

# The birth of a bluewater cruiser

The deck for the new 44 has been fabricated from scratch, but using the 42's cockpit and main hatch as a base.



In this, the second part of this four-part series on the design and development of the new Rustler 44 bluewater cruiser, owner **Tim Shears** explains why mind mapping can help you make the right design and equipment decisions when buying a custom built yacht.

**W**alk into any car showroom and you'll be presented with a range of standard products that allow you to make a few individual choices yourself – colour at least and perhaps engine size, but not much else. Some offer a range of options that are usually limited to a list of pre-selected items.

In the boating industry many builders operate in much the same way. However, some have chosen to provide a more flexible approach. It requires a highly skilled workforce, capable of assessing the impact of each customer's personal demands. It also comes at a price. Rustler Yachts is one such builder.

The company had made some preliminary proposals on the specification for its new 44, largely based on what had worked well on the 42, but the opportunity to have input into the specification and design, as well as customising the boat to our own needs, was one of the key reasons we chose the Rustler 44 as our next boat.

You might be tempted to assume that, since the 44 is

derived from the Rustler 42, in certain aspects, it would be a simple process, but nothing could be further from the truth. From 42ft to 44ft may be a little less than a 5 per cent increase in length, but with the raised coachroof and topsides her interior volume increases by over 20 per cent. Combine that with a totally different interior and sailing rig and it's clear that we're talking about a completely new boat.

## MAKING YOUR CHOICES

If you're considering commissioning your own custom built boat, but are concerned about the number of decisions involved, it's only fair to point out that you don't actually have to make them yourself. All you have to do is explain to the builder what kind of sailing you'll be doing. If he's any good, he can then configure your boat based on where you want to go, how you like to sail and your available budget. At the other extreme, you could make all the decisions

yourself. The best approach is probably somewhere in between, where you make the best of your own sailing experience and the builder's knowledge as to what will work in practice.

Every single decision is a compromise in one way or another. If you want an endless water supply you could fit a water maker, but these machines are power hungry and need regular maintenance. Alternatively, you might put in tanks, but they take up space. You have to decide on your priorities – a principle that holds true for nearly everything. A multitude of factors pull you in varying directions – new technology, reliability, price, serviceability, compatibility, longevity etc.

I actually enjoy this process, so I started off by 'mind mapping' the whole boat. (If you're interested in the subject, search the internet for *FreeMind*). It involves making a visual list of all the possibilities and the relationships between them. For example, I had to choose the type of foresail configuration we wanted. My mind map showed me that this decision had implications for mast design, running rigging, deck fittings and so on. Over time I could then consider each item, its desirability and its relationship

with and impact on other components.

As a sanity check and to expand my knowledge of each area, I referred to Nigel Calder's two outstanding publications – *The Boatowner's Practical and Technical Cruising Manual* and *The Boatowner's Mechanical and Electrical Manual*.

I then checked my mind map with Rustler's proposed 'standard' specification, identifying any shortfalls. It was then a case of discussing which of my suggestions should form part of the standard specification, which should be chargeable extras and which were just dumb ideas.

## RESEARCH

I like walking around DIY stores, even when I don't have a job in mind. When my wife once asked me to explain why, I replied that unless I knew what possible tools and products were available, I would never be able to think through potential solutions to any problems that might arise some time in the future. In simple terms, if you were unaware of the existence of wood glue, then you would probably just nail or screw two pieces of wood together.

In boating terms I translate this activity into magazine reading, particularly product reviews, gear tests and equipment adverts. I've been reading four or five publications a month for the past

year and been to all the UK boat shows. With these experiences in mind and my own thoughts based on past sailing, I came up with my list of products to research. I did that by talking to other sailors, both from the Rustler Owners Association and through several of the online boating forums.

Detailed research was then done via the internet. Every picture, brochure, specification and review you need is out there somewhere if only you're willing to look for it.

## FUNDAMENTAL DESIGN

Having sailed several times on a Rustler 42, I wanted to maintain as much of the 42's deck layout as possible. It works well at sea and has been tested in severe conditions. My one exception was a desire to move the mainsheet pedestal to aft of the helmsman. I prefer this from both a safety standpoint and in terms of cockpit space and ease of use from the helm.

Her interior needed a bottom up rethink, however, but I wanted to give Rustler's detail designers a base on which to work. In practice, it turned out to be a fairly simple process based on a great many of our own priorities.

The Rustler 42 has an excellent forepeak with an ensuite heads to port. Since the only hull change in this area is the increased headroom, we decided to keep

the forepeak layout exactly as it was in the 42.

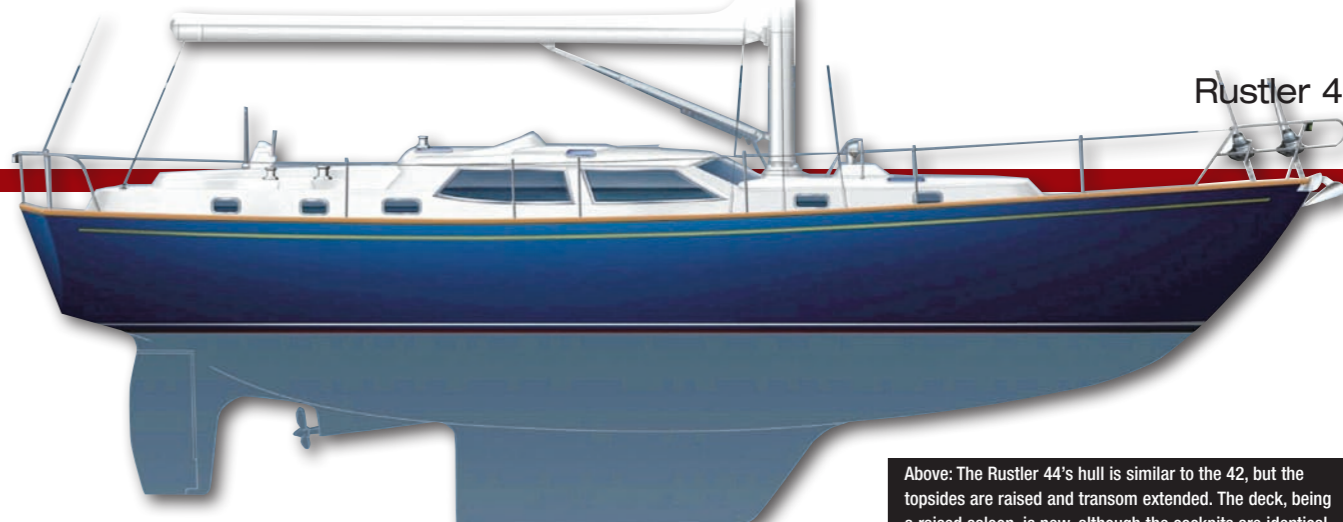
However, we wanted a full width, ensuite aftercabin as well and it made sense for the heads to be to starboard, so that, on passage, one would always be useable.

Owing to her hull shape, the raised seating for the saloon and chart table areas must be immediately forward of the companionway steps. As we wanted room for a separate shower stall off the aftercabin heads, this put the saloon seating on the port side and the chart table to starboard. We're left with the galley and lower saloon berth to decide on. We chose to put the galley on the port side to make best use of the extra bulkhead length aft of the forward heads. The lower saloon berth, therefore, was to be installed to starboard.

From this basic layout Rustler was then able to develop her detailed interior design.

## WHAT DID WE CHOOSE?

I think we all make decisions like these based on certain personal fundamentals. It's said that we



Rustler 44

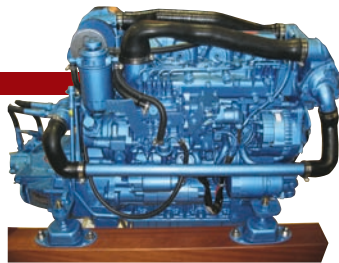
Above: The Rustler 44's hull is similar to the 42, but the topsides are raised and transom extended. The deck, being a raised saloon, is new, although the cockpits are identical. Below: A lot of thought has gone into producing the ideal interior layout for long term, blue water cruising.



Specifications - Rustler 44		
LOA	13.50m	44ft 5in
LWL	11.04m	36ft 4in
Beam	4.20m	13ft 9in
Draught	2.10m	6ft 11in
Ballast weight	4,900kg	10,780lb
Light ship weight	13,700kg	30,140lb
Half-load displacement	15,700kg	34,540lb
Air draught	19.60m	64ft 4in
Mainsail area	44.28m <sup>2</sup>	476.7ft <sup>2</sup>
Genoa area	47.97m <sup>2</sup>	516.3ft <sup>2</sup>
Jib area	41.87m <sup>2</sup>	450.7ft <sup>2</sup>
Sail area	92.25m <sup>2</sup>	990ft <sup>2</sup>
Water	728ltr	160gal
Fuel	454ltr	100gal
Berths	6-7	
Engine	85hp Nanni	
Designer	Stephen Jones	
Builder	Rustler Yachts, Falmouth	
	www.rustleryachts.co.uk	
Price guide	£380,000 to £450,000	

all fall into the categories shown in the chart on page 134. At one extreme are those who relish the brand new, innovative products, at the other are those among us who want lots of sea miles undertaken by others before they would countenance something on their own boat. The dilemma is that all the products start with the same take up; the difficulty is picking those that will be winners before they have track records.

Perhaps the best sailing example of this is in-mast reefing. When I bought my Rustler 36 it was considered to be an unusual thing to fit by most people 'in the know'. Now, I am told that over 50 per cent of new cruising boats have in-mast reefing. Some of this, I grant you, has been down to product improvements, but the primary reason must surely be



that we have moved along on the product adoption curve.

At a guess I would say we're on the cusp between 'Early Adopter' and 'Pragmatist'. Others will find themselves elsewhere, but this has had a significant bearing on what we selected for our boat.

## HULL

The colour was the simplest decision – navy blue, like our 36. It just looks right. I know white is better in warm climates, but we will mainly be in N Europe.

We did our own antifouling treatment on the 36. It was a day's work and, whilst not quite fun, was manageable. The 44, however, would be a much bigger task, so we wanted something that would require less effort. There are several long term copper-based treatments available – we chose Ecoses's Cuproprotect primarily for its guarantee of performance.

## DECK

Owing to the increase in size and the design change to a raised saloon, Rustler needed to make a completely new deck mould. They've cleverly achieved this consistency by using the cockpit and coachroof top section of the 42 as a base, then fabricating the new areas from scratch around it.

The standard boat will have a teak trimmed cockpit with teak toe rail and handrails. Rustler will also teak the side decks – we had this on our 36 and it looked great. There was a maintenance requirement, but because the boat was based nearby, I was able to do it myself. The 44 will spend more time away from home, so we will not be having teaked side decks. I also want the option to pressure wash off the bird mess.

I like the look of varnish-type finishes, but don't want to be a slave to sanding and refinishing. In certain areas we're hoping to use Coelan, a product known in classic yacht circles for its durability. I tried to scratch a test piece with a screwdriver, but was unable to, so we will be using this on the toe rail and handrails.

## DECK FITTINGS

Rustler supplies Harken deck gear as standard and the range is more than sufficient for me. All our winches will be from Andersen and electric on one side only, purely for cost reasons.

Our main anchor will be a Delta and the kedge an FX23. An anchor wash for the bower is included. The windlass will be a Lewmar V3 electric model with a warping drum and a remote control. We also chose a Lewmar pedestal with Mamba-drive steering. We will add wind vane steering to this at a later date, prior to an Atlantic crossing, but the necessary support structure will be incorporated now.

We have ordered a sprayhood, bimini and additional side pieces that provide a full cockpit tent to protect the teak and add extra living space in poor weather.

We've not yet decided on our full complement of safety equipment, but we will use an Autoflug canister liferaft. It is the most compact unit available and can be easily stowed on deck.

## SAILS, SPARS AND RIG

Rustler's sailmaker of choice is Channon Sails. John Channon designs the sails himself and the China Sails Factory manufactures them. In our case we were able to discuss our sailing needs with John, prior to deciding on the rig itself and his advice has been most helpful in selecting the configuration.

We chose a 'slutter' rig, with a self-tacking jib and a larger genoa on a second furler. With a little sweep-back on the spreaders we will eliminate the need for running backstays.

We thought long and hard about the mainsail and have decided ours will be on a Selden in-mast reefing system, so it can be handled by one person on deck in almost all conditions.

Spinnaker gear will be fitted, should we get talked into club-type racing one day.

## ENGINEERING

In determining engine size, I wanted to do a bottom-up calculation and then compare it to what's worked on the Rustler 42. Nigel Calder's books have all the formulae to allow a very detailed calculation to be made. The optimum engine power came out as 85hp, which fits ideally with the new Nanni

N4.85, a 4-cylinder, turbocharged diesel. With the addition of an intercooler, the same engine can provide 100hp and it has been interesting to assess the potential use of this extra power and its impact on fuel consumption, propeller sizing and performance. Most likely, though, we will stick with the 85hp model.

I know fixed pitch propellers are said to slow you down when sailing, but I shan't be doing any serious racing and, having had one bad experience with a failed feathering prop, have decided on fixed blades initially. We can always upgrade later and keep the fixed one as a spare. We will fit a rope stripper of course.

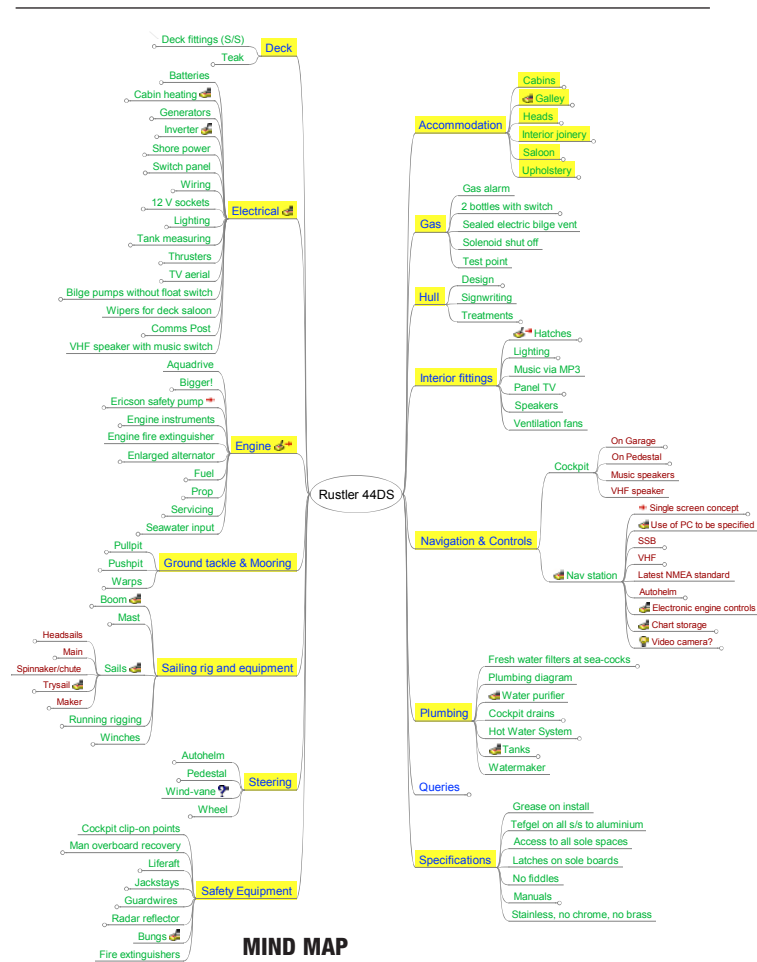
As she has a raised saloon, we will have engine controls at both

the helm and at the chart table.

It's said that real sailors don't need bow thrusters. We will though – not only for when I mess up entering a marina, but also for easier manoeuvring when picking up a buoy or retrieving the anchor. We have chosen to install the Sidepower SE80 with remote control.

I'm hoping to fit an Ericson engine driven bilge pump. This clever unit can pump nearly 80,000 litres per hour at 1,500rpm and is a fallback measure for catastrophic emergency situations.

Day to day bilge pumping will be done by a Rule 4000 – the big daddy of electric pumps, but still only 1/20th of the capacity of the engine pump.



## MIND MAP

The map that Tim used to facilitate his thought processes

## THE NEXT STAGE

The desire to utilise the best product in an ever-changing market does create a selection dilemma. From a planning standpoint it would be best to decide everything before the build commences. However, during the build, new products will become available and our needs assessed. Thus we will leave key decisions on electrics, electronics and a few other areas until Spring, giving us a better opportunity to evaluate any newly launched products.

In part three (July) we will look at how the hull is shaping up and take a closer look at the complex planning and execution required to complete the essential systems.