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International Optimist Dinghy Association
www.optiworld.org



IODA Measurement Manual



World Sailing
Class Association

UPDATED MEASUREMENT MANUAL – May 2016

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TERMINOLOGY

Member: This is a term described in Article 3 of the Articles of Association.

IODA Conditions: these are the rules to be followed by:

- members who want to bid to host an IODA event
- organisers of the corresponding IODA event
- members entering an IODA championship

These conditions are part of the IODA Administrative Handbook that can be downloaded from the IODA website (www.optiworld.org)

IODA Measurement Manual: States the measurement procedures to be followed by the organisers when running an IODA event.

IODA Regatta Manual: States the procedures to be followed by the organisers and their Race Committees when running an IODA event.

IODA Executive Committee: Elected representatives of IODA. President, 3 Vice Presidents, Chairman of the Technical Committee and Chairman of the Regatta Committee.

Organising Authority (OA): As per RRS 89.1. During an event this will include the IODA nominate (President or Vice President).

Local Organising Authority (LOA): Body appointed to run the Championship.

IODA Chief Measurer; See Measurement Manual

HOSTING AN OPTIMIST CHAMPIONSHIP

All IODA events must abide by:

- [The current World Sailing Racing Rules of Sailing](#)
- [The current IODA Conditions](#) (within Administrative Handbook)
- [The Class Rules](#)
- The Notice of Race
- The Sailing and Team Racing Sailing Instructions
- [The Regatta Manual](#)
- This Manual

This document should be read in conjunction with the Regatta Manual and prior to bidding for an event, potential hosts should satisfy themselves they can meet the requirements of this manual (with assistance from IODA where appropriate).

IODA will normally notify event organisers of the names of the International Measurer(s) (IM) who will assist the local measurement team and quality assure the local measurers, providing training when appropriate. (See Regatta Manual for organisers responsibilities for transport accommodation etc.) For larger events IODA may decide to appoint an additional IM. Local organisers shall provide accommodation and meals for such additional personnel at the same price charged to adult members of participating teams (Adult entry fee).

Measurement usually starts two or three days before the Official arrival day in order to make measurement a more agreeable experience for both measurers and sailors. The IODA measurers arrive early to prepare the measurement area and train the local measurement team. Organisers are requested to provide accommodation and meals for at least three nights before the official arrival day at no extra cost to IODA.

The following document will provide details of the measurement process, the physical requirements, and the personnel the organisers will have to provide. Ideally volunteer measurers should be available for the duration of measurement, but this is often compatible with undertaking other duties during the event.

BASICS

The Measurement Area must be close to the boat park and the perimeter must be free of cars, vans and trolleys in order to allow good access to it.

It is especially important that the circulation of cars with trolleys does not cross the perimeter in order to avoid problems with the flow of the Teams to be measured.

It is preferable to allow access to the Measurement Area only to those to be measured by means of doors or fences; as well as the organization of flow channels of boats on the perimeter.

The Measurement Areas must be indoor and with a surface of not less than 200 m²

The entry and exit of the Area should be separate, in order to allow a proper flow of the Teams and equipment to be checked. This small detail is fundamental for a fast and well-controlled process.

If there is a possibility of rain a covered area should be available adjacent to the boat entry area in order to allow teams to prepare boats for measurement.

It should be possible to close and secure the Area during lunchtime and also at night.

Electric Light and power for scales and computers is vital.

During racing (once measurement has finished), the Area can be used for other purposes, but at least 60m² must remain available for the Measurement Committee in order to do the controls (weight of boat, sails, etc).

The Measurement Committee will require a rigid inflatable boat (RIB). The most suitable size is 6m length and 40CV with a central helm if possible and it should be capable of towing competitors to the shore for measurement checks. An effective anchoring system is essential and a fixed pole for the Measurement flag is needed.

The Measurement flag should be white with the letter "M" printed on it.

EQUIPMENT CONTROL: STAMPS AND STICKERS

The stamps, which confirm successful measurement, for the sails (2 minimum) must be of a size between 7x5 and 10x10cm approx and shall include the Championship logo.

New clean stamp pads, should be made available (2 minimum) with a supply of waterproof ink.

Oil free inks are safer and long lasting on Dacron fabric.

Stickers which are applied when the equipment has been measured successfully should be circular and of good waterproof quality vinyl, 5x5 (for equipment, 5 per boat) and 10x10cm approx (for hulls) and shall include the Championship logo, **over a transparent background** in order to allow a visible signature under the sticker.

The number of stickers needed per boat is six (6), It is recommended that at least 10% extra are ordered for equipment and a similar extra amount for hull stickers to allow replacement of stickers which may become detached during sailing.

Waterproof markers are essential (e.g. Staedtler Lumocolor F or Edding 750). As spars are usually black there is a need for waterproof markers with white, silver or gold ink.

Pens, pencils, paper and a stapler should be made available.

MEASUREMENT STATIONS:

Code letters and colours of each station have been taken according to those used at previous World Championships. The helpers described below must be competent and available for all measurement days. The person in charge of each station shall be able to communicate in fluent English.

STATION A: MEASUREMENT SECRETARIAT

CHECK-IN/OUT

Function: When possible identify teams awaiting measurement, supply them with their documentation and encourage them to book their measurement time slot. Receive, check and classify the documentation filled in by the Team Leader one hour before the measurement of his or her Team starts. The person in charge must be fluent in English and if possible in other languages (French, Spanish, German, etc...). Once the documentation is verified, the measurement forms for the Championship, which will be used at the other stations, must be completed.

Statistics of the equipment used shall be recorded at that station (Access or Excel File including sail number, manufacturer of hull, sail, spars and foils).

Check the coloured forms previously filled in at each station. When everything is found to be correct, then issue the "Regatta Measurement Certificate" which will allow the competitor to participate at the event with the equipment checked by the M.C.

When one or more items are found to be "not OK", re-measurement will be needed.

When possible, re-measurement time will be at the end of the day, or in periods with a less heavy workload.

Once measurement is complete, all forms must remain on the Check out station (organised by Teams and in folders) except the Regata Measurement Certificate, (which should be returned to Race Office by the Team Leader)

Note: As IODA develops it's on line entry system this system will be modified but the basic principles will remain the same. Station A should be supplied with an appropriate computer/laptop which can be used to confirm entry data.

The final list of boats, and sail numbers will be provided by measurement as all items are checked at this area and any substitutions of sail numbers etc. identified.

Staff:

Registration Secretary: shall be experienced in the measurement procedure, but also with the documentation of the Optimist Class. This job requires a person who can deal with Team Leaders in a calm and pleasant way, in circumstances, which can often be hectic and pressured.

1 Helper: will help the Registration Secretary with the documentation

1 Helper: will help the Chief Measurer and will be in charge of entry to the Measurement Hall (check if the boats and equipment are dry, buoyancy bags inflated but out of the straps, mainsheet removed from blocks, towing line, foils and spars out from covers, etc..)

Total: 3

Equipment:

One table/desk with 3 chairs.

2 chairs for the Team Representatives (Coach and Team- leader).

60 Folders or similar

Measurement Forms (1 full set per country)

Pens, pencils, paper, stapler, etc

STATION B: HULL WEIGHT

Green Measurement Form

Function: Check mould numbers, sail number on the mast thwart and ISAF Building Fee sticker (which must be the same as those stated on the green form by the Measurement Secretariat).

Check that the hull complies with the weighing specifications (dry, no lines, buoyancy bags out of the straps, etc...) and weigh them.

Check the accuracy of the scales.

Check the items previously defined by the IODA T.C.

A random measurement control of boats will be made, which may include: hull shape and materials, positioning of fittings, etc...

Place the control sticker and signature on the mast thwart

It is important to place this station on a level concrete floor (not on wooden or grass floors) and protected from the wind.

Staff:

1 – Measurer (member of IODA Technical Committee where possible)

1 Measurer

1 Helper

Total: 3

Equipment:

1 - Table with 2 chairs

1 - Digital scale for 50Kg, (with a precision/error of maximum 50gr).

1 - Certified Weight of 35Kg

1 - Master list with all the controlled boats including weights and Correctors if needed.

2 - Hull trestles with foam. Approx. Height: 700mm.

- Wooden pieces of 300, 200, 100 y 50 gr. aprox. (up to 10Kg) to supply teams as weight correctors for hulls. Suitable adhesive for attaching corrector weights to hulls.

Pens, waterproof markers, paper, etc.

STATION C: CONTROL OF SPARS

Yellow Measurement Form

Function: Check mast, boom and sprit. Verify that each piece has the sail number but also the serial number. Check the measurement bands on the mast and boom, which shall be permanently fixed. Check the positioning of holes and fittings and also the length of the sprit. Place the control sticker on each piece over the signature

Staff:

1 Measurer

1 Helper

Total: 2

Equipmen:

1 – Spar template (available from IODA)

1 - Table (3x1 meters) for the measurement

templates 1 – chair

Pens, pencils and paper

Waterproof markers

STATION D: SAILS

Red Measurement Form

Function: This is the most complicated station due to the number of items to be controlled. For that reason the station is divided into 2 areas (2 sail measurement tables). It is crucial to enter on the form the sail button number of the sail.

Check the material of the sail and reinforcements, length of leech, luff, foot, diagonals, concavities and convexities at the leech, sail width, sail measurement band, foot mid point, etc...

Check positioning and dimensions of Class logo, batten pockets, reinforcements, sail numbers, etc...

Staff:

2 Measurers who must be experienced on Optimist sail measurement 2 Helpers.

Total: 4

Equipment:

2 - Tables of 2,3 X 2,9 meters, which must be completely flat and smooth (like melamine i.e.). If possible, the table should be made with one single board with reinforcements underneath. Height of the table's 90cm

2 - Sail Measurement Templates (180+ entries), (available from IODA Secretariat) 1- Table, 4 chairs.

1- Digital Micrometer.

2 - Flex meters (tape measure) class II of at least 3 meters length
(Stanley or similar)

2 - Official stamps of the Championship

Waterproof ink for cloth (like STK Berolin R9 or similar)

3- Ink pads.

Waterproof markers, pens, pencils and paper

It is recommended that an additional table of similar dimensions is provided at an adjacent location to enable teams to rectify minor sail errors (numbers letters etc.)

STATION E: FOIL CONTROL

Blue Measurement Form

Function: Check the shape of foils using the templates. Check the materials, positioning of fittings of the rudder and the centre of gravity of the daggerboard. Verify the weight of foils, serial numbers and manufacturers. Place the stickers on agreed side of all checked equipment

Staff:

1 Measurer

1 Helper

Total: 2

Equipment:

3 - Tables of 1,5 x 1 meters.

2 - Chairs.

1 - Daggerboard Measurement Template (available from IODA)

1 - Rudder Measurement Template

1 – Digital scale for 5kg. (with a precision/error of maximum 5gr).

Pens, pencils and paper.

Waterproof markers.

Extra Equipment:

Radio and/or phone for communications with the Race Office, Race Committee Boat, International Jury

T-shirts and/or caps to identify the measurement committee members

Fridge containing water

Wastepaper baskets

Acetone and cloth

1- Table 2 x 2 meters outside the hall for repairs

Transparent tape (scotch tape)

THE ROLE OF IODA

All communications with IODA should be to the **Secretariat** and the **Vice President** (VP) of your continent or for the World Championships, or the **President**. An IODA **Measurer** will be appointed towards the end of the year before the Championship. They will be your key contact for detailed Measurement issues in the few months before the Championship.

The IODA **Secretariat** will be your contact regarding documentation and contacting NODA's. Any communication with IODA should be copied to the relevant VP or the President.

To ensure that decisions taken on protests, race management procedures or Class Rules enforcement follow the same criteria in all events, the IODA Executive Committee recommends and LOA invite the following:

- The International Jury
- The IODA PRO (and IODA CR at World Championships)
- The IODA Measurer

The IODA PRO and IODA Measurer must be accepted by the organisers. They shall have full access to the relevant areas and shall be able to work in close proximity with the local officers under their charge.

PROVIDED BY IODA

Now that you have had a chance to read the Measurement Manual, you will realise that you need measurement templates for sail, spar, daggerboard and rudder. If you do not have them already, IODA can provide:

Sail template – USD 300

Spars template – USD 300

Daggerboard template – USD 210

The rudder template you will need to make, full details are **TBD**

For events of more than 180 entries you will need 2 sail templates.

IODA will provide you with measurement forms for your event. They are in two formats for you to choose from: an xls file and PDFs. The xls workbook is the source file, in which each page corresponds to a form. The pdf files are similar to the pages in the xls file.

Each form should to be printed in heavy paper in different colours. (size A4 is OK)

These forms you need one per sailor

<Station C-B.pdf> : yellow

<Station D.pdf> : green

<Station E.pdf> : red

This form you need one per team

<Stations A-F.pdf> : white

The file <Booking.pdf> is to be printed on a white A3 sheet. You need 2. We

will also email an event Sail Measurement Certificate.

You should print approximately 24 copies on light blue A4 sheets (paper of normal thickness). It is better if you can have both pages printed on the same sheet (one per side) but if this is too complicated you can use two sheets of paper.

A sail measurement certificate is issued to all the sailors that present unmeasured sails. Measuring and certificating a sail has a cost of USD50, payable to IODA during measurement at the venue. These payments should be collected by the Chief Measurer and handed to the IODA VP who will be attending the event.

IODA have created several additional documents which should be downloaded, printed and posted for sailors and coaches to view prior to passing through measurement.

[BE READY FOR MEASUREMENT](#)

[EVENT MEASUREMENT PROCEDURE FOR TEAMS](#)

[ON WATER MEASUREMENT](#)