

RIGGING GUIDE

RS 700



Sail it. Live it. Love it.

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1. INTRODUCTION

Congratulations on the purchase of your new **RS 700** and thank you for choosing an RS product. We are confident that you will have many hours of great sailing and racing in this truly excellent design.

The RS700 is an exciting boat to sail and offers fantastic performance. It is a lightweight-racing dinghy and should be treated with care. This manual has been compiled to help you operate your RS 700 with safety and pleasure. It contains details of the craft; the equipment supplied or fitted, its systems and information on its safe operation and maintenance. Please read it carefully and be sure that you understand its contents before using your RS 700.

If this is your first craft, or you are changing to a type of craft you are not familiar with, for your own safety and comfort, please ensure that you have adequate experience before assuming command of the craft. If you are unsure, your dealer or national sailing federation will be able to advise you of a local sailing school, or competent instructor.

Please keep this manual in a secure place and hand it over to the new owner if you sell the craft.

For further information, spares and accessories, please contact your local dealer or:

LDC Racing Sailboats
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Hampshire
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2. COMMISSIONING

2.1 Preparation.

Your RS 700 comes complete with all the components necessary to take the boat sailing. In order to commission it, you will need the following tools:

- Pliers or a shackle key.
- PVC (electricians) tape.
- Dry lubricant spray (McLube or similar).
- Rig tension gauge.

You may require other tools later, should you wish to make any settings or tuning adjustments to the boat and rig.

DO NOT use a knife or other sharp object to cut through packaging containing parts – you may damage the contents.

Whilst your RS 700 has been carefully prepared, it is important that new owners should check shackles, knots and mast step bolts are tight. This is especially important when the boat is new, as travelling can loosen seemingly tight fittings and knots. It is also important to regularly check such items prior to sailing.

2.2 Wing Width.

The width of the wings is determined by a combination of your weight and height. The position of your wings can be calculated using table 4.1 below.

To adjust the wing width:

- Undo the forward Velcro wing strap.
- Slide the wings out to the correct hole setting, allowing the forward wing cup to slide back along the wing.

- Put the wing pins through the holes in the transverse wing bars and loop the elastic retainer over the end of the pins.
- Secure the Velcro strap tightly around the wing bar and forward wing cup.

RACK SETTINGS TABLE - RS 700

BASIC BODY WEIGHT SETTING

	Hole Setting	Beam	Lead Requirement
< = 68 kg	no. 4	2.30 m	9 kg
69 - 77 kg	no. 3	2.20 m	6 kg
78 - 86 kg	no. 2	2.10 m	3 kg
> = 87 kg	no.1	2.00 m	-----

HEIGHT ADJUSTMENT

	Hole Adjustment	Beam
> = 1.72 m	add 2	add 0.20 m
1.72 - 182 m	add 1	add 0.10 m
> = 1.82 m	no adjustment	

Table 4.1

2.3 Mast.

Rigging the mast.

Your RS 700 mast will come almost ready to step with:

- The main halyard threaded.
- The spreader deflection set.
- Shrouds, forestay and trapeze wires all fitted.

Therefore, all that is required is to feed the lose end of the asymmetric spinnaker halyard through the halyard block, just above the forestay on the front face of the mast.

As with all boats, it is a good idea to tape up the spreader bolts and split rings along with any other sharp objects that could rip the asymmetric spinnaker.

HINT

A generous application of dry lubricant sprayed up the sail track will make hoisting and lowering the main easier.

Stepping the mast.

Before you step the mast, check that the main halyard and asymmetric spinnaker halyard ends are at the base of the mast, to enable the sails to be hoisted.

You should be able to step your RS 700 mast single-handed in any conditions, though it may take a little practice. If you do feel unsure, ask somebody to help.

- Attach the lowers in the top hole of the chainplates and lay them easy to hand in the boat.
- Lay the mast parallel along side the boat, with the foot towards the bow.
- Attach the end of the forestay to the rig tension cascade that is fitted to the asymmetric spinnaker chute hoop.
- Lift the mast to a vertical position on the ground and then lift the mast and place the foot securely in the mast step.
- Whilst holding the mast with one hand, connect the lowers into the bracket on the front face of the mast one at a time.
- Reach forward and pull the slack out of the forestay.

Now the mast will stand up by itself.

- Connect the shrouds to the aft most chainplates, hole three (see figure 4.1) is a good starting point to tune from. You may need to slacken the forestay slightly to do this.
- Now the main sailing rig tension can be applied using the forestay purchase, 220 kg measured on a shroud. Ensure you do not push down on the boat with a foot or knee whilst applying the rig tension, as this could overload the hull on the trolley.

You will now need to check the bend on the mast as the shrouds can vary slightly in length and the hole settings above are a guideline only.

- Feed the forestay sock back over the rig tension cascade and tape up the top to prevent it slipping down.
- Attach the trapeze wires to the elastic that exits the gunwales about amidships.

- Adjust the lowers to suit the mast rake and rig tension.



Figure 4.1

HINT

The lower shrouds should hold the mast so that the lower portion below the spreaders has some pre-bend in light and strong winds, but with a smaller amount of bend (certainly not inverted) in medium conditions.

N.B. The first time you apply rig tension, it is not irregular to hear some settlement noise from the rig and hull (creaks, cracks, bangs, etc.!) so long as you stay within the parameters described previously. This noise is not problematic and will not continue in the long term.

2.4 Boom and Vang.

Firstly, shackle the vang cascade to the webbing strap on the boom.

Feed the mainsheet through the centre-jamming cleat and through the ratchet block, ensuring it is threaded the correct way round. Pass the main sheet through the aft block on the boom, down through the block on the cockpit centre strops, up through the forward block on the boom and ties off through the middle of the block on the centre strop.

The boom fits onto the gooseneck pin on the mast. Simply align the pin with the hole in the end of the boom and push in. At first it may seem a little tight, but this will become easier with time.

2.5 Hoisting Sails.

Rigging the asymmetric spinnaker.

- Tie the tack of the sail to the tack line that emerges on the top face of the bowsprit (forward end).
- Tie the halyard to the head of the sail.
- Find the middle of the spinnaker sheets. Pass a small loop through the clew of the spinnaker and then pass both ends through the loop. Pull tight. Thread each one of the sheets outside the forestay and shroud, inside of the trapeze elastics and through the ratchet blocks on the side decks (ensure they are threaded the correct way). Tie the ends of the sheets together behind the mainsheet system.
- Pass the downhaul outside of the sheets, through the lower patch ring on the spinnaker and tie off on the upper spinnaker patch.
- Pull the spinnaker into the sock using the pump system in the cockpit.
- Look around the boat and up the mast to check that no lines are twisted and everything looks ok.

Depending on the prevailing conditions, it would be worth hoisting the spinnaker and gibing it from side to side to check that it is rigged correctly. It will be very difficult to rectify mistakes on the water.

Hoisting the mainsail.

Only hoist the mainsail when you are ready to go afloat, this will prolong the life of your sail and prevent any possible damage occurring while you are not there.

- Unroll the mainsail in the boat and slide the clew strap over the end of the boom. Feed the outhaul through the clew eye of the sail and hook the knot under the cutout at the end of the boom.
- Tie the main halyard to the head of the sail.
- Thread the cunningham line through the lower clew cringle and tie the end around the gooseneck fitting.
- Hoist the sail when you are ready to launch and fit the tack strap around the mast.

2.6 Completion.

Rudder and daggerboard.

The rudderstock simply drops on to the pintle and gudgeon on the transom. Ensure the rudder-retaining clip has located properly; it will 'click' in place. Check the rudder is fitted correctly by simply lifting the rudder to see if it lifts off. Hold the rudder in the up position and tighten the rudder bolt to hold the rudder in position.

The rudder may be stiff at first; this will ease up with use but still maintaining a positive, non-sloppy feel.

When you have launched the boat, loosen the rudder bolt and pull the rudder down a fraction use the downhaul line. Sail off into deeper water. You will not be able to sail the boat hard as this will damage the rudder. When you are in deep enough water, pull hard on the rudder downhaul line and cleat it. Tighten the rudder bolt to take any play out. As things start to wear in, you will not have to ease off the rudder bolt.

The daggerboard simply drops into the case. Take care with the first bit, so as not to damage the tip by hitting the bottom of the case. When the daggerboard has been lowered fully in deep water, attach the shock cord and clip to the rope handle to ensure it cannot be lost in the event of an inversion.

If you wish to sail with the daggerboard vertical (less mast rake), attach the aft shock cord to the rope handle. If you are sailing with more mast rake you will have to sail with the daggerboard raked, to do this attach the front shock cord and clip (see figure 4.2).

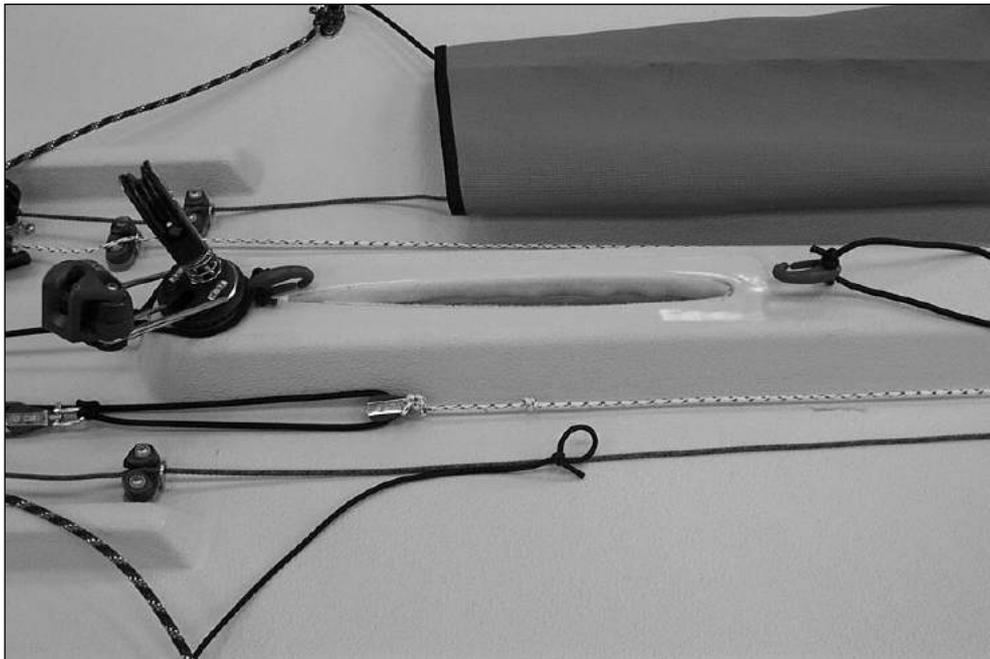


Figure 4.2

3. SAILING HINTS

3.1 Introduction.

The RS 700 is a performance skiff – it will feel different to sail compared to many other boats.

It will be a challenge to learn to sail the boat to its full potential, let alone handling the asymmetric spinnaker. Therefore, you will find it a lot more enjoyable if your first few sails are in a moderate breeze to enable you to concentrate on sailing the boat and not just trying to survive.

Most importantly, it will take you time to get used to the boat, as with any new boat. So, take your time and just enjoy your exciting new boat!

Here are a few little tips to help you on your way (apologies to the more versed high performance sailors):

3.2 Trapezing.

A good general height for the trapeze ring allows you to slip easily on to your harness hook when sitting on the wing. It can be useful to the adjusting rope at this point. The lowest setting should just allow you to sit well aft on the wing when hooked on (for those wild broad reaches and runs).

3.3 Tacking.

- Make sure the boat is level and going as fast as possible when initiating the tack.
- Move into the boat and disconnect the trapeze hook, this best done by luffing slightly or easing the main to depower.
- The tiller extension should be passed around the back of the boat.

- Stand up and face forwards, place the tiller extension down on the new windward deck, sit down on the new side and then change hands.

Facing forwards all the time enables you to stay in control of where you are going.

- Be prepared to ease the mainsheet enough as the boat comes on to the new tack so that the boat does not heel or be blown back into irons.
- Reattach the trapeze hook on the new tack.

HINT

As you come through the tack on the new side, try and get your weight forward of the mainsheet strop, this will power you out of the tack better, giving you less chance of going in to irons.

3.4 Gybing.

Mainsail only.

Always gybe with the boat travelling as fast as possible, this reduces the load on the mainsail during and after the gybe. In breezy conditions, you should steer back into the gybe as the boom comes across, so that the boat is travelling straight downwind as the sail fills on the new side.

With the asymmetric spinnaker.

The reason why you bought the boat! This is where all similarity ends with existing single handers, and the real fun begins. Again, the key is in how fast the boat is going and the speed that you execute the gybe.

- Bear off and come back in to sit on the wing or sidedeck, easing the spinnaker as you go.
- Put the spinnaker sheet in your tiller hand and reach in to uncleat the mainsheet. The quicker you do this the better, as the boat will have slowed down and the mainsheet will have loaded up – you will get to know this feeling and react to it faster each time!

- Whilst broad reaching, as you now are, pick up the windward sheet with your front hand and pull it in, so that as you bear off more to initiate the gybe, the spinnaker is slightly hooked to windward at the clew. It should still be filling normally and helping to speed the boat into the gybe.
- Initiate the gybe, and cross over, pulling in the new spinnaker sheet as you go, hopefully to fill the spinnaker on the new gybe without it barely collapsing at all.

In time this is all possible as the geometry of the RS 700 makes it easier to gybe than many other asymmetric boats.

- Fill the spinnaker normally and luff up slightly.
- Do not forget to pull the mainsheet back in again to reduce the lee helm once sailing.
- Hook on and go out!

3.5 Hoisting the spinnaker.

Don't be too hasty to get the spinnaker up – it makes sense to have familiarised yourself with the boat, especially downwind on the angles of sailing that you would be hoisting or dropping the spinnaker. For the first trial the wind should be no more than 10 –12 knots.

- Prior to leaving the shore you should ensure that the shock cord halyard take-up is pre-tensioned, as it would be following a drop in normal practice (see figure 5.1).

So when the moment comes to bear off onto a broad reach/training run with plenty of room to leeward.

- Settle yourself, sitting/kneeling on the wing or sidedeck, with the mainsheet eased so the boom is just off the shroud and the kicker is eased.
- Ensure that the downhaul end of the halyard is uncleated; otherwise you will not be able to hoist the spinnaker.

- As soon as you feel comfortable, grab the starboard pump handle and pull on it as firmly and as fast as the elastic will allow.
- As the spinnaker reaches the top of the hoist, you will need to bear off a little more. Reach in to the boat to release the elastic halyard take up (see figure 5.2) and grab the spinnaker sheet.

HINT

A mark on the spinnaker halyard, just aft of the cleat, is sometimes easier to see than the top of the spinnaker.

- Fill the spinnaker and head up slightly to gain speed.
- Before thinking of going out on the trapeze, you will need to pull in the mainsheet to halfway, or more, and cleat it.

For those of you familiar with asymmetric sailing, you will remember how important it is to ease the spinnaker as far as possible, so the luff is on the verge of curling. An over-sheeted spinnaker is such a killer to speed. Conversely nothing will make you capsize faster than a collapsing spinnaker – so forget the mainsail and stay sharp, focusing on the luff of the spinnaker!

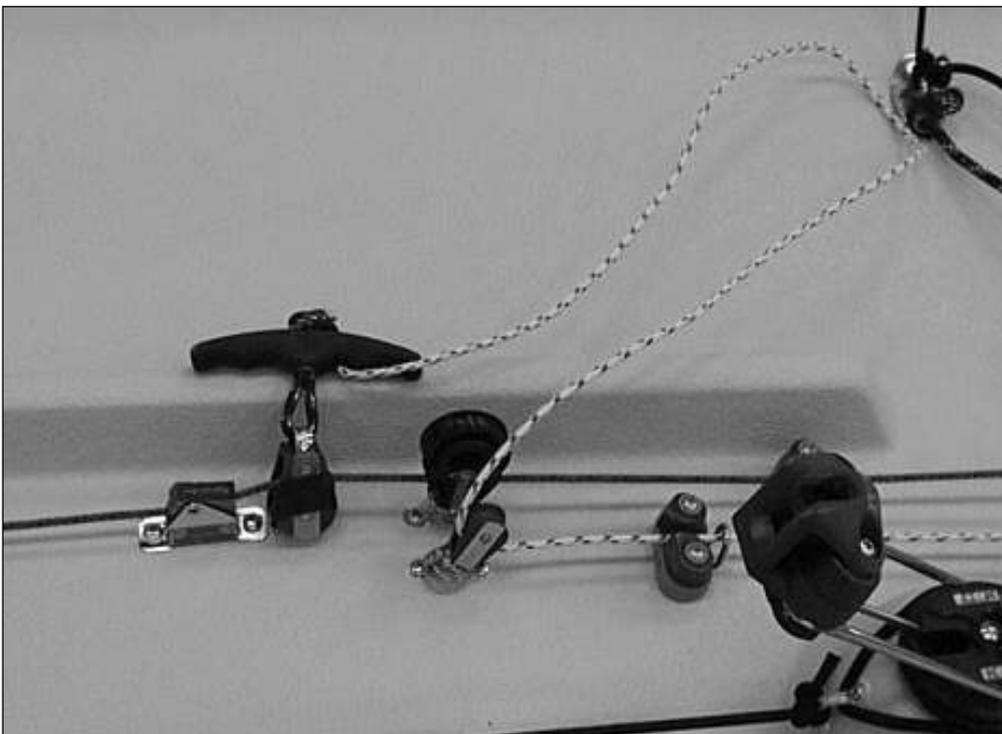


Figure 5.1



Figure 5.2

3.6 Dropping the Spinnaker.

Bear off again and ease the mainsheet exactly as you would for a gybe.

- Come in to sit/kneel on the sidedeck or wing.
- When you are comfortable, reach in to grab the port pump handle, and pull one long pump to take up the slack in the downhaul and tension the elastic halyard take-up.
- Release the spinnaker halyard from the cleat and continue to pump the spinnaker down as fast as you can.

The friction will increase to the end, so the quickest drops will always be affected by keeping the momentum up.

- Tidy the sheets and prepare to luff up as normal.

HINT

For the hoist, the spinnaker downhaul must be uncleated. This can be done during a tack on the upwind leg, saving you time at the bear away and hoist.

3.7 Very Light Winds.

As with all skiffs, in sub planing conditions it pays to keep your weight well forward in the boat and keep your movements to a minimum.



And enjoy yourself!

4 TUNING GUIDE

4.1 Rig Tension.

As a pre-requisite, all boats should be set up with a degree of pre-bend in the mast – 50-60mm as a minimum to ensure the sail sets acceptably in light winds. Beyond that, all the settings are dependant upon your weight or the conditions. All you can do is rig up within the acceptable minimum and maximum settings, giving us minimum and maximum power guidelines, and adequate support for the mast.

	Min power	Max power
Mast rake		
Tip of mast/gudgeon	7060mm	7360mm
Rig tension		
Measured on shroud	150kg	220kg
Spreaders – length		
Mast to shroud	400mm	450mm
Spreaders – sweep		
Shrouds to mast track	220mm	140mm
Prebend	125mm	50mm

The only one of these that we might adjust for different wind strengths is the rake. Maximum power 7360mm will be 3-8kts for everyone, with bigger sailors hanging on to it a bit longer. Whereas minimum power 7060mm is fully raked up, flattener in and board fully raked – light sailors 16/18 kts, heavier sailors 20kts+.

As regards rig tension and spreader settings, that is down to your weight and venue. The approximate spread of sailor weight is 67kg-95kg, and that would correspond to minimum and maximum power settings. If you weigh 80/85 kgs and are medium height then somewhere in the middle will not be far wrong.

4.2 Cunningham.

Increasing the cunningham tension progressively bends the mast, flattens the sail and opens the leech. In lighter airs, keep it fairly slack and progressively increase the tension up the wind range. Extreme tension should blade the upper leech out flat in very strong winds.

4.3 Vang.

The more wind there is, the more vang you will need. It powers up the leech, helping pointing upwind and maintaining power on the reaches. In very gusty conditions, easing it will make the rig more forgiving. Ease the vang substantially down wind.

HINT

Applying some vang tension in light airs will put a bit of shape in the sail, making you faster.

4.4 Outhaul.

Keep the outhaul tight at all times, except in light airs, when easing it a centimetre or two will help you power through the waves.

4.5 Foils.

The rake of the rudder blade is set for the optimum feel in the helm. Therefore, the rudder should be kept down at all times, except at times of launching and landing. You could damage the rudder and/or the stock sailing with the rudder partially raised.

The daggerboard should be kept lowered on all points of sail. When sailing with the rig raked, use the daggerboard raked by attaching the front shock cord retainer. In heavy winds it will pay to raise the board by a few inches as well.

5. MAINTENANCE

5.1 Boat Care.

The RS 700 is made using an epoxy FRP and foam sandwich laminate. This is stiff and light, but will dent if subjected to point loading. The boat should be supported ashore on a recognised RS trolley and care must be taken with the trapeze harness hooks when capsized.

Obviously in dealing with a marine environment, equipment gets wet, which in itself is not a problem. The problem starts when moisture is trapped for any length of time. The key, therefore, is to store the boat properly ashore. Water absorption could cause blistering and raised fibre pattern.

Keep your dinghy drained and well ventilated.

- Ensure the boat is stored with bow raised to allow water to drain away.
- If leaving the under cover on the boat, ensure that the transom is open for drainage and that there is a hole below the daggerboard slot to allow water to drain.

Wash with fresh water.

Fresh water evaporates far more quickly than salt water; so if your dinghy has been sailed in salt water wash it off thoroughly. The fittings will also work better if regularly washed.

Hull damage falls into three categories:

- **SERIOUS** – large hole, split, crack or worse. Don't be too distressed! Get the remnants back to RS Racing – most problems can be repaired.
- **MEDIUM** – small hole or split, gel crazing. If this occurs during an event, sailing can often be continued as long as leaking can be prevented by drying the area and applying strong adhesive tape.

CAUTION – if the damage is close to a heavily loaded point then a close examination should be made to ensure joints and laminate are fit for the prevailing conditions. Get the damage professionally repaired as soon as possible.

- **SMALL** – chips, scratching. This type of damage is not boat threatening, particularly as the boat is built using epoxy, and therefore allows virtually no water absorption into the laminate. The owner, using the correct RS gel coat, can repair this type of damage.

Spinnaker pump shock cord will need replacing on a regular basis. The pump systems rely on the shock cord to “take away” the spinnaker halyard. If the shock cord fails, it will become very difficult to hoist or drop the spinnaker. The shock cord should be replaced on a regular basis. Do not wait for signs of wear. It is a good idea to change the shock cord every month if you sail often.

5.2 Foil Care.

The foils are FRP with a foam core. Look after them as you do the hull. Wash with fresh water regularly. Repair any chips as soon as possible.

If you intend to travel a lot with the boat, then an RS padded rudder bag would be a worthwhile investment.

5.4 Spar Care.

The mast, boom and bowsprit are carbon composite structures. Wash with fresh water as often as possible, both inside and out. Check all the riveted fittings and the masthead sheave on a regular basis for any signs of corrosion or wear.

The mast is finished with a two pack polyurethane varnish. This protects the laminate against UV degradation caused by exposure to sunlight. It is advisable to apply a new coat of varnish once a year. Contact RS Racing for more information.

5.4 Sail Care.

The main should be rolled and stored dry, out of direct sunlight. Dry the spinnaker, fold it and store it in its bag.

When using a new sail for the first time, try to avoid extreme conditions because high loads on new sailcloth can diminish the racing life of the sail.

If your sail is stained in any way, try to remove it using normal detergent and warm water. **DO NOT** attempt to launder the sail yourself.

Repairs should be temporarily made using self-adhesive Dacron, Mylar or spinnaker repair tape (depending on sail type). The sail should be returned to a sail maker for a professional repair. Check for wear and tear, especially around the batten pockets and boltrope, on a regular basis.

6 WARRANTY

1. This warranty is given in addition to all rights given by statute or otherwise.
2. LDC Racing Sailboats warrants all boats and component parts manufactured by it to be free from defects in materials and workmanship under normal use and circumstances, and the exercise of prudent seamanship, for a period of twelve (12) months from the date of commissioning by the original owner. The owner must exercise routine maintenance and care.
3. This warranty does not apply to defects in surface coatings caused by weathering or normal use and wear.
4. This warranty does not apply if the boat has been altered, modified, or repaired without prior written approval of LDC Racing Sailboats. Any changes to the hull structure, deck structure, rig or foils without the written approval of LDC Racing Sailboats will void this warranty.
5. The use of the boat for commercial purposes shall void this warranty.
6. Warranty claims for materials or equipment not manufactured by LDC Racing Sailboats can be made directly to the relevant manufacturer. LDC Racing Sailboats warrants that these parts were installed correctly and according to the instructions provided by the manufacturer.
7. Warranty claims shall be made to LDC Racing Sailboats as soon as practicable and, in any event, within 28 days upon discovery of a defect. No repairs under warranty are to be undertaken without written approval of LDC Racing Sailboats.
8. Upon approval of a warranty claim, LDC Racing Sailboats may, at its expense, repair or replace the component. In all cases, the replacement will be equal in value to the original component.
9. Due to the continuing evolution of the marine market, LDC Racing Sailboats reserves the right to change the design, material, or construction of its products without incurring any obligation to incorporate such changes in products already built or in use.

ADDITIONS

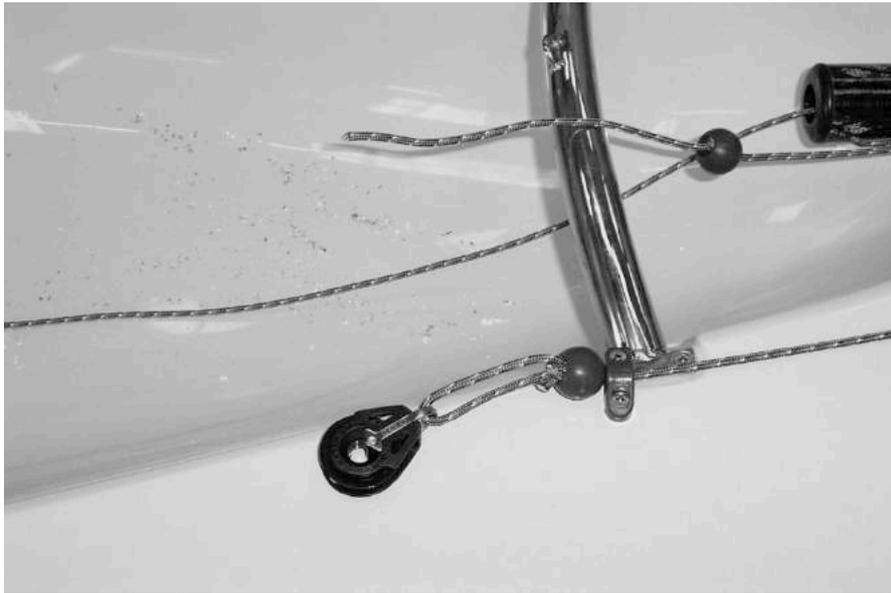


Figure 1.3

- Feed the outhaul line through the bullseye by the tack bar.
- Tie a bowline in the end – a length of 80mm.
- Tie the tackline on to the deck eye on the front face of the mast plinth, so the bowsprit is fully out and the tackline is tight.

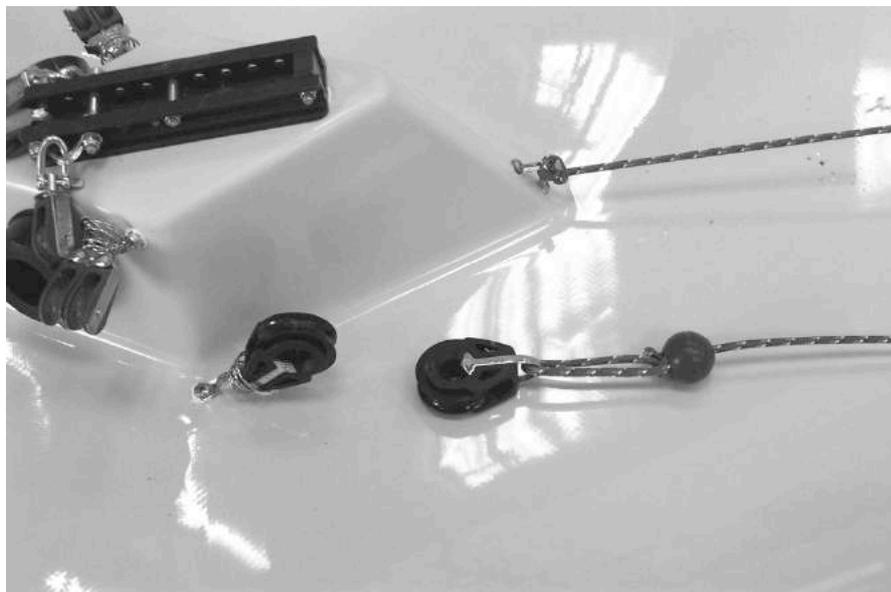


Figure 1.4

- With the tackline tied properly, the pole outhaul block should be a couple of inches away from the spinnaker halyard block.

RS CLASS ASSOCIATION

www.rs-association.com

The RS Class Association is highly active and you really should join.

The RS Racing Circuits are the envy of the dinghy world, with great competition and a fantastic and friendly social life. The RS Association also organises Training Events throughout the year. Social highlights such as the RS Ball are not to be missed!

The Class Association produces regular, informative Newsletters, and a Yearbook. There is also an extremely comprehensive RS Association web site, part of which is only accessible to RS members.

In addition, the Association maintains the Class Rules, which are the “fabric” of any one design class. Without these the Class would disintegrate and values would tumble.

The Association relies on the support of the owners of the boats to financially survive. Membership costs only £33.00 per year (£15 for Youth membership) and without it, you won't even know what you are missing!

You should have received a membership application form with your new boat, but if not, please contact the RS Class Membership Secretary Joanne Boutle on 01280 817886, membership@rs-association.com, or see under ‘Documents’ on the website.

Members receive a voucher towards the cost of boat insurance with Noble Marine Insurance.

Any other queries about the Association should be directed to the RS Association Administrator, Heather Chipperfield, on 01590 610273, heatherc@rs-association.com.

Examination Report

We hereby confirm that the

RS 700

built by

RS Sailing

Romsey

Hampshire, U.K.

Boat type:	Sailing Dinghy	
Design category:	C	D
Length of hull:	4.68 m	4.68 m
Beam of hull:	1.92 m	1.92 m
Unladen weight:	90 kg	90 kg
Maximum number of persons:	1	2
Maximum load:	125 kg	180 kg
Including: Persons at 75kg each Carry on load		

has been assessed to conform with the requirements of
The U.K. Statutory Instrument 1996 No.1353 and 2004 No. 1464
CONSUMER PROTECTION
The Recreational Craft Regulations 1996 and 2004
Schedule 6 - Module Aa & Schedule 1 - Parts of Sections 3.2 & 3.3
The EU Recreational Craft Directive 94/25/EC and 2003/44/EC
Annex VI - Module Aa & Annex I - Parts of Sections 3.2 & 3.3

Date of issue: 19 October 2012
Statement Number: 106/01/2012


Ken Kershaw
Royal Yachting Association
EU RCD Notified Body

This Certificate remains valid only so long as no changes are made to the design of the model that would affect its RCD compliance.

