

RIGGING & TUNING GUIDE

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Photos on page 1 & 39 thanks to Digital Sailing.

1.0 Purpose

This guide is intended to show rigging tips and tricks for setting up a 700. This is how I personally set my boat up and multiple sections are open to personal preference and can be done differently. The 700 Social media and chat groups are a great source of interaction and information.

The diagram below show the deck layout and rigging of the 700. The guide is based on showing how to achieve this rigging. The guide however shows a different method for rigging the kites pump system take up.



Figure 1-1 RS700 Deck Rigging

The kicker and cunningham (cunno) layout shown in Figure 1-1 allows for minimal elastic take ups. Each rack holds one of the take ups for the continuous control lines. This allows for the outhaul to be cleated on the boom which can differ from older boats.

When changing any control lines (kicker & cunno) the most effective way is to put the sail up & **make sure you have your racks set.**

RS700 Rig Settings Guide – 2005 & RS 700 set up and tuning documents are available from the RS700 class association page under the documents tab. Both are a useful sources of information.

(PP) = Personal Preference.

2.0 Kicker / Vang

The kicker is a 24:1 system. The 700 originally had an 16:1 system and a lot of older boats will still have this system. The 24:1 makes the kicker easier to pull on.

Splice 4/5mm dyneema around two single high load blocks using the chock at the mast to hold a triple block. On older boats this would have been a double block normally held by stainless wire.

You can also split the load (shown by the green arrow and photo below) by using the metal bolt.





You want to make sure that the triple block sits high enough in system to ensure you have enough travel to pull enough kicker on.

The 24:1 system requires a double and two single blocks on the mast foot. In older

boats this will have been three single block.



Start by feeding your rope through the rear cleat.



Feed the rope though the kicker system. From the cleat run it down to the single on the side of the mast foot and then up to the triple block.



Run down onto the opposite single block and out through the opposite cleat. Create a loop on the rack (green arrows).



Run the rope back down to your take up block.



Run the rope through the double block on the rack (green arrow) and around the block attach to your elastic take up (pink arrow).



Splice your rope. When the sail is up and you have max kicker off you want your kicker rope within the take up system (green arrow) to be as close as you can to the rounding block on the rack. The elastic should almost be at max stretch. This allows for enough elastic tension even when you have max kicker on.

My max kicker off (PP) is light main sheet tension and any slack taken out of the rope.



I use where the yellow circled take up block sits on the rack to tell me how much kicker I have pulled on. Other people use marks where the triple block sits.

The kicker system is now set up. The green arrow shows that the system has more than enough range in the travel.



Tip: One of the most common mistakes you see at events is boats not using enough kicker. Get someone to take a photo or video and make sure your leech isn't too open. Especially when it's windy the 700 has a huge amount of power, use the tools at your disposal to get it under control, well as much as possible.

3.0 Cunningham / Downhaul

This is again set up to replicate Fig 1.1.

I use dyneema attached to a double block. I run this through the eye of the sail on onto the halyard cleat (PP). I have seen other people use the goose neck and rope attached to the mast foot.



Run your rope through the forward cleat.



The system requires three single blocks on your mast foot. The 6mm elastic you can see is part of a take up system which you will see further down. To include this I have added a double block.



Run the rope through the cunno blocks. Take time to ensure the routing looks correct.



Run out through the opposite cleat and around your elastic take up. This mirrors the kicker on the opposite side which can be seen in more detail above.



Run back into the boat and through your floating take up block.



Create your rack loop and then splice the rope. The take up on the cunno isn't as important as the kicker as the system has less rope requiring less to be taken up.



Aim to set the cunno so when you have max off the double block sits just below the boom. If it sits next to the boom the block will get crushed.



Cunningham is now set up.

The sail strap needs to be set below the lowers plate. Do not set this too tight as it just impedes the sail when you release the cunno.



I use a 6mm elastic to create a take up system, this is to help the system release. This is attached to the lowers bracket with a soft shackle and uses the double block on the mast foot that I mentioned earlier.



Tip: The cunno is your best friend in the 700. A common sight at events is it not being used effectively. Pulling it on in the windy sections and letting some off in the lighter ones really helps keep the boat shifting. IMO the throttle control of the 700.

4.0 Outhaul

The outhaul has an internal 2:1. I use 4mm rope for the cleating part (green) and 4mm dyneema for the sail attachment (blue).



I create a spliced loop on the boom to keep the rope tidy.



To set the outhaul I sail on a beat setting the kicker and Cunningham to the wind conditions. Set the outhaul so that the foot is reasonably close to the boom without vibration. This is pretty much set and forget.

On newer boats the cleat is mounted on the boom. This is an easy retro fit and removes the need for additional rope, cleats and a take up. The new style end cap is also recommended.



Figure 4-1 Boom Outhaul Cleat

5.0 Lowers

The information below from the 2005 rigging guide is still current. It can be trial and error to find what works for you but just +/- 0.5 (Sta-Master) on each different training run and you will soon find what works.

Lowers deflection

(checked without the sail up but with the rig tension on)

These will normally be slack before the sail is hoisted – the length varied quite a lot from boat to boat ranging from 'just tight' to up to 5cm of lateral movement with about 4cm being the norm in medium conditions. This is roughly hole 3 on the back holes of the standard stay adjuster.

The lowers need to be adjusted according to the conditions but within a very small band of adjustment (e.g. I change no more than '1' on the Sta-master calibration scale).

- If the boat feels like it is staggering all of the time, however much kicker and cunningham you use, loosen the lowers.
- If the boat is always 'loose' underfoot and points poorly, tighten them.

The ability to adjust the lowers on the water becomes increasingly important as you become experienced with the boat and I would strongly recommend the use of either the optional Sta-Masters or as a minimum fit quick pins on the standard stay adjuster.

Figure 5-1 Lowers Rigging (2005 Rigging Guide)

As above I never adjust my lowers outside of +/- 0.5 from my base setting. When it's really windy let I let my lowers off 0.5 on the Sta-Master scale. This allows the rig to bend more aiding depower.

I'd recommend adjustable lowers such as Sta-Masters.

6.0 Rig Tension Cascade

Make sure you have added purchase to make pulling on rig tension easier.



The tension cover is a Nathan Steffenoni special and made by One Sails in Southampton. These are more robust than the standard ones and less impacted by UV damage. They also have a handy Velcro strap for the bar.



7.0 Main Sheet Strop Length (PP)

Each sail requires different lengths depending how much it has shrunk etc. Each side should have its own adjustable splice.

I put the sail up and then crank my main sheet on (No kicker). The blocks shouldn't be able to go block to block. If they can tighten it and if they're too much apart loosen them. I use my board casing to ensure they are square. This is shown well in the 2005 rigging guide.



8.0 Mast Set Up (PP)

Spreaders are standard super spars 400mm. They can be brought from any stockist.



The table below and snippet from the rigging guide made in 2005 is a great starting place for setting up a mast.



RS700 Settings Table

Helm	Helm Weight	Rack Setting	Rake (cm)	Rig Tension (Loos)	Spreader Width (cm)	Spreader Deflection (cm)	Pre Bend
Theo Galyer	104kg	1	740cm	32	82cm	16cm	No
Jerry Wales (2020)	88kg	2	740cm	27	N/A	N/A	NO (Spreaders set to create dead straight mast)
Rob Higgins	81kg	5 (Inc. Inter bars)	735cm	30-32	79cm	18cm	Yes
Matt Carter	98kg	1	744cm	Tbc	85cm	14cm	No
Matt Conner	98kg	1	740cm	30-32	3 rd hole on shroud plates.	11.5cm	NO (Slightly inverted if lots of tension)
Stephen Hermanson	70kg	б(Inc. Inter bars)	730cm	30	80cm	17cm	Yes
Pete Purkiss	79kg	6(Inc. Inter bars)	732cm	35 Approx. 300kg	79cm	13.6cm	2.5 – 3 measured with no lowers.
James Clark	88kg	2	735cm	30-32	79cm	18cm	Yes
Roland Smith	100Kg	1	742cm	30	82cm	16cm	No

Figure 8-1 RS700 Settings Table

The information from the 2005 rigging guide shows how each measurement can be taken. The hole reference is a guide only or a good starting point. Each boat is different, just pin the shrouds where they give you the required rake reading. It doesn't matter where they sit on the shroud / Vernier adjuster.

Rake

(masthead to top edge of transom 'bump' with the rig tension on) Set up the boat with 730 - 740 cm This is normally hole 2-4 on the shrouds.

Spreaders



A lot of variation as seen in the spreaders but a base setting appears to be 79cm between the shrouds and 18cm measured from a line tied between the shrouds and the back of the mast track. On my boat this is achieved by using

- aft hole at the outer end of the spreader bracket
- second hole from the front at the inboard end of the bracket
- 2nd hole out at the outboard end of the spreader

n.b. Some of the bigger boys go for wider set spreaders.

Pre-Bend

(measured at the point of maximum bend with the rig tension on, using a line from the masthead to the bottom of the sail track)

Again a lot of variation but the majority of people were using 40-50 mm. The extremes ranged from 90mm to 10mm, both of whom interestingly finished in the top 5.



Figures measuring from left to right rake, pre-bend and lowers deflection.

Figure 8-2 2005 Rigging Guide Measurements

However no two masts are identical so I'd advise ensuring the sail sets nicely and the mast has the bend you're trying to achieve (PP). This is very much trial and error and can involve lots of tipping the boat over.

The spreaders on 1055 below were an initial set up to replicate numbers / configuration of my other boat. However you can see the mast is forming an 'S' shape and the sail has ugly luff creasing.



By changing the configuration of the 3 setting points on the spreaders you can manipulate them into giving you the desired mast bend. In this case they were swept backwards. Remember to pull the rig tension on fully to get a true setting.

The boat was levelled to aid visual checks.



I gauge the sail with main sheet tension on but no kicker (PP). The sail set up is what I used for the 2024 Nationals.



I did check batten tension. The three half battens are set so they are just tight and the top one is set very loose and off the webbing. In lighter airs if you gybe and have to yank the main to get it to pop then it's too tight (PP).

Make sure everything is taped up. Spinnakers are expensive.



9.0 Spinnaker Pole, Halyard and Take up

The spinnaker pole systems replicates the diagram below. 4mm dyneema is used.







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Make sure you put your halyard on the mast block before putting it up. 3 mm dyneema is used.



Check that the system has no twists.



Attach the head to the mast.



Feed the halyard through the block on the deck. The halyard needs to run forward to pick up the pole launch line.



Go around the pole launch line block.



Go into the boat making sure the halyard goes under the starboard rack.



Run through the cleat, the deck block and the first pump cleat. The block attached to the handle should sit between the block and the pump cleat.

On older / original pump cleats the centre used to bow meaning the dyneema would slip though the pump. Newer style cleats had an additional patch added to address this issue.



The cleat works best when raised up. The eye on the back should also be bent down to ensure the rope sits at the bottom of the cleat. Make sure you fatten up the dyneema in the area it cleats. 50cm either side of the cleat works well.



Run to the back of the boat. Head around the first rear block, pick up your tension block and then back around the second rear block.





4mm Rope. This sets the tension in the system. I set this up to one pump worth of rope.

6mm Elastic. Once you have set your tension rope you can then set your elastic. The elastic should set the block at the back of the boat to allow the spinnaker halyard all the way out. In this photo any tension in the kite would fully pull the block out.

I use 6mm elastic because I like the system to be aggressive or pull the slack out of the pump system faster. This allows for faster hoists and drops. Whenever I have used 4mm I've found the system really lazy. Run the halyard through the downhaul side this is a mirror of the up haul side. The handle is used to attach the tension rope.

I have removed the cleat holding the kite in the bag. I don't like having to un-cleat this prior to hoisting.



Run up and under the port side wing bar. It can be run above but my view is that there is more space under due to the control lines above. It also creates the straightest line.



Run up and under the tack bar. I attach the halyard to my kite sheets. This saves you losing it but also allows you to push the pole fully in when storing.



10.0 Spinnaker Rigging

Rig the spinnaker standing on the Port side of the boat. Place the spinnaker on the Starboard side.



Attach the spinnaker tack onto the pole. Run up the tape until you come to the head of the spinnaker. If you end up at the clew go back to the tack and run up the other edge.



When the spinnaker is on the starboard side the two downhaul attachments will be on the inside of the spinnaker.



Get the spinnaker halyard and ensure that it is clear, untwisted and away from your forestay.



Attach the head



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Pull the spinnaker sheet to retrieve the spinnaker halyard from the kite bag. Ensure that the halyard isn't twisted around the spinnaker tack line.



Attach the halyard through the kite ring and onto the webbing loop.



With the halyard laid on the deck (yellow arrow) and keeping the clew on the starboard side attach your kite sheets. They should remain inside of everything.





Spinnaker sheet around the forestay. Sheet on the outside of the Shroud. Sheet inside the trapeze elastic.

The sheets route around the back of everything.



11.0 Miscellaneous

Mark on your rack your hole setting. This saves counting and unnecessarily pulling out your racks.



Make sure your racks have the male and female adaptors to prevent your racks slopping.



Where possible seal up your mast and mast head. This will help slow up turtles when capsizing. I converted my trapeze lines to 'T' terminals due to the screw pulling out on the standard fitting. The elastic serves to keep the 'T' in and also seals the mast.



Use a cork or plastic to seal up your mast crane.



Insert a zip tie into your rear pole guide to help it stand up and prevent the pole snagging.



Stich in additional reinforcement to the boom strap to help prevent failure.



If and when you need to replace the strop. Replace rivets with nuts and bolts. There are a few different ways to do this.





Compiled from knowledge shared across the 700 fleet through the years by Rob Higgins. Published March 2025