

Measurement Notes

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These notes have been amended to include all rule changes up to and including 19 May 2014 and any subsequent specification changes. The rules referred to below are the “International Topper Class Rules” as amended on 19 May 2014. RRS refers to the Racing Rules of Sailing 2013-2016. These notes do not constitute a change or addition to the rules. Your attention is drawn to rule 7.9, which states that: “It is the owner’s responsibility to ensure that his/her boat complies with the Class Rules...”

The Topper is a strict one-design class and therefore the easy way to comply with the rules is not to change anything. There are, however, eleven permitted areas that can be altered, but before dealing with these a few general points should be noted.

Rule 1.3 states that “Any alteration to the hull, spars, foils, rigging or equipment as supplied by the builder or sailmaker shall be prohibited, except as specified by these rules.” Quite simply, if the rules do not specifically permit a change then you cannot make that change.

Rule 4.1 prescribes the method of resolving disputes by comparison with ten other boats. The advice here is not to step out of line unless the rules permit.

Rule 5.8 permits the replacement of sheets and lines with any material of continuous length and uniform diameter. Please bear this in mind when reading other rules in section 5.

When carrying out modifications, do not add any fittings to the hull, mast or boom. Hatches and holes (including extra screw holes) are not permitted in the hull.

I will now cover specific points and suggest that these notes are read in conjunction with the rules.

MAINSHEET (RULE 5.1)

All parts of the mainsheet arrangement may be replaced provided that the positions of the boom end fittings, the horse fairleads, the horse cleat and in the case of the centre mainsheet the sailcloth loop, the webbing strap and the lacing eye on the daggerboard case are not changed.

It is permissible to add a purchase to the horse using the rope or by adding a block e.g. by using a cleat with an integral block.

As it is permitted to replace the lower block, the method of attachment to the horse can include a hole through the block, a shackle attached to the block or a smaller block in the place of a shackle.

The mainsheet must be of uniform diameter throughout.

When using the centre mainsheet arrangement take care that the forward block is secured to the boom strop by a webbing strap or cord is in the correct position i.e.

595-715 mm from the mast. Make sure that when under tension the block is within these limits.

The sailcloth loop which holds the mainsheet to the boom in the centre main arrangement has a Velcro closure. This is to enable it to be fitted without the removal of the boom end fitting. It is therefore permissible to tape this to the boom once fitted. Make sure that it is in the correct position with its centre 1250mm +/- 25mm from the aft face of the mast.

A number of new methods for attachment of the boom end block have appeared. If this block is attached by cord or rope rather than being attached directly to the lug on the boom end fitting, then clearly there needs to be some limit on how far the block can be from the boom end otherwise there would be little point in the rule that says the boom end fitting cannot be moved. Therefore, it is required that some part of the block should be no more than 15mm from the nearest point of the boom end fitting.

TILLER EXTENSION (RULE 5.2)

Overall length 975mm. This the absolute upper limit. This applies to both mainsheet arrangements. Make sure the rubber grip does not slip and make the extension longer. If you have trouble with this try using some tape to secure the grip to the extension. Common sense dictates that you check the grip before coming ashore! The tiller extension may have the traditional Topper joint which is attached via the single hole in the tiller or it may be of the flexible type which can be attached using a suitable adaptor or by drilling a second hole if this is not already present. **It is strongly recommended that the type of flexible joint that has a rope reinforcement in the centre is used. This will prevent the extension becoming detached if the flexible joint breaks.**

The length measurement is as follows: -

For the original Topper extension length is from the end of the grip to the other end i.e. not to the pin.

For the flexible joints the length is from the end of the grip to the top of the adaptor or the fixed part of the extension, measured with the extension standing vertically.

KICKING STRAP (RULE 5.3)

The entire kicking strap can be replaced provided it is attached to the fittings provided on the boom and mast. One or both ends should be immediately detachable. This means that it can be detached on the water without the use of tools in order to reef the sail. A shackle with a non-captive pin is not suitable. The purchase is limited to 3:1. To check this look at the moving block, i.e. the one attached to the boom, and count the number of parts of the rope between it and the fixed block including the one you pull if it is coming out of the moving block. The number you get should be three or less. Bear in mind that most 3:1 kickers become 4:1 if they are attached the wrong way round.

CLEW OUTHAUL (RULE 5.4)

The purchase here can be 4:1 which can be provided by a double and a single block below the boom or by a 2:1 + 2:1 cascade system with one block attached to the clew hook. If using the first method the final piece of rope should be passed straight round the boom to the clew and not be doubled back to the boom end again as this makes the purchase 8:1.

Whichever arrangement you choose please remember rule 7.6 which states that you must be able to reef the sail by two complete turns of the mast. It is permissible to detach part of the purchase to achieve this provided the outhaul remains intact although the purchase may be reduced to 2:1 or 1:1. Here also any detachment should be by a hook as it is unlikely that a shackle could be undone in an emergency. Care should be taken that the detached hook does not become a hazard which could catch on clothing.

There are three permitted methods of tying the clew to the boom, (1) the traditional plastic hook and shock cord, (2) the stainless steel hook and ring or (3) a Velcro strop. The Velcro strop must be attached in such a way that it cannot become detached at any time. When using the Velcro strop the metal hook may be removed (requires boom end fitting to be removed) or left in place provided it is taped up to prevent it from catching on anything or causing injury.

TACK DOWNHAUL (RULE 5.5)

The maximum purchase permitted here has been increased to 6:1. Any arrangement providing this is permissible the simplest being to cascade the original 3:1 with a 2:1. A system with a triple block can also be used. The downhaul cleat on the back of the older masts is likely to get in the way and may therefore be removed providing that the holes are sealed with rivets. The rule also states that the downhaul must be "attached to the sail tack by a hook or a shackle". Therefore the use of a rope strop to transmit the tension to both cringles is illegal.

EXTRA TURNING BLOCKS (RULES 5.3, 5.4 and 5.5)

Extra blocks can be added to direct the pull in a convenient direction provided these are not attached permanently to the hull or spars.

HALYARD (Previously RULE 5.6)

A halyard is no longer required but it is still legal to use one. If you have a mast with a halyard cleat on the front then this can be used but it is not permissible to retro-fit a cleat to the newer masts that do not have cleats. In this case the halyard can be secured to the ring in the mast strap.

DAGGERBOARD (RULE 5.6)

Various retaining methods are permissible including elastics attached to the various screws on the daggerboard casing. Pro-Grip is permitted on the bladders to assist in the retention of the daggerboard but the existing shock cord and hook must be retained to prevent the daggerboard from becoming detached from the Topper.

DAGGERBOARD AND RUDDER (RULE 1.3 AND 6.1)

I refer to the practice of filling imperfections, moulding marks and other surface marks on the surface of the foils.

Rule 1.3 states that “Any alteration to the hull, spars, **foils**, sails, rigging or equipment as supplied by the builder or sailmaker shall be prohibited, except as specifically authorised by these rules”.

However, rule 6.1 states that “Repairs shall be permitted to damaged hulls, decks, **daggerboards, rudders, masts, booms and sails provided that such repairs do not alter the shape or characteristics so that performance is, or may be, beneficially affected**”.

The moulding marks are not part of the specification and drawings and as such are manufacturing defects and may be corrected subject to strict adherence to the above rules. Do not make any changes which affect the shape and dimensions of the foils.

MAST AND BOOM CLEATS (RULE 5.7)

These may be replaced but the mast and boom should not be modified, e.g. by drilling extra sets of holes. The halyard and downhaul cleats, where present, may be removed provided that the holes are sealed with rivets. It is not permitted to add cleats to masts that do not have them i.e. the newer masts with straps instead of metal strops.

New booms are supplied with a fitting for the cleat which is riveted on top of the boom with the cleat suspended underneath. This fitting cannot be retro-fitted to existing booms as this would require the drilling of an extra hole.

ROPES AND LINES (RULE 5.8)

Replacement is permitted with any length or material except wire. They must be of one continuous length and of uniform diameter. Therefore it is not permissible to add a thin tail to the mainsheet.

COMPASS (RULE 5.9)

Since the rules do not permit the addition of a compass bracket to the boat, any bracket must be regarded as part of the compass and the entire assembly must not be permanently fixed to the boat. To be accepted as not permanently fixed, it must be possible to remove the entire compass assembly without the use of tools. The fitting of the compass should not undermine the integrity of the mast or the mastgate assembly. If the compass is not permanently fixed it should be possible to lower the

mast on the water. The newer type of bracket that clips to the mast is to be recommended. The older type that uses a triangular plate retained by the mastgate screws is to be discouraged as it has the potential to affect the mast integrity. This design may eventually be outlawed.

TOESTRAPS (RULES 5.10, 5.11 and 7.8)

If adding padding to the toe straps, make sure that the measurements in rule 7.8 are not compromised. Always check the toe straps as they can be stretched and also it has been known for the straps on a new boat to be out of class! If you do not use the side straps, shorten them, as there is no point in risking an infringement. Holes are best made with a hot implement such as a soldering iron. When you make new holes in a strap do not place them too close to any existing holes. It should be possible for the measurer to pull the straps straight for measurement. Therefore, if your straps are close to the limit and cannot be pulled straight, be prepared to undo the elastics.

The centre toestrap is no longer limited. If in doubt seek advice regarding the correct length to use. It is also permissible for the centre toestrap to be adjustable subject to the following provisions which will be incorporated in the class rules in due course: -

- The toe strap should consist of a single length of webbing that is to be attached at either end by the existing fixings in the cockpit deck.
- The toe strap may be padded.
- There should be no mechanical fastening attached to the toe strap to secure cleats.
- Only plastic items and rope may be used in the adjustment device. Other materials may be used with the agreement of the Committee.
- There should be no hard / sharp edges that could injure a sailor should they inadvertently stand or kneel on it.
- The side decking straps should not be cut, holed or changed in any way to facilitate the adjustable toe strap.
- Sailors should be able to shorten and lengthen the toe strap with a one handed operation.
- No additional holes are permitted in the hull.
- Only like for like changes may be made to other deck equipment.

MAST AND BOOM FITTINGS (RULES 6.1 and 6.2)

For masts with metal strops the equivalent Ronstan fitting, which is made of thicker material and is less likely to break, can replace the standard strop used for attaching the kicker to the lower mast.

When repairing the above fitting or the similar one on the boom it is sometimes difficult to get new rivets to fit properly due to wear having taken place in the holes. In this case, it is permissible to use a through bolt provided it is the same size as the original hole. In the case of the boom, take care to ensure that the bolt does not protrude more than necessary.

Newer masts and booms have a webbing strap for attachment of the kicker. This has been done to reduce the number of holes. It is not permissible to retro-fit these to the older masts and booms which have metal strops. It should be noted that these new designs are intended to reduce the number of holes in the spars and where possible to ensure that the holes are in the compression face of the spars. This is intended to reduce failures. It is therefore important to avoid drilling extra holes. (see also the section on mast and boom cleats).

Stainless steel or plastic P clips may be fitted to the boom or the bottom section of the mast using existing rivet holes.

SAILS (RULES 1.3 and 6.3)

Only sails made by a licensed sailmaker can be accepted. Currently the majority of boats have the new sails both 5.3 m² and 4.2 m² from Sails East although a significant number are using the older Hydes sails which have the finger reinforcements in the corners. Older boats sometimes have sails made by different makers, so if in doubt please check. Training sails are not permitted when racing. Major repairs involving replacement panels or adjustment to seams must be done by a licensed sailmaker. Minor repairs can be taken to any sailmaker.

Sails are now being produced with a webbing strap at the top. This works with a new top fitting which replaces the crane. The strap can be cut in order to use an old top section with a crane but this is not recommended as the strap cannot be replaced. The sails do have the eyelet however if this is done.

With sails with a webbing strop at their head stitched into the inside of the sail tube, sailors may experience some wear caused by the mast to the stitching attaching the strop to the head of the sail. Should it become detached the sail **MUST** be returned to the manufacturer for repair (RULE 6.3),

However, the manufacturer is looking at this issue and will be creating a modified sail to prevent this problem occurring.

In order to prevent it happening on sails with the webbing strap stitched into the inside of the head of the sail, sailors may use sail makers thread or whipping twine to reinforce the Top Webbing Strop **BEFORE** it becomes detached and as long as there is no adjustment to the effective shape or function of the sail.

In addition, reinforcement can be added to big stress areas on the sail such as Downhaul webbing, again only **BEFORE** it becomes detached and again as long as there is no adjustment to the effective shape or function of the sail.

The suggested sail makers thread to use is Standard Whipping Twine number 2.

SAIL NUMBERS (RULES 3.1 TO 3.6)

All sails must carry the correct number (i.e. the one stamped on the hull). Dispensation will only be granted in exceptional cases where it proves impossible (and not just inconvenient) to display the correct number. Dispensation will be granted to competitors from abroad that bring their own sail for use on a hire boat in which case it is expected that the sail will carry the number of a boat owned by the competitor. Also do not forget the “one sail” rule if it is in force. Substitution of a second sail after measurement/start of event is only permitted if the first sail is damaged and cannot be satisfactorily repaired in time. The substitute sail will need to be inspected by the measurer.

Correct placement of the numbers is equally important. This is governed by the class rules (3.4 to 3.7) and by RRS Appendix G.

Separate instruction sheets are available for the different sails.

BOW LINE (RULE 7.5)

The length should be at least 1500mm and the diameter should be 6mm. It should be attached to the bow by the hole provided. The line must be readily available for use. This means that a safety boat crew should be able to grab it and use it without untying any knots. If you want to ensure that it does not get in the way coil the loose end and retain it with the daggerboard elastic where it passes around the mast or use a piece of elastic round the mast specifically for this purpose.

It is not a good idea to have a loop part of the way along the painter for the attachment of the daggerboard elastic as the elastic or hook could break when the bow line is deployed for towing with the resulting danger of injury. It is better to extend the bow line beyond the hole in the bow and tie the loop in this extension.

HATCHES

There has been no change to the class rules as far as hatches are concerned. They are not permitted (Rule 1.3). Any repairs requiring access inside the hull, or repairs to damaged hulls should be done using welded patches. Topper dealers will be able to arrange this as they have access to the necessary specifications or can obtain them from Topper International. Please ask if in any doubt. In the case of older hulls where a hatch has been fitted this may be accepted provided it is permanently sealed i.e. the measurer cannot open it.

ADVERTISING

Advertising is governed by the ISAF Advertising Code which is set out in Regulation 20, which can be found on the ISAF website or in the ISAF yearbook. If you intend to display advertising then please read the rules carefully and if in doubt ask for my advice. If placing advertising on the sail please ensure that it is not in the space reserved for identification as specified in RRS Appendix G **and the Class Rules**, which modify Appendix G. The new layout for the letters and numbers is designed to allow a complete white panel for advertising on the new sails and a similar amount of space on the Hyde sails. If unsure, please ask for advice. The

sailing instructions for certain ITCA events require championship numbers to be displayed. Please allow space for these as described in separate instruction sheets.

SPONSOR'S ADVERTISING

If you read the Advertising Code, you will see that, in the case of the Topper, the sponsor gets the front 1.0 m of the hull. This represents an extension from the previous 25% and extends approximately to the mast. This is fine on an ocean racing yacht but on a Topper it is almost useless as the hull surface is curved (in two directions) and a large part is downward facing. Nevertheless this area should be kept clear. The foremost 20% of the boom is also reserved. Where sponsor's advertising is required you will be given instructions for its placement.

ISAF PLAQUE

All boats from sail number 40000 shall have the ISAF plaque affixed to the forward end of the cockpit.

TAPE ON THE HULL

The hull fittings are intended to be flush but manufacturing variations result in this not always being achieved. It is therefore permissible to shave small quantities of material from the jointing faces of the hull plate or the hull to achieve a flush fit. Similarly it is permissible to apply tape (e.g. parcel tape) to the joints around the hull plate and the bailer provided that no tape is affixed more than 50mm from any joint. Please be aware of RRS 53. It is not permissible to apply any other substance to the surface of the hull.

OTHER USE OF TAPE

It is common practise to use tape on spars, blocks, ropes, and pins etc. to prevent wear, to assist with the fitting of parts or to prevent parts catching. In general, this is perfectly acceptable.

DISCUSSIONS ON MEASUREMENT

From time to time discussions appear on the Topper websites. I do not always have time to study these and so a direct email is usually the best way to get my views. Alternatively email me to bring any discussion to my attention. Thank you.