Safety Points

Preparation

- Check and heed the weather forecast before you set out and continue to heed the weather conditions while sailing.
- Sail in conditions within your capabilities, gradually increasing your competence with experience.
- Where possible, sail with safety boat cover.
- In the absence of a safety boat always sail in the company of other boats.
- Let someone ashore know that you are going out and when you expect to return.
- Remember to let your shore person know you are back safely when you return.
- Before setting out, check that everything on your boat is where it should be, secure and functioning properly.
- When moving the boat on it's trolley take care not to bump the transom or the rudder on the ground.
- Before moving the boat with the mast up check for clearance from overhead electric cables

Personal protection

- Always wear buoyancy aids and appropriate exposure protection.
- Carry a whistle so that you can summon help if you need it.
- Carry a cutting tool in case of entanglement.
- In the absence of safety boat cover a tow rope should be carried.

Capsize and staying calm

- In the event of a capsize, if you are quick enough you should be able to get over the high side and begin the righting process without even getting wet - but it's unlikely you will manage it all the time!
- No Worries, even the best sailors take a swim now and again, your buoyancy aid will keep you afloat.
- Always stay with the boat, hold onto the boat or the sheet whenever possible.
- If you end up under the sail in the water, don't panic, just put your hand up to create a space and swim out.
- Should you end up underneath the inverted boat, take a moment to orient yourself and then calmly swim or pull yourself to the transom and then out.
- Ensure the main sheet and kicker are released and free to run otherwise you risk the boat sailing away from you or capsizing again while you are getting back in.
- Bring the boat upright by standing on, and pushing against, the daggerboard while pulling on the gunwale.
- Pulling the boat up slowly causes it to turn it into the wind, which will make it easier to get upright.
- If you don't managed to get in as the boat is righting, swim around to the stern and slide in over the transom.

Accepting a tow

- Wrap the tow rope twice around the mast just above deck level but don't tie it on.
- Hold the end of the tow rope so that you can release it quickly, never wrap it around your hand.
- Release the mainsheet and keep the boat balanced by moving your weight as necessary.
- Raise the daggerboard and steer in the same direction as the towing vessel.
- Keep a good lookout and be prepared to release the tow rope if you get into difficulties.

For more information see: www.rnli.org.uk

Supernova

Supernova Sailing Dinghies are hand built in the UK by the skilled craftsmen of Hartley Boats Ltd. where stringent quality controls and dedicated attention to detail ensure that every boat is constructed to the highest possible standard.

Designed by Mark Giles and updated by Phil Morrison the Hartley Supernova is a beautiful sporty dinghy that is sure to give years of great sailing enjoyment and competitive racing performance.

The hull is constructed using unidirectional glass-fibre cloth and a polyester resin sandwich technique that incorporates internal reinforcement ribs for extra strength and stiffness, it is hardwearing, long-lasting and easy to maintain.

Hartley Boats Ltd. Tel 01 332 369751
www.hartleyboats.co.uk

Declaration of Conformity

I declare that the boat described as: **Supernova**
Bearing the Craft Identification Number:

G	B	R	C	H	A	1								

Conforms to EU Recreational Craft Directives 94/25/EC and 2003/44/EC
and EN ISO Standards: 10087, 12217,12215, 10240, 14945 & 8666.
Module used for Construction Assessment: Aa

Boat Builder: Hartley Boats Limited , Derby, England
Design and Construction Notification Body: Royal Yachting Association, England

Description of Craft

Brand Name: Supernova **Type:** Hartley
Construction Material: Glass-fibre Reinforced Plastic
Type of Craft: Sailboat **Propulsion:** Sails
Type of Hull: Mono-hull **Deck:** Partly decked
Design Category: "C" Inshore and inland waters where conditions up to and including wind force 6 and significant wave height up to 2m may be experienced.
Maximum Carrying Capacity: 2 people **Max. Safe Load:** 180 kg
Length of Hull: 4.39 m, **Beam:** 1.48 m
Sail Area: 8.00 m^2, **Weight:** 62.5.0 kg,
Draft: **Dagger board down:** 1.00m **Dagger board up:** 0.15m
Buoyancy: Consist of the space within the hull between the bow and the stern of the boat which in itself contains 60 Litres of sealed positive buoyancy

This Declaration of Conformity is issued under the sole responsibility of the builder.
I declare that the craft mentioned above complies with all applicable essential requirements in the way specified.

Name .....

Signature.....

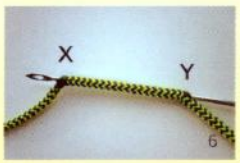
Date / /

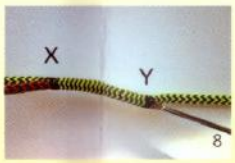
Splicing

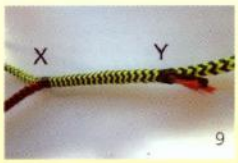
Control line end-to-end splice

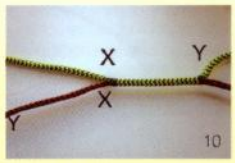
Red & Yellow line used for illustration only, this splice joins both ends of the same line to make continuous control lines

1) Measure line length through all fittings 2) add 70cm & cut 3)Mark at 20 cm (X) & 30cm (Y) from each end, tape & cut off burnt end seals 4) Pull out & remove 30cm of the core from ends 5) Milk hollow covers back until cores are at Y

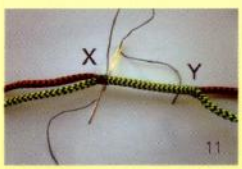


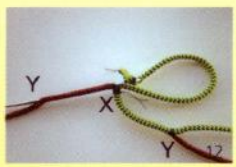


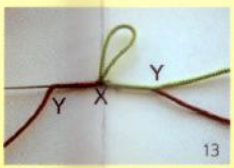


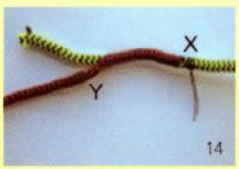


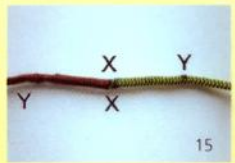
6) Insert splicing needle exactly where core ends at Y 7)Push needle through cover & out at X 8) Pull tapered other (red) cover from X through cover to Y 9) Pull (red) cover through (yellow) cover until X marks meet (10)









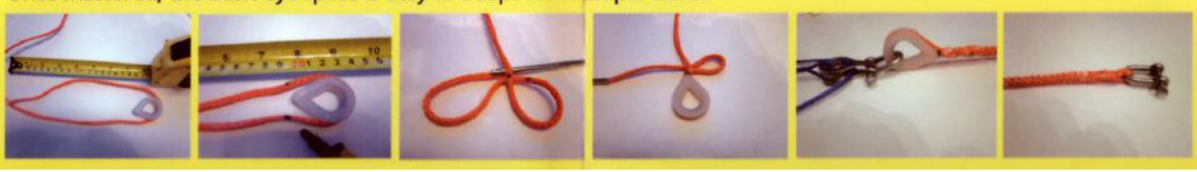


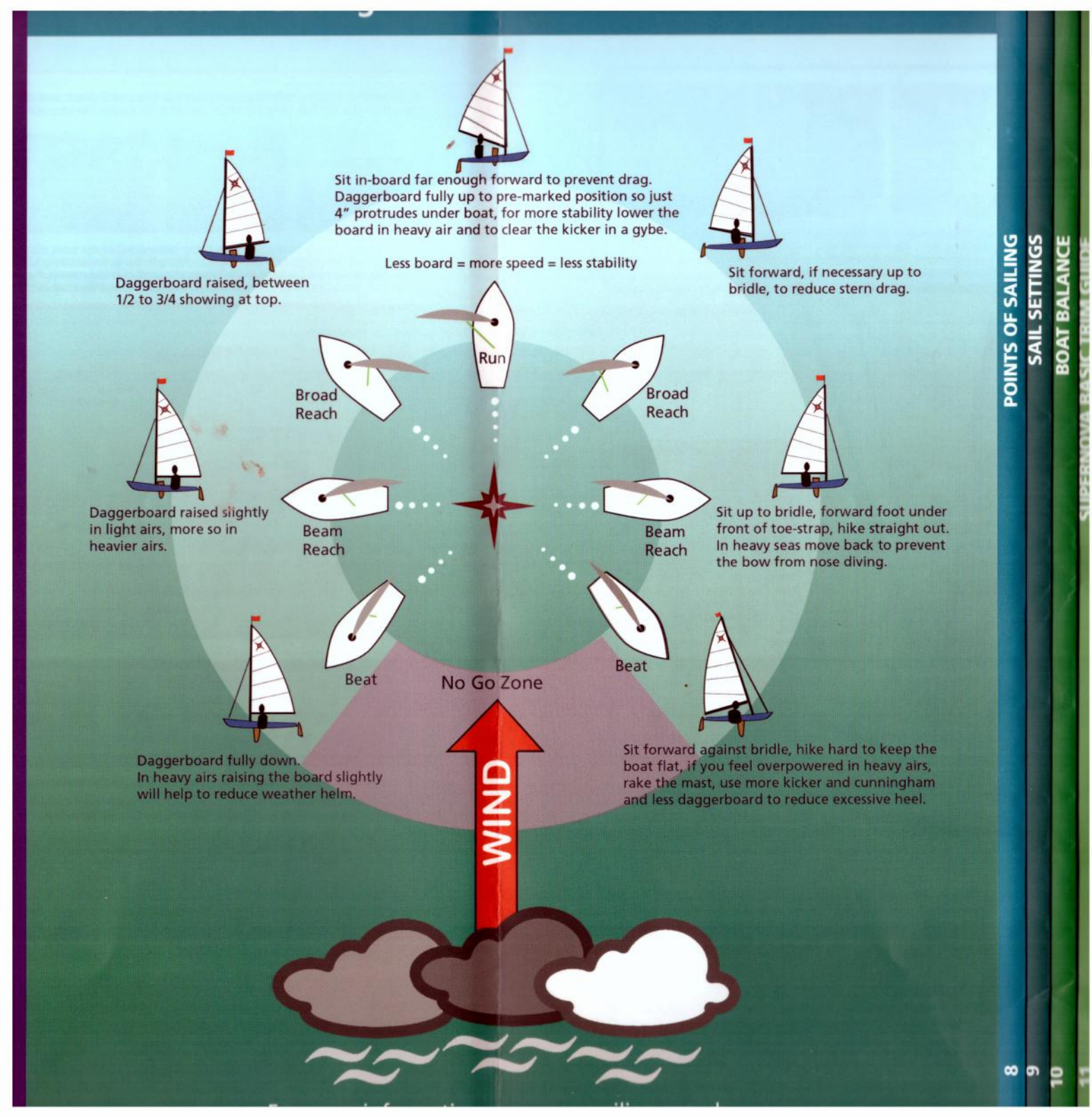
11) Put a locking stitch through both covers at x to prevent slippage then milk (yellow) cover over (red) cover until there is no slack, pull 2mm of inside cover back out and cut off excess, now pull (red) cover back in and massage it evenly into outer cover. 12 - 15) Now repeat steps 6 to 10 to bring the second (yellow) cover inside the first (red) cover.

Dyneema eye splicing

Multiply the rope diameter by 50 then add twice the length of the eye required, mark this measurement on the rope. Using the correct size fid guide and pull the end of the rope through the plaits in the rope at the marked point. Turn and pass the fid back through the rope 2 plaits away from the exit point, repeat twice. Mark the rope one fid length or 8cm from the first pass through, push the mark and the eye towards each other to loosen the plaits, carefully insert the fid up through the hollow centre and exit at the marked point, pull the rope end through, taper the end by cutting at an angle. Pull the end back inside the cover and milk the cover back along it until it lies comfortably within.

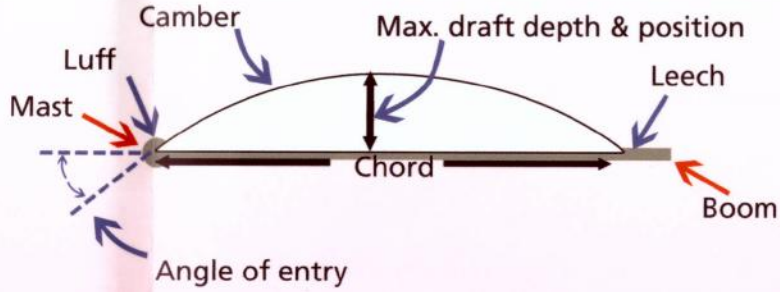
Once mastered, the basic eye splice is easy to adapt for multiple tasks.

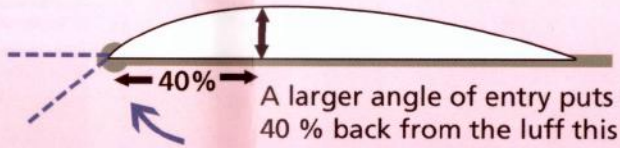




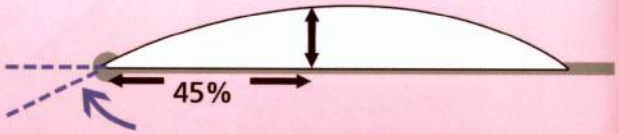
Luff - fixed or leading edge.
Leech - outboard edge.
Foot - bottom edge.

Camber - shape.
Draft - fullness.
Chord - length along the foot.

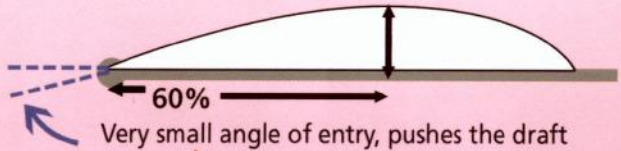




A larger angle of entry puts the draft about 40 % back from the luff this gives greater power but less pointing ability.



A medium angle of entry places the draft about 45 % back from the luff enabling better pointing ability.



Very small angle of entry, pushes the draft too far back creating drag that causes the boat to slow and not perform well.

Mainsheet control ultimately over-rides the angle and usable power of the sail but it's effectiveness is directly related to the shape and tension of the sail which is brought about by the combined use of all of the sail controls.

Upwind the Supernova performs best when the max. draft in the sail is about 45% back from the luff.

When the wind increases it pulls the draft back along the sail towards the leech.
Tensioning the **Kicker** (until the top tell-tails just start to fall) will pull the draft forward and down again.

Outhaul tension controls the depth of the draft, giving the sail either a fuller or a flatter shape.
The fully battened sail of the Supernova performs well with a loose foot and a generous draft.
A hand-span width between the boom and the foot of the sail, at the Max. draft position, is a useful guide for finding the medium wind default set. Increasing the fullness in the sail provides more power but lessens pointing ability.

Tensioning the **Cunningham** helps to de-power and spill wind from the top of the sail when you get overpowered.
An over powered sail pushes the boat sideways, using the cunningham helps to reduce the side slip.

Harnessing the power of the wind

The wind is the power that drives the boat, the dagger board and rudder provide directional stability. Maximum momentum is achieved when you can use and adjust the rig, trim and boat balance, to harness the wind, to suit your size, your weight and your ability in the prevailing conditions.

Rig tension, mast rake, sail shape and weight distribution determine the quantity and the location of the wind's centre of effort (CE). The dagger-board provides a means of lateral resistance (LR), which is needed to stop the boat being blown over when the CE is above the centre of balance.

Overuse of the rudder to force directional change in the absence of correct sail trim and boat balance, causes turbulence and drag which slows progress.

The more upright the mast the closer the boat will sail to the wind but the more easily the power in the sail will overcome your weight and hiking ability. If you can no longer keep the boat flat it will side slip and loose ground to leeward. To reduce the effort needed to keep the boat under control you can use more mast rake. Easing the forestay tension while adding tension to the kicker and cunningham enables mast rake adjustment.

Mainsheet tension controls the angle of the sail to the wind. Cunningham use affects the upper and Leech area of the sail. Adjusting the Kicker controls the lower and Luff areas of the sail. Outhaul tension moves the draft in the sail fore and aft.

Upwind mainsheet tension brings the CE down and aft behind the LR, this helps the boat to head up, but unless you shift your weight forward the stern will drag and slow your progress.

On the reach when the CE is above the centre of LR the boat is balanced and efficient. The boom should be parallel to the water with daggerboard partially raised.

On the run releasing the controls, brings the CE in front of the LR which helps the boat to bear away. Raising the dagger-board and shifting your weight inboard and aft helps to keep the boat flat and the bow from dipping and creating resistance.

	Wind	Beat	Reach	Run
Kicker	Light	Tension until top tell-tales just start to fall		Tension kicker to prevent the boom from lifting but not so much that the upper leech becomes hooked or the battens invert
	Medium	Tension gently on - top tell-tales just falling		
	Strong	Max kicker until boom is about 8" above tiller	Slightly less than upwind, double block about half way down travel	
Cunningham	Light	Off or very little on to remove crinkles in luff	Off, if crinkles remain halyard may need tensioning up to white band	Off
	Medium	Use some tension to tidy up crinkles caused by kicker tension	Off	
	Strong	Tension to flatten sail and release hooking caused by kicker	Off unless overpowered	
Outhaul	Light	Hand-span width between boom and sail at mid point		
	Medium			
	Strong	Tension to flatten sail if overpowered		
Mainsheet	Light	Sheet in until boom is just inside of side tank on stern quarter	Ease sheet until luff just starts to back	Eased
	Medium	Just inside stern quarter but ease in gusts to keep boat flat	Ease and adjust constantly to where the luff just starts to back	Eased
	Strong	Boom end inside stern quarter, ease in gusts, sheet in lulls	Ease mainsheet when needed to reduce heel	Eased to edge of backing, bear away or ease in gusts to prevent heeling
Rig Tension	Light	Apply 20 lbs on shrouds, pre- mark position on deck	Take slack out of shrouds, to eliminate delay and maximise power in gusts	Ease rig tension to square boom
	Medium	Ease if overpowered, tension kicker and cunningham	Take slack out of shrouds	Ease rig tension to square boom further
	Strong	Ease forestay, tension kicker & cunningham, 8" boom to tiller	Pull tension on forestay to take slack out of shrouds	Leave rig tension on; better to go with wind and gybe than to run by the lee
Daggerboard	Light	Daggerboard fully down	Raised slightly, top just above side deck	Fully up to mark on board, 4" below hull, lower to clear kicker in gybe
	Medium	Not fully down about 3" top showing	Top of board about 2" above side deck	Less board = less drag = more speed = less stability. Adjust accordingly
	Strong	Top of board level with side deck	Top of board approx 3" above side deck	Raised as in reach about 3" showing above side deck
Rudder	Light	Centred as much as possible to reduce drag		
	Medium	Use sail trim and boat balance in preference to tiller movement		
	Strong	Use least rudder, hike out or ease main to keep boat flat. Down wind, bear away in the gusts and come up in the lulls.		
Weight Distribution	Light	Sit forward, front leg touching bridle to reduce stern drag	Weight forward, body against bridle	Move weight to keep boat flat and to prevent stern draging or bow dipping
	Medium	Sit forward against bridle and hike hard to keep boat flat	Front foot under front of toe-strap then lean straight out from there	
	Strong	Weight forward up against bridle	About 12" back from mainsheet block	
Capsize		Release the mainsheet and the kicker to make righting easier and to lessen the possibility of the boat sailing away when it is righted.		

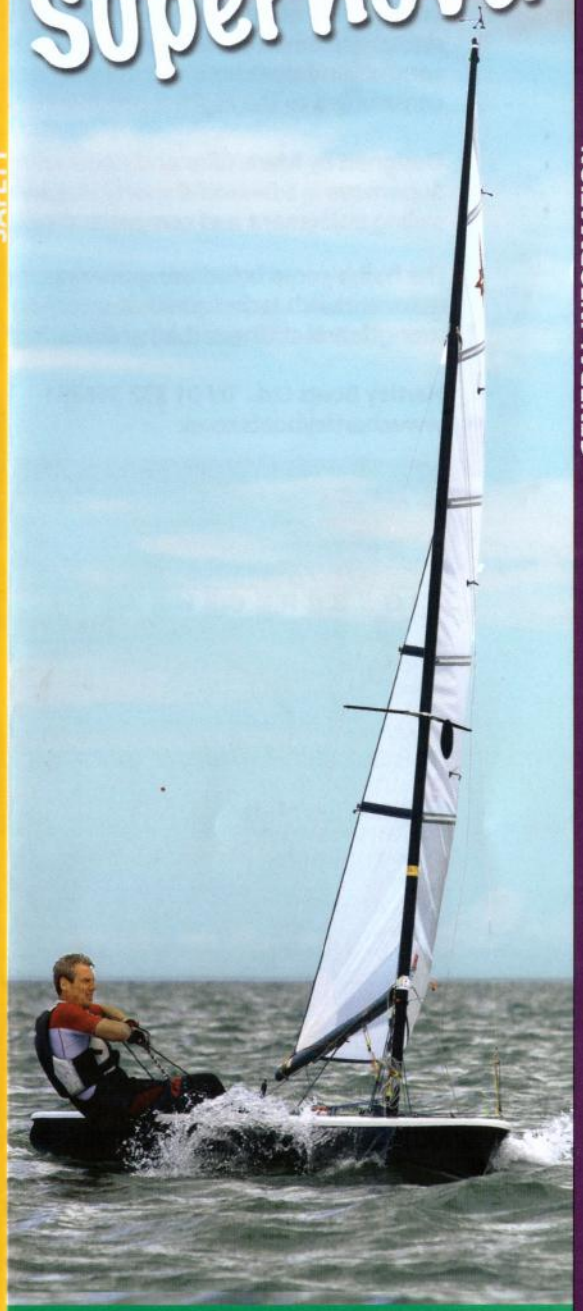
Equally at home on flatter inland waters or when tackling the challenges of wind, wave and tide on an open sea, the stylish Supernova delivers an exhilarating performance.

Holding true to the original Mark Giles design, the Hartley MK II Supernova has undergone an exciting update and transformation in the expert hands of Phil Morrison. The sleek new design has a stylish swept back open transom that expels water instantly from the self draining cockpit. Spliced continuous control lines provide instant trim adjustment from any angle. The centre bridle and mainsheet position ensure that the sheet never gets snagged on the transom when gybing the fully battened mainsail. A strong lightweight rig, supported by upper and lower shrouds, in combination with a unique forestay rig tensioning system, means that mast rake and rig tension adjustment can be easily done with just one hand while on the water. Righting after a capsize has been made easier with the addition of a sealed mast. The higher boom position of the Supernova means that it can be launched and recovered more easily because the daggerboard can be almost fully raised without fouling the boom.

The Supernova Class Association has a very active circuit of regional inland and open sea championship events. Joining the Association will help to improve your sailing ability and maximise enjoyment in your Supernova.

Cover photos Richard Craig - www.SailPics.co.uk

Unfold the Supernova



Supernova Owners Manual