

Farr 280

Owners Information

Pack 2014



COMPOSITE SPARS & RIGGING | COMPONENTS | GLOBAL SERVICE



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INTRODUCTION:

CONGRATULATIONS ON BECOMING THE OWNER OF A Farr 280 ONE DESIGN!!!

Southern Spars is proud to be the supplier of the spar package for the Farr 280.  female moulded mast is made from 100% standard modulus carbon and is laminated with nano resin for added strength. All fittings are either manufactured in-house or sourced from international suppliers.

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.

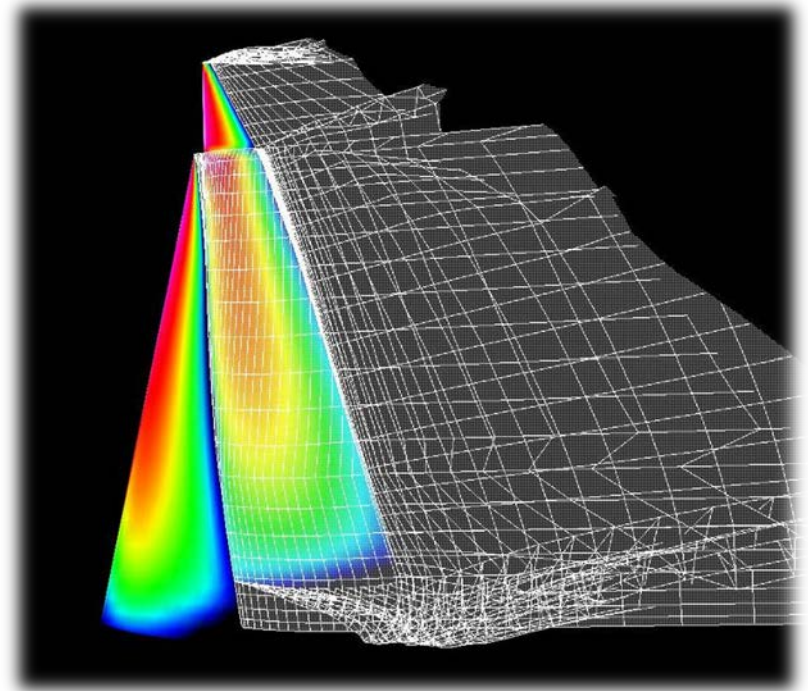
In addition, the mast has been engineered in such a way that we were able to incorporate our unique regatta splice which facilitates ease of transport whilst still ensuring that the mast conforms to the strict measurement requirements of the client.

Your mast is marked with a unique identity number - please make reference to this number for any future correspondence.

Your unique ID number is:



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 Southern Spars at onedesign@southernspars.com



For more information about Southern Spars, visit the website @ www.southernspars.com

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CARE:

WASHDOWN

Ensure the spar is washed down regularly and all salt has been removed. This will help prevent corrosion of parts.

The mast should be thoroughly washed down once a month to keep it in top condition.

PAINT SCRATCHES

As part of your maintenance program, it is advisable to touch up any paint scratches.

TRAVEL

When shipping your mast, or travelling by road, it is important to package it well.

Ensure that 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.



RIG INSPECTIONS:

REGULAR BASIS

Please check that all of the join fasteners are securely in place.

MONTHLY INSPECTIONS

Check to see that all sheaves are free turning and well lubricated

Check for wear on stays and spreaders

Check fasteners at mast join for signs of wear & tear

Inspect your jacking system & service if required.

BI-ANNUAL INSPECTION & RE-RIGGING INSPECTION

Check all fittings for wear

Check mast tubes and all composite parts for any damage caused during sailing

NOTES:

Any replacement mast fittings should be seated using a product like Duralac between the fitting and the mast to prevent galvanic corrosion.

Turnbuckles should be lubricated using nickel paste.

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

SAIL MAKERS NOTES:

Rig Dimensions	
I=	11360mm
J=	3190mm
P=	11690mm
E=	1000mm
Luff Groove Inner Diameter=	12mm

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



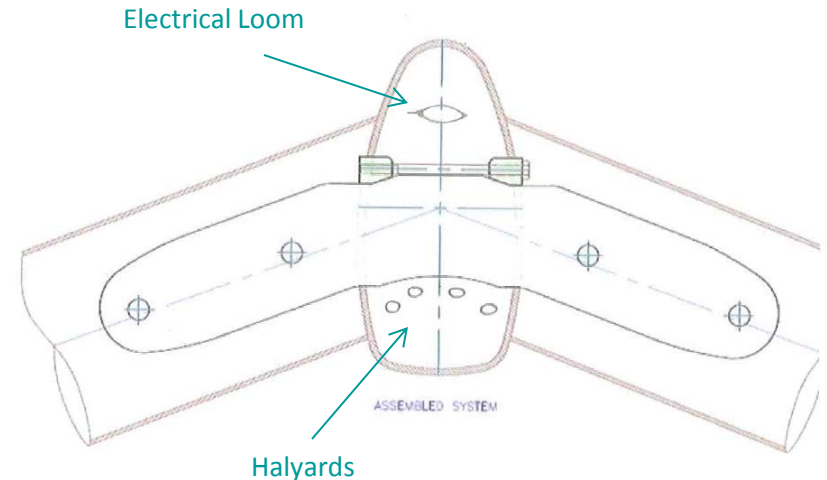
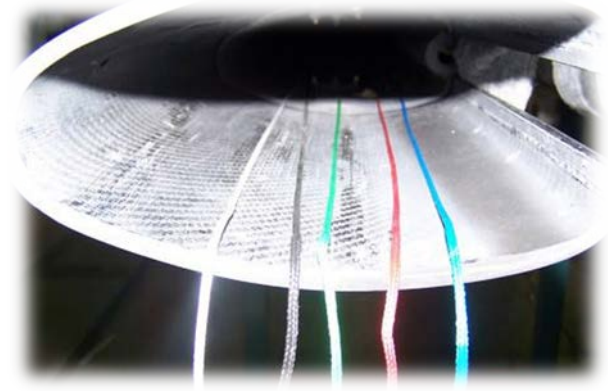
ASSEMBLY NOTES:

JOINING THE MAST:

Your mast has been engineered to incorporate a join in order to facilitate the transportation of the mast in two pieces.

To assemble the mast, please follow the below guidelines:

1. Wipe down both join surfaces with a dry cloth to remove any particles of dust, dirt or greasy residue. Apply a generous amount of *dry lubricant* such as Sailkote McLube to both join surfaces.
2. Connect the colour-coded messenger lines inside the mast - ensuring that they are not tangled and that they run aft of the spreader bar (applicable if your spreader bar is already in place.)
3. Uncoil the Dacron electrical conduit (found in the top section) and securely connect it to the messenger line that runs from the electrical exit in the lower end of the bottom section to the top of the bottom section. Tension the messenger line until the Dacron conduit has been run through the bottom section. Remember to tie off the messenger line on the saddle provided for future ease. (** NB. The electrical conduit is always run forward of the spreader bars)
4. With at least 3 people on hand, line up both sections of the mast on stands of equal height, making sure that the mainsail track is facing upwards.



ASSEMBLY NOTES cont.

5. Whilst one or two people hold the top section stationary, a third person should sight up the bottom section to ensure straightness. Using the joining spanner provided, insert the spanner into the join cutout on the top section & turn handle 90 degrees in order to flare the sleeve. Once the two sections are correctly aligned, offer up the bottom section to the top section and gently but firmly push the first portion of the join together. Remember to ensure that mainsail tracks on both sections are properly aligned.
6. Move back a meter from the join, grip the bottom section securely in both hands and push the two sections firmly together until the join is complete. **Warning: Use of excessive force, clamping or hammering the mast in any way might cause damage to the mast. If the join is tight - separate the two sections & establish the cause of the binding.**
7. Insert the join fasteners. Each fasteners thread should be coated *Duralac* before insertion. A Ph2 Phillips head screwdriver will be required.
8. Tighten the fasteners one at a time, moving from the forward face of the mast towards the aft face. The longer fasteners are used on the forward face whilst the shorter ones are used for the sides of the join. Please exercise caution not to over-tighten the fasteners thus stripping the stainless steel inserts inside the mast.



**** The fasteners are an essential element to the structural integrity of the mast. DO NOT step the rig or attempt sailing if any of the fasteners are missing or have damaged threads. Check the heads for sign of wear & tear or corrosion & replace if necessary.**

Applying *Duralac* to your fasteners acts as both a barrier paste as well as a non permanent thread locker, helping to ensure that your fasteners remain in position. *Duralac* should be applied to all new fasteners & to all fasteners once per season thereafter.

SPLITTING THE MAST FOR TRANSPORT:

1. Prepare the mast by removing the standing rigging, spreaders, spreader bars & halyards. (remember to replace the halyards with the messenger lines provided)
2. Place the mast on stands of equal height, ensuring that the top section is supported in at least 2 places and held securely in place.
3. Remove all of the join fasteners using a screwdriver. Place them in a container to avoid losing them.
4. Whilst two people keep the top section static, one person can insert their fingers into the spreader bar slot and pull on the bottom section. Ensure that the bottom section is able to slide freely on its support.
5. If the mast becomes stuck half way, pour some fresh water onto the join to lubricate it, push the two pieces together again & then try pulling them apart.
6. Once your mast is split, make sure that all of the messenger lines are tied off securely and that the mast is washed out & inspected for any signs of wear or damage.



DRESSING YOUR MAST:

The following pages contain notes on dressing your mast, namely attaching your spreaders, standing rigging, boom & vang system 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.

If you do not have experience in stepping masts such as this one, please contact us to discuss stepping & sea trialling with one of our highly skilled riggers.

Alternatively, we can recommend trusted rigging companies that we have worked with in your area.



YOUR STANDING RIGGING:

Forestay	6mm dyform	T-ball – Toggle Turnbuckle (Navtec)
Capshroud	6mm dyform	T-ball – Toggle Turnbuckle (Navtec)
D2 Shroud	3mm dyform	T-ball – Toggle Turnbuckle (Navtec)
D1 Shroud	6mm dyform	T-ball – Toggle Turnbuckle (Navtec)
Running Backstays	6mm Dynex	



YOUR RUNNING RIGGING:

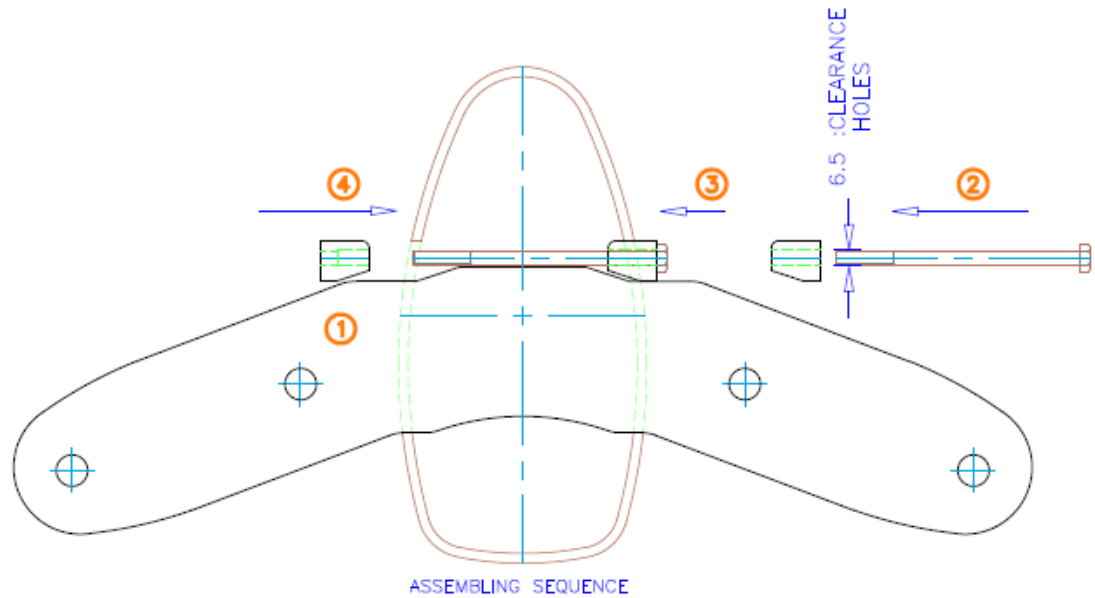
Needs to be updated to spectra tail to avoid excessive stretch

Main Halyard	5mm 7x19 lock plus 5mm double braid	Dogbore
M/H Spinnaker Halyard	8mm Spectra	Tylaska T5 Snap Shackle
Genoa Halyard	8mm Spectra	Tylaska T5 Snap Shackle
Outhaul	Spectra	8:1 , Bowshackle
Vang	Spectra	24:1



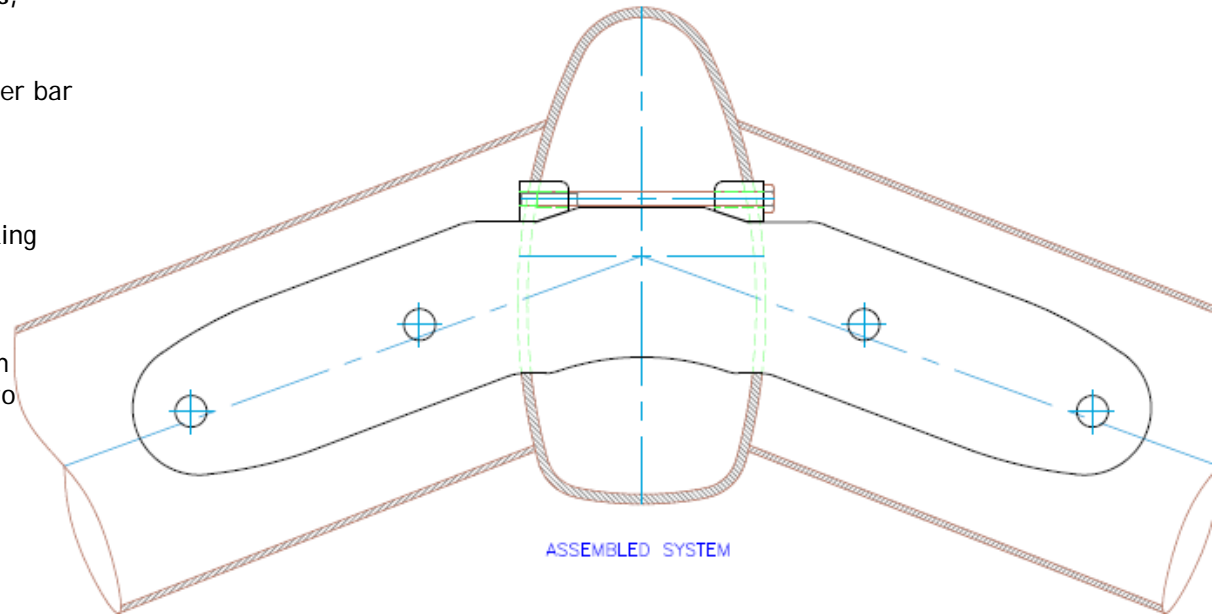
FITTING THE SPREADER BARS:

1. Slide the spreader bar (ref # 1) through the lower spreader slot in the mast
2. Insert the supplied M6 bolt through the locking wedge with the clearance hole (ref # 2)
3. Insert the assembly in front of the bar (ref # 3) and then insert the second locking wedge (tapped for M6 Bolt) in from the other side (ref # 4)
4. Tighten the wedges to remove any play in the spreader bar - **** take care not to over-tighten ****
5. **The wedges are designed to perform optimally with between 7mm-0mm's protruding beyond the mast wall. If you exceed these limits, please contact our offices.**
6. Repeat the process for the second spreader bar



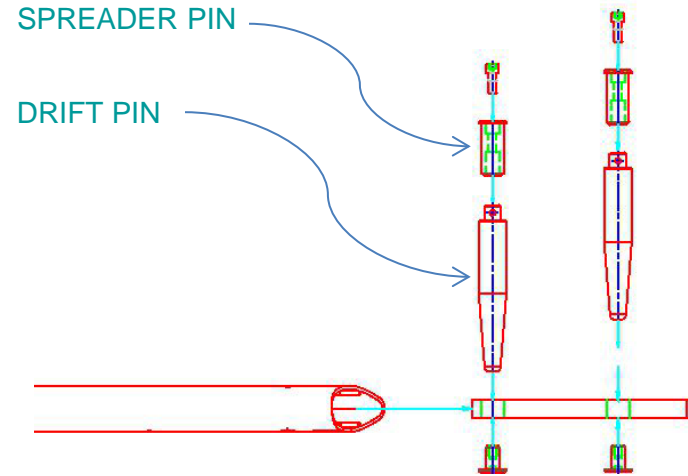
REMOVING THE SPREADER BARS:

1. Unscrew the M6 bolt and remove the locking mechanism from in front of the spreader bars.
2. Make sure to place the locking mechanism in your toolkit when not in use so as not to lose any of the parts.
3. Remove the spreader bars from the mast, taking care not to lose the spreader bar bushes.



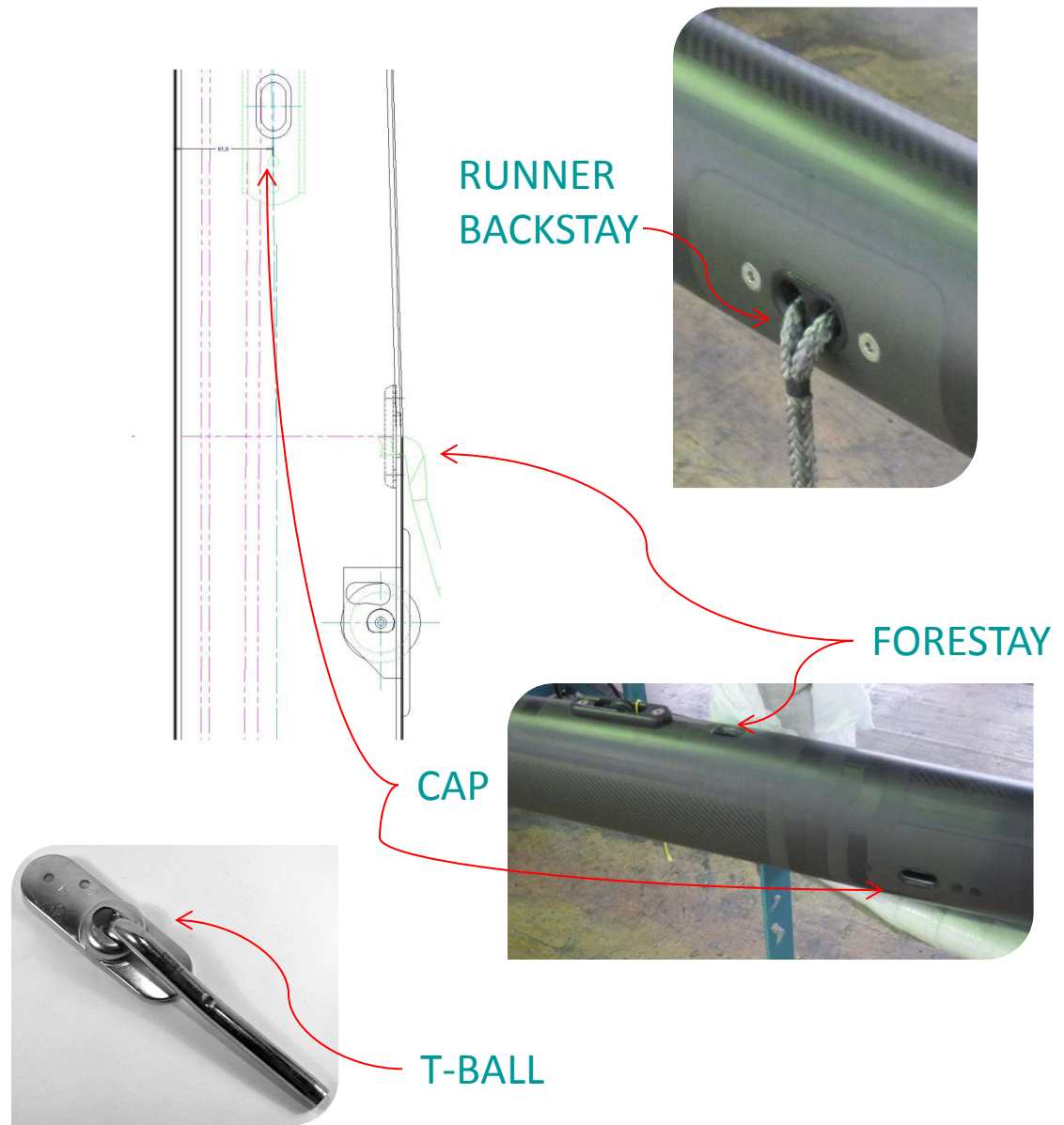
FITTING THE SPREADERS TO THE SPREADER BARS:

1. Locate Spreader 1 on spreader bar
2. Locate spreader pin drift in the hole and place spreader pin body on top of the drift.
3. Insert pin body into hole from above by tapping with a hammer.
4. Insert spreader pin cap into hole from the underneath
5. Fasten spreader pin body & cap with M6 Allen cap screws from the top.
6. To remove your spreaders, reverse the process by removing the M6 Allen Cap screws from the spreader pins.
7. Remove the pin caps from the underneath.
8. Insert the spreader drift pin into the spreader pin from the underside.
9. Using a mallet - tap the spreader drift until the spreader pin has been knocked out.



ATTACHING THE STANDING RIGGING

1. **FORESTAY** - Insert upper end T-ball Terminal into T-ball terminal backing plate on the mast, Lower end is fitted with a toggle.
2. **CAP SHROUDS** - Insert upper end T-ball Terminal into T-ball terminal backing plate on the mast, Lower end is fitted with a stud & nut.
3. **D1-** Insert upper end T-ball Terminal into T-ball terminal backing plate on the mast, Lower end is fitted with a stud & nut.
4. **D2-** Insert upper end T-ball Terminal into T-ball terminal backing plate on the mast, Lower end stem ball goes thought spreader tip then thread into turnbuckle
5. **RUNNERS BACKSTAY-** Upper end is spliced on thought mast fitting. Lower end splice onto block.



TUNING YOUR RIG

1. **MAST STEP** Move the mast butt to 15mm forward of a plumb dropped from the collar (About 60% aft in the maststep slots).

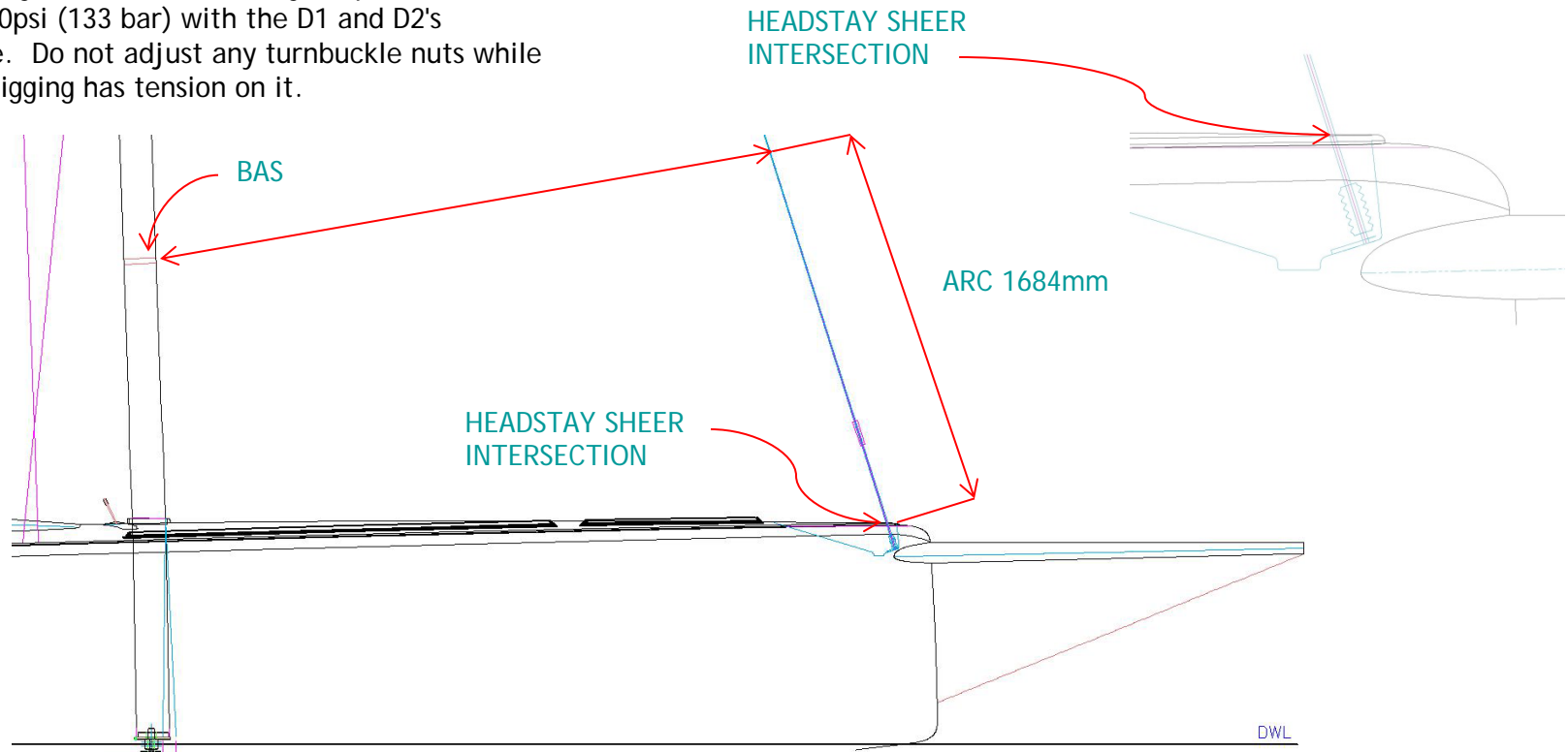
2. **RAKE** Set the rake to 1.5deg (max forward) arc of 1684mm from BAS to headstay sheer intersection.

3. **V1 TENSION** Pump the mast jack ram up 40mm and adjust the V's until the jack pressure is ~1900psi (133 bar) with the D1 and D2's loose. Do not adjust any turnbuckle nuts while the rigging has tension on it.

4. **D1 TENSION** Tighten the D1's until the jack pressure is ~2450psi (170 bar) at 40mm mast jack ram height (About 68mm between the bottom mast butt plate and the mast step plate).

5. **D2 TENSION** Tighten the D2's until the jack pressure is ~2800psi (190 bar) at 40mm mast jack ram height.

6. **SHIM** Add a 20mm safety shim under the mast after rig is setup properly.



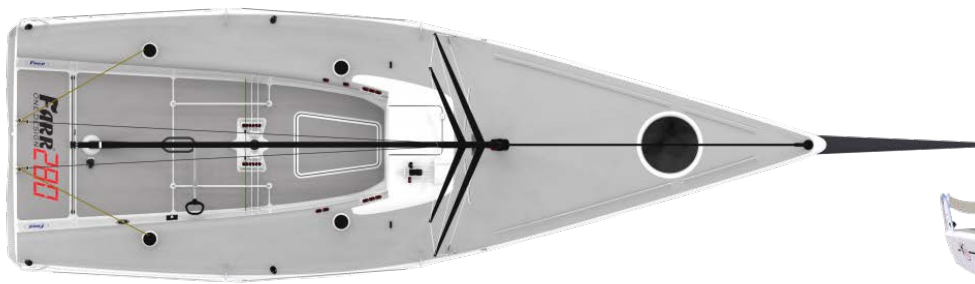
REMOVING THE STANDING RIGGING

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

To remove the standing rigging - simply reverse the assembly processes explained in the previous pages.

Any fittings coated with Tefgel should either be stored in a plastic bag to keep them free of dirt or else cleaned off and Tefgel reapplied next time.

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)



SEA TRIALING

Sea trialing should be completed as for any new rig and rigging package, the rigging should be gradually loaded up starting first with just the mainsail, then if the rigging and mast is performing correctly moving onto jibs and finally off wind sails. The rig tune should be monitored as changes in tune can indicate the need for more detailed inspection.



INSPECTIONS

Inspection Schedule:

- Top to bottom visual inspection after each days racing
- Top to bottom visual inspection after long ocean passages
- Jack pressure check every four months
- Full service with rig un-stepped yearly
- Non destructive testing of metal components such as turnbuckle screws and hangers at 40,000 mile intervals

NOTES ON YOUR INTERNAL JACK:

HARKEN®

SPECIFICATION

- Internal harken 10T hydraulic jacking cylinder
- Hand pump, gauge, hose & coupling provided

HINT:

It is recommended that you regularly service your jacking cylinder & accessories.

IMPORTANT INFORMATION: The mast jacking system is designed to be used whilst sailing.

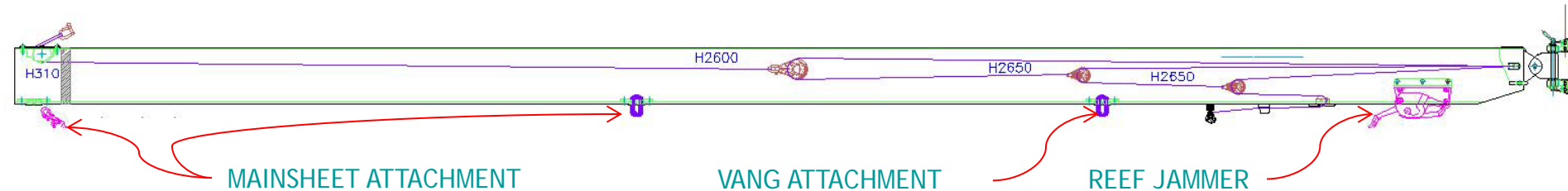
NOTES ON YOUR GRAND PRI BOOM:

SPECIFICATION

- Black anodised Aluminium extrusion
- 8:1 Outhaul Facility
- Soft Vang attachment

THE OUTHAUL CONSISTED OF

- 1 x Harken 310
- 1 x Harken 2600
- 2 x Harken 2650
- 1 x Harken 088
- 1 x Harken 471
- 1 x Harken 349



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NOTES ON YOUR GRAND PRI MAST:



JIB HALYARD EXIT

VANG

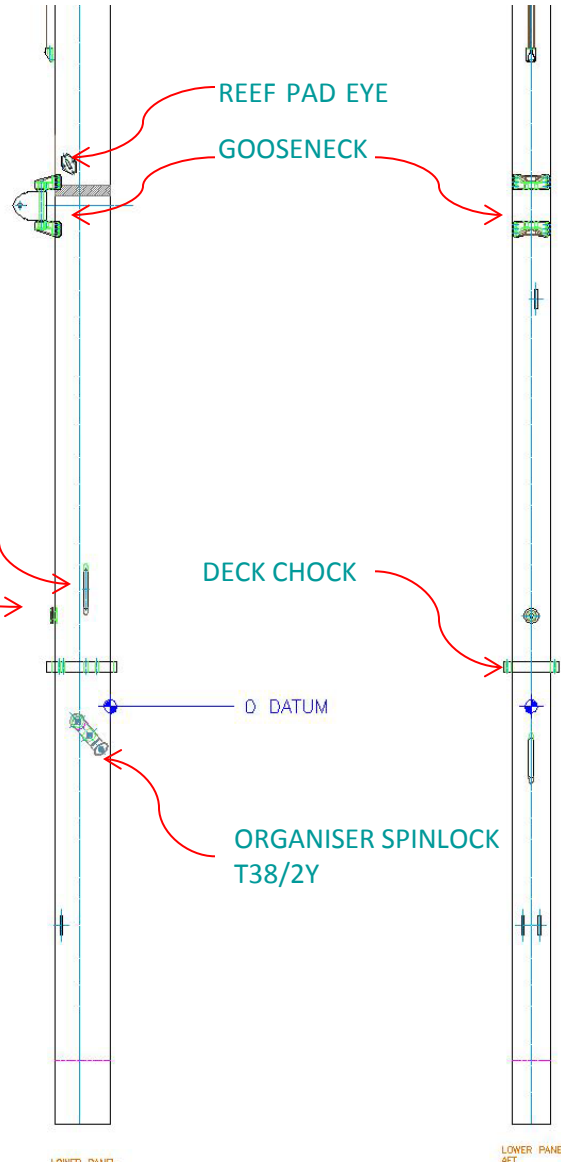
REEF PAD EYE

GOOSENECK

DECK CHOCK

Ø DATUM

ORGANISER SPINLOCK
T38/2Y



TRACK FEEDER

REEF PAD EYE

GOOSENECK

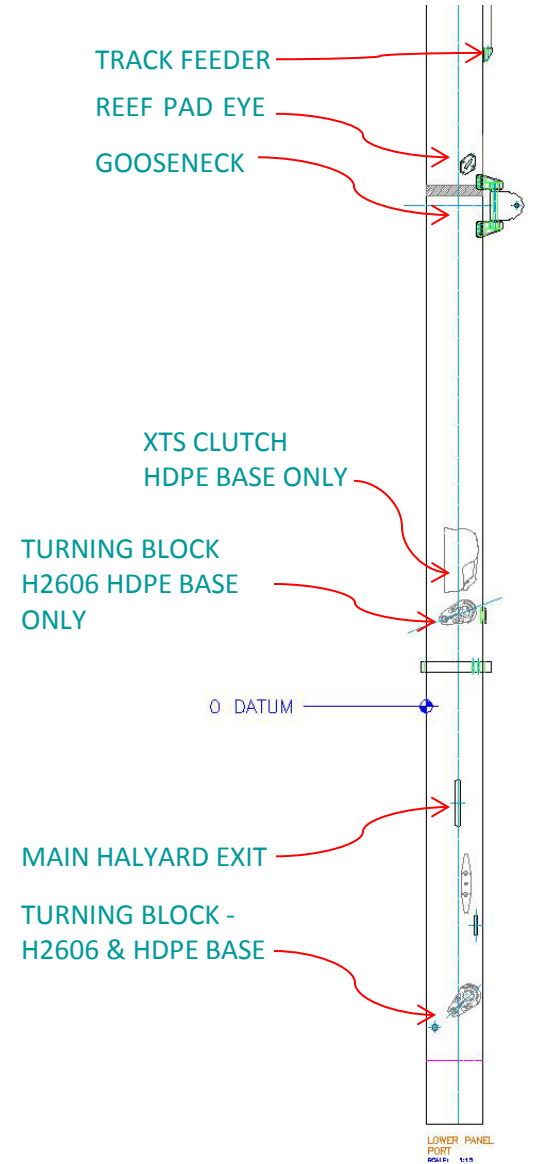
XTS CLUTCH
HDPE BASE ONLY

TURNING BLOCK
H2606 HDPE BASE
ONLY

Ø DATUM

MAIN HALYARD EXIT

TURNING BLOCK -
H2606 & HDPE BASE



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 Dealer.

SPARES

If you require any spare parts , please contact Southern Spars One Design at onedesign@southernspars.com

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, 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