

DISTRICT MEASURERS MANUAL

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INTERNATIONAL LASER CLASS ASSOCIATION

DISTRICT MEASURERS MANUAL

The enclosed documents are intended to give each District Measurer a full understanding of the administration of our class rules and inspection procedures at Laser Championships, to ensure that we all interpret the Class Rules consistently on a worldwide basis.

From time to time, the Chief Measurer of the ILCA on behalf the World Council may issue to District Measurers, updates to this manual, major championship inspection reports and rule interpretations.

All measurement and inspection correspondence should be inserted in this folder for easy reference so that it can be handed, as a complete file, to the next District Measurer at the relevant time.

The attached measurement and inspection guide should be studied carefully by all persons who are involved in a championship inspection as it will give them an understanding of the philosophy of our inspection and measurement procedures.

The measurement and inspection form (also attached and available on the measurement pages on the ILCA website) is for use at major Laser Championships where it has been decided or it is required to carry out full pre-regatta checks or comprehensive random checks during the regatta. As a policy the ILCA suggests the following minimum inspection checks be carried out.

- District/ National Championships:** Complete unriggered inspection plus random rigged inspection
- Intercontinental regattas (eg. Europa Cup, Eurolymps):** Random rigged inspection (approx. 25% of fleet)
- Regional/Continental Championships:** Complete unriggered inspection plus random rigged inspection
- World Championship+ Regional IOC Games+ Olympics(boats supplied):** Complete rigged inspection
- World Championship(using own boats) :** Complete unriggered inspection plus random rigged inspection

The enclosed Event Inspection Report Form is designed to provide the ILCA with valuable feed back on inspection, measurement and other issues from District level through to World Championships. This information, from all corners of the Laser sailing world, will assist the World Council in evaluating whether there are specific items or issues that need to be addressed as either rule interpretations or rule changes. It will also help us to keep all measurers up to date with what sailors are doing to their boats and whether they are class legal or not.

This manual is available on the ILCA website and regularly updated.

We seek, and look forward to, the support of the District Measurers in this area, as it is only through their involvement and information you supply that the Chief Measurer and the World Council can be kept abreast of issues affecting Rules and Inspection.

We trust that this Measurement Folder will become a comprehensive and useful reference document for current and future Class Measurers.

Jean-Luc MICHON (chiefmeasurer@laserinternational.org)
Chief Measurer
International Laser Class Association

February 2009.

BY-LAW 4

DISTRICT MEASURERS BY-LAW

1. The responsibilities of the District Measurer and any assistant should include:
 - (a) generally, ensuring that throughout the District, the principles of the Rules are understood and complied with;
 - (b) for sanctioned events and other events designated by the District Chairman as requiring the attendance of the District Measurer:
 - (1) perform a pre-race inspection of all boats to be sailed in such event and report to each owner and to the Race Committee Chairman the owner and number of any boat which, if sailed in such event, would violate the Rules and be subject to protest;
 - (2) assist the Race Committee at such event, upon request, with any protests to which the Measurement by-law applies;
 - (3) issue interim rulings respecting the Rules, not previously the subject of an Interpretation of the Chief Measurer, provided that such interpretation shall be committed to writing following such event and submitted to the Chief Measurer for confirmation or variation as he shall see fit. Any such interim interpretation shall be binding and valid for the event for which it shall have been issued.
 - (c) carry out such additional responsibilities (as a member of the Executive of the District Association) as may be assigned to him.
2. No person shall be nominated for the position of District Measurer unless he has displayed, to the satisfaction of the District Chairman and Sailing Secretary:
 - (a) a thorough appreciation of the Constitution of the Laser Class;
 - (b) an appreciation of the principles as set forth in Part 1 of the Laser Class Rules;
 - (c) a thorough knowledge of the Rules, the Interpretations issued there under and the Measurement by-law of the Class, including the ability to carry out measurements in accordance with the Measurement by-law; and
 - (d) that he is a person who maintains his Laser in a condition which does not violate any of the Rules of the Class and whose attitude towards the enforcement of the Rules has been and is likely to be, beyond reproach.
3. The District Chairman, upon satisfying himself in respect of the items set forth in paragraph 2 above, shall submit the recommendation for the appointment of the District Measurer to the Executive Secretary of the World Council or the Regional Council.
4. The Executive Secretary shall forthwith communicate the recommendation to the Chief Measurer and shall confirm the appointment, if the same is approved.
5. District Measurers, with the approval of the District Chairman, may appoint assistant District Measurers from time to time, who meet the requirements of paragraph 2, for the purpose of attending a sanctioned or other event designated as requiring the presence of the District Measurer. Such appointment shall be for one specific event.

This by-law comes into force on the 28th day of June, 1974.

Enacted by the World Council this 28th Day of April, 1974.

In February 2007, the International Laser Class Association under the direction of the ILCA Chief Measurer organised for the first time a seminar to train and appoint new district measurers. This will start in the European region and will be extended to the World level after approval by the World Council.

The idea is to develop a DVD which can be used by the appointed district measurers to train new measurers. At the end of each seminar there will be a written test to verify the knowledge of the Laser class rules and the capability to be a measurer. Each new measurer will receive a diploma.

MEASUREMENT AND INSPECTION GUIDE

INTRODUCTION

The concept and philosophy of the Laser Class is such that measurement at regattas is unnecessary and serves no purpose. The control of the strict one design concept of the Class is based on the principle that all boats are produced by licensed builders according to a detailed Laser Construction Manual (LCM), which is approved by ISAF, all licensed builders and the International Laser Class Association. The control of the adherence to the LCM is governed by the Laser Construction Manual Agreement signed by the before mentioned parties

The LCM specifies the manufacturing procedures, standard plugs and tools as well as the raw materials and parts supplied by third parties for the hull, sails and spars. Periodic factory inspections by the class make sure that the manual is adhered to by the builders.

The Class Rules specify that nothing can be changed on the hull, sail and spars except what is specifically and positively allowed

Therefore the only controls necessary at Lasers at regattas is an inspection to make sure that the boat is rigged according to the rules and only positively allowed changes have been made by the sailor.

INSPECTION

Inspection is a quick check over the Laser and its equipment to ensure compliance with the Rules. Its purpose is to determine any changes not permitted in the Class Rules that may have been made to the standard boat. It should take 5 - 10 minutes per Laser.

The person doing the inspection must be familiar with the layout and equipment of the standard Laser supplied by the manufacturer and be fully aware of, and able to identify, the few changes that can be made to a Laser as permitted by the Class Rules.

It is important to be aware of the principle of the Class Rules, namely „**NO CHANGES TO THE BOAT ARE ALLOWED UNLESS SPECIFICALLY PERMITTED BY THE CLASS RULES.**“ This makes the inspector's job very easy because if he or she finds changes to a Laser that are different from the standard, the owner can be challenged to show where the change or modification is permitted in the Class Rules. It is not the responsibility of the inspectors to explain why a Laser is illegal except to quote the Fundamental Rule from Part 1 of the Rule Book.

Most deviations from the Class Rules are made out of ignorance rather than a calculated effort to gain an advantage. However there is a possibility that someone will try something more extreme by using non standard spars or sails, altering the shape of foils or fiddling with fittings to try to gain an advantage.

Where it is found that a sail, mast, hull or fitting has been modified or is not "as supplied" by an ISAF licensed manufacturer a detailed statement of the particular case must be sent to the Chief Measurer of the Class at the address below together with the name and address of the competitor and inspector concerned.

Any interpretations required on the Class Rules should be addressed to:

Jean-Luc MICHON (chiefmeasurer@laserinternational.org)
Chief Measurer
International Laser Class Association

The following headings are a guide to an itemised inspection check. The specimen answers given show the correct answers for compliance with the Class Rules.

SAIL

The sail should be inspected for changes to the cloth and panel size with particular attention being given to the luff sleeve seams and the panel seams. The panels are glued as well as stitched and therefore it is quite easy to identify breaks in the glue, changes in the stitching, extra stitching holes in the sail and different cloth which would suggest either a repair or an attempt to change the sail. Repairs to a sail can be made providing they do not alter the shape and characteristics of the sail and do not involve panel or luff sleeve replacement which is illegal under the Rules.

If the inspector is not satisfied that any alterations are the result of repairs then the sail should not be passed.

SAIL & BATTENS

- Does the number on the sail correspond to the hull or plaque number? [Yes]
(The sail number and hull number should be the same, except when it is a charter boat and permission has been granted by the race committee for them to be different.)
- Are the sail numbers and national letters the correct size and in the correct position? [Yes]
[Starboard side uppermost, min. dimensions 300mm high, 200mm wide (except "1") and 45mm thick for standard and radial, min. dimensions 220mm high, 150mm wide (except "1") and 30mm thick for 4.7]]
- Are the national letters below the numbers ? [Yes]
- Is the spacing between the numbers correct and regular? [minimum 50mm for standard and radial, 30 mm for 4.7] [Yes]
- Do the numbers start 100mm +/-12mm from the leech? [Yes]
- Do the numbers comply with the two colour rule? [Yes]
[Numbers after 131000 and replacement sails to be 2+4 contrasting colours]
- National letters can be from different colours than the colour of the numbers [Yes]
- Have there been any changes to the sail, particularly along the luff and panel seams, that are not repairs? [No]
- Is the construction of the sail the same as the standard? (Check by random comparison with other sails) [Yes]
- Are the battens standard profile and length without tapering (except to secure the cap)? [maximum 600mm and 400mm] [Yes]
- Are the batten ends standard (a new batten cap with a curve for the elastic inside the batten pocket has been introduced in 2006, the batten length is measured to the middle of the concave end cap)? [Yes]

MAST TOP SECTION

- Is the mast top section straight? [Yes]
- Does the top mast aluminium look the same as standard (check also if there is a builder sticker)? [Yes]
- Is the mast top section shorter than 3600mm? [Maximum 3600mm excluding connector plug] [Yes]
- Is there any reinforcing inside the mast top section at the collar? [No]
(This can be checked by first tapping the tube with a metallic object in the area of the collar and comparing the "metallic ring" with other random samples. A further check can be made by comparing the weight or pivot point with other masts and if still not satisfied the bottom plug should be removed for inspection)

Is the mast top section completely watertight? (dangerous if not 100% watertight, check also rule 26.c) ? [Yes]

Has the mast top section been end for ended and the original collar rivet hole filled with a rivet or screw and is 100% watertight? (Use of tape only over hole is not allowed) [Yes]

Is the collar rebate 305mm plus or minus 5mm from the end of the aluminium? (Need to be checked for reverse spar for compliance.) [Yes]

Is there fairing above the collar on the top mast section? (Tape allowed to the outside of the joint of the upper and lower mast section to a limit of 40 mm) [No]

MAST BOTTOM SECTION

Is the bottom mast section straight? (Exception made for the pre-bend lower section for the 4.7) [Yes]

Does the bottom mast aluminium look the same as standard? (Check the builder sticker) [Yes]

Is the hole in the bottom section plug open? [Yes]

Is the inner sleeve for the bottom radial section shorter than 1400 from top of base plug? [Yes]

Is the bottom mast section shorter than 2865mm (standard), 2262 mm (radial), 1810 mm for (4.7), including bottom plug? [Yes]

Are the fittings in the correct place? [Minimum 445mm from outside of bottom plug to underside of vang tang and 945mm +/-5mm to centre line of gooseneck bolt] [Yes]

(A simple template using the dimensions in the measurement diagrams will quickly confirm the correct position of fittings.)

BOOM

Are the fittings standard? (Check the builder sticker) [Yes]
(Check blocks for alterations and saddles to ensure pressed rather than rounded type)
[The boom blocks may be through bolted and the hangers and fittings bolted to the boom]

Have any of the fittings been moved? [No]
(Normally visible by original holes showing. Fittings may be moved for a repair, provided they fit within the measurements in the measurement diagram)

Is the boom vang fitting in the correct place? [Maximum 482mm to aft end of plate from front of plug] [Yes]

Does the boom aluminium look the same as the standard? [Yes]

Is the boom sleeved (maximum length 900 mm)? [Sleeve should not extend aft of the point 1220 mm from the front end of the boom with plug] [Yes]
(a thin stiff wire with hook on the end can determine how far back the sleeve is positioned)

RUDDER_

Is the rudder blade made of wood, GRP or foam? [Yes]
(A wooden centreboard or rudder blade shall not be used on boats that were not originally supplied with wooden foils. Except in Brazil, foam foils have been supplied with boat numbers 40000 onwards.)

Does the rudder blade comply with the 78 degree rudder angle relative to bottom edge of the rudder box? [Yes]
[The blade may be cut away where it touches the spacer pin to bring it to 78 degrees, or the spacer pin wound with tape to limit the blade to 78 degrees. It can be also corrected by loosening the bolt and retightening it]

Does the shape compare favourably with the standard? [Yes]

[Check for leading edge build up and/or leading edge having been extended up into the head. The trailing 60mm of the blade may be sharpened provided the width of the blade is not reduced and the trailing edge lengthened]

Is the sharp splaying of one side of the trailing edge allowable (provided the width of the blade is not reduced)? [Yes]

Does the rudder blade have a down haul line? [Yes]

Does the rudder head look standard? (Check the builder sticker) [No alterations to the bottom edges of the cheeks] [Yes]

The diameter of the pivot bolt head, wing nut or washer does not exceed 20mm and the diameter of the pivot bolt does not exceed 10 mm? [No]

CENTREBOARD

Is the centreboard made of wood, GRP or foam? [Yes]
(A wooden centreboard or rudder blade shall not be used on boats that were not originally supplied with wooden foils. Except in Brazil, foam foils have been supplied with boat numbers 40000 onwards.)

Does the shape compare favourably with the standard? (Check the builder sticker) [Yes]
[Check for leading edge build up and bottom reshaping. The trailing 100mm of the board may be sharpened provided the width of the board is not reduced]

Are there stops attached to the centreboard? [Yes]

Is the handle only rope (a plastic/tube and /or tape are permitted on the handle)? [Max. two 12.5mm diameter holes allowed] [Yes]

Is the short splaying of one side of the trailing edge allowable (provided the width of the blade is not reduced)? [Yes]

Is a retaining line or shock cord attached, or capable of being attached, to the centreboard? [Yes]

TILLER

Is the tiller straight along the topmost edge (30 mm) and the wear strip less than 200mm long? [Yes]

If a tiller pin is used, is it in the hole provided? [Holes other than the hole provided are not permitted. Tiller pin can be bent over flat along surface of head] [Yes]

Can the tiller be removed from the rudder head? [Check that it is not fitted with screw or similar] [Yes]

Shall the tiller be fitted with a cleat, hook, pin or eye to secure the downhaul ? [Yes]

HULL FITTINGS

Is the hiking strap non-stretch? [Yes]

Does the hiking strap only have one loop at aft end? [A loop for the shock cord or the line is illegal] [Yes]

If shock cord supports the hiking strap, is it fixed between the rear cockpit eyes or around the traveller cleat and the aft end of the strap? (only one loop in the strap end) [Yes]

Are all other fittings standard, with the exception of the cockpit mainsheet block and side cleats? [Yes]

Are the gudgeons standard and hard against the hull? [Yes]

Have the gudgeons been cut away to allow the rudder box to go lower? [No]

Inspection of the hull involves several simple checks that can be made from the outside. If inspection hatches are fitted [threaded and maximum 153mm diameter] a closer scrutiny is required inside the hull cavity. If hatches have been silicon sealed, competitors should be requested to open them.

If hatches have been installed, is positive buoyancy still in place? [Polystyrene blocks/plastic cubitainers] [Yes]

Is there evidence of any reinforcing to the hull which is not part of a repair?
(No Kevlar or carbon fibre allowed in a repair) [No]

Is the centreboard case free of wedges/padding/tape/silicon/additional gel coat or filler at the bottom edge and/or the deck level, which may restrict the sideways or fore and aft movement of the board, at the exception of one layer of general purpose self adhesive plastic tape of max 2 mm thickness and 30 x 30 mm may be applied at the top front corner of the centreboard case? [Yes]

Is the centreboard free of wedges/padding/tape/silicon/additional gel coat ? [Yes]

Has the hull been extensively wet-sanded?
(Minor wet sanding to remove scratches is permissible but a complete wet sanding to the extent that in some places the gel coat is virtually non-existent is not permitted. The hull may be re-painted.) [No]

If a bailer is fitted, is the flat surface built up so that it is faired into the curvature of the hull?
[The screw hole may be filled level with the flat surface of the bailer. The edges of the bailer where it joins the hull may be glued, filled or taped.] [No]

Is there any evidence that specific areas of the hull have been faired and refinished? [No]

Is the mast step free of any wedges or padding (other than the anti-wear collar, max. 1mm thick and the 1 mm thick disc in the bottom of the mast step allowed under rule 19 (a))? [Yes]

The category of advertising is ISAF Category C for the Laser class. Is there any personal advertising in the first 25 % of the hull (105 cm)? [No]

CONTROL LINES and FITTINGS

Are all lines of uniform diameter and one continuous length? [Yes]

Are the Cunningham or vang control lines of material other than Kevlar? [Yes]

Are the lines rigged according to the class rules? [Yes]

If the main sheet is tied to the hiking strap support loops, is it capable of adjusting the length of the hiking strap? [No]

EQUIPMENT LIST - LASER INSPECTION

THE FOLLOWING EQUIPMENT IS REQUIRED TO CARRY OUT A QUICK AND EFFECTIVE INSPECTION CHECK OF A LASER, EITHER RIGGED OR UNRIGGED

- 1 NOTEPAD , INSPECTION FORMS, FOLDERS.
- 2 MEASUREMENT STAMP/WATERPROOF INK/STAMP PAD (2 minimum and one with the logo of the event used only to stamp the sails), PERMANENT MARKERS, PAINT MARKERS (useful for colours spars and distinctive from usual markers), PENS AND PENCILS
- 3 STEEL MEASURING TAPE
4. ILCA Template :RUDDER ANGLE, CENTREBOARD AND RUDDER THICKNESS, SAIL NUMBERS TEMPLATE + ELECTRICAL TAPE to be used to correct rudder angle
- 5 MEASUREMENT JIGS FOR SPARS AND BATTENS.
- 7 COPY OF MEASUREMENT AND INSPECTION GUIDE
- 8 COPY OF LASER CLASS RULES (Hand BOOK of the year which also contains the bye law)
- 9 PLASTIC TAPE , 1 LARGE TABLE (2 x 3 METRES) + 1 SMALLER one.
(The tape can be used to mark out batten length templates on the table. The tables are useful for sail folding and for the rudder pin to reduce the angle of 78 degrees)
- 10 TENT
(Ideally measurement at major events should take place under cover to protect from rain and sun.)

Personnel and Roles

Chief Measurer	Overseas the measurement team Does the paper work with the help of a secretary Interprets the rules when required Makes the final decision over to waive a piece of failed equipment
4 – 5 person minimum team if less than 200 and double if you have 400 sailors. Depending of the number of competitors	Spars Sail and boards Hull and control lines

1. For running a national championship it is worth while to organize an assistant chief measurer who knows as much about measuring as yourself. Everyone deserves a break away from the inspection area and it also gives you the opportunity to discuss a point of contention if the Laser Class Chief measurer cannot be contacted.
2. If you expect more than 50 – 60 boats per day of inspection plan on having 2 inspection teams, both with a full set of jigs and templates and additional set of stamps and stamp pads. From a competitor's point of view, spending 3 hours in a queue to be inspected is very annoying. It should take 5 minutes to completely inspect a Laser.
3. Give a number to each sailor starting at 1, use that number on all identified equipment you will stamp and sign. This number can also be use by the organisers for numbering trolleys, meal ticket, etc...

Measurement location

- Ideally an undercover area should be used, where both the measuring teams and those waiting to be measured are under cover. Boats should be able to approach from one direction and then continue to move off without interfering with boats already in line. An undercover car park, walkways beside the club or the undercover boat storage area can all be considered as good locations.

Handling Paper Work

- It is suggested that each competitor is assigned an inspection sheet (see the Laser Championship Measurement and Inspection Form), prior to the regatta the competitors name and sail number are recorded on the sheet and the sheets are filed alphabetically or national letter if it is an international event. When a competitor is about to be measured, the form is retrieved marked off and re-filed.
- When a competitor does a late entry, a new sheet can be started and then filed in the correct location.
- The regatta chairman should be made aware of all boats with advertising particularly if there is a potential conflict with official sponsors of the regatta. (check any conflict with ISAF advertising regulations)
- The person entering the competitors' data should be made aware of all requests to sail with alternate sail numbers, so that any potential problems with missing bow numbers, does not result in a boat not being able to be identified.

Failed Equipment

- Depending on the level of the championship you have to use your discretion or not. It is not the same approach for a local event than a national event, a regional or world event. Although technically fails equipment inspection should be corrected or should not be used in competition, sometimes a value judgement can be made which allows competitors to compete with this equipment and this could apply at local event. One example is a person showing up in an old boat, likely to be a local who is unlikely to be competitive, with a boom that has fittings that have been moved because of corrosion and are no longer in the correct position. A bit of discretion may save you from being more unpopular than required.
- When it comes to using your discretion, the most important consideration is whether the competitor will gain an advantage from using equipment that is illegal, over other competitors. If they gain an advantage the equipment should not be passed. An example is with sail numbers, if a competitor sail numbers are not within the prescribed tolerance, the measurer should ask themselves, is the sail number clearly visible and roughly in the right place? Yes, pass it. No, the competitor has deliberately moved the numbers, as close to possible to each other and the leach of the sail, so they cannot be detected over the starting line, it fails and the numbers should be moved. Once again, this should apply to local events and make it educational and understandable to the sailor that he must fix it if he goes to a national regatta and for the next regatta.
- If you do fail some equipment, make suggestions to the competitor on their best option on how to fix it. In some cases it may be an idea for you to fix it for the competitor.
- If a piece of equipment is waived through, the competitor should have the problem clearly explained to them. They then should be informed how to correct the problem and that piece of equipment should be corrected before the next regatta they attend. Ideally in a case like this, they should just go and correct, before using the equipment in the regatta they are being measured for. You can apply this to local events only.

Notes on the Measurement and Inspection Form

- All items on the measurement and inspection form should be checked. However, the number of inspection personnel and number of competitors may restrict you to a more "lesser" check. ILCA strongly recommend doing as complete a check as possible.
- Cheating is an issue that the ILCA takes very seriously. Not everything a competitor does to their boat should be considered cheating, but competitors may do certain changes to their boat, without knowing it's illegal. In case of serious cheating, please explain it on the measurer report form you will address to the ILCA chief Measurer.

LIST OF COMPLIANT AND NON-COMPLIANT ITEMS

ONE DESIGN

The Laser was created as a strict one-design dinghy where the true test, when raced, is between sailors and not boats and equipment.

The fundamental principle of the Laser rules is that you cannot change anything unless specifically permitted by the rules to do so. Such permissions are restricted and generally only allow a limited choice to accommodate different physical attributes of sailors.

The strength and absence of any flexibility in The Fundamental Rule of the Laser class has enabled the class to grow at a rate unsurpassed by any other dinghy.

The Class Association has absolute control over all aspects of the class rules. Further protection is achieved by the requirement that the International Sailing Federation has to approve any changes. By exercising control worldwide, the Laser has been maintained as one of the most pure one design in the sailing world.

THE FOLLOWING ITEMS HAVE BEEN SEEN DURING SCRUTINY CHECKS LISTED BY SUBJECT.

[YES] OR [NO] INDICATES COMPLIANCE OR NOT WITH THE CLASS RULES

HULL	ALLOWED	RULE
1. Water bottle bracket screwed into cockpit corner or corners	[Yes]	21
2. Shock cord retaining water bottle led back to one or both traveller fairleads	[Yes]	21
3. Shock cord retaining water bottle led up centre of hiking strap padding	[Yes]	21
4. Shackle or sheave attached to hiking strap lashing loops to lead water bottle shock cord retaining line through	[No]	FR
5. Shock cord holding up hiking strap led to and secured under grab rail retaining screw on both sides of the cockpit	[No]	FR
6. Hiking strap shock cord tied to traveller rope	[No]	17d
7. Plastic tube inside hiking strap sewn end loop	[No]	FR
8. Two sewn loops in aft end of hiking strap	[No]	FR
9. Brass eyelets in end of hiking strap in lieu of sewn loop	[No]	FR
10. Aft end of traveller cleat cut away to retain hiking strap shock cord	[No]	FR
11. Hiking strap shock cord run under traveller cleat [behind front screw]	[No]	17d
12. Bayonet type hatches	[No]	20
13. Hiking strap extended up under friction pad and plate	[Yes]	17b
14. Two hiking straps sewn together at ends so that feet go between straps and are always under one strap when tacking	[No]	FR
15. Silicon at front of centreboard case deck level to assist in holding centreboard up (only tape allowed under rule 14 d)	[No]	FR
16. Silicon along edges of centreboard case deck level to reduce slop and assist in holding board up	[No]	FR
17. Gel coat build up around bottom of centreboard case or tape to reduce side movement	[No]	FR
18. Compass card calculator fixed to the deck or compass mount	[No]	FR
19. Compass course calculator carried in competitors pocket	[Yes]	FR
20. Mast step imperfections on underside of hull sanded out	[No]	FR
21. Mould imperfections and depressions on underside of hull filled and faired	[No]	FR
22. Cockpit side decks repainted without it being a repair	[No]	FR
23. Self bailer pin taped to cockpit floor	[Yes]	13

24. Bailer rubber bung removed from the bailer pin while racing	[Yes]	
25. Mainsheet cleat placed on the deck other than at the forward end of the cockpit	[No]	3civ
26. Traveller fairleads replaced with s.s. insert type	[No]	FR
27. Traveller fairleads replaced with cast metal type	[Yes]	3biv
28. Wire loop on bailer bung to assist in operation	[No]	FR
29. Multiple purchases on traveller aft of traveller cleat	[No]	3hi
30. Stop watch fixed to the mast, boom*, hull, centre board* or compass mount	[Yes*]	FR

* subject to WC approval and membership vote. Rule 21 can be used for mast, hull, compass mount.

31. Washers under heads of the screws that hold the gudgeons to the hull (provided that they are preventing gudgeon screw failure)	[Yes]	26
32. Drink bottles anywhere on board and attached by a tie to the drilled grab rail	[Yes]	21

RUDDER AND TILLER

33. Pin, screw or small sheave on side of tiller to lead downhaul line over	[Yes]	16
34. Hole drilled in rudder blade to insert a pin to hold blade in a rigid down position or hold blade in the up position	[No]	FR
35. Another hole drilled in rudder head [top or side] for tiller pin	[No]	FR
36. Large washers on rudder head pivot bolt to achieve additional stiffness to rudder head cheeks (max. 20mm)	[No]	15c
37. Underside of rudder head cheeks filed to gain additional rudder angle	[No]	FR
38. Leading edge of blade built up by masking and spraying multiple coats	[No]	FR
39. Leading edge of rudder blade reshaped where it enters rudder head to eliminate small flat section	[No]	FR
40. Rudder blade reshaped on the trailing edge where it enters rudder head when sharpening trailing edge thereby extending length of trailing edge	[No]	FR
41. Welding around top of pintles to reduce risk of pintle failure	[Yes]	26a
42. Line attached to bung and gudgeon to keep bung from being lost	[Yes]	12
43. Screw to under side of tiller which sits on top of pintle and prevents downward movement of tiller	[Yes]	16a
44. Tiller wear strip in three pieces with the centre piece a roller, the end pieces as stoppers and all of it not exceeding 200mm	[Yes]	16b
45. Pintle holes in gudgeons drilled out and metal shims inserted	[No]	26a
46. Washer or washers placed on the top of the gudgeons to lift the tiller off the deck	[Yes]	15f
47. Tiller end fixed in rudder head	[No]	16a(1)
48. Bottom of lower pintle cut off flush with gudgeon bottom	[No]	FR
49. Is there a retaining pin on the top rudder pintle?	[Yes]	FR

CENTREBOARD

50. Leading edge of centreboard reshaped by multiple refinishing layers	[No]	FR
51. Bottom of centreboard reshaped	[No]	FR
52. Stopper missing from centreboard	[No]	FR
53. Stopper shaped on underside to allow board to go down slightly further	[No]	FR
54. Resin on centreboard handle to make it stiff and stand up straight	[No]	14a
55. Small line loop attached to front hole on the centre board for attachment of centreboard retaining line	[Yes]	3g
56. Plastic or metal hook to the end of the centre board retaining line	[Yes]	3g
57. Use of an extra piece of shock cord or a piece of wood to block the centreboard in the trunk when it is in down position	[No]	FR
58. Shock cord for retaining centreboard hooked out to gunwale	[No]	14 f

59. Advertising on the centreboard sides [No] FR

BOOM AND OUTHAUL

60. Teflon tape on end of boom to assist outhaul movement (spraying Teflon or using Vaseline is allowed (subject to membership vote in 2009)) [No] 24

61. Extra rope loops in outhaul line around boom to help hold it up [Yes] 3f vii

62. Loops made from tape to hold up cunningham line [No] 24

63. Wind indicator on front of mast to assist in holding outhaul up [Yes] 23

64. Wire hook taped to front of mast to assist in holding outhaul up [No] FR

65. Outhaul attached to boom between outhaul fairlead and beckett block hanger [No] 3fii

66. Velcro, elastic or webbing strap around boom to secure vang key [Yes] 3 d vi

67. Flexible adhesive tape around boom to secure vang key [Yes] 24

68. Thin line around boom and through top of vang block, mid boom block, or beckett block to act as a retaining line in event of a failure [No] FR

69. Fittings bolted to boom and bolts carried right through boom [Yes] 26c

70. Restriction on the size of bolt when through bolting boom blocks [No] 26c

71. Clew tie down from shock cord [No] 3g

72. Boom sleeve ends bound with tape before insertion into boom tube [No] FR

73. Boom sleeve made from cut down and slit boom section [No] FR

74. A double block may be attached to the gooseneck to provide 2 turning points for the outhaul system [Yes] 3bv

CONTROL LINES

75. Resin on vang control line loops to form a bearing surface and cut down friction [No] 3di

76. No more problem since pulleys are allowed in the vang.

77. Shackle used to secure vang swivel to vang tang used for purchase on cunningham [Yes] 3eiii

78. Shackle used to secure vang swivel to vang tang to tie off cunningham [Yes] 3eiii

79. Vang rope led round the front of the mast when tied to vang swivel [No] 3d

80. Plastic tubing used to stiffen traveller block joint [No] FR

81. Plastic tubing on control line handles [Yes] 3bix

82. Use of a different quick release system for the builder supplied stainless steel boom slide with quick release system [No] 3gi

83. Optional blocks attached to the cunningham fairlead [No] 3b vii a

84. Plastic or s.s. thimbles in cunningham and outhaul control lines [Yes] 3biv

85. Kevlar to vang and cunningham control lines [No] 12bi

86. End of mainsheet tied to base of mainsheet block or hiking strap [Yes] 3cii

87. Mainsheet tied to the hiking strap support line [Yes] 3cii

88. Loop handles of vang and cunningham control line hooked over centreboard handle [Yes] 3bx

89. Traveller line led so that rope crosses over itself as it comes away from fairlead [No] 3h

90. VANG

91. Flag in the vang [No] FR

92. 90. Large and small vang block sheaves through bolted in lieu of the integral cast axle [Yes] 26a

93. Large and small vang block clevis pin holes drilled out and larger clevis pins or bolts substituted [No] FR

94. 92. Bent pin type vang key [slightly longer than straight key] [Yes] 3dvi

95. 93. Vang swivel and shackle in excess of 80mm overall length [No] 3div

97. Use of a Harken vang which is not the builder supplied Harken vang [No] 3dx

98. MAST TOP AND BOTTOM SECTIONS

99. Top section end for ended and original collar rivet hole only sealed with tape (rule 100.requires rivet or screw) [No] 26c
101.Sleeve inserted into bottom end of top section [No] FR
102.Hole in bottom plug of bottom section sealed [No] FR
103.Bottom section plug replaced and original rivet holes not sealed [Yes] 26
104. Top plug to top section not driven to increase length of spar [No] FR
105. Is there a wind indicator located at the top of the mast? [Yes] 23
106. Flexible adhesive tape applied to the outside joint of the top and bottom mast to prevent rotation [Yes] 19 d

107.SAIL AND BATTENS

108.Sail numbers not parallel to seams [No] 4c
109.Sail numbers that are outline only [No] 4b
110.Sail numbers that are solid but include a darker outline [No] 4b
111.Sail numbers not minimum of 50mm(standard and radial) apart or 30mm (4.7) [No] 4b
112.Sail with port side numbers upper most [No] 4b
113.Sail numbers above and below lower seam [No] 4c
114.Sail number 0 laid on its side so that it doesn't comply with height rule [No] 4b
115.Sail numbers that do not comply with contrasting colour rule [No] 4d
116.Sail numbers that are not sufficiently coloured to be solid and easy to read [No] 4b
117.Sail numbers made using permanent marker pen [No] 4b
118.Sail numbers with less than 4 digits [No] 4a
119.Sail numbers that do not correspond to the hull number [No] 4a
120.Batten cap with curve to assist grip on batten pocket rubber [Yes] FR
121.Batten material other than supplied section [No] FR
122.Batten lengths increased by inserting packers in batten ends [No] FR

LASER SUMMARY MEASUREMENT AND INSPECTION FORM

(One sheet for each competitor)

For thorough inspection when time permits, request Lasers to be presented unrigged. For quick eyeball inspection, request Lasers to be presented rigged.

(See the forms in Appendix 3 for Standard and Radial rig, Appendix 4 for 4.7)

INTERNATIONAL LASER CLASS ASSOCIATION

EVENT INSPECTION REPORT FORM

This form MUST be completed for each Regional event or Worlds championship.

EVENT DATE

NO. OF LASERS ENTERED :

Laser Standard :

Laser Radial :

Laser 4.7:

NO. OF RACES:

FULL FLEET INSPECTION

FULLY RIGGED	[YES]	[NO]	NUMBER.....
UNRIGGED	[YES]	[NO]	NUMBER.....
BOTH RIGGED AND UNRIGGED	[YES]	[NO]	NUMBER.....

RANDOM INSPECTION

FULLY RIGGED	[YES]	[NO]	NUMBER.....
UNRIGGED	[YES]	[NO]	NUMBER.....
BOTH RIGGED AND UNRIGGED	[YES]	[NO]	NUMBER.....

ITEMS FOUND THAT DID NOT COMPLY WITH LASER CLASS RULES

- 1
- 2
- 3
- 4
- 5
- 6

SEND DIGITAL PICTURES AND ATTACH ADDITIONAL SHEETS

WERE THERE ANY ITEMS THAT NEEDED INTERPRETATION OR ANY PROTESTS RELATED TO CLASS MEASUREMENT? **YES / NO** IF 'YES' PLEASE REPORT IN DETAIL WITH A COPY OF ANY INTERPRETATION.

.....

ANY SUGGESTIONS REGARDING CHANGES TO THE MEASUREMENT MANUAL/PAPERWORK? **YES / NO**

.....
 NAME.....DISTRICT.....EMAIL.....

SEND TO: Jean-Luc MICHON, Chief Measurer ILCA,
TEL: +33 (0)6 62109832 EMAIL: chiefmeasurer@laserinternational.org
INTERNATIONAL LASER CLASS ASSOCIATION

DISTRICT MEASURERS APPLICATION FORM

I, being the District Chairman of the
 having ascertained that the following person has the qualifications referred to in Clause 2 of the District
 Measurers By-Law 4, nominate him/her as District Measurer for the above District.

Name

Address

.....

Tel (Home) Tel (Office)

Fax Email

Brief details of nominee's involvement with the Laser Class and any measurement history.

.....

Signed

..... Chairman

..... District Date

**PLEASE SEND TO: ILCA Executive secretary : Jeff MARTIN: email : office @laserinternational.org and a
 copy to ILCA CHIEF MEASURER Jean-Luc MICHON, email : chiefmeasurer@laserinternational.org**

FOR OFFICE USE	Received by ILCA
CM notified	Nominator notified
Approved by CM	Measurer notified

APPENDIX 1

RULE INTERPRETATIONS

A District Measurer may issue a rule interpretation for a specific event. The interpretation is valid for that event only and a copy of the interpretation should be sent to the Chief measurer. The Chief Measurer discusses it with the Technical Measurement Committee. Then the decision of an interpretation is made or not, if so it is presented to the World council for confirmation or cancellation.

Copies of any such interpretations will be sent to all District Measurers.

As a general policy, the World Council prefer not to have an ever growing list of interpretations. Any interpretation which reveals a shortfall in the class rules will normally be superseded by a class rule change.

As at 2 Feb 2009 there are 3 rule interpretations:

1. Fastenings (Rule 26 c) shall include screws, bolts, nuts, washers and rivets.
2. Padding of uniform thickness may be used to fill the gap between the rudder blade and the rudder head provided that the padding covers completely the part of the rudder blade that comes into contact with the rudder head and that the thickness of the rudder blade plus the padding does not exceed 20.3 mm.
3. Shock cord (Rule 3(f)vi): Attached to the cleat may also be achieved by tying around the boom immediately forward of the cleat.

Jean-Luc MICHON
Chief measurer

APPENDIX 2 - Measurement Template

