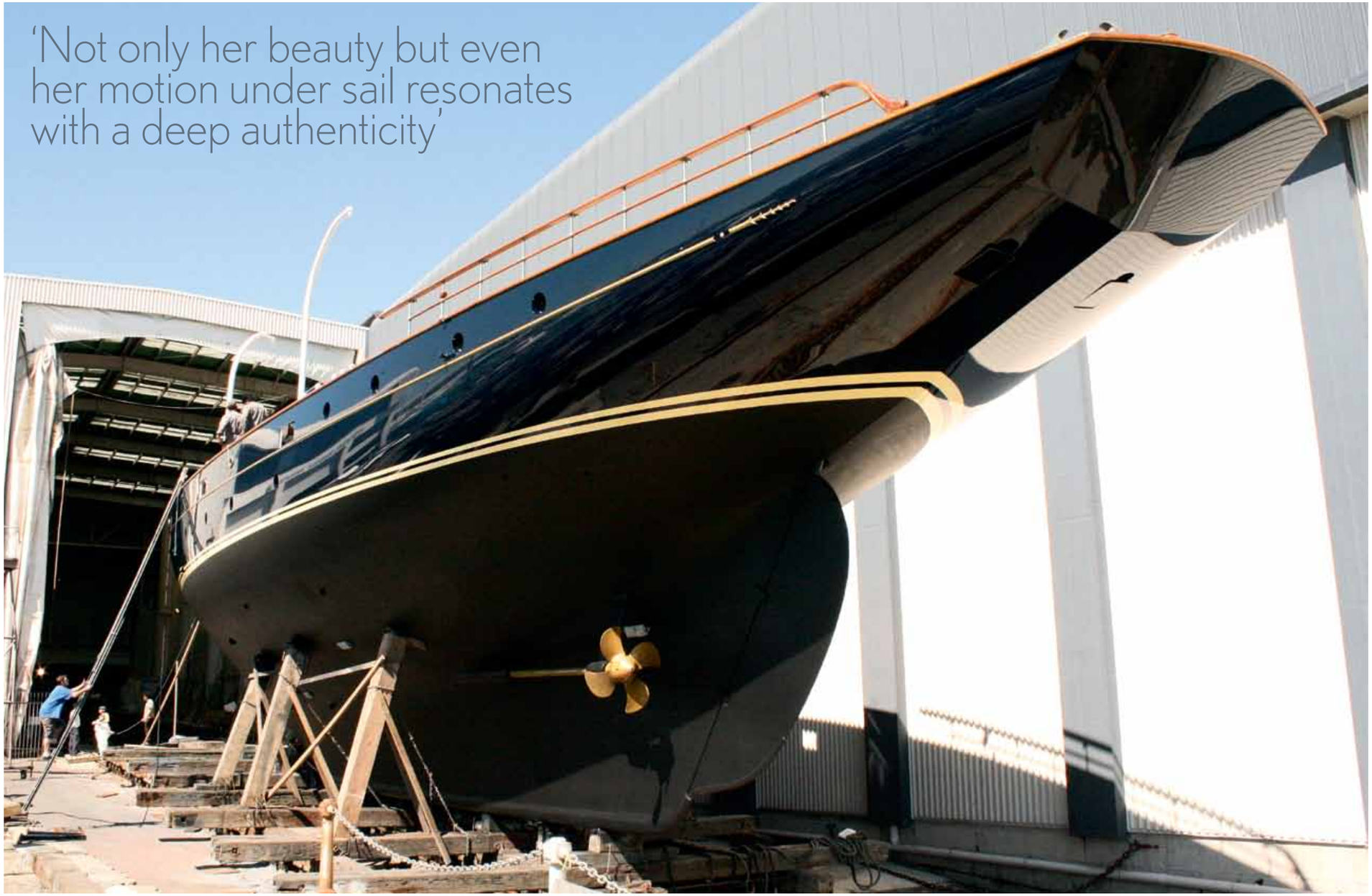
SHENANDOAH OF SARK

‘Not only her beauty but even her motion under sail resonates with a deep authenticity’



Mounted on a wall in *Shenandoah of Sark*’s crew mess is a map of the earth with multiple trails crawling over the blue areas that represent the oceans. Each trail signifies the various voyages by the 55 metre three-masted schooner. Add them up and they amount to four and a half circumnavigations between 1996 and early 2010.

Each trail also represents a triumph of passion over reason. They celebrate and justify the decision taken a decade and half ago to resurrect this gracious yacht. Built in 1902 for Charles Fahnestock by Townsend and Downey Shipbuilding of Shooters Island, New York, to a design by Theodore E Ferris, *Shenandoah of Sark* began the 20th century in luxury and celebration. At the end of the century, however, her circumstances were much less salubrious. She was found in very poor condition in Southeast Asia, but beneath the dereliction and decay the lines of a once-beautiful classic yacht were dimly discernible, and they seduced a German owner into making the vessel his own. Against better judgment, perhaps, she was sailed to New Zealand, where she arrived battered, leaking badly and barely afloat. In the cold light of rational analysis, and no doubt suffering a dose of buyer’s remorse, the owner came to the only logical decision: the yacht was beyond repair and would be taken off soundings and scuttled. However, passions, once awakened, are not so easily stilled. Logic was banished and the owner decided that the yacht would be brought back to life after all.

With her bowsprit removed, *Shenandoah of Sark* is carefully moved into the Orams refit shed

McMullen & Wing won the contract, and many thousands of hours later the yard’s craftsmanship and the owner’s commitment were rewarded when *Shenandoah of Sark* returned to the water, her hull and expanses of varnished teak gleaming, her name highlighted in gold across the transom. This massive effort was recognised when the yacht won the 1996 ShowBoats International Best Classic Yacht Restoration award.

‘The previous owner dreamed of rescuing the boat and sailing around the world,’ says Gavin Reid, *Shenandoah of Sark*’s captain. The owner achieved his dream, completing the circle when the yacht returned to New Zealand for the America’s Cup regatta in 2000. Not content merely to sit on the sidelines, she also competed in that year’s Millennium Cup superyacht regatta, creating a stir even amongst a plethora of the latest and greatest superyachts in the world fleet.

With his mission accomplished, the German owner put the yacht up for sale and she was bought by her current Italian owner, whose passions have

proved just as strong. He declares: 'Voyages on *Shenandoah of Sark* are a full immersion into the relaxing atmosphere of a bygone era, for not only her beauty but even her motion under sail resonates with a deep authenticity, which allows us a glimpse of the world through the sepia lens of the past. Her historic grace and timeless class give me great pleasure and it is this unique aspect that I have endeavoured to preserve.'

Since the change of ownership, the yacht has added considerable sea miles to her log. 'We have worked on a cruising schedule that involves a three-year circumnavigation followed by a year in the Mediterranean, just to make sure the Med does not forget who we are,' says Reid. 'Then off we go again on another circumnavigation and to explore the world for a while. We have done that three and a half times and plan to complete the fourth circle late in 2010. After 15 years of this kind of hectic travel, the boat was definitely due for major work. All the mechanicals needed a major overhaul and virtually every aspect needed attention.'

Planning for this refit actually began some five years ago. During a smaller programme of work in 2005 it was recognised that the gensets were going to have to be replaced, but with the yacht in its current configuration there was no straightforward way to remove them. The crew access companionway was therefore redesigned and enlarged at that time to allow the replacement. Similarly, at the end of 2008, the yacht made a brief maintenance call at Auckland, which provided an opportunity to discuss the refit with Craig Park, managing director of Orams Marine Services. Park also visited the yacht in French Polynesia to further refine the plans. 'This is all part of the planning that goes with a major refit, particularly one that has to proceed in a tight timeframe,' he says. 'It helped with the planning process, ordering necessary parts and equipment and setting up the logistics.'

Reid adds: 'Those planning sessions also allowed us to identify some projects we could undertake on board in advance of our arrival in Auckland.' The timing had to slot in between the owner's cruising plans and the South Pacific cyclone season, which left only a six-month window for the work. At the end of a cruise in the Pacific, *Shenandoah of Sark* headed south for New Zealand, with the stewardess flying on ahead to prepare the way, organise crew accommodation and ensure everything was ready for the yacht's arrival. Fortunately, the weather on the final passage into Auckland was benign, so the crew set about stripping the running rigging and preparing for the haul-out. 'We had half derigged the boat by the time we docked,' says Reid.

Every major refit at some point confirms the adage about the 'best laid schemes of mice and men' going awry. This occurred quite early in the *Shenandoah of Sark* refit. The plan was to create a rigging shop in the yard where the major task of refurbishing the masts and spars would proceed as a separate undertaking. However, the giant tent required to shelter the rigs was delayed at another site and arrived at Orams a week late. A week in politics, the saying goes, is a long time. The same applies in a tight refit schedule, but the rig team finally got to work on the massive masts, gaffs, topsail spars and bowsprit.

The yacht, meanwhile, had been hauled and backed into the Orams shed, just squeezing in with the bowsprit removed. The first order of business was to dismantle the crew access area to create the pre-planned enlarged aperture for removing machinery from the engine room and delivering the new Northern Lights gensets. That preparation needed a

A grand piano is the centrepiece of the saloon and remained in place –albeit well protected – while the refit was going on

week to complete and then, Reid recalls with a wry smile, the fun began.

The engine room on *Shenandoah of Sark* is like a tunnel, or a submarine. Access is down a near-vertical ladder into a long cylindrical space that extends along the centreline. The two main engines straddle the centreline, and the walkway in between is barely wide enough for one person. Packed in on either side of the walkway aft of the engines is a pump room and tanks, while a similar area forward of the engines accommodates the gensets. The only standing headroom along the entire tunnel is at the foot of the entrance ladder. Reid is only half joking when he says: 'I can't employ any engineers taller than 5 foot 6 inches and they get issued with back braces straight away.'

Within these narrow confines deep in the bowels of the yacht, a massive job list faced the crew and the yard. The old gensets were removed and replaced with new ones. Easily said, but in reality it was a daunting task involving thousands of hours of work, which had implications right through the vessel. Even with the enlarged access, the old gensets had to be partially dismantled and hauled out bit by bit, with the new ones following the same process in reverse. All went according to plan until it was realised that an entirely new genset exhaust system would have to be installed, replacing the existing three inch pipes with four inch ones. The exhaust piping runs from the engine room aft for 26 metres down the length of the yacht on both sides, traversing every cabin along the way, and replacing it meant removing furniture and panelling from every room. This was a detail that had not been foreseen, and it added a month's work to a schedule that could not be expanded. On a positive note, however, it provided an opportunity to replace all the air-conditioning ducts.

Highly polished traditional woodwork goes hand in hand with modern, comfortable guest cabins

While this was going on, the heads, injector pumps, turbos and ancillary equipment were removed from the main engines and serviced, the Hundested gearboxes were opened and serviced, the prop shafts removed and straightened, bearing surfaces refaced and cutless bearings replaced. All valves on the pipework were removed and serviced; every pump, motor and compressor was removed, stripped, serviced and repainted; three new air-conditioning chiller plants and control units were installed; and the main battery bank chargers were replaced and the inverters removed and overhauled.

Watermakers, sewage plants, sanitation piping, hydraulic steering rams, pumps and the original 1902 manual steering gear all underwent major overhauls or replacement. The list goes on – and most of the work was carried out within a crawl space that resembles an escape tunnel from a prisoner of war camp. 'Sometimes there were eight to 10 people down there at once, passing tools and equipment up and down the line. It was a logistical nightmare,' says Reid.

The work became even more difficult when the chief engineer, who knows his subterranean domain down to the last nut and bolt, was put out of action by a slipped disc. 'He has been on board for 17 years and his knowledge is vital,' says Reid, who is a stickler for labelling and logging every item on the yacht. Because chief engineers tend to rule their own roost, this was one area where much of the information was stored in one man's head. 'We had the whole engine room in bits and there was a great deal of head scratching about how to put it all back together again.' Needless to say, the new engine room is now fully logged and labelled.

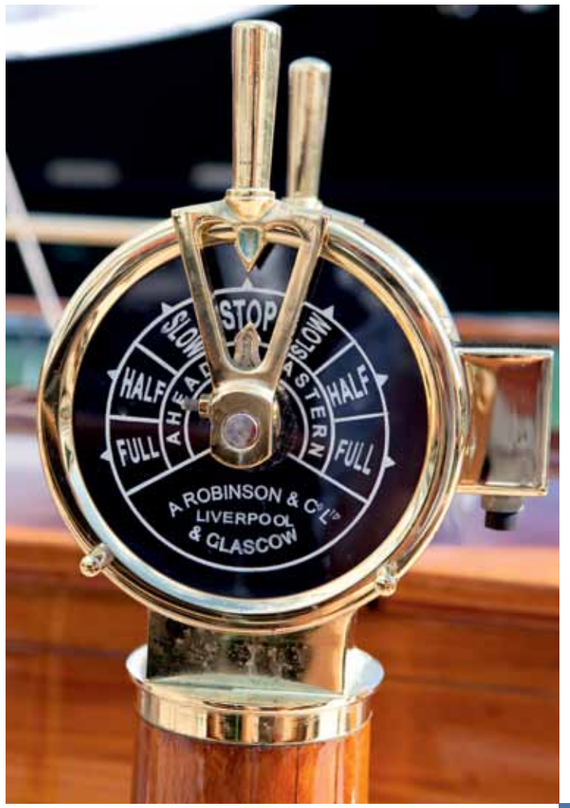
Each task, taken on its own, presented its own challenges, but the management of workflow and personnel became the project's biggest problem. At any one time there could be up to 50 people working on the yacht in often contradictory operations. 'In essence, we had a whole range of jobs progressing simultaneously that were in conflict with each other,' says Reid. 'We had the topsides being painted and varnished, the decks being sanded and recaulked, tanks being sandblasted, an interior being dismantled for the new exhaust system, and a major engine room refit all going on at the same time. It was a massive juggling act to keep it all going and it literally meant scheduling tasks down to hours and minutes.'

An entire wall of Reid's cabin office in the yard was taken up with a massive spreadsheet detailing work to be done and deadlines to be met. Every week he and Park held a meeting with all the respective trade representatives to review progress and plan the work ahead.

'This communication was absolutely critical,' says Park. 'Everybody in a project like this thinks their job is the most important. The big challenge was to co-ordinate everything so that all the trades could get a fair run at their work. It often meant continuing through the weekends to maintain the schedule. We are very fortunate that most of the trades that work under our umbrella have been with us for 10 years at least. We know each other's work and we know the limitations and challenges we all face. It always seems impossible at the start of these projects, but we always make it in the end.'

Park reckons the New Zealand can-do attitude, where people work to

After 65,000 hours of work, she is stronger and more pristine than ever



overcome obstacles, contributed to the successful outcome. 'Some yards would insist on waiting until one trade had completed its work before the next one could move in. We did not have that luxury. We just overlapped each other and co-operated. At the same time, we were very aware that every part of the project had to live up to the standards that this yacht demands. Everything had to look like it was built in 1902.'

Reid adds: 'The fact that all the contractors worked so well together was amazing. In some shipyards, they would have packed up their tools and walked away.'

Some radical solutions had to be found. For example, the water tanks needed to be cleaned and repainted, which would require sandblasting the insides. Clearly, with all the deconstruction and reconstruction of the interior going on around the exhaust replacement, it would not be sensible to have sandblasting grit flying around, which meant that the normal access to the tanks through the inspection hatches could not be used. Instead, four holes were cut through the hull and into the tanks, allowing the sandblasting to take place from the outside.

Further hull surgery was carried out at the bow, where the chainplates supporting the bowsprit rigging were cut out and replaced with 2205 stainless. Although much of the plating was replaced in the 1996 rebuild, there were inevitable areas of corrosion that needed attention. All through-hull fittings were removed and serviced.

'The structure of the boat is very sound, but there is so much load on the shrouds that it tends to load up the bulwarks and create some tin-can distortion around the mid-section of the yacht,' says Park. 'We put up a proposal to completely refair the hull to ensure a perfect paint job and were glad when this was agreed.'

Rigging was renovated in a separate huge tent, but work in the engine room was a 'logistical nightmare' due to the tight space

Meanwhile, proceeding separately, the rig team was busy with its total overhaul of the masts and spars. About 95 per cent of the running rigging was replaced and the wooden spars were stripped back and refurbished. Classical rigging is Reid's own area of expertise, but he had to keep his eye on the big picture so Igor Bjorksten, an Australia-based classic yacht rigger, was contracted to run 'rig city'.

There were known areas where cracks had appeared and where the spars had begun to spring, and these were repaired in the traditional way without epoxy. Close to five metres had to be cut off the base of the mizzen mast and new timber scarfed in, and areas of the main mast had to be resplined. All of this ran smoothly but a problem arose when significant rot was discovered in the foremast around the area of the junction with the topmast. This is the most complex section of the mast, with lots of detailing, and many hours of skilled work were required to cut away the rot and build a new section.

The standing rigging was also due to be replaced but there was a difficulty in sourcing 7 x 7 galvanised steel wire, and Reid refused to compromise the authenticity of the rig with stainless. Finally, it was decided to re-step the masts with the existing standing rigging. A new source of galvanised wire has been discovered in England and the standing rigging will be replaced at a later date. 'This can be done in sections with the rigs in place, so it is just a question of planning a suitable stop and having the new wire waiting for us,' says Reid. All the leatherwork on the rigs was replaced and all the mast-mounted navigation electronics and cabling serviced or replaced. The leatherwork alone was a major undertaking, considering that there are some 50 bottle-screws around the deck and very few are identical. Every cover had to be custom made.

Similar work was also progressing on the sail wardrobe, with all the sails serviced and their leatherwork replaced. Four new sails were added to the inventory. Throughout this project, time was the tyrant, and the pressure of sticking to the schedule through the inevitable issues that arose became intense. Good forward planning, constant communication and a healthy dose of mutual respect assisted greatly.

Orams Marine Services has handled *Shenandoah of Sark*'s various refits and maintenance programmes since she changed hands, so the yard came to the project with a detailed knowledge of the boat. Reid's association goes back even further, to the previous owner. He moved up from bosun to mate and finally to captain when the new owner came on board. 'His knowledge of the boat is invaluable,' says Park, 'but more importantly, the passion he has for *Shenandoah of Sark* is something we have never seen with any other yacht. This is the fourth and biggest refit we have done on her and the fifth time she has been in our yard. We are proud that we have been entrusted with looking after her for so long.'

Ultimately, the yacht returned to the water. After 65,000 hours of work, eight years into her second century afloat and 15 years into her reincarnation, she is stronger and more pristine than ever. '*Shenandoah of Sark* will always be a treasure to myself, my family, the crew and key contractors who know her,' says the owner. 'Her upkeep and maintenance is not a chore or task but a responsibility to the past as well as the present. I celebrate the fact that this refit was undertaken with a true sense of care and conscientiousness that shows clearly in the magnificent results.'

Not only was the job done to a very high standard, it also met that punishing deadline, and it seems clear that the chart on the crew mess wall is destined to record many more miles of ocean adventuring. As the owner puts it: '*Shenandoah of Sark* is a labour of love and it is my hope that her beauty may continue to grace the seas for many decades to come.'

LOA
54m
LWL
32.12m
Beam
8.3m
Draught (loaded)
4.65m
Rig
Three-masted schooner (gaff rigged)
Mast/rigging
Spencer Rigging, Cowes
(rebuilt by Nautical Solutions Ltd under supervision of Igor Bjorksten, rigger)
Sailmaker
Ratsey & Lapthorn,
Lidguard Sails
Total sail area
Working sail 887m^2,
downwind sail 1,352m^2
Windlass
Maxwell VWC11000

Engines
2 x Lugger 1640AL (6-cylinder turbo-charged diesel), 470hp
Gearbox
ZF Freidrichshafen AG BW160
Propellers
2 x Hundested VP 7 FR.H cpp, 4-blade
Speed under engine (max/cruise)
10/8.5 knots
Fuel capacity
18,500 litres
Range at 8.5 knots
2,000nm
Sewage system
Hamman Wasser
Fire-control system
Marioff Hi-Fog water mist
Air-conditioning
Cruisair
Owner and guests
10

Crew
11
Tender
Novamarine RH580 (5.8m RIB)
Construction
Riveted iron (original), welded steel over original riveted frames (refit)
Naval architect/designer
Theodore Ferris
Refit project manager
Captain Gavin Reid
Builder/year
Townsend & Downey Shipyard,
Shooters Island, New York/1902
Refit yard/year
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