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Ref: Optimist rigging info

This info sheet is a simple guide to those who would like to know how to rig an Optimist sail, Mast and Boom.

The basic knot used through out is the basic `reef knot` and then using one of the tails, put a half hitch in to secure the reef knot in position.

The reef knot is a simple knot for tying two similar size rope ends together. This knot is easy to undo.

A Simple verbal instruction is:

“Right over left and under and then left over right and under”.

Go to any nautical book (or Scout book) and they will give you more detail on how to do it. It is very easy.

There are **16** sail ties holding the sail to the boom and Mast.

There are three corners of the sail that should be fixed first and then the rest of the ties can be fitted. The three corners use 4 ties (2 boom and 2 mast). These ties are slightly thicker and stronger than the others.

The other ties include 6 on the boom and 6 on the mast.

There is an additional diagonal control ropes at the mast head and at the mast pin at the tack of the sail (more on those below)

The maximum distance allowed between the edge point of the sail and the edge face of the boom or mast is 10mm.

The three corners of the sail are called:

The mast head

The Tack (corner where the boom meets the mast)

The Clew (where the outer end of the sail is on the boom).



1. This is the outer end of the boom (The Clew).
2. The bigger rope (white n orange) is the outhaul. This allows the clew (outer point of the sail) to be pulled in or out. The more it is pulled the flatter the sail becomes the easier the sail is to use as the wind increases. The looser it is the fuller the sail becomes and the more it helps as the wind goes light.
3. The Red rope (Clew tie) is wrapped around the boom twice and then reef knotted. The double wrap makes it stronger and easier to tie up.
4. The clew has to be kept close to the boom. Max distance allowed between the two (edge of sail cloth and boom) is 10mm.
5. This rope now requires a reef knot completion.



6. This reef knot is now finished. All it needs now is one of the tails to be half hitched to secure the knot so it won't unravel while the sail is flapping.



7. This knot is a completed reef knot with a secure half hitch on the left hand side.



8. The Clew is now correctly tied secured and ready for sailing.



9. The Tack is the inner corner of the sail (where the boom meets the mast).
10. This corner also needs to be tied properly.
11. The picture shows a double tie from the sail cringle (silver metal hole) to the Boom.
12. It also shows a double tie from the sail cringle to the Mast.
13. Again each tie using a double wrap of rope and secured using a reef knot with a securing half hitch (turn one tail in thru and around the main rope once).
14. Again the max distance from boom or mast to sail cloth edge is 10mm.
15. The diagonal blue rope from the boom cup up to the Mast pin is secured with a single wrap around the pin (just visible at the top right hand side of the photo).
16. The more wraps you put on this rope the more the sail is allowed up the mast. This allows the front of the sail (the Luff) to loosen and allow more fullness into the front of the sail.
17. The other blue rope to the right is the Sprit halyard.





18. The Third corner of the sail is the Mast head.
19. This is held in position by two ropes.
20. The top one is the mast tie and is the same as the previous ones using the double wrap with a reef knot secured by a half hitch.
21. The first sail toggle (bit of plastic with a hole at one end and a long slot on two sides) is used in this tie.
22. One wrap of the tie is put thru the long side slots of this toggle.
23. The toggle is then pushed into the mast with the single circular hole nearest the mast opening. Similar to as shown in photo.
24. The Burgee (flag with Knitting needle look a like and wind indicator) is pushed through the circular hole of the toggle. It's a tight fit so push the plastic toggle hard into the mast.
25. The top photo shows the silver burgee pin just coming up to the second mast opening to allow the next toggle to be pushed into the mast (as below photo) and then through the toggle hole.

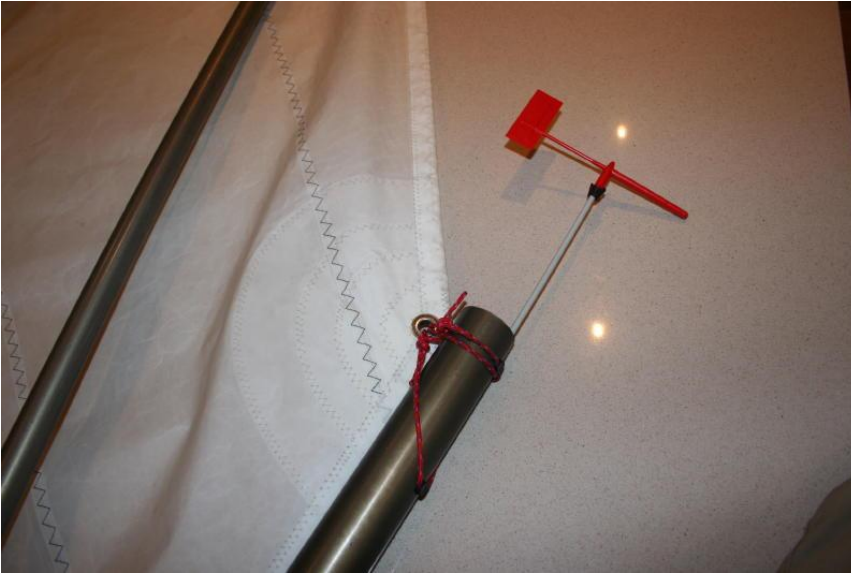




- 26. The diagonal tie is a single wrap tie with the toggle through it as before.
- 27. Again it is secured using a reef knot with a securing half hitch.
- 28. This tie allows the sail to be correctly positioned between the two marker bands positioned half way up the mast (see below). The Sprit halyard allows the sail to rise and fall along the mast.
- 29. The tighter this Diagonal tie is the lower the sail will be on the mast. The looser it is, the higher the sail will go. All, as you ease or haul on the Sprit halyard.



- 30. The black band on the sail has to stay between the two blue bands on the mast. The diagonal tie and the Sprit halyard allow you to keep this in the correct position.
- 31. The allowed measurement is between, the top of the black band of the sail to the underside of the top blue band on the mast and the bottom of the black band on the sail and the top of the blue band on the mast. All very technical but worth sorting at the start and then it wont be an issue for the sailor when they win the Worlds!!!!



32. The completed mast head ties with Burgee in position.

33. Again the maximum distance allowed between the sail cloth edge and the mast face is 10mm.



34. The completed Mast ties with gap between the sail edge and the mast face (max 10mm).

35. The 12 other `normal` ties are done exactly the same.

36. A double wrap with a reef knot and secured by a half hitch.

37. The same applies to the Boom

38. Six `normal` ties to the boom and six `normal` ties to the mast.

39. 16 ties in total.



40. Typical length of a `normal` tie suitable for double warp on Mast and Boom. 15 inches or 380mm



41. Typical length of Mast head Tie (suitable for double warp). 19 inches or 480mm.



42. Typical length of Mast head Diagonal Tie (suitable for single warp). 16 inches or 410mm.