


Refit and go round the world

There are some great second-hand yachts on the market, ripe for a refit. Don't be put off by the scale of the work – it can be a brilliant route to a reliable, customised bluewater cruiser. Rupert Holmes finds out how one sailing family did it

At some point, most of us have longed wistfully for some well-found yacht we have seen in an anchorage or on the brokerage pages, then shaken ourselves and pondered the practicalities of maintaining her in a reliable state on a lengthy cruise. A new yacht is often seen as the ideal for a long cruise, but often a second-hand boat will be the one that is best bedded down and reliable, with the advantage of a really complete inventory of gear. All it needs before heading off again, perhaps round the world, is a good refit.

This is exactly what Chris and Sue White did five years ago when they bought *Salamander*, a Nauticat 521 built in 1987. The Whites have an unusual story. They returned this year after a circumnavigation that started with a big refit. They chose to begin with an older yacht as a 'base boat'. They didn't specifically plan to sail round the world, but they wanted a yacht that would be capable of doing it.

The Whites weren't sailors, but they did love travelling and had spent time as a family with their son and daughter visiting Africa, the Far East and Central America. They spent a year travelling round Europe in a motorhome when they were invited to join friends sailing in the Ionian on a skippered charter. None of the family had sailed before.

Chris and Sue were so invigorated by sailing that they decided to take it up afterwards – and not just 

REFIT

learn about it, but to buy a yacht and go voyaging under sail. “We thought it could take us much further than four rubber tyres could,” explains Chris. “There were places like Africa and Asia that we couldn’t get to in a motorhome.”

Chris, an architect, was not at all deterred by the project; in a sense, it was what he had spent his working life helping clients do with properties. He and Sue decided the right place to start was with a solid, well-found yacht they could sail conservatively as a family and, for their budget, they were advised to buy an older Scandinavian ketch.

His son found *Salamander* on the brokerage books of Berthon and the Whites decided to get the refit work done at Berthon’s yard. At that stage they knew it would involve as a minimum replacing all electronics and rigging, renewing the teak deck, and a strip and re-epoxy of the bottom, but also a great deal of other work, including turning one of the four cabins into a workshop. “The base boat we bought was effectively a shell,” Chris says.

Getting the refit done at a full service yard was a key decision. “I wanted it done professionally and not in some half-baked way. If we had tried to get the work done up and down the coast it would have extended the refit and we might have had to put off getting away.”

Another bonus, as the Whites set about learning sailing and navigating skills in the same determined fashion, was that they could effectively piggyback on Berthon’s long experience in preparing bluewater cruisers. “Bearing in mind that we were near-novices, getting their advice was a huge bonus,” says Chris.

He admits that the cost of the refit, which he originally estimated would roughly equal the purchase price of the yacht, ended up being twice as much. But the Whites have

■ A comprehensive refit begins with identifying any existing weaknesses in a yacht, and optimising it to suit your needs ■■

no regrets about this. “We met quite a few sailors who had done partial refits and were still doing work as they sailed round the world, but it wasn’t our style,” he says.

Back to basics

So where should you start? Second-hand boats of a high-quality build, but with older systems often change hands at reasonable prices, so a refit can be a cost-effective route to a well-found, high-spec boat with up-to-date systems.

A comprehensive refit begins with identifying any existing weaknesses, but also includes optimising it to meet your needs. A properly refitted boat may also be more reliable than a new one, as refit yards routinely see (and fix) the gear that breaks with use and can modify installations to improve them and make servicing easier. In any case, new boats are often only fully shaken down in their second and third years, after all the initial snags have been dealt with.

Keith Harris, refit project manager at Berthon in Lymington, says many problems stem from boats that were built to a price without a view to how easy it is to service equipment at a later date. And, he adds, it’s a problem that isn’t limited



▲ Above: although *Salamander*’s topsides looked scruffy she didn’t need a costly repaint. ▶ Right: it can be hard to distinguish items that are simply tatty from those that must be replaced

to lower-priced brands. To take an example, he cites chafe in wiring and pipework that needs to be rerouted and replaced.

For many people a refit is also the point at which their long-term sailing plans change from dreams to reality. “The refit is the first part of people’s adventure,” says Harris. “We want them to enjoy it as an important part of the excitement of their sailing plans.”

Where to start?

It’s natural for anyone who owns a yacht to want it to look great, but if you’re planning on long-term cruising Harris recommends undertaking a minimum of cosmetic work. “The first aim should be to make the boat functional and reliable,” he declares. “So for a boat that’s intended for long-distance cruising we don’t recommend paying as much attention to cosmetics – it’s going to get knocked, scuffed and scratched. Owners need to focus first on the key systems and safety factors that will get them across an ocean.”

Harris says it often makes more sense to get a paint job done when you return from a long trip, especially if you’re planning on selling. And if the boat needs new canvas such as bimini, sprayhood or sails this will help to enhance the overall appearance. Even badly scratched and dinged interior woodwork can be improved through simply sanding and varnishing, while unsightly cut-outs where old instruments used to be fitted can be fixed through careful siting of replacements and refacing a small area.

Scope of the project

The clearer an owner’s vision of the completed project, the more likely it is to run smoothly. Chris White already knew from previous project management experience that he had to bite the bullet on the complete system of works before starting. “You can’t keep changing your mind.” ▶



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About Salamander

A Sparkman and Stephens-designed Nauticat 521 built in 1987, *Salamander* was bought by Sue and Chris White in September 2009 with the intention of continuing a lifestyle with their family that centred on travelling.

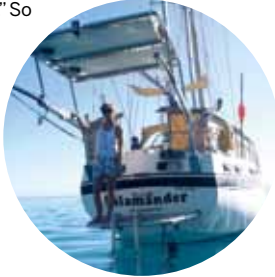
In the process, they had to learn to sail, tackling the project with the same focus as the refit, and learning through residential tuition and instruction on board the newly refitted *Salamander*. “We had huge plans and it was a full-time learning curve, and we applied ourselves fully to the task,” says Chris.

Once the refit was complete, they left Lymington nine months after first viewing the boat, sailing to the Mediterranean, then to the Canaries and across the Atlantic to Grenada. “We didn’t know how we would cope with that as a family or if we would like it,” admits Chris, “but we did thoroughly enjoy it.” So the Whites decided to carry on, eventually sailing across the Pacific and Indian Oceans before returning home last year via the Azores, 35,000 miles later.

Salamander was clearly an ideal boat for their purpose. She is of top-quality build, a solid 30 tonnes displacement, has excellent deck gear and huge tankage, including 1,800lt each of fresh water and diesel.

She also had other features that are all too rarely seen on many boats, but that make a huge difference at sea, including numerous dorade vents, and a safe and deep combined bulwark/toerail.

Read more about their adventures at thesalamandersailingadventure.blogspot.co.uk





▲ Above: Salamander was an ideal boat for the purpose and still looks great, partly as a result of specifying top-quality gear during her refit. ▼ Below: the kicking strap, mainsail furling line and outhaul were led aft to allow the sail to be reefed from within the cockpit



▲ Top: the davits, swim platform and solar panels were added as part of the refit. ▲ Above: the new teak deck looks good and is wearing well. ▼ Below: new plotters were added at both helm positions on deck and below to update the electronics and provide for redundancy of systems in case of one unit failing



For most boats, much of the initial list of essential work will come from the surveyor, who will break defects into three broad categories: items that must be rectified immediately, service tasks for the next (usually winter) maintenance, and cosmetics that can be left for longer. Among items in the first category, *Salamander's* original teak deck, which had been fastened with 3,000 screws, needed replacing. The Whites chose to have the work done at Berthon.

Keith Harris says owners need to tell the yard at the outset what their plans are for the boat. “We will make different recommendations for a boat that returns to the Solent every winter than for one that’s going round the world, where kit might be serviceable at the moment, but is approaching the end of its life,” he says.

Further tasks were carried out on *Salamander* at Berthon’s recommendation: for example, originally her emergency tiller was set up to be operated from the berth in the aft cabin, so the arrangement was modified to be used on deck. Chris and Sue also looked at the requirements for the ARC rally to inform their decisions about safety equipment.

“It wasn’t entirely planned that we would do a circumnavigation,” says Chris, “but we wanted to set the boat up to make it possible.” While *Salamander* had clearly been set up well for ocean sailing, a lot of her systems needed to be modified or added to make the boat truly independent. These included:

- Water-cooled refrigeration, including a chest freezer
- New instruments at both helm stations, including stripping out and replacing the wiring
- Two plotters with two GPS antennas
- Installation of washing machine and dryer
- Watermaker
- Solar power and wind generator
- Uprated 4 x 290ah gel batteries, giving 1160ah in total
- New pilot
- Replacement of gas installation
- New standing rigging and most running rigging
- Manual freshwater foot pump in case of electric pump failure
- New sails
- Fitting davits
- Swim platform (the same one that’s now fitted on the current Nauticat 525)
- Pactor modem for the existing SSB radio (although Sue and Chris say they would now also take a satphone)

To improve overall reliability they tried to build in redundancy of systems wherever possible. This was the thinking behind the addition of the manual freshwater pump, a second chartplotter and the pair of GPS antennas. A manual cockpit bilge pump was added in addition to the existing one operated below deck. This came in useful when a leak developed in the gland at the top of the rudder stock, as using the hand pump allowed changes in the rate of water ingress to be monitored.

Other changes on deck included leading the vang, outhaul and mainsail furling line aft to the cockpit. While this

Top tips

- A successful refit starts with a suitable boat at a sensible price
- Ask prospective yards to see how they have documented previous refits
- Make sure key objectives are clear before the refit starts
- Focus on the essentials needed for safety and reliability
- Set a sensible contingency aside – any refit is likely to cost more than you anticipate
- Get sailmakers and riggers involved at an early stage
- Visit the boat during the refit – you’ll get a feel for the progress being made and it’s a chance to get to know the boat and understand the systems better for when you’re out at sea

Do’s and don’ts

- **Do** plan for redundancy of key systems – this will maximise reliability
- **Do** invest in optimising charging systems. Failing to charge batteries effectively significantly reduces their lifespan
- **Do** choose a high-spec pilot. Lesser models have to work harder so wear out faster and consume more power
- **Don’t** forget that marine electronics can be expensive, so price upgrades at an early stage
- **Don’t** skimp on refrigeration. If you don’t have top hardware and a good standard of insulation your batteries will take a big hammering
- **Don’t** get carried away. It’s easy to spend more than you bargained for



▲ Above: during the refit, in one of Berthon’s big sheds. The old teak deck was held down by 3,000 screws

is a bigger job to retrofit on a pilothouse yacht like *Salamander* as there’s no natural direct lead, it made it possible to control the entire sail area from the cockpit – a big help for a lone watchkeeper.

Altering the accommodation

Beyond the essentials of safety and reliability, Chris and Sue wanted to adapt *Salamander* as a home for them and their two children, who were both teenagers at the time. A refit provides an option to reconfigure the accommodation to meet your needs. *Salamander's* galley was remodelled to create extra worktop space, improved stowage and more efficient refrigeration.

A rusty mild steel tall fridge unit was replaced with two under-counter models and the compressors were replaced with more efficient watercooled units. At the same time, the deckhead partition above the galley that separated this from the pilothouse was removed, giving the area more natural light and ventilation as well as an open plan feel.

Berthon also removed an existing fridge from beneath the pilothouse table, converting the space to lockers, and replaced panels that had ugly redundant cut-outs for old instrumentation. Chris and Sue had deliberately looked for a four-cabin boat so that one could be used as a workshop and store. Berthon carried out the conversion work here in a way that would allow the cabin to be reinstated at a later date, facing the existing joiner work with plywood that can be removed later to reinstate the original interior layout and possibly improve the boat’s resale value.

Monitoring progress

Poor communication can unsettle the relationship between owner and yard. A good yard will do its best to keep owners up to date with progress throughout the refit, covering aspects that are progressing according to plan, as well as highlighting any problems as soon as they arise.

“We always encourage owners to come down to see their boats in refit,” says Harris. “We also try to send progress reports with photographs at least once a week and on a daily basis will often swap two or three emails with owners.”

When an unforeseen problem arises, as it will in



▲ Above: the pilothouse was tidied up by converting the space under the table to lockers and replacing panels that had redundant cut-outs. ▶ Right: Berthon remodelled the galley to Chris and Sue's spec. ▼ Below: chart plotter at inside steering position



▲ Above: the washing machine and drier were added. ▶ Right: *Salamander's* large engine room. As well as the main engine, it houses the diesel generator, batteries and the cooling units for the fridges. ◀ Left: the yacht's first owner specified a bed the full width of the aft cabin



even in the smoothest of refits, the way the yard and owner deal with the issue is important. Firstly, don't blame the messenger; there are always items that even the most astute of surveyors can't gain access to, or test under load. Secondly, while the yard can outline the options available, it's up to owners to make a timely decision to keep the project rolling forward. "If you don't make decisions, things don't happen," says Sue.

"It helped that we're not fazed by unexpected problems," adds Chris, "and we were also very fortunate that Berthon and all their employees were very approachable and Keith [Harris] was happy to take our comments and ideas on board."

While some jobs on *Salamander* were arguably easier than might have been expected – such as fitting the davits, as there were already heavy backing plates bonded into the transom for this purpose – there were some that took longer, or were completely unexpected.

A major unexpected expense was replacing the sails. When they took the existing suit for a valet and service, Chris and Sue were told they were at the end of their life. The four principal sails – mizzen, main, staysail and genoa – were replaced by Hood in Vectran. Apart from the UV strips needing repair a couple of times, the sails still look in remarkably good shape after 35,000 miles.

As an example of problems that a surveyor could not be expected to see as part of the normal examination of the boat, Harris points to a 48ft sloop in which one chainplate was found to be leaking by the surveyor and needed rebedding. However, once the rig was put back into the boat and properly tensioned, both the backstay and forestay chainplates were found to move.

“ At the end of the process owners must allow time for sea trials, including getting out in some bad weather ”

Worse was to come: when the bow fitting was removed, a void between two mouldings was found, which needed to be dried out, tidied up, the gap filled with resin and filler, and faired. While it was not a huge job and, given that Berthon has all marine trades available on site, didn't appreciably delay the end of the refit, it was clearly a few days' worth of time that could not have been predicted in advance.

Controlling costs

A combination of unexpected problems and a tendency for owners to decide to extend the scope of the original work means that many refits end up costing around one third more than the projected amount. Some refits are considerably more expensive, although these generally involve owners who believe they have found their perfect boat and are not concerned about resale value.

Given the nature of a refit to end up costing more than initially expected, it might be tempting to seek a fixed price in advance for each task. However, Keith Harris cautions against this, saying: "There are two ways of pricing jobs – the best estimate you can make of the number of hours needed for each task, or a fixed price. While the latter may initially appear a comforting solution, this is simply passing the risk

The cost of a refit

Berthon Boatyard says: 'The total cost of refits tends to vary widely depending on three main factors: the owner's wishes; the work needed on the boat; and the design and layout. A key variable as far as labour costs are concerned is in access to the boat's systems.

'As most yachts are built to maximise habitable interior space, rather than facilitate ease of servicing, this can be a significant factor in the overall cost.

'Given that ocean cruising yachts are often built to order, with changes in specification and layout from boat to boat, even vessels of the same design can differ widely in terms of access.

'However, as an indication, this is a range of prices for jobs that predominantly involve third party material costs, with a relatively low percentage of the total price being labour.

'They are based on a 42-50ft sloop with relatively open access and standard parts.'

Replace standing rigging.....	£3,500 – £5,750
Replace running rigging	£1,500 – £4,250
Replace mainsail.....	£3,800 – £4,500*
Replace genoa.....	£3,000 – £3,500**
Overhaul charging system, including add solar and replace 8 x domestic, plus new generator and engine start batteries.....	£3,000 – £5,000
Replace upholstery to include mattresses	£3,500 – £5,500
Covers; to include bimini enclosure, sprayhood, in-boom cover and mast collar	£3,000 – £4,500
All new fire extinguishers following proper qualified agent survey with engine room fan shut-offs.....	£1,250 – £2,250

*Fully battened mainsail allowing for 5 full-length battens and 3 reefs Dacron: £3,800. Vectron: £4,500
**Roller reefing genoa including sunstrip and luff padding..... Dacron: £3,000. Vectron: £3,500

Prices exclude VAT.

to the yard, which then has to include in a contingency in case the job turns out to be more complicated than predicted. The best thing is if you can find a yard that you trust that works on an hourly basis, sets out a budget in advance and keeps you informed of progress," he says.

"Before we started out, we had already been told by a very experienced sailing friend that we shouldn't expect to get back more than around one-third of what we would spend," says Sue. "Overall we ended up spending twice what we initially expected on getting *Salamander* ready, but even with hindsight it was the right thing to do. We don't regret buying an older boat for the quality and we were happy that we had found a boat that provided a solid shell for what we wanted."

The yard stressed the importance of trials. "At the end of the process owners must allow time for sea trials, including getting out in some bad weather," says Harris. "We can go out to complete essential commissioning checks, but beyond that if you're paying an hourly rate for several people from the yard on the boat the cost quickly mounts up."

Chris and Sue did exactly this and were sailing every weekend from April onwards, testing everything they could, and getting used to the boat before leaving the UK to sail south in July. While they may have had limited experience when they bought *Salamander*, five years on they have completed a 35,000-mile circumnavigation.

NEXT MONTH

In Part 2 Rupert Holmes talks to owners who have managed refits themselves

