29er hull fitout
2007 ISAF Youth boats

"BP" means bearing point

Line name	Type of line	Diameter	Length imperial	Length metric mm	
Sheets					
Mainsheet	Polypropylene	8 mm	26' 3"	8001	Cut ends
Spinnaker sheet	Polypropylene	8 mm	36'	10973	BP splice to BP splice
Spin. attachment tail	Polyester	3.5 mm	15"	381	BP splice to cut end
Primary jib sheet	Dyneema core	5mm	19'	5791	Cut ends
Secondary jib sheet	Dyneema core	3 mm	39"	991	BP splice to cut end
Hull					
Spin halyd cockpit take up shockchord	Shockcord	5mm	16'	4877	Cut ends
Spin halyd take up block tie-line	Vectran	1.5mm	12"	305	Cut ends
Vang deck control	Dynema	5mm	130"	3302	Cut ends
Cunningham deck control	Dynema	5mm	144"	3658	Cut ends
Trapeze retractor	Shockcord	5mm	1 x 82"	2083	Cut ends
Trap retractor loop at mast base	Dyneema core	3mm	13.75"	335	Cut ends
Spinnaker tack line	Dynema	5mm	14' 8"	373	Cut ends
Spinnaker pole launcher line	Dynema	5mm	7' 9"	2362	Cut ends
Spinnaker halyd lift	Shockchord	5mm	24"	610	Cut ends
Hiking strap lift	Shockchord	5mm	90"	2286	Cut ends
Bridle max ht 990mm, min <737	Dynema core	3.5mm	81"	2057	Spliced in place
Tiller preventer	Polyester	3mm	48"	1219	Cut ends

Spinnaker sock (aft end)	Vectran	1.5mm	31"	787	Cut ends
Spin sock forward end	Shockchord	2mm	20"	508	Cut ends
Forestay tensioner	Dynema	5mm	120"	3048	Cut ends
Spin block lifter	Tennis ball				Cut to size
Halyards					
Main halyard	Dyneema core	3 mm	19' 8"	5995	BP splice to cut end
Jib halyard	Dyneema core	3 mm	12' 11"	3937	BP splice to cut end
Halyard connector	Polyester	3 mm	31'	9449	BP splice to BP splice
Spin halyd	Dynema	5mm	57'	17374	Cut ends
Spin halyd retainer loop at spreader	Dyneema core	3mm			
Mast					
Jib downhaul	Dynema	5mm	52"	1321	Cut ends
Shockcord between shrouds at hounds	Shockcord	5mm	12"	305	Cut ends
Shockcord between shrouds in slot	Shockcord	5mm	41"	1041	Cut ends
Trap height adjustment line	Dynema	5mm	2 x 72"	1829	Cut ends
Trap wire					
Wire only	7 x 19	3/16"	11' 9.75"	3600	BP eye to BP eye
Boom					
Vang shoe control line	Dynema	5mm	82"	2083	Cut ends
Vang shoe gauge line	Vectran	1.5mm	40"	1016	Cut ends
Vang shoe gauge shockchord	Light shockchord	1.5mm	48"	1219	Cut ends
Outhaul	Dynema	5mm	72"	1829	Cut ends

The spinnaker halyards will all be run external to the mast. Not only does this reduce the friction but it removes the possibility of the halyard being wrapped around one of the other two halyards.

With the halyard external, competitors will not be allowed to take the masts apart.

This was the subject of a request for redress by a team at the previous ISAF use of the 29er in 2002. The request stated that the spinnaker halyard had jammed due to the failure of the supplied equipment. During the hearing, it was revealed that the competitor had taken the mast apart to “straighten the halyards” prior to even using the boat and the request was thrown out.

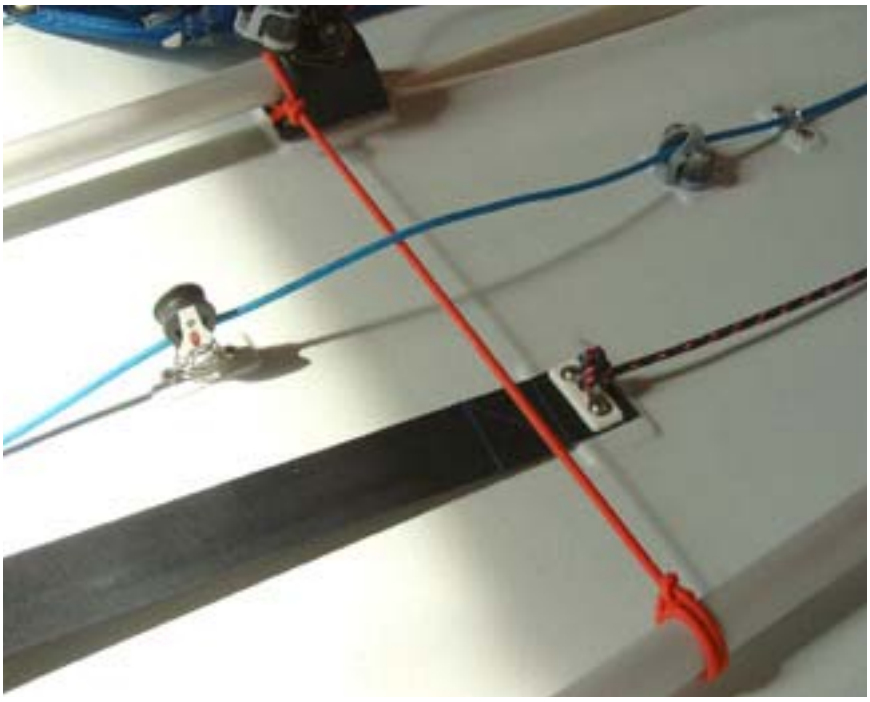
A loop of Spectra core will be supplied to go around the spreader base and the halyard can be run either in front of the spreader as shown below or behind it as shown on the next page.

Length

Spinnaker halyard - 17374 mm - cut end to cut end (“cut to cut”).
Spreader loop - 660 mm cut to cut.

Halyard led behind the spreader

Length of loop - 660 mm - cut to cut



A shockchord lift for the spinnaker halyard will be fitted to the boats as show at left.

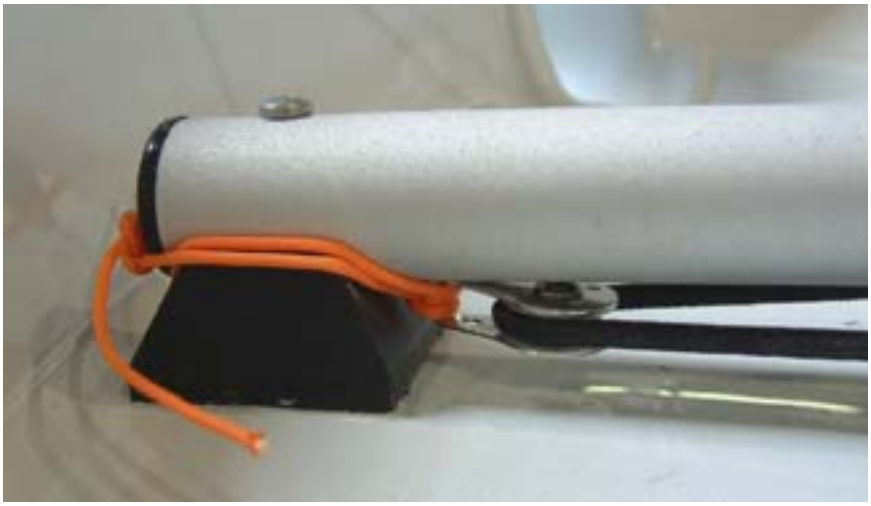
Length

610 mm - cut to cut

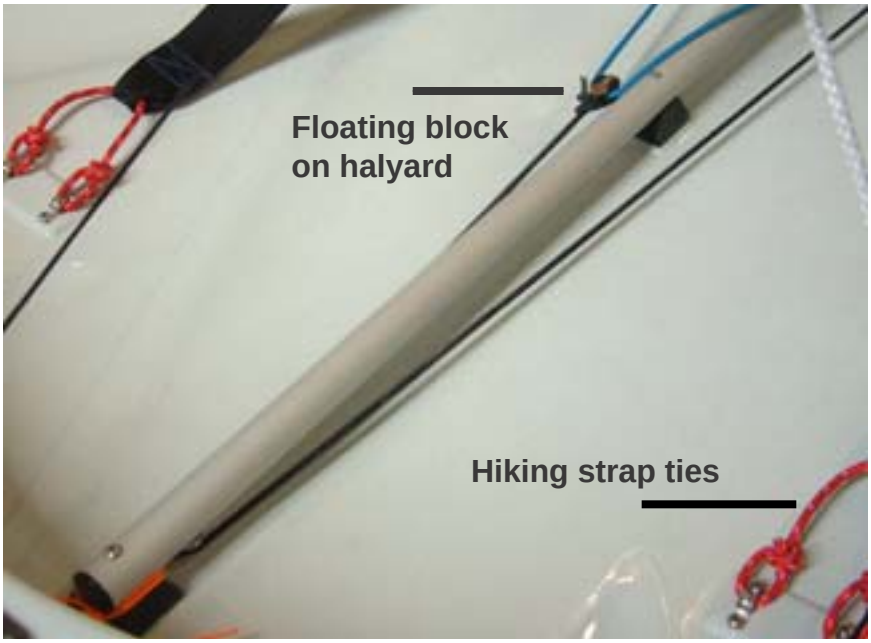
Competitors will be supplied with two single blocks and a length of shock-chord to set up their own spinnaker halyard take up system. It will come tied off to the centre foot rail as shown at left.

Lengths

Shockchord 4877 mm - cut to cut
Block tie-line 305mm - cut to cut (see next page)



Length
Block tie line - 305 mm cut to cut



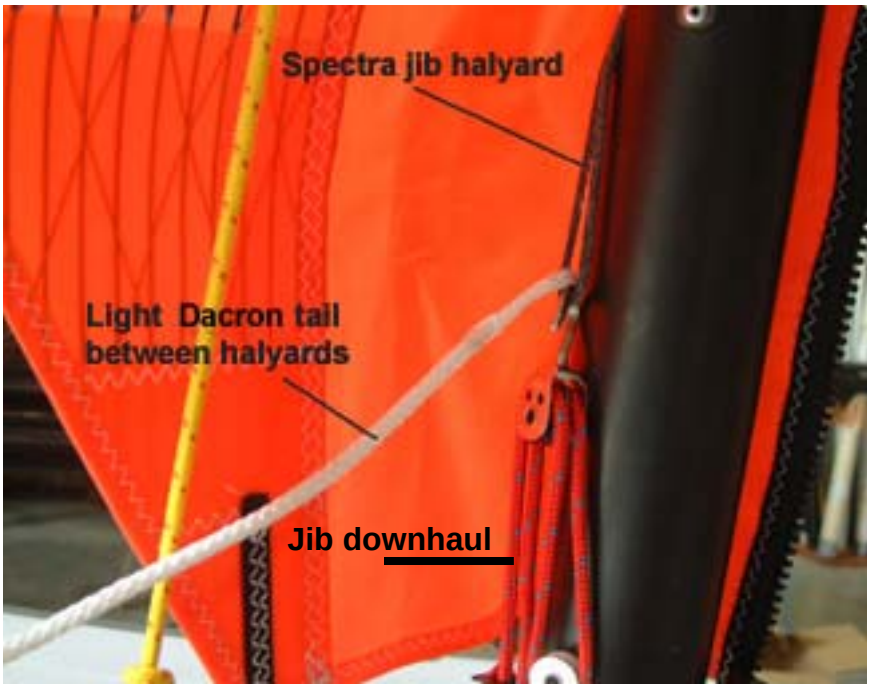
Length
Hiking strap ties - 533 mm - cut to cut

The main halyard and the jib halyard are both 3mm Spectra core without a cover. They have a spliced loop at the lower end.

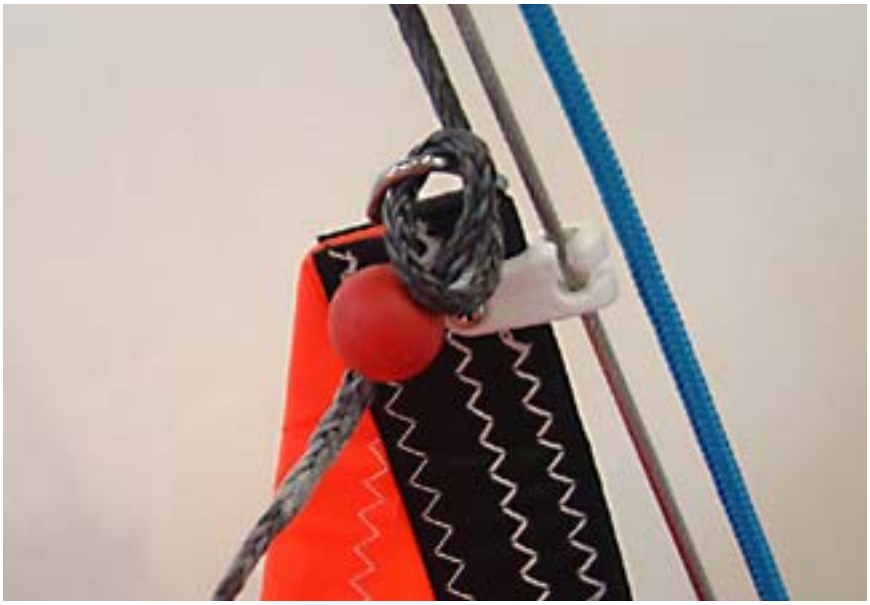
Length
Main Halyard - 5995 mm - BP splice to cut end

The main halyard will be supplied with a tie ball and the halyard slightly long so that it can be set up and the excess trimmed.

At left - the attachment loose. Photo below, the attachment tight.



Length
Jib Halyard - 3937 mm - BP splice to cut end
Tail between halyards - 9449 - BP splice to BP splice
Jib downhaul - 1321mm - cut to cut



As with the main halyard, the jib halyard is slightly oversize. At left the attachment loose, below tight.

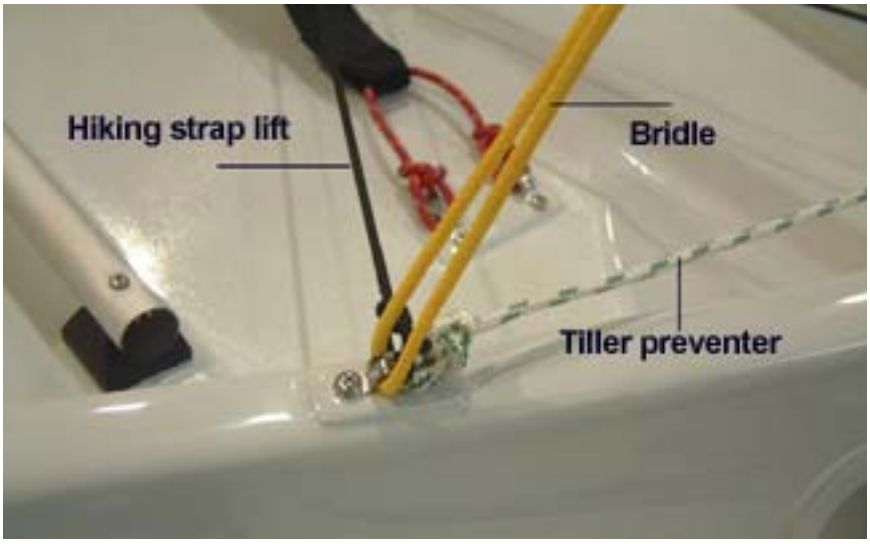
Tail between the two halyards carried in pocket.

The bridles are spliced to the eye straps and are adjustable by hand. The adjustment allows the top of the block on the bridle to be raised to a point 990 mm above the cockpit sole to accomodate light air.

In heavier air it can be shortened down to well below a point 727 above the cockpit.

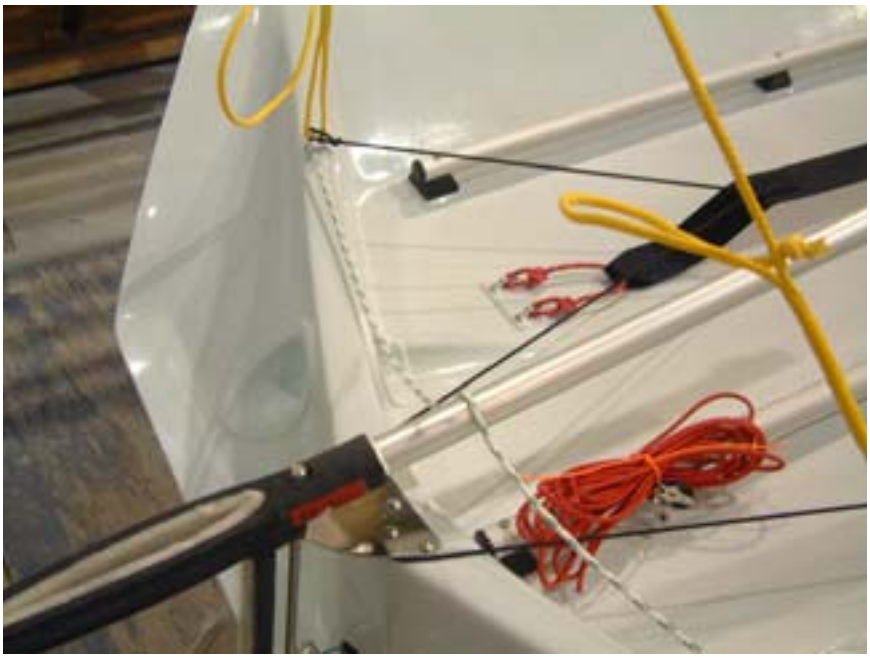
Length
Bridle fully extended - 990 mm - cock-pit floor to top of block.

Retracted - will shorten to less than 727mm from cockpit floor to top of block.



The shockchord lifting the hiking straps is a continuous length that runs runs from the bridle eye strap forward to a loop in the strap, back around the top gudgeon, forward to the opposeite strap and back to the opposite eye strap. See bottom two photos.

Length
Shockchord strap lift - 2286mm - cut to cut



The hulls will be fitted with a tiller preventer line running between the two bridle eye straps. The line lies loose over the tiller when sailing, as shown at left. In the event of the tiller coming out of the competitor's hand, the line will prevent the rudder from swinging up against the hull and becoming dented as shown in the bottom photo.

ANY dent in the rudder from the hull will not be considered normal wear and tear and the competitor will be charged for a new blade.

Length
Tiller preventer - 1219mm - cut to cut

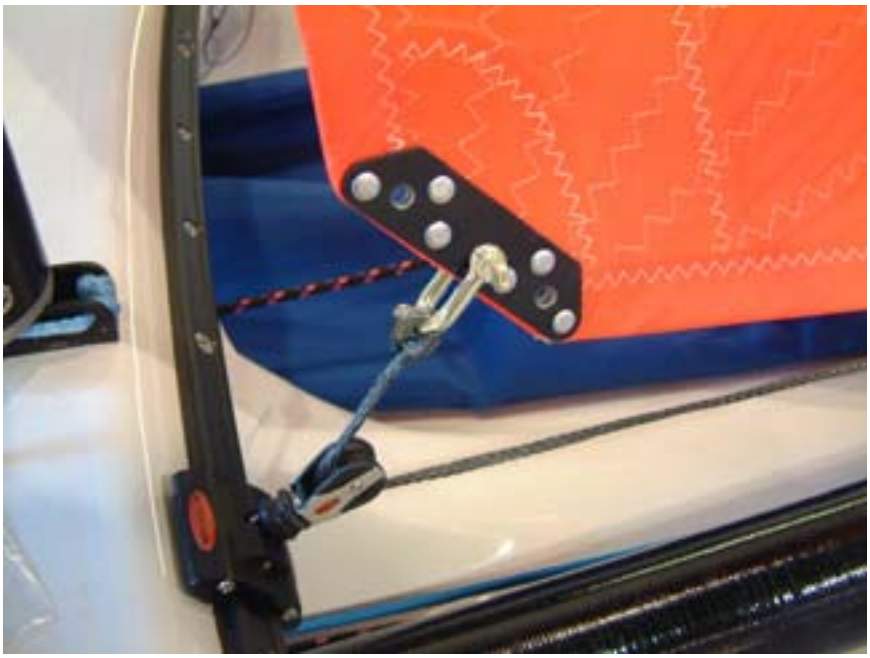
Length
Spin sock securing shockchord - 508mm - cut to cut

Length
Aft end spin sock securing line - 787 - cut to cut

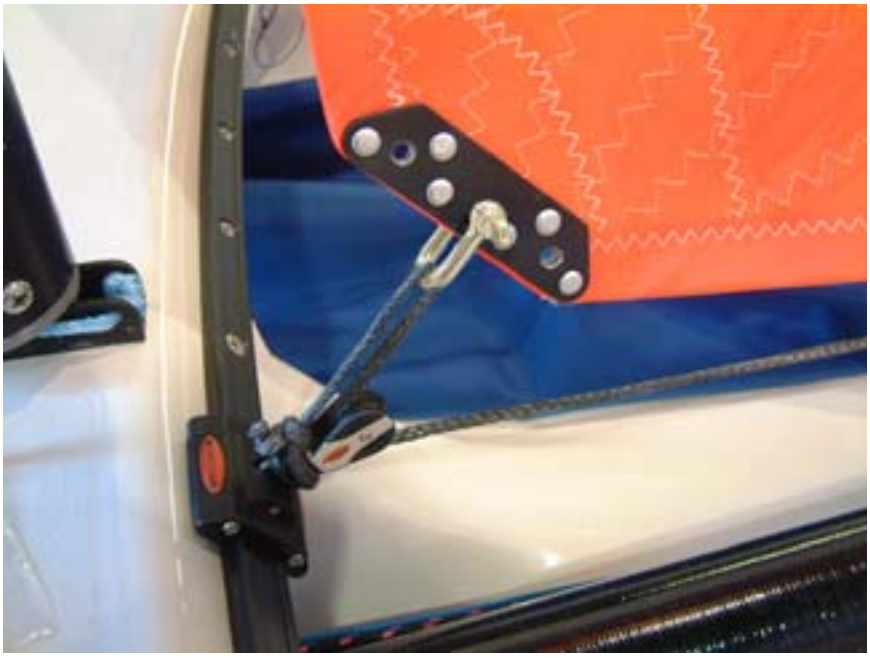
A piece of shockchord will be attached when the boats are shipped to one or both shrouds in the area of the jib slot.

Shockchord is also provided between the shrouds up at the hounds as in the bottom photo to prevent the spinnaker from going in between the sheave and the jib halyard.

Length
Slot shockchord 1041 mm - cut to cut
Hounds shockchord 305 mm - cut to cut



The jibsheet primary is set up as above left. The secondary is a piece of Spectra core with a splice in one end. See photo above. A captive pin shackle will be attached to the other end.
The jib can be rigged as a 2:1 system as shown at left or a 4:1 system by taking the end of the secondary sheet back to the base of the block and tying it off as in the bottom photo.



Lengths
Jib primary - 5791mm - cut to cut
Jib secondary - 991 mm - BP splice to cut end

The trap wires are fitted with donuts above the adjustable clam cleats. See green donut in the photo at left.

PLEASE NOTE

Due to liability insurance restrictions, PS2000 is not able to supply trapeze rings with its boats and does not condone their use. All competitors must bring their own trapeze rings.

However, if keyballs for a Bethwaite type harness are required, PS2000 can supply them but the Organizing Committee must be notified by June 30th.

The trap wires are fitted with the height adjustment lines as shown.

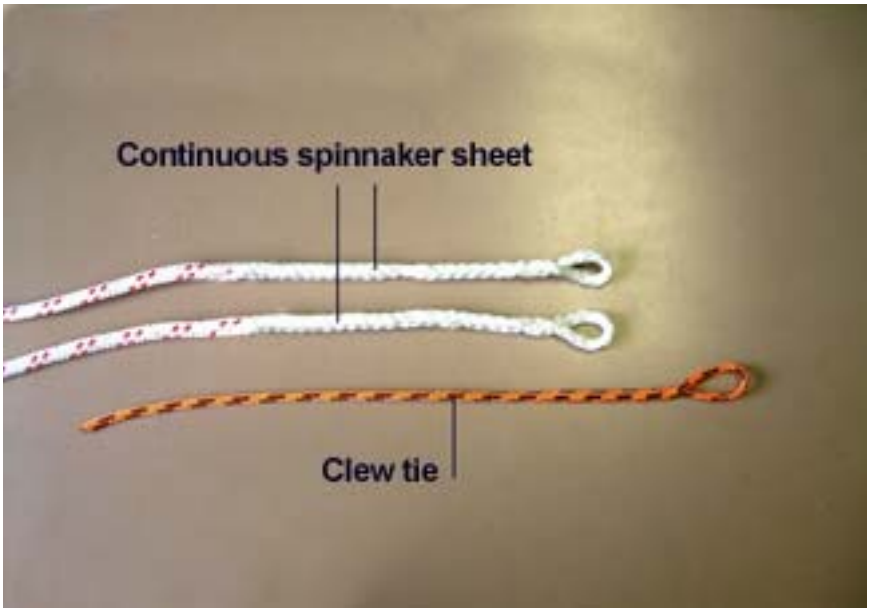
Length

1829mm - cut to cut

The trap retractor shockchord is being run across the boat to the opposite trap wire as shown in the bottom left photo and there is a waxed spectra securing loop at the mast base as shown below right.

Length

Shockchord 2083mm - cut to cut. Loop 335mm - cut to cut



The spinnaker sheet is being supplied as a continuous line with the casing removed near the end and a splice in the end.

Competitors may choose to cut it into two lines if desired.

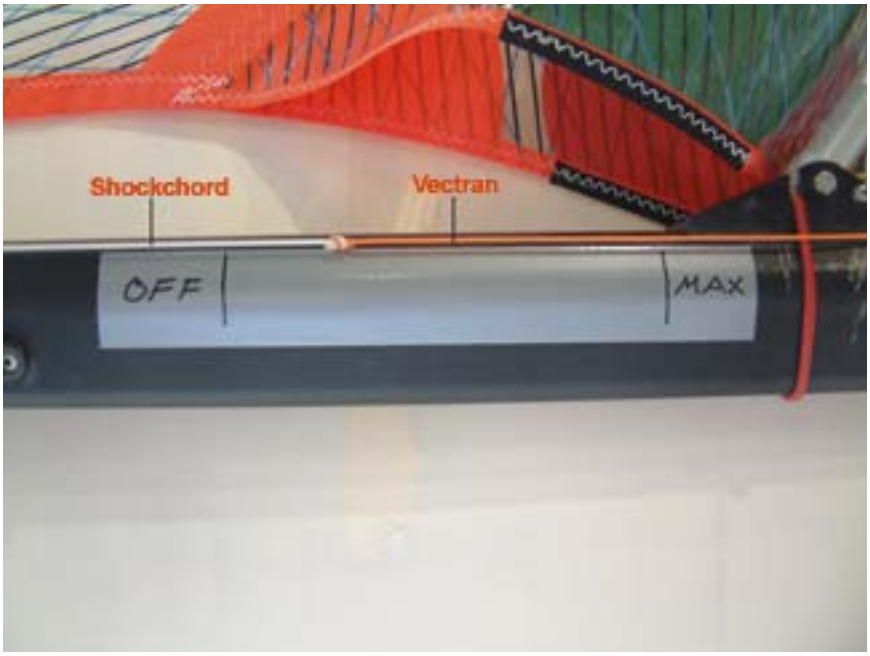
A clew tie line with a splice in one end is supplied with the sheet to be used as suggested in the photos below. When tightened onto the spliced ends of the sheet it provides a smooth knot-free join to ease passing around the forestay in the gybe. The other end is attached to the spinnaker clew.

Lengths

Continuous Spinnaker sheet 10973 mm. BP Splice to BP splice
Clew tie 381 mm - BP splice to cut end

The vang shoe adjustment line is shown at left but a stopper ball will be supplied on this line (see blow-up below).

Top world crews are now rigging a calibration system for the vang tension which involves setting up the stopper on the control line so that it is at the boom when the vang shoe is in its minimum desired tension position. A thin Vectran line is tied off at the knot under the ball, passed through the ball, threaded through the exit block on top of the boom and back to a position on the boom roughly opposite the crew. (Photo on next page). The orange line can just be seen in the photo at left on top of the boom coming out of the block.

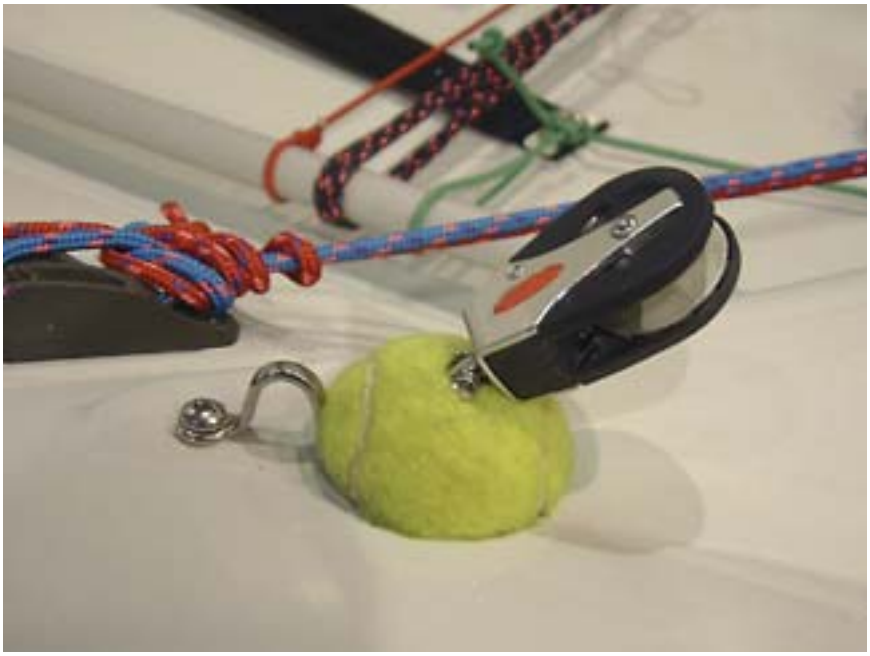


The Vectran line is then knotted to a thin shockchord which is run to the end of the boom and tied off there.

With the vang in its minimum position (“off”) with the ball up against the underside of the boom, the position of the knot is marked on a gauge which is a strip of tape (not supplied). The vang is then tensioned to its maximum expected position, usually tried on the water until it is accurately determined, and this position (“max”) also marked on the tape.

Both the Vectran line and the shockchord will be shipped as shown below with the boom.

Length
Vectran 1016 - cut to cut
Shockchord 1219 - cut to cut
Shoe control line 2083 - cut to cut
(yellow with red tracer in the picture)



All spinnaker ratchet blocks will have 1/2 a tennis ball under them

All boats will be fitted with height-adjustable toe straps

Miscellaneous

1. All boats will be supplied with a forestay, vang-type, tensioner.
2. Competitors MAY fit their own twin extensions on the tiller but MUST leave the attachment fitting on the tiller at the end of the event. A standard single tiller extension IS supplied with the boat.
3. Competitors MUST bring their own trapeze rings.
4. Competotirs MAY splice the mainsheet and the jibsheet together.
5. Competitors may NOT take the masts apart.
6. Competitors may NOT change any of the lines or rigging as suppliued
7. If in doubt - ask!! Any changes to the boat or its equipment, as supplied but not covered in this document, MUST be approved by the International Jury.
8. Lines supplied with the boats may not be exactly the same colour as shown in this document