



Moth Rig Users Manual



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Introduction

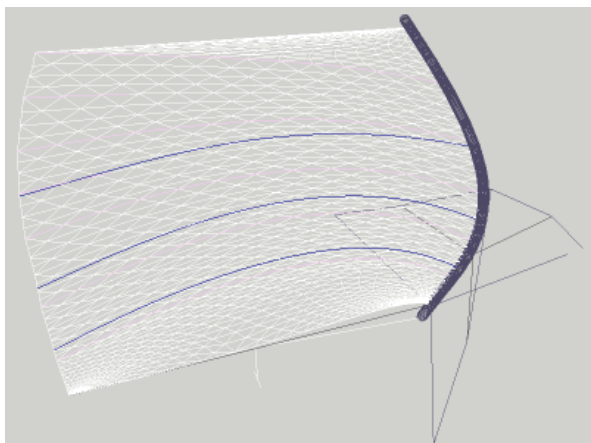
After a busy twelve months of development, the Southern Spars Moth rigs are now available.

Southern Spars released its two production masts in April - the Southern Spars 2009 Standard Mast and the 2009 PhatBoy mast.

The standard mast is the mast that Andrew Brown successfully used at the Australian Nationals in 2009, and is the same mast that Rohan Veal will be racing with in 2009.

The PhatBoy mast is a mast designed for heavier sailors and should only be considered for sailors around 85kg and above. This mast is being raced by Kevin Hall in 2009.

The 2009 rigs have been developed as two piece masts with a strong joining spigot resulting in a mast that is strong at the join.



The mast plugs are made of lightweight Acetyl plastic, while the spreader attachment is carbon and the stay attachment is a small lightweight alloy fitting - providing for a lot less windage than before.

The mast is supplied with a 3/16th Ronstan Bow shackle for the stays.

The tubes are made from pre-preg high modulus carbon laminated to give the most consistent bend possible.

The mast tube is a 40mm OD tube and comes entirely fitted out and ready to sail.

The boom is made from a 75mm x 45mm Oval tube. The Southern Spars booms are stiff, so when you're fully loaded up on vang it doesn't bend. The highlight is that the boom is still very light for its stiffness.

Southern Spars has worked hard to cut down the windage on the boom by exploring the best way to fit out the boom.

Southern's Composite Rigging have also developed EC6 micro rigging for the moth. Intended to reduce windage, the stays are 1.9mm in diameter and weigh 29gms per stay. This is considerably lighter than both PBO and wire rigging, which weigh in at 44gms and 128gms per stay respectively.

There is also increased stiffness in the rigging due to the carbon makeup.

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

Care

Washdown

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

Paint Scratches

Paint scratches should be touched up to avoid bare carbon being exposed to the elements.

Southern Spars uses a two-pot polyurethane (gloss). Any polyurethane paint system can be used to touch up over this.

Travel

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

Ensure that rigging is removed to prevent damaging the stays.

It is recommended a full inspection is performed when re-rigging the mast.

Rig Inspections

Monthly Inspections

- Check for wear on stays and spreaders

Bi-annual Inspection & Re-rigging Inspection

- Check all fittings for wear
- Check mast for cracking
- Check spreaders for wear

Setup Quick Guide



Join mast together making sure locating screw is done up tightly.

If concerned about the mast's stiffness, it is possible to glue the two pieces together. Use release mould on one surface so you can pull the mast apart (extremely difficult).

Slide sail over mast

Attach stays to stay attachment, making sure shackle is done up tightly

Attach spreader to spreader attachment

If not using a Southern Spars boom, make sure 'packing washers' are put between the mast and boom

It is safe to use another block tied around the boom to give you a 4:1 mainsheet. The 4:1 mainsheet gives you finer tuning on your mainsheet

When capsized it is not advisable to use the boom to 'get a leg over' onto the side of the boat as some parts of the sidewalls are quite thin. This provides a better weight saving overall without compromising on stiffness.

Tuning Guide

The foiling moth is still a relatively 'young' class and sailors are developing in the class all the time. This means there is still a lot to be gained from tuning the rig and testing different settings.

The tuning of your rig is affected by many factors, including and not limited to: different makes of boats, centerboard position and rake of foil, rudder position and rake of foil.

In the following tuning guide you will have a very good baseline to start your tuning from. This guide will be updated regularly and is available on our website.

Mastbend

The standard mast is relatively stiff, while the PhatBoy mast is very stiff. This is to support the sails which are becoming more powerful in the head. Through laminate design and the use of top quality product we have made the mast reactive, so it does what you want when you pull the controls on or let them off.

Rig Tension

Stiffer masts can handle more rig tension. So in gusts the rig will not sag off and the power is transferred more directly into your sail.

Southern Spars also offers EC6 micro carbon rigging which will provide even more stiffness to your rig, whilst further reducing the weight and windage.

Mast Rake

As the breeze increases the boat will be more efficient with the mast raked further back upwind. In above 12 knots upwind you need to rake your mast back as far as possible. The only thing stopping you from raking further back would be that you can't get under the boom when tacking! Having extreme rake can be slower downwind, but having a stiffer mast helps hold the power downwind.

When it is lighter than 12 knots you need the power to get foiling. I go up on my sidestays 8mm (1 full hole in the Ronstan chainplate), but keep the rig tensioned tight. Therefore your mast is further forward than in the heavier wind.

Happy sailing, and please email any tuning info that we can use to develop a more detailed guide to onedesign@southernspars.com



Dealers

International Moth masts, booms, and rigging are available from the following suppliers:

New Zealand

Assassin Boats
Tauranga, New Zealand
P: +64 21 2888 300

sales@assassinmoth.com
www.assassinmoth.com

Worldwide

Bladerider International
Melbourne, Australia
P: +61 3 9585 1200

sales@bladerider.com.au
www.bladerider.com.au

North Sails Moth Class Experts
www.northsailsod.com/class/moth/moth.html

Arnaud Psarofaghis
arnaudp@ch.northsails.com

Chris Williams
chris@design.northsails.com
usfoilingmoths.blogspot.com

Mast & Boom 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.



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 superyachts.

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 such as Melges 24s, Melges 32s and Farr 40s. The same design expertise, manufacturing methods, materials and components utilised on these racing rigs are applied to every rig built by Southern.

In recent years, Southern Spars has expanded into rig service and manufacturing composite rigging. The specialist rig service business Rig Pro, has service centres worldwide. The Composite Rigging division, based in RI, USA manufactures custom lightweight rigging products, including Southern Spars carbon EC6+ rigging used on dinghys through to superyachts.

Southern Spars has centres in the USA, South Africa, 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: www.southernspars.com

Southern Spars | onedesign@southernspars.com | www.southernspars.com