



# Owners Spar Package Info Pack 2014/15



COMPOSITE SPARS & RIGGING | COMPONENTS | GLOBAL SERVICE



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# INTRODUCTION:

## CONGRATULATIONS ON BECOMING THE OWNER OF A J/70!!!!

Southern Spars is proud & excited to be the supplier of the spar package for the new J /70. Your mast is made from 100% standard modulus carbon fibre and is manufactured using our state of the art Axial Filament Winding (AFL) technology which utilizes nano resin for added strength. All fittings are either manufactured in-house or sourced from internationally recognised suppliers.

In choosing carbon for the J/70 spar package, the aim was to develop a spar package that could be easily & accurately reproduced again & again with an emphasis on the details that affect performance.

Strict quality control systems are used to ensure consistency of: bend, weight and CG. 'Bend' is determined by the tube stiffness, spreader angle and spreader stiffness, while weight and CG are controlled through strict quality control of materials. We strive to keep weight & windage at a minimum whilst providing you with a spar package that ensure years of fast & fun sailing.

Your spars are marked with a unique identity number which can be found engraved on the forward face of the mast just above the heel as well as on the masthead & the upper surface of the spreaders. Please make reference to this number for any future correspondence.

*It is recommended that you read through this document in full & familiarise yourself with the content before attempting to dress & step your rig. If you have any questions, please contact your nearest licensed J/70 dealer or alternatively Southern Spars at: [onedesign@southernspars.com](mailto:onedesign@southernspars.com)*



## CARE:

### WASHDOWN

Ensure the spar is washed down after every sail. It is important to hose out the inside of the mast as well in order to flush out any salt water. This will help prevent corrosion of parts and keep your spar in top condition.

### PAINT SCRATCHES

As part of your maintenance program, it is advisable to touch up any paint scratches. Technical data sheet for the paint system can be found at

[http://www.resene.co.nz/automotive/news/durepox\\_root\\_folder/Pdf/TDS\\_Durepox\\_2K\\_Primer.pdf](http://www.resene.co.nz/automotive/news/durepox_root_folder/Pdf/TDS_Durepox_2K_Primer.pdf)

### TRAVEL

When shipping your mast, or travelling by road, it is important to package it well. **Always remove your spreaders** to prevent accidental damage.

Ensure that standing rigging is removed to prevent the shrouds from wearing or banging against the mast. It is recommended a full inspection is performed when re-rigging the mast.

When removing any running rigging, make sure to rig messenger lines to enable you to easily run your halyards again. We advise using colour coded lines for easy reference.

### STORAGE & HANDLING:

When storing carbon components for long periods of time, it is best to keep them inside in a well ventilated area so as not to affect the paint finish. Do not keep them stored in sealed boxes, wrapped in plastic or resting in areas where water is able to collect.

Ideally the mast would be stored in a mast bag made of a padded, breathable material during the off season.

It is not advisable to rest your bare mast on rough surfaces such as old carpet etc as this could affect the paint finish.

Avoid drilling any holes or using a hammer on the mast unless you have consulted with a Southern Spars engineer. Avoid knocking the mast against objects.

### MASTBASE MAINTENANCE NOTES:

Servicing your mastbase should form part of your regular mast maintenance schedule - this area should be **thoroughly checked at least twice a year.**

Between intervals, keep an eye out for signs of the mast tube bulging and signs of white oxide from corrosion. (Red circles in the photo below.)



It is recommended that the mast is washed down with fresh water after every sail - making a deliberate point of hosing water through the lower halyard exit slot will flush out any saltwater residue.

## MASTBASE MAINTENANCE NOTES (cont):

### MAST BASE SERVICE:

REMOVE your mast heel from the mast by undoing the 4 fasteners. If they are corroded in place, spray with an anti-corrosion spray such as **WD40** and allow one or two hours before trying again.

CLEAN the inside of your mast with fresh water and a mild detergent. CLEAN the mast base in water and mild detergent. Use acetone to remove any stubborn grease or barrier agent residue left over from previous maintenance interval.

CHECK the mast for any damage to the laminate. Check the mast base for signs of corrosion.

After cleaning, re-apply a barrier agent. Tefgel should be generously applied to the surfaces indicated by the red arrows below. On the outside of the heel, the top lip of the heel and the inside surface.

Check your fasteners as well - if there is damage to the fastener, replace them (Spec: Button Head Socket M5 x 12mm for fore and aft ; Button Head Socket M5 x 16mm for side fasteners)  
The thread of the fastener should be coated in an anti-corrosion substance such as Duralac - this will help it to stay in place as well as prevent corrosion.



## GENERAL NOTES:

Any replacement mast fittings should be seated using a product like Duralac between the fitting and the mast to prevent galvanic corrosion. Always make sure the correct fasteners are used.

Turnbuckles should be lubricated using nickel paste.

Remember to tape any clevis pins or sharp edges to prevent tearing of the spinnaker.

When hoisting your boat in and out of the water, pay careful attention to prevent your mast and spreaders from being damaged by the hoist.

Always check with a Southern Spars engineer before drilling any holes in your spars.

## RIG INSPECTIONS:

New stays will stretch slightly after sailing therefore it is important to re-inspect your tuning each day for the first 2-3 sessions after sailing with new rigging.

### WEEKLY INSPECTIONS

All halyards, taping etc should be checked on a weekly basis

### MONTHLY INSPECTIONS

Check to see that all sheaves are free turning and well lubricated  
Check for wear on stays, spreaders & running rigging

### BI-ANNUAL INSPECTION & RE-RIGGING INSPECTION

Check all fittings for wear ( T-balls, turnbuckles, shackles etc)  
Check mast tubes and all composite parts for any damage caused during sailing

## SAIL MAKERS NOTES:

Rig Dimensions	
I=	8159mm
J=	2340mm
P=	7974mm
E=	2876mm
Luff Groove Inner Diameter=	11mm

Please note the above figures are for reference purposes only, for detailed sail making information, please contact our offices.

### DRESSING YOUR MAST:

The following pages contain notes on dressing your mast, namely attaching your spreaders, standing rigging & boom as well as how to achieve basic dock tune.

It is recommended that your mast be supported on padded stands, with the mainsail track facing downwards whilst you dress your mast.



## FITTING THE SPREADERS:

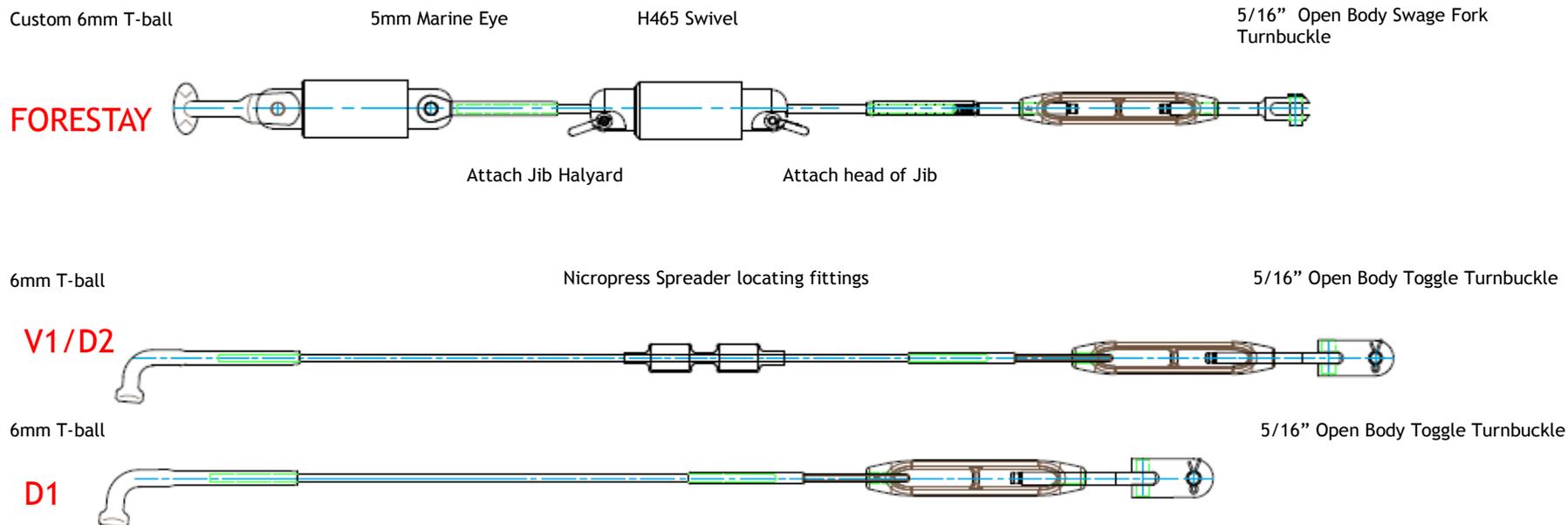
1. Locate your spreader on the spreader flange - the inscribed identification number should be facing upwards.
2. Insert the spreader clevis pins from the topside & secure with split rings.
3. The outboard ends are fitted with spreader end retainer plates which keep the shrouds in place.
4. To remove, simply undo the split ring, take out the pin and pull the plate outwards. Insert the shroud into the cutout & push the plate back into the spreader, securing with the pin & split ring.
5. Ensure that the open end of the shroud retainer plate faces forward when inserted.



**Hint:** It can be a good idea to tape over the spreader clevis pins & spreader ends to prevent accidental tearing of your spinnaker on hoists & douses. Rubber splicing tape works nicely.

## STANDING RIGGING SPEC:

Forestay	5mm 1 x 19 Wire	Custom T-ball eye; T-ball eye - H465 Swivel – 5/16” Open body Swage Fork Turnbuckle.
V1/D2	5mm 1 x 19 Wire	T-ball – 5/16” Open Body Toggle Turnbuckle
D1	5mm 1 x 19 Wire	T-ball – 5/16” Open Body Toggle Turnbuckle
Backstay	6mm Dynex	Eye Splice – Eye Splice with Link Low Friction Ring
Backstay Bridle	6mm Dynex	Eye Splice with D-Shackle – Eye Splice with D Shackle & Loose Splice



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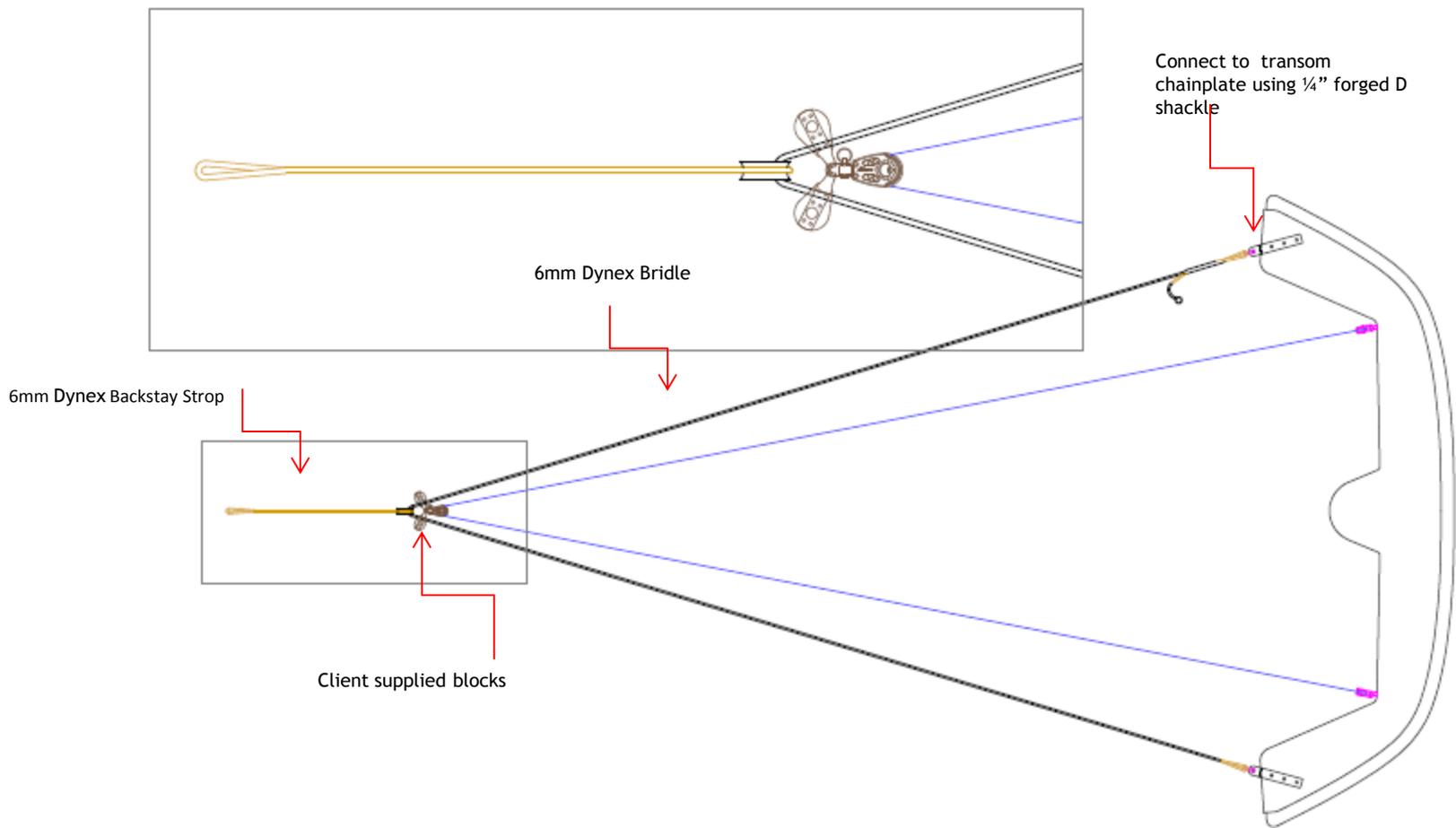


## STANDING RIGGING FITMENT:

1. **FORESTAY** - Insert upper end custom T-ball eye into T-ball backing plate on the mast. Connect client supplied swivel to forestay marine eye. Lower end is fitted with a 5/16" open-body swage fork turnbuckle. Attach the fork to the jib furler link plate using the pin provided. Remember to check that the split ring is securely in place.
2. **V1/D2**- to fit, insert the upper end T-bar into the capshroud t-ball backing plate. Run the shroud over the spreader end, ensuring it is correctly seated in the cutout of the spreader end plate, with the hook facing forwards (your shroud is assembled with micropress fittings which will locate it on the spreader.) The Lower end is fitted with a toggle turnbuckle which attaches to the deck chainplates via a pin. Remember to check that the split pin is securely in place and that the arms are bent open to prevent it coming out.
3. **D1**- Insert upper end T-ball into the t-ball backing plate. Run the shroud down to the deck chainplate & secure with a pin & split pin.
4. **BACKSTAY**- Attach upper end of the Dynex strop to the masthead crane by inserting the supplied pin through the soft eye & securing with a split ring.
5. **BACKSTAY BRIDLE**- Run one end of the Dynex line through the 1st client supplied block, then through the thimble on the backstay strop then through the 2<sup>nd</sup> client supplied block (see figure on the following page). The ends should be secured to the transom chainplates via ¼" forged D shackles.
6. All shrouds are supplied with rubber plugs - once you have inserted your shroud T-ball into the backing plate, insert a rubber plug into the backing plate above the shroud to keep the shroud in place.
7. **\*\*NB\*\*** Never apply excessive upwards or downwards pressure on your spreader when fitting the rigging! Pull the rigging down to reach the spreader end rather than pushing the spreader upwards as this could cause damage to your spreader.

**Hint:** Before stepping the rig, perform a final check to confirm that all fittings are correctly attached, nuts are tightened & all sharp edges are taped. Also check that there are no kinks in your rigging.

## STANDING RIGGING DIAGRAMS: BACKSTAY



## REMOVING STANDING RIGGING & SPREADERS

Your standing rigging & spreaders should be removed from the mast & inspected whenever you un-step or transport the mast.

To remove these items - simply reverse the assembly processes explained in the previous pages.

Remember:

- Check your rigging for signs of rust, broken strands of wire or damaged fittings
- Any fittings coated with Tefgel/Duralac/Nickel paste should either be stored in a plastic bag to keep them free of dirt or else cleaned off and reapplied next time.
- Check for any signs of wear and tear on your mast, boom, bowsprit etc.
- If you find any signs of wear and tear on your running rigging, repair or replace it.



**HINT:** Ensure that you store all loose fittings in a safe place & identify your shrouds for ease of assembly in the future (pieces of sail repair tape work well)

## BOOM SPECIFICATION & SETUP

Your carbon fibre boom connects to the gooseneck toggle on the mast by means of a pin & split ring.

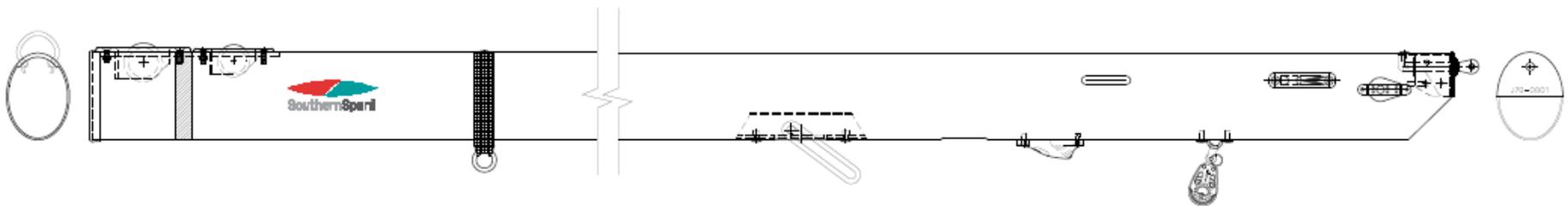
The boom is configured with an internal 4:1 purchase outhaul system which includes Harken blocks and is lead via a H340 lead block to a CL211 Mk2 Clam cleat.

There is facility for 1 x reef line which exits the boom on starboard to a CL245 reef line cleat & a 350ASSY carbo cheek block near the gooseneck.

Vang attachment is via an internal carbon vang bracket fitted with a 4mm Dynex vang loop.

A soft Dynex loop is fitted at the outboard end for topping lift/ main halyard attachment.

A Spectra mainsheet strop is secured to the boom via a machine screw to facilitate easy replacement.



## TUNING GUIDE:

As the class grows, the sailors will develop and fine tune the fastest settings for the spar package.

As new feedback is received, we will update our guide with as much information as possible. We would love to hear from you regarding any tips or tuning information that we can use to develop a more detailed guide.

The guide will be made available in PDF format on our website or else on request, just email [onedesign@southernspars.com](mailto:onedesign@southernspars.com)

Your local sail maker will also be able to advise you on right setup to match their specific sails.



## RIGGING TENSIONS

The below rigging tensions are taken from the North Sails One Design J/70 tuning guide.

WIND SPEED	V1/D2	D1
0-6kts	16	Loose (-6 turns)
6-9kts	18	Hand tight
10-14kts – Base Setting	22	12
14-18kts	25	15
18-22kts	28	20
22-25kts	30	25

Visit <http://jboats.com/j70-one-design-class> where you will find access to tuning guides released by other sailmakers.

## UPDATES:

*NB: Over time there will be updates in some of the fittings used and other detail changes to the rig. These will originate from sailors feedback and new ideas. Any changes are agreed to by J Boats Inc. and these changes will not affect the performance of the rigs. The tube bend and weight will remain within the agreed tolerances and will comply with the class rules.*

DATE	UPDATE DETAILS	EXPLANATION
January 2014	Lower Panel Layout Change	Addition of jib fine tune system facility. New HSB468 turning block added to layout
	Lower Panel Block Upgrade	H140 replaced with 2156NP 40mm pivoting lead block with 150 Alu cam (Spi halyard). HSB293 replaced with 395NP 29mm Pivoting Lead block with 468 micro ALU cam (Jib Halyard).H299 replaced with 396NP 29mm Pivoting lead block with 471 micro carbo cam (Cunningham(
	Boom Cheek Block Upgrade	Cheek block changed from H092 Block Bullet Cheek to 350ASSY Block 29mm Carbo -Cheek

## RECOGNISED SPARES STOCKISTS:

### Rig Pro USA

Tel: +1 401 683 6966

Email: mattie.fails@southernspars.com

RIG PRO |  SouthernSpars

### Sail22

Tel: +1 574 889 0022

Email: info@sail22.com

**SAIL22**



# SERVICE:

## WARRANTY

Southern Spars will remedy faulty workmanship provided that any claim by the Customer for remedy of workmanship was notified to Southern Spars in writing within 12 months of the delivery date of the mast.

Southern Spars will, if requested to do so, use reasonable endeavours to assign to the Customer the benefit of guarantees and warranties given to Southern Spars by third party suppliers or manufacturers.

The warranties above do not extend to and Southern Spars shall not in any event be liable for any failure or damage arising from fair wear and tear.

**Any claim shall be made directly to the Dealer from whom the rig was purchased.**

**Warranty claims must be made on the correct form before any work is undertaken on the part concerned. Warranty Request Forms can be obtained from your nearest Dealer.**

## ABOUT SOUTHERN SPARS

Southern Spars has established its place as a world leader in the design, construction, installation and servicing of carbon fibre masts, booms, composite components and rigging. Its rigs power a wide range of yachts, from one-design class yachts to grand prix racing yachts, cruising yachts and super yachts.

Innovation, quality and an insatiable desire to produce what the customer requires runs through the company's culture. These qualities have contributed to producing product for numerous race victories, including the Volvo Ocean Race, Vendee Globe, America's Cup, Sydney-Hobart, plus supplying rigs to some of the hottest one-design classes like the Olympic 49er & 49er FX, Elliott 6m, Melges 20, 24 & 32 & the Farr 30 & 40. The same design expertise, manufacturing methods, materials and components utilised on these racing rigs are applied to every rig built by Southern.

Southern Spars also operates a rig service network and is manufacturing composite rigging. The specialist rig service business Rig Pro, has service centres worldwide. The Composite Rigging division, manufactures custom lightweight rigging products, including EC6+ carbon rigging, Aramid rigging and the Luff Rope.

Southern Spars has centres in the USA, Europe, South Africa, Sri Lanka and headquarters in Auckland, New Zealand. It is supported by the North Marine Group and shares the resources of that group of companies.

For more information visit [www.southernspars.com](http://www.southernspars.com)