard and separate buoyancy shall be weighed. All the following checks shall be taken with the hull in this condition.

The minimum weight allowed is 54 kg.

The centre of gravity of the hull shall be checked and be not lower than 177 mm below the gunwale. The hull when supported on one gunwale shall be in balance when the opposite gunwale is not less than 255 mm beyond the vertical. (I.C.C. measurement drawing 6).

The hull shall be supported upside down on an athwartships round bar positioned 915 mm forward from datum A. With the deck line level, the weight of the bow, when suspended from the towing fitting shall not be less than 25% nor more than 30% of the measured weight.

#### D.11.3 HULL CORRECTOR WEIGHTS

New boats shall be weighed before being put into the water. If the weight is less than 54 kg, correctors shall be added to increase the weight to 54 kg.

- (a) For Mark II, these shall be of wood and fastened under the side decking amidships and close to the carlin.
- (b) For Mark III and IV, correctors shall be of lead and bonded or bolted to the underside of the thwart.  
The weight of correctors shall be entered on the measurement form. The boat shall be reweighed and a new certificate obtained following alterations to or removal of the correctors.
- (c) The maximum weight of correctors for the Cadet Mark IV is 3Kg.

## SECTION E -HULL APPENDAGES

### E.1 Component Parts

#### E.1.1 MANDATORY:

- (a) Centreboard
- (b) Rudder

### E.2 General

#### E.2.1 MEASUREMENT

Measurement shall be carried out in accordance with the ERS.

#### E.2.2 MAINTENANCE

Routine maintenance is permitted, but an altered or repaired centerboard shall be re-measured and the new certificate shall show the new date of measurement. An altered or repaired rudder shall be re-measured and re-certified showing the new date of fundamental measurement.

### E.3 Centreboard

#### E.3.1 CERTIFICATION

- (a) The centreboard shall comply with the class rules in force at the time of fundamental measurement.
- (b) It shall be measured by an official measurer who will apply an official International Cadet Class label and sign over it to authenticate measurement.

#### E.3.2 MATERIALS

- (a) The centreboard shall be of unballasted wood, marine plywood or GRP. If of GRP a foam core is permitted.

### E.3.3 FITTINGS

- (a) The bottom edge of the centreboard may be protected by a strip of metal or plastic of dimensions not exceeding 460 mm long by 6 mm having edges rounded to a radius of not less than 3 mm.
- (b) The centreboard shall be provided with a capping fillet of dimensions approximately those of the top of the centreboard case.

### E.3.4 DIMENSIONS

The centreboard shall conform with the dimensions specified in measurement plan drawing 3.

	<u>Minimum</u>	<u>Maximum</u>
Total thickness of centreboard including GRP coating if applied.....	12mm	14mm
The bevel of the edges from the edge of centreboard.....	-	29mm
Thickness variation of the centreboard (except within the bevelled parts).....	-	1mm
The radius of the leading and trailing edges.....	1.5mm	-

### E.3.5 WEIGHTS

- (a) The minimum weight is 2.3 kg.
- (b) Correctors if required shall be permanently secured on top of capping.

## E.4 Rudder Blade, Rudder Stock and Tiller

### E.4.1 CERTIFICATION

- (a) The rudder blade shall comply with the class rules in force at the time of fundamental measurement.
- (b) The assembly shall be measured by an official measurer who will apply official International Cadet Class labels to each of the major parts (rudder, tiller, extension) and sign over it to authenticate such measurement.

### E.4.2 MATERIALS

- (a) The rudder blade shall be unballasted. It shall be made of wood, marine plywood or GRP. If of GRP a foam core is permitted. An alternative rudder blade made of aluminium alloy, minimum thickness 3 mm is allowed conforming to the profile shown on measurement plan drawing 3 (Mark II version).
- (b) The rudderhead, tiller and the extension may be made of any suitable material.

### E.4.3 CONSTRUCTION

- (a) The rudder blade shall be pivoted and be free to move through an arc of not less than eighty degrees. The blade shall be held in the down position by a spring device, lanyard or friction nut.
- (b) The tiller may be of optional section and tapered and may incorporate any type of joint to the tiller extension.
- (c) Rudder uphaul and downhaul cleats may be fitted to the tiller.

### E.4.4 FITTINGS

- (a) The bottom edge of the rudder blade may be protected by a strip of metal or plastic a maximum of 460 mm long by 6 mm having edges rounded to a radius a minimum of 3 mm.
- (b) The rudder shall be provided with a security device to secure the tiller and rudder gudgeon and pintle fittings.

#### E.4.5 DIMENSIONS

Below the shoulders the rudder blade shall conform with the dimensions specified on measurement plan drawing 3. The tiller when fitted in the rudder stock and lined up fore and aft it shall extend forward by a maximum of 800 mm from datum A. The extension overall length including joint fitting shall be a maximum of 710mm.

	<u>Minimum</u>	<u>Maximum</u>
Total thickness of rudder blade including GRP coating if applied.....	12mm	14mm
The bevel of the edges from the edge of rudder blade.....	-	29mm
Thickness variation of the rudder blade (except within the bevelled parts).....	-	1mm
The radius of the leading and trailing edges.....	1.5mm	-
Datum "A" at deck level to tip of rudder blade in its lowest position.....	710mm	790mm

#### E.4.6 WEIGHTS

The minimum weight of blade, stock, tiller and extension is 3 kg.

Correctors, if required shall be made of lead and be permanently secured aft of the rudder pintles.

### SECTION F -RIG

#### F.1 Component Parts

##### F.1.1 MANDATORY:

- (a) Mast
- (b) Boom
- (c) Standing rigging
- (d) Running rigging

##### F.1.2 OPTIONAL:

- (a) Spinnaker pole

#### F.2 General

##### F.2.1 MEASUREMENT

- (a) Measurement shall be carried out in accordance with the ERS.

##### F.2.2 MAINTENANCE

- (a) Routine maintenance is permitted, but an altered or repaired spar shall be re-measured and re-certified showing the new date of fundamental measurement.

#### F.3 Mast

##### F.3.1 CERTIFICATION

- (a) The spar and its fittings shall comply with the class rules in force at the time of fundamental measurement of the spar.
- (b) The spar shall be measured by an official measurer who will apply an official International Cadet Class label and sign over it to authenticate such measurement.

##### F.3.2 MATERIALS

- (a) The mast shall be constructed of wood or aluminium alloy.
- (b) The material of the sail track is optional.

F.3.3 CONSTRUCTION

- (a) The spar extrusion shall include a fixed sail groove or track which may or may not be integral with the spar.
- (b) If made of aluminium alloy the mast shall not be tapered.
- (c) If made of wood, the section may be hollowed and the section may be tapered from 3045 mm above the heel to a minimum diameter of 38 mm at the upper measurement band.

F.3.4 FITTINGS

- (a) Spinnaker halyard fairlead (if fitted) shall be fitted to the front of the mast.
- (b) One or two spinnaker pole fittings may be fitted.
- (c) Such blocks, cleats and fairleads as necessary for the operation of the spinnaker pole uphaul / downhaul system.
- (d) The gooseneck shall be fixed so that the luff of the mainsail cannot extend below the upper edge of the lower band.
- (e) Falls of the main, fore and spinnaker halyards shall be carried down outside the mast.
- (f) A burgee or mechanical wind direction indicator may be attached by a halyard or fixed to the masthead or the headboard of the mainsail.
- (g) Compass bracket may be fitted.

F.3.5 MAST DIMENSIONS

	<u>Minimum</u>	<u>Maximum</u>
Mast spar cross sectional dimension through its length.....	43mm	-
Spar band width.....	10mm	-
Lower band height (distance between top of band and heel excluding tennon).....	489mm	489mm
Upper band height (distance between lower edge of upper band and top of lower band).....	-	4140mm
Mid band height (distance between top of lower band and lower edge of midband).....	2560mm	2610mm
Attachment point of forestay / headsail halyard block measured below the midband.....	-	75mm
Intersection point of extended lines of shrouds and mast wall below the midband.	-	75mm
Distance between spinnaker pole fitting and heel of mast.....	-	667mm
Depth of tenon.....	-	13mm
Distance between spinnaker halyard fairlead and heel of mast.....	-	3156mm

F.3.6 WEIGHTS

- (a) The weight of the mast is measured including all fixed fittings, but excluding running and standing rigging and shroud lanyard. Minimum mast weight is 4Kg.
- (b) The centre of gravity of the mast as above shall be a minimum of 2200mm from the heel.

**F.4 Boom**

F.4.1 CERTIFICATION

- (a) The spar and its fittings shall comply with the class rules in force at the time of fundamental measurement of the spar.
- (b) It shall be measured by an official measurer who will apply an official International Cadet Class label and sign over it to authenticate such measurement.

F.4.2 MATERIALS

The boom shall be constructed of wood or aluminium alloy. The material of the sail track is optional.

F.4.3 CONSTRUCTION

The main boom shall not be tapered.

F.4.4 FITTINGS

- (a) Two single sheave mainsheet blocks with attachments
- (b) Clew outhaul blocks and attachments
- (c) Kicking strap fitting
- (d) Gooseneck attachment

- (e) A maximum of two clips or loops may be fitted on either side of the boom, to store the spinnaker pole. When the spinnaker pole is stowed on the mainsail boom, it shall be done in such a manner that the pole is in close proximity to the boom and the spinnaker pole end furthest from the mast shall be contained or covered in such a manner that there is no possibility of it catching the clothing of the helm or crew.
- (e) Soft loop as described in F.7.1(a)(ii)

F.4.5 DIMENSIONS

	<u>Minimum</u>	<u>Maximum</u>
Boom spar cross section including track.....	37mm	65mm
Measurement band width.....	10mm	-
Distance between forward edge of band and straight-line extension of mainsail luff.....	-	1905mm
Distance between kicking strap fitting and forward end of boom.....	457mm	507mm

F.4.6 WEIGHTS

Boom weight including all fittings shall be a minimum of 1.7Kg

**F.5 Spinnaker Pole**

F.5.1 CERTIFICATION

- (a) The spar and the fittings shall comply with the class rules in force at the time of fundamental measurement of the spar.
- (b) It shall be measured by an official measurer who will apply an official International Cadet Class label and sign over it to authenticate such measurement.

F.5.2 MATERIALS

The spinnaker pole shall be constructed of solid wood or aluminium alloy and of optional section.

F.5.3 FITTINGS

Only one hook each end, which may be connected with a lanyard and fittings for attachment for lift/downhaul are permitted.

F.5.4 DIMENSIONS

Spinnaker pole length (end fittings included) shall be a maximum of 1219 mm .

**F.6 Standing Rigging**

F.6.1 MATERIALS

Stranded wire of stainless steel or galvanised plough steel.

F.6.2 FITTINGS

- (a) The forestay shall be set up with a lanyard.
- (b) Two shroud adjusting plates incorporating rows of holes and clevis pins may be fitted as an alternative to shroud lanyards.

F.6.3 DIMENSIONS

Forestay and shrouds of 2.5 mm minimum diameter.

**F.7 Running Rigging**

F.7.1 CONSTRUCTION

(a) **Mandatory:**

(i) Mainsail halyard.

The mainsail halyard may be attached to the sail with shackle, swivel link or a knot.

(ii) Mainsail sheet

The mainsail may have a stern or centre sheeting arrangement.

For stern sheeting, the mainsheet shall be led from an eye on the transom through a single block attached to the end of the main boom then through a single block attached to the transom and then to the hand. Both blocks shall be free running, but a fairlead may be substituted for the single block on the transom.

For centre sheeting, the main sheet shall be lead through a block (A) fixed centrally a minimum of 1368mm and a maximum of 1493mm forward of Datum "A" then lead vertically upwards to a small single block (B) attached to the underside of the boom, 680 mm - 800 mm from the aft side of the mast. From the block it shall pass through at least one soft loop (300 - 400 mm aft of block B) above the helmsman's head to a single block attached to the end of the boom. At some point the mainsheet divides, with each leg (which may be less than 8 mm in diameter) going to one attachment point on the transom. Attachments points are specified in rule D.11.1(a)(viii). Block (A) may be ratchet type.

(iii) Kicking strap

A kicking strap with mechanical advantage not exceeding 6:1 may be fitted with one cleat or cam-cleat.

(iv) Headsail halyard

The headsail halyard may be attached to the sail with shackle, swivel link or a knot. The foresail halyard block may be attached to a wire strop, but the distance between the mid band on the mast and the centre of the sheaves of the block shall not exceed 250 mm. Metal or plastic thimbles are permitted, to reinforce the halyards at the purchase.

(v) Headsail sheet

The jib sheets shall be sheeted through the foresail fairleads and may be cleated in one cam-cleat each side.

(b) **Optional:**

- (i) Mainsail cunningham line. A mainsail cunningham may be fitted consisting of no more than a line, two fairleads or fairleading pulleys and one cleat.
- (ii) Mainsail outhaul. A mainsail adjustable outhaul with mechanical advantage not exceeding 4:1 may be fitted with one cleat on the boom.
- (iii) Headsail cunningham line.
- (iv) Spinnaker pole uphaul/downhaul
- (v) Spinnaker halyard. The spinnaker halyard may be attached to the sail with a shackle, swivel links, clips or a knot.
- (vi) Spinnaker sheet and guy.
- (vii) Burgee halyard. A burgee halyard may be fitted, led through an eye at the top of the mast and cleat on the mast or alternatively a burgee clip may be fitted.

F.7.2 DIMENSIONS

	<u>Minimum</u>	<u>Maximum</u>
The main halyard and foresail halyard diameter (rope).....	4mm	-
The spinnaker halyard diameter (rope).....	4mm	-
The main and foresail sheets diameter (rope).....	8mm	-
Spinnaker sheets diameter (rope).....	4mm	-

## SECTION G -SAILS

### G.1 Component Parts

#### G.1.1 MANDATORY:

- (a) Mainsail
- (b) Headsail

#### G.1.2 OPTIONAL:

Spinnaker

### G.2 General

#### G.2.1 MEASUREMENT

Measurement shall be carried out in accordance with the ERS.

#### G.2.2 MAINTENANCE

Routine maintenance is permitted, but an altered or repaired sail shall be re-measured and re-certified showing the new date of fundamental measurement.

### G.3 Certification

G.3.1 Sails shall comply with the class rules in force at the time of fundamental measurement.

G.3.2 Each sail shall be approved by an official measurer.

G.3.3 All sails measured after 1st March 1987 shall have an official International Cadet class label affixed to the headsail and mainsail near the tack and to the spinnaker near the head (spinnakers measured pre March 2002 may have the label in the clew). Upon satisfactory initial measurement the measurer will sign and date the sails in waterproof ink across the label. Sail labels shall not be transferred from one sail to another sail. International Cadet class sail labels can be obtained from the secretary of the NCCA.

G.3.4 Sails shall be measured in accordance with the Equipment Rules of Sailing and ISAF Guide to Sail Measurement.

G.3.5 Details (make and sail label number) shall be entered on the measurement certificate.

G.3.6 Sails used in an International Championship shall comply with current rules.

### G.4 Mainsail

#### G.4.1 IDENTIFICATION

- (a) The class insignia shall conform with the dimensions and requirements as detailed in G.4.3.

#### G.4.2 CONSTRUCTION

- (a) Sails shall be of woven materials.

- (b) Three sail battens shall be fitted. The batten pockets shall be placed on the leech so as to divide the leech into approximately equal parts.
- (c) The class insignia, national letters and sail numbers, on the mainsail shall be above an imaginary line projecting at right angles to the luff from a point 900 mm from the tack point, and shall be placed at different heights on the two-sides, those on the starboard side being uppermost. The class insignia shall be the letter "C". The numbers, letters and emblems shall be of the minimum dimensions outlined below.
- (d) A reef is optional.
- (e) A mainsail Cunningham hole may be fitted.
- (f) National letters are necessary for international events.
- (g) One transparent non-woven panel may be incorporated in the mainsail as a window. It shall be a maximum of 400mm in length and 200mm in height.
- (h) The following are permitted: Luff and foot bolt ropes /shock cord.

G.4.3 DIMENSIONS

	<u>Minimum</u>	<u>Maximum</u>
Leech length .....	4400mm	4471mm
Quarter height width.....	-	1560mm
Half height width.....	-	1130mm
Three-quarter-height width.....	-	635mm
Head width. ....	-	115mm
Batten length.....	-	457mm
Batten width.....	-	38mm
Dimensions of numbers letters and emblems		
Height.....	300mm	
Width.....	200mm	
Thickness.....	45mm	
Height reef above foot.....	560mm	610mm
Primary corner reinforcement.....		275mm
Secondary corner reinforcement.....		825mm
Clew point to foot bolt rope/ shock cord.....		100mm
Tack point to foot bolt rope / shock cord.....		350mm

**G.5 Headsail**

G.5.1 CONSTRUCTION

- (a) Sails shall be of woven materials.
- (b) The headsail shall have a wire luff with hanks or clips optional. It shall be tacked to the stemhead fitting by means of a lanyard, shackle or clevis pin.
- (c) No battens are allowed in the headsail.
- (d) The foot of the headsail shall be a fair curve.
- (e) A non elastic line may be inserted in the foot of the headsail.
- (f) A headsail cunningham may be fitted consisting of no more than a line, fairlead or fairleading pulley and one cleat may be attached to the headsail.
- (g) One transparent non-woven panel may be incorporated in the headsail as a window. It shall be a maximum of 400mm in length and 200mm in height.

G.5.2 DIMENSIONS

	<u>Minimum</u>	<u>Maximum</u>
Luff length.....	2650 mm	2743 mm
Leech length.....	-	2362mm
Foot length.....	-	1067 mm
Foot Median measurement.....	-	2560 mm
Head width.....	-	30mm
Primary corner reinforcement.....	-	230mm
Secondary corner reinforcement.....	-	690mm
<b>Foot irregularity</b> .....	-	45mm

G.6 Spinnakers

G.6.1 CONSTRUCTION

- (a) Sails shall be of woven materials.
- (b) The spinnaker shall be a symmetrical three-cornered sail. No headboard, battens or other stiffening device, other than normal woven cloth reinforcing is allowed.
- (c) Sail numbers shall be carried on the front side. As an alteration to RRS G.1.3(d), national letters are not required.

G.6.2 DIMENSIONS

	<u>Minimum</u>	<u>Maximum</u>
Leech lengths.....	2850 mm	3048 mm
Foot length.....	-	1825 mm
Foot Median.....	-	3048 mm
Quarter height width.....	-	1925 mm
Half height width.....	-	1710 mm
Three-quarter height width.....	-	1020 mm
Primary corner reinforcement.....	-	240mm
Secondary reinforcement.....	-	720mm

**SECTION H – OTHER DOCUMENTS**

- Measurement plan drawings 1,2,3,4,5,6
- Diagrams A & B refer to Mark III deck layout
- Mark IV License Agreement
- Mark IV Specification / Measurement Supplement
- Altered /repaired hull Measurement Supplement
- Construction Specification

