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July 2022
Vol.72 No.860

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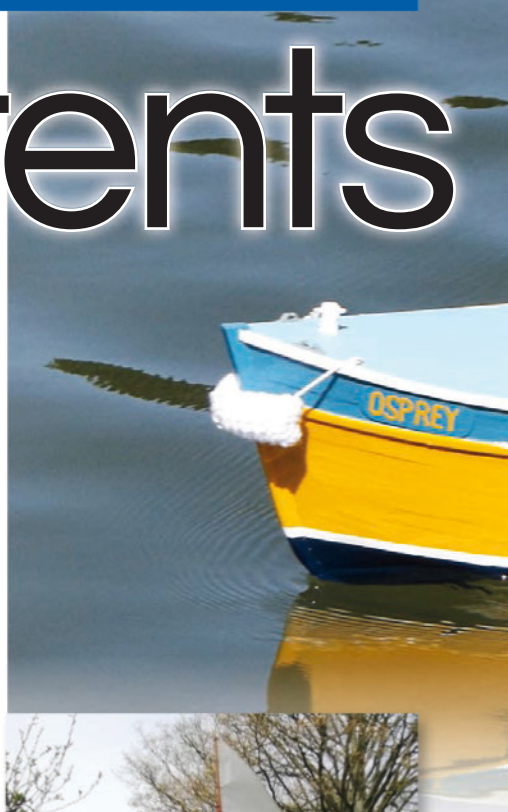

WELCOME TO THE JULY 2022 ISSUE OF MODEL BOATS....

Every now and then I'll edit an issue where I'll suddenly notice an underlying, and unintentional, sub theme threading its way through a number of the articles, despite the fact that in terms of modelling they all focus on very different areas of interest. This month the common denominator seems to be the inspiration and encouragement drawn from those closest to us, for example:

* The free plan for *Osprey*, a design Ray Wood came up with after spotting the coastal trip boat featured in his wife's jigsaw puzzle;
* The '*White Boat*' built by Barry Lalonde for his little grandson
* The *American Scout* restoration prompted by Geoff Fairfax's grandson;
* The *HMS Victory* model crafted by Michael Byard over many years, completion of which was nudged along by his daughter, who then proudly posted some photos of her dad's masterpiece on her Twitter feed which not only ended up going viral but attracted a very prestigious accolade!

So, while projects like these clearly involve numerous hours spent quietly focusing on the task at hand, I think it's lovely that this issue also gives a shout out to all those who really appreciate what makes the modellers in their lives tick and who sometimes, perhaps without even realising it, play their own small, but very significant, role in the magnificent end results achieved.

Even if you don't have that luxury, however, there's plenty of food for thought in the pages ahead. But before get you get stuck in (oh, and by the way, don't miss the excellent feature on glues starting on p. 20), I should also point out that subscriptions to Model Boats are now live and operational on the Mortons Media Group system, so check out the latest money-saving offers on pages 36-37.

Enjoy your read!

Lindsey

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Compass 360

Our hobby-related news round-up

If you have a news story for these pages, please contact the Editor, Lindsey Amrani, via e-mail at editor@modelboats.co.uk

Humbrol Enamels

Further to much recent speculation online about the future of the enamel paints in Humbrol's range, we thought it worth clarifying the situation by bringing you an official statement from Hornby Hobbies Ltd, Humbrol's parent company:

"Recently, a chemical called 'Meko' (Methylethyl Ketone Oxime), which can be found in enamel paints, was reclassified, and could not be sold to the general public in Europe after March 1, 2022. As this deadline approached, Humbrol ceased to ship stocks to EU customers, pending the arrival of reformulated Meko-free Humbrol Enamel.

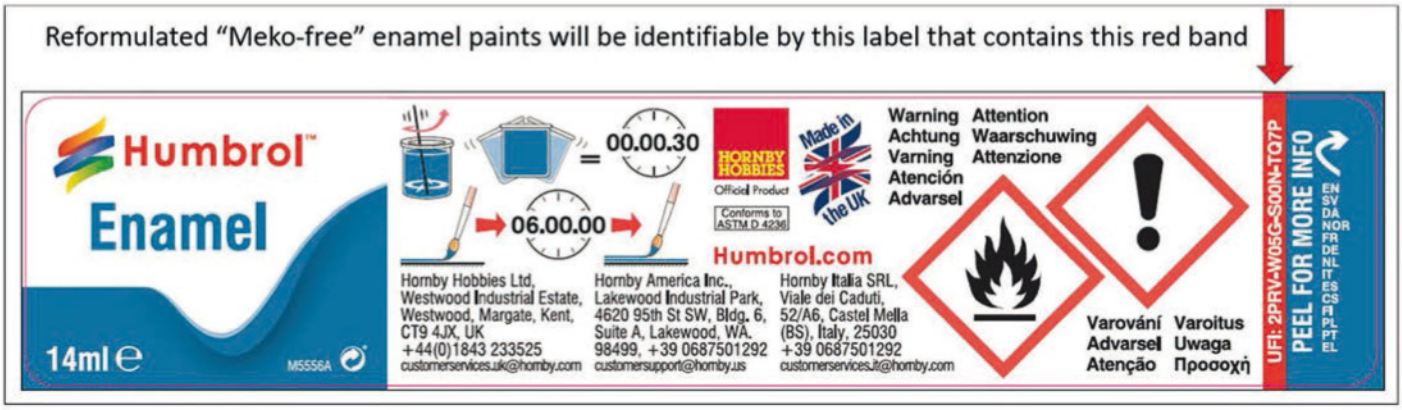
Brexit has triggered the migration of EU Regulations to British equivalents. There has subsequently been divergence between these regulations. The reclassification of Meko was adopted but the restriction to supply to the general public was not.

We became aware that some GB resellers sold product into the EU, so as a precaution we also ceased supply of Humbrol Enamel to GB accounts in March. We further assisted GB retailers by offering to uplift and credit all Humbrol Enamel paints that had been invoiced in 2022.

Whilst Meko is not currently restricted from public sale, we have no indication or control as to whether, or when, the GB authorities might add Meko to these restricted substances, but until that time Humbrol Enamel can be legally sold in Britain.

As a company, we decided all Humbrol product manufactured after February 28, 2022 would be Meko-free and we will not place any further product containing Meko onto the UK/EU market.

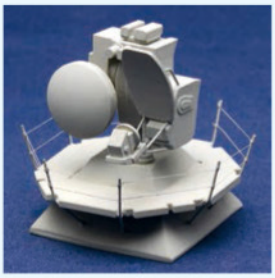
The supply of the reformulated Humbrol Enamel is now starting to be received into our warehouse. Once a sensible range of colours is available, we will recommence new deliveries to our customers in the EU and UK. We expect to have a sizeable range available by Autumn 2022."



Quaycraft Model Boats & Fittings

New from Quaycraft

The following new items have just been added to Quaycraft's range of ship fittings...



3D-printed components

1:96 scale

* 911 Tracker (modellers can decide on the angle/gimble that the 'dish portion' of the unit is at) priced at £12.25 (SKU. WF96016)
* Goalkeeper & CIWS Gun, priced at £8.95 (SKU. WF96015)
* Harpoon missile rack system (pack of two) – £17.85 (SKU. WF96019)
* Phalanx Gun Weapon System – £8.95 (SKU. WF96014)
* Life Raft – £4.95 (SKU. WF96032)
* S.T.W.S. Launcher Mk 32 (three barrel) with base – £4.95, (SKU. WF96018)
* Life Raft Container Seats Triple (pack of two) – 50p, (SKU. WF96029)
* Life Raft Containers 4-Ribbed (pack of nine) – £3.60, (SKU. WF96028)

A FOND FAREWELL

Chris Deith

On May 12, Chris Deith, the entrepreneur who created TEE Publishing, *Engineering In Miniature*, Meridienne Exhibitions and the Warwickshire Event Centre, passed away suddenly, at the age of 76, while enjoying a holiday in Italy with his wife, Bridget.

Chris is survived by his wife, daughter, Avril, daughter-in-law, Heather, and three grandchildren. Sadly, his son, Adrian, who many will also have known, passed away in December 2021.

Having worked alongside her father for many years, Avril will now continue to run things with the support of her family and the team.

Reluctantly, and with apologies, however, the decision has been taken to cancel this year's International Model Boat Show at the Warwickshire Event Centre, which had been scheduled for November 5/6. ●

Adcock family erratum

Our sincere apologies to the Adcock family, and for any general confusion caused, by the editing error in last month's obituary for Gwen Adcock. Gwen is survived by her son, Ian. Her husband, Stan, to whom condolences were also expressed, sadly passed away some years ago now. ●

OUT AND ABOUT

Kirklees MBC Summer Open Day

July 10 will see The Kirklees Model Boat Club host its annual Summer Open Day from 9am to 4pm at Wilton Park, Bradford Road, Batley, WF17 8JH. Visitors will be able to enjoy a day of free sailing (no IC or high-performance fast electrics, please), static displays, military vehicles, a competition for 'Best Tug', numerous trade stands (including an RNLI manned memorabilia stall), a large raffle (one of the many prizes up for grabs being a year's subscription to Model Boats magazine – although if you can't get along on the day, you'll find our latest subs ad on pages 36-37), refreshments and free car parking. Modellers will also be able to book a steam test for up-to-date certification (NB bookings for steam tests must be pre-arranged – contact the Events Planner, Stan Reffin, on 0113 2675790).

For more details regarding this and other home and away special events visit the website www kirkleesmodelboatclub weebly com

1:128 scale

* Generic (Royal Navy type) Crane kit (this kit is supplied as a pack of easy to assemble 3D-printed parts, and a link to YouTube footage demonstrating how simple it is to construct can be found on the manufacturer's website) – £10.45, (SKU. RN20033)

Laser cut bench sets

* Two drawer bench set
(Unit Size: 110mm (W) x 90mm (H) x 165mm (D)
Drawer Size: 100mm (W) x 40mm (H)
x 155mm (D) – £6.95 (SKU. QL12002)
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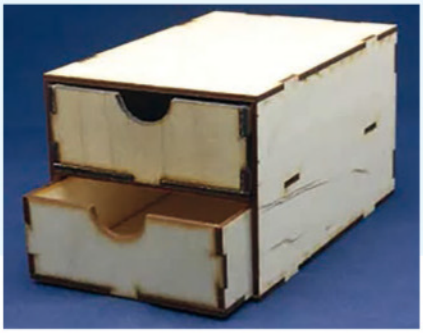
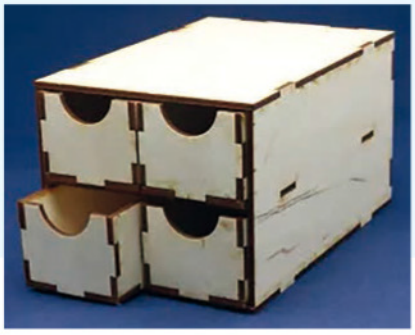
Drawer Size: 50mm (W) x 40mm (H)
x 155mm (D) – £6.95 (SKU QL12001)

These laser cut sets are easy to construct and can be either stacked or glued together.

To order, visit www.quaycraft.co.uk





ABOVE & LEFT: The Coastal Cargo ship Barry built for his son motoring round the boating pond at Woodbridge, Suffolk.

BELOW LEFT: Barry's grandson proudly showing off his new model boat at Woodbridge.

BELOW: The 'White Boat' on the water at Woodbridge.

A vision in white

Barry Lalonde tells a tale of how a present inspired by the past now promises to be the gift that keeps on giving going forward...

In recent editions of the magazine, it's been lovely to see and read about the model boats fellow modellers have built for their grandsons. I also noted with great interest and admiration, Stan Reffin's superbly made Grand Banks motor launch featured in the Your Models section of the March 2022 issue. What a fantastic job he's done. The model is packed with detail it looks just like the real thing. This, then, is the story of a simplified version of Grand Banks that I built for my own grandson...

The 'White Boat' sat on Barry's windowsill. Note the long keel, fixed rudder and original bathing platform.

1979

My story really begins long before the '*White Boat*', though – back in 1979, when I made a model boat for my son, then aged six. It was a spur of the moment thing; no drawings or real plan of action, I just made things up as I went along, using materials I already had to hand. The resulting coastal cargo ship model, fitted with a motor, fixed rudder and a simple on and off switch, gave my son a lot of pleasure on various bits of water during his childhood. Eventually, however, it was put away in the loft and forgotten about for the next couple of decades.

BELOW: Barry realised that to sail the 'White Boat' at Paxton Lakes Sailing Club, where the Cambridge Model Boat Club hold regular meets every Thursday, rather than simply at the old-fashioned boating pond at Woodbridge, he would need to instal some R/C equipment.

2012

Fast forward to 2012 and what had become a family tradition of all us annually meeting up for a day out at Woodbridge in Suffolk. This town has what I would describe as an old fashion boating pond. Surrounded by a low wall, this provides safe, all round access for both children and adults alike. With my son now having a six-year-old son of his own, he finally remembered the old cargo ship, so fished it out of the loft, gave it a lick of paint and made it ready to put back on the water. We all enjoyed watching the model motor around the pond and it was particularly heartwarming for me to see something I'd originally built for my son now being passed on to his own little boy.

"We all enjoyed watching the model motor around the pond and it was particularly heartwarming for me to see something I'd originally built for my son now being passed on to his own little boy"

Unfortunately, that sense of satisfaction in the natural order of things didn't last long, as the home-made prop shaft coupling broke and, much to everyone's disappointment, that was the end of that.

The White Boat' with her cabin top removed, showing the R/C equipment Barry installed in her interior.

"He was so proud of his new boat, and I overheard him tell several people around the pond that day that his grandad had made it especially for him"

2013

In 2013, once a date had been set for that year's meeting at Woodbridge, I decided I would have a go at building a new boat that I could take along and present to my grandson. With a window of only a few weeks, I knew I'd have to look sharp, so I drew a quick sketch of a visiting boat at Woodbridge Marina that had caught my eye, as it had bags of character. On arriving home, I looked up the craft on the internet and discovered it was a 'Grand Banks' motor yacht.

This was to be another simple project, with the model featuring a long keel for straight running, a motor, a fixed rudder and an easy to operate on/off switch. Fortunately, over the years my modelling skills had improved, and so I built the hull 'bread and butter' style up to deck level, using hardboard for the deck, which protruded a little for the rubbing rail and bulwarks on top. Plywood was employed for the cabin and more hardboard for the upper deck fly bridge, while a few trimmings finally completed the look. For simplicity and speed, the model was simply painted white, just as the boat it had been based on is. The length overall of the finished model is 66cm, with a beam of 18cm, and she features a single propeller protected by a deep keel.

My grandson's new boat

It was an enjoyable project, but I was constantly aware that I was working to a tight deadline. I made it, but only just, as the final coat of paint was still tacky right up until the evening before our family get together at Woodbridge that year! The surprise and delight of my grandson when I handed the boat over to him, however, made it all worthwhile. He was so proud of his new boat, and I overheard him tell several people around the pond that day that his grandad had made it especially for him.

The 'White Boat' being put through her paces at Paxton Lakes Sailing Club following the modifications made during lockdown, which, as well as the installation of R/C equipment, included the fitting of a moveable rudder, LED navigation lights and window glazing.

After a few more years, the family tradition of our annual meetings at Woodbridge eventually petered out. With my grandson inevitably distracted by other interests as he started to grow up, the boat was returned to me for safe keeping.

2020 upgrade

2020 saw most of us suddenly finding ourselves with much more time on our hands and, as I was tired of seeing the boat sat on the windowsill serving no other purpose than being ornamental, I decided it was high time I got her back to the water. As we no longer went to the Woodbridge boating pond, it made sense she should be properly equipped with radio-control. I also fitted a moveable rudder, LED navigation lights and glazed windows.

Once these modifications were made, I took her along to the Paxton Lakes Sailing Club, where the Cambridge Model Boat Club would visit every Thursday morning. Her first outing after the upgrade could have gone better, as I had to paddle after her with a rescue boat when she suddenly and unexpectedly ran out of power. So, I decided to increase the battery size (which meant repositioning the internals to accommodate a larger unit) and to increase the buoyancy by filling in the space beneath the swim platform. These changes meant using my test tank to get the trim right before taking the model back to the lake.

2021

By 2021, a simple boat, quickly made, had evolved into a more modern creation, which is now a reliable favourite of mine – and, equally, ready for whenever my grandson asks for it back!

"By 2021, a simple boat, quickly made, had evolved into a more modern creation"

2022

I've enjoyed sailing her quite a few times already this year. Up until now, having never been given a proper name, she's always simply been referred to as the 'White Boat'. In light of the way she's gradually been improved over time, though, I think it's perhaps time to cast off that moniker and give her a more fitting name; one that not only alludes to my journey as a modeller, but which will also encompass any further changes that may be made to her going forward, either by myself, my grandson or maybe even one of next generation of Lalondes. The future is unwritten, but script spelling out the new name I've come up with for her, *Evolution*, may well soon be added to her hull! ●

Sterling work

Geoff Fairfax explains how, prompted by his grandson, Brandon, he set about restoring his first ever R/C build...

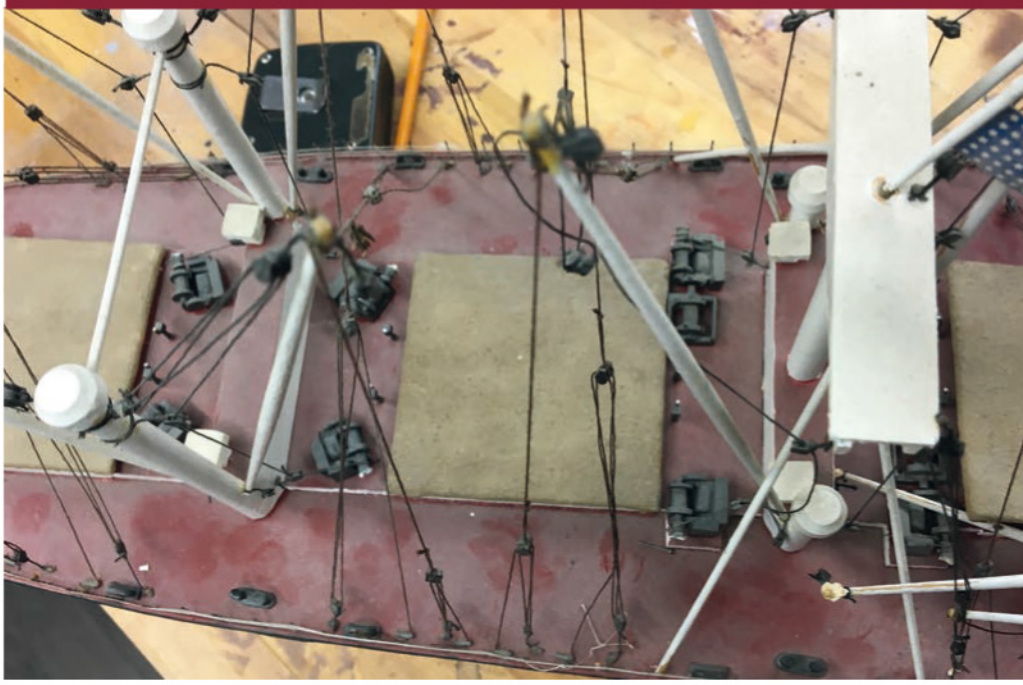
Back in 1974, my wife and I had only been married for three months and were living in a tiny 650 sq ft one bedroom apartment. With barely enough room to swing a cat, it was there I embarked upon my first ever R/C project, built, from Sterling's *American Scout* World War II Liberty Ship kit, on the new coffee table in our living room – a real test of our new marriage!

The kit was basically all balsa wood and was supplied with a steel propeller shaft and steel shaft tube. A white metal fittings kit was purchased as an extra.

Propulsion came courtesy of a Dumas electric motor through a Dumas reduction gear assembly, with a dog bone coupling and pressed on two-blade plastic propellor. A Kraft three-channel radio system controlled the steering and Dumas resistance speed control. The reversing function was handled through an electrically operated solenoid, which switched the polarity of the DC circuit powering the motor.

On completion, the model was sailed perhaps a dozen times. Not only did I encounter transportation difficulties (due to her length), but I quickly discovered she was plagued with leaks (a result of my poor, inexperienced construction) and that her battery life was limited to about 30 minutes. With life being hectic and a million and one other things going on, she was, therefore, soon consigned to the shelf, both literally and metaphorically.

Back on the bench: an overall view of Geoff's American Scout World War II liberty prior to restoration.



ABOVE: A view of the unrestored bow.

RIGHT: The unrestored cargo hatches.

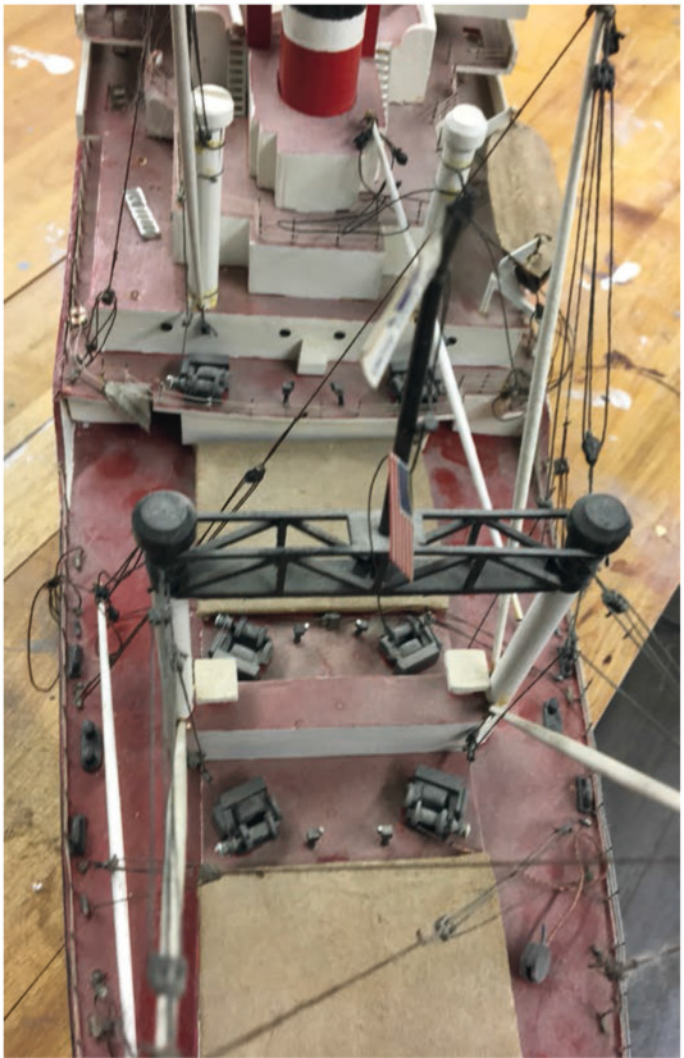
"Fast forward 45 years, three residential moves, two children and three cats later, and the model, which by this point had fallen into a very sorry state of disrepair, came to the attention of my grandson, Brandon. It was he who suggested I should restore her and start sailing her again"

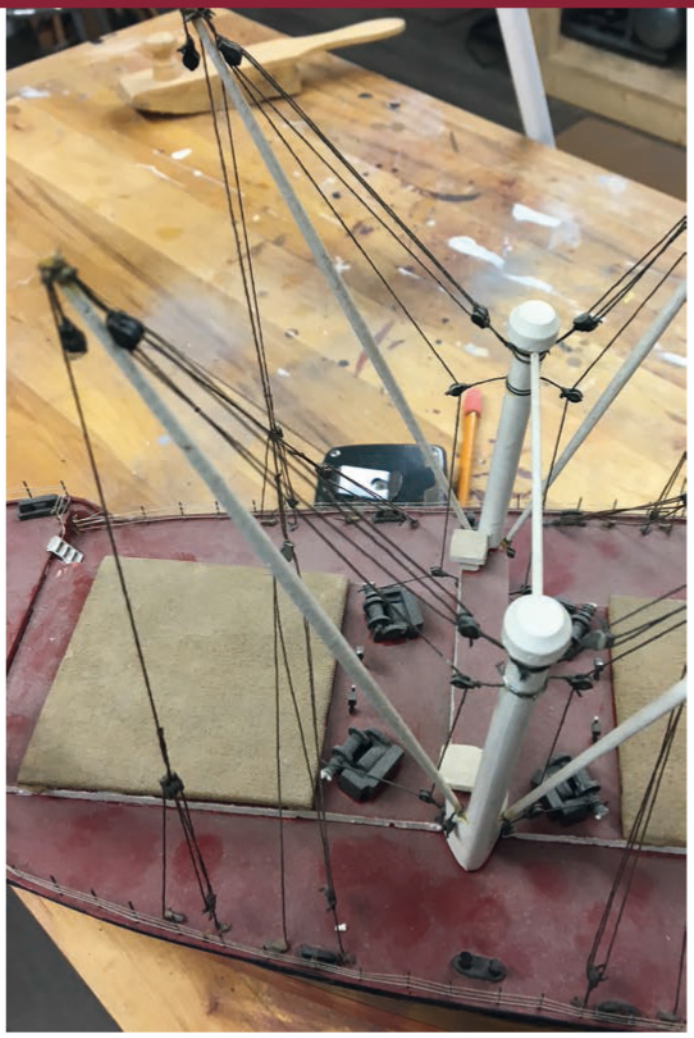
Fast forward 45 years, three residential moves, two children and three cats later, and the model, which by this point had fallen into a very sorry state of disrepair, came to the attention of my grandson, Brandon. It was he who suggested I should restore her and start sailing her again. This was a challenge I couldn't resist, as, having built several R/C boats since 2012, I felt quietly confident I could rebuild the *American Scout* to a standard that would do justice to her Sterling designers of the 1960s.

Setting to work...

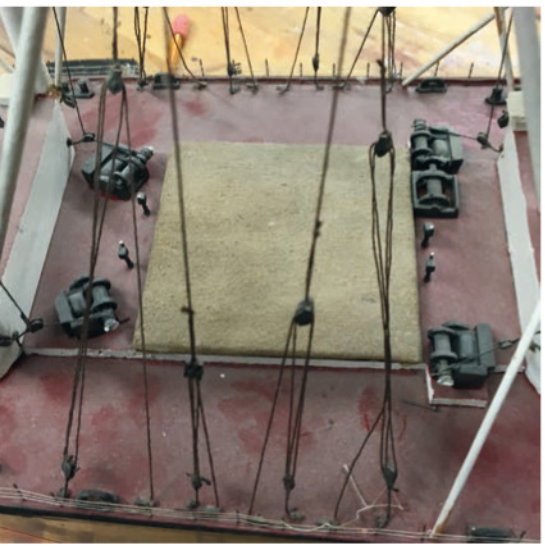
I started by stripping out the Dumas motor, gear assembly and seized propeller shaft and shaft tube. I then cut an access hole in stern deck and extracted the tin plate rudder, arm, linkage and rudder tube. The lead ballast was removed, along with the rigging and all deck fittings. I saved the cargo spars, pulleys and deck fittings. I scrapped the original balsa superstructure, but put the portholes, lifeboats and davits were set to one side for reuse later. The balsa hold hatches and some

BELOW LEFT: A view from above of the unrestored model showing cargo hatches and winches. BELOW RIGHT: The unrestored bridge in need of some TLC.





ABOVE LEFT: The unrestored forward rigging and hatches. ABOVE RIGHT: A view of the unrestored rear crane assembly.



The unrestored hatch and winches.

of the balsa deck detail I discarded. I also removed the port holes in the hull and the cargo mast assemblies.

Before starting work on the reassembly, I built a stand which would allow me to invert the hull during the restoration, and access to the machinery deck while I had the hull inverted was made possible using vertical supports attached to a work board.

Fortunately, I was able to acquire a copy of the original Sterling kit build plans (long since lost) via the internet. Having access to these plans proved invaluable, not least while working on the rigging of the cargo spars and ensuring I accurately located all the deck fittings.

"I realised I'd need to build a whole new styrene card superstructure as the original, and to be honest rather crude, balsa one was just too far gone to restore"

The hull

The entire hull and deck needed to be sanded to de-gloss the painted surfaces. I then installed the new shaft tube and rudder stem tube and epoxied them in place, before giving the hull a thin coat of stranded automotive fibreglass filler and sanding smooth. After careful scrutiny, a few imperfections were filled with automotive glazing putty and it was back to work with the sander. I capped all exposed balsa wood edges with styrene strip to provide clean blemish free surfaces; this included the edges of the hold openings. The cargo mast storage compartments were laminated with styrene to improve the fit and finish of these assemblies.

Next came a new plywood deck for motor and battery mounting and installed the pre-wired motor and coupling. A 3D-printed speaker enclosure was built and mounted under the forward #1 hold hatch. Likewise, a 3D-printed steering servo mount was added under the stern # 5 hold hatch. The newly fabricated rudder, arm, linkage and steering servo were at this point positioned. Installation of the ESC and sound module would be completed later.

After a thorough cleaning, the hull received two coats of Canyon Black, two coats of flat Leather Brown to the waterline, two coats of Blossom White on the bow bulwark, and two coats of Colonial Red on the deck. The port holes were cleaned, painted with Canyon Black and reinstalled in their original positions. I also added two hawser openings in the bow, which were painted Blossom White to match the hull colour scheme. The masts, storage compartments and spars were rebuilt to improve the fit and finish and painted Canyon Black Colonial Red and Blossom White. I also fitted my own watertight doors, not included with the original kit, to the mast storage compartments. In addition, new styrene 'hold safety guards' were added – these being replacements for the over-scale balsa originals.

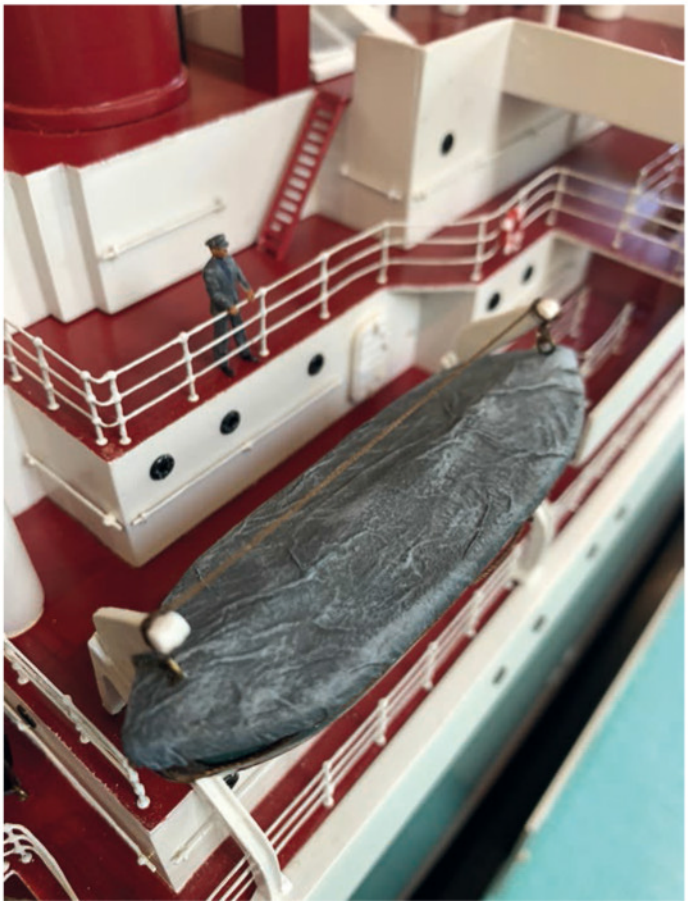
The superstructure

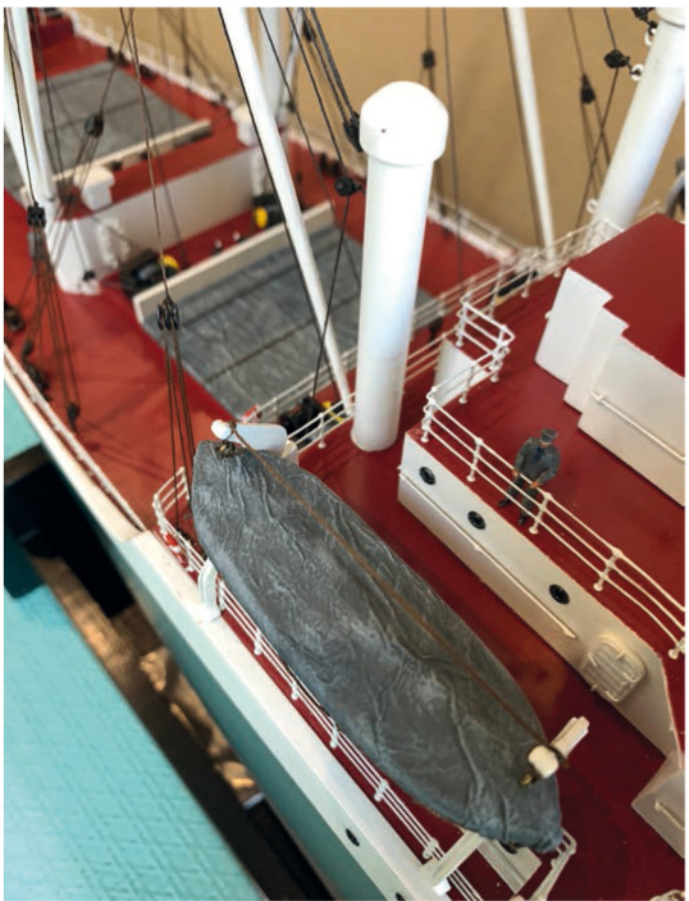
I realised I'd need to build a whole new styrene card superstructure as the original, and to be honest rather crude, balsa one was just too far gone to restore. A 3D-printed window frame assembly and funnel made for a clean assembly. The funnel was changed

to include two dummy stacks and one working stack for the smoke unit. Here, two coats of Colonial Red and Blossom White were applied. I refitted the original (now repainted black) portholes, added previously omitted brass handrails, reinstated the restored deck fittings and ventilators and installed newly 3D-printed and painted radar, skylights, cabinets, *etc*. The unconvincing original deck stairs, which to me looked more like ventilators, were replaced with more convincingly scaled ones I had purchased, while new scale stanchions and rails were added to replace the original sewing pins and thread railing assembles.

ABOVE & RIGHT: Views of restored superstructure and bridge.

BELOW LEFT & RIGHT: The restored Life Boat Tarp.





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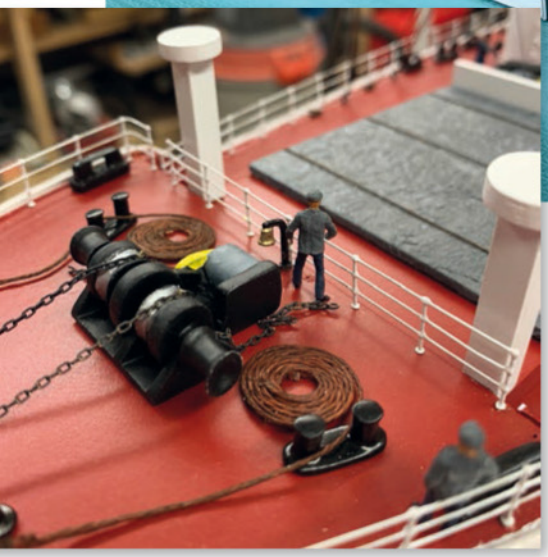
WHAT IS AVAXHOME?



ABOVE: The restored American Scout's anchor winch.

RIGHT: Restored rigging.

Final assembly

The next task to tackle was the lifeboats, which were sanded and repainted Canyon Black and adorned with grey painted tarps and tan grab ropes. These were then hung from the boat davits.

To make the grey tarps I covered the top of each lifeboat with a wad of plain white Kleenex tissues, before coating with a 50/50 solution of white glue and water. Once dry, these were removed, painted grey, dry brushed with lightened grey primer to highlight the creases, and finally sealed with two coats of clear matt varnish. My finished tarps were then glued in place. This method was also used to create the hold tarps.

All of the cargo winches and anchor winches were filed, filled and sanded to improve their appearance. They were then hand painted Canyon Black, Granite Grey and Sunbeam Yellow and remounted in their original positions.

At this point, to avoid damaging the delicate rigging, I finished the wiring for the ESC, smoke unit, sound module and 6-channel receiver. I used Velcro for mounting these components, as I realised this would facilitate ease of removal should it be required at a later date.

I made my new hatch covers from styrene card and covered them with tarps made from tissue, as I had done for the lifeboats. Hold down ropes were then applied after painting.

Then, the sanded and painted spars were reinstalled, as well as all the repainted deck hardware. At this stage, I decided to install the new crane rigging before fitting the railings, as this would make tying off the rigging easier.

Once the rigging was complete, new brass stanchions and railings were fixed in position and painted Blossom White.

It was now time to glue the 1:100 scale crew, which I'd sourced from Shapeways and painstakingly painted, to the deck.

The original flags and decals were reused where possible, but I did make a new US flag, which I mounted at the bow, as per the original Sterling layout. In addition, new hull marker decals were sourced and applied.

The restored poop deck is now crewed.

AMERICAN SCOUT 1:110 semi-scale Liberty Ship cargo design C2-S-AJ5

WWII US Cargo ship 8300 GRT.

Originally built to transport war materials to Britain during WWII.
Built in 1945 by the North Carolina Ship Building Co., Wilmington North Carolina. At wars end she was sold to the United States Line and served as a domestic cargo ship until 1967.

Length 140 m Beam 19.2 m Draft 7.6 m

Powered by a 6000 shp, oil fired , twin boiler fed steam turbine.

"My American Scout performed admirably on her restored maiden voyage, on the self-same pond where I'd first launched her back in 1974. Indeed, not only does she now sail without running out of power but, I'm delighted to report, there's been no sign of any leaks"

Test tank

In order to set the ballast, I needed to fabricate a temporary pool to accommodate the model's 52-inch overall length, which I built from 2x6 dimension lumber and lined with 2-mil poly painters drop sheet. After filling this pool with water, lead shot in plastic bags were placed throughout the hull to obtain the proper level.

Back on the water

My *American Scout* performed admirably on her restored maiden voyage, on the same pond where I'd first launched her back in 1974. Indeed, not only does she now sail without running out of power but, I'm delighted to report, there's been no sign of any leaks.

Fully covered

At home, she now sits proudly on a newly crafted display stand, which sports an information plaque outlining the history and technical data of the original vessel. And in order to keep her looking absolutely pristine, I've also constructed a wooden frame, painted black and covered with clear poly film, in which to encase her; no more dust and no more feline damage!

A shout-out to Brandon!

How we can best encourage the younger generation to get involved in hobby is a topic frequently discussed in the modelling community. In this case, however, it was my grandson who motivated me! So, my thanks to Brandon for prompting me into this project! ●

The new parts and materials used

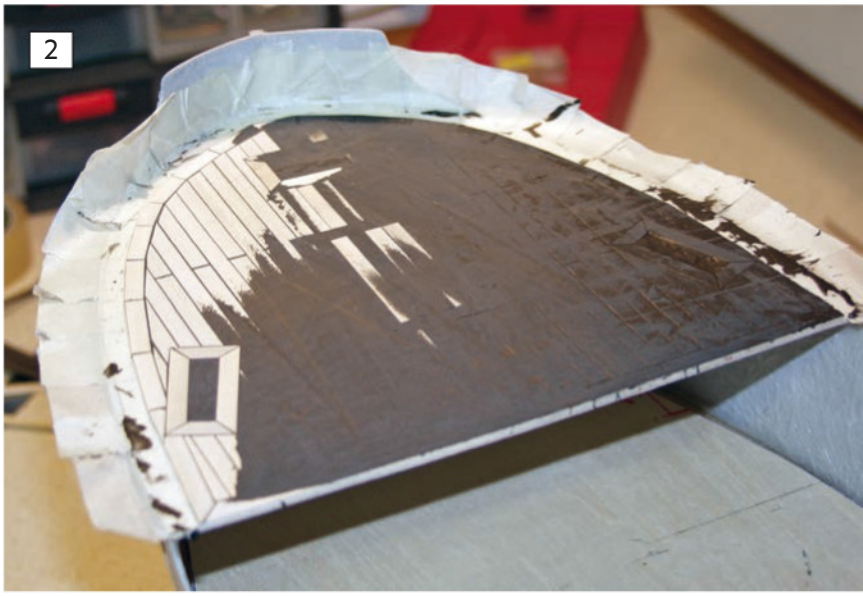
* Raboesche 4mm ss shaft and brass tube
* Raboesch splined universal coupling
* Raboesche 50mm brass propellor, 4-blade, LH, 4mm thread
* MFA Torpedo 500 geared 2.5:1 motor
* Harbor Models Small Scale 6-Volt Smoker
* Viper marine 25 ESC
* Hitec HS-645mg servo
* RAM 71 Big Ship Whistle sound module
* Shapeways 1:100 scale Merchant Marine crew
* Shapeways 1:100 scale watertight doors
* 1:96 scale hull marking decals
* Gel cell 6-volt 4ah
* Brass railing .016" diameter
* Brass stanchions 11mm, 3-hole
* Dimension Engineering 10amp Electronic Battle Switch relays for smoker and sound module activation
* N scale styrene stairs, Plastruct 90661
* Assorted rigging cord, tissue, styrene card .030-inch thick and steering linkage wire arm and connectors
* Automotive stranded fibreglass body filler
* Automotive paint glazing putty

Paint manufacturers' colours

Rust-Oleum
Canyon Black satin, Blossom White satin, Colonial Red satin, Granite Grey, satin, Grey primer flat and Matte Clear

Krylon
Sunbeam Yellow gloss

Tremclad
Leather Brown flat



ABOVE LEFT: PVA glue comes in a huge variety of types, all with the same basic chemical formula but each modified for a specific characteristic. It's used for woodworking, joining paper and card and most porous surfaces. Watered down, it can be a very versatile glue. ABOVE RIGHT: An interesting use of PVA is when mixing with powder paints to form a coloured filler, as with this deck caulking. The planks were spaced with 0.5mm spacers when glued down and the surface covered with the blackened PVA. Once thoroughly dry, this then was rubbed off the surface.

Get stuck in!

Richard Simpson provides a beginner's guide to glues

Firstly, my apologies to those of you out who know the ins and outs of all matters relating to this subject and already have the experience to know which of the numerous products available are best suited to specific tasks. The reason for this article is, however, that one of the most frequent questions that seems to come up both at the pond side and on various online forums relate to a degree of confusion regarding glues. So, for those amongst us who we are trying to encourage to take the plunge and get into the hobby we all love so much, what follows is a very brief look at some of the main categories of glues and what their strengths and weaknesses are.

I should point out that in a great many cases there is no definitive answer for a specific application, which is where personal preference come in to play. Consequently, I will try to remain as factual and as possible and keep my own biases to a bare minimum, in an attempt to prevent the editor being flooded with alternative suggestions! Let's have a look, then, at some of the different glue types.

Poly Vinyl Acetate (PVA) glues

Probably one of the most widely used glue types today, PVA, is a water-based white glue that dries clear (see **Photo 1**). It has a very distinctive smell, so once familiar with this you'll know when a glue is PVA based. There's a huge variety of these glues on the market, all based on the same basic formula but with slight variations in terms of the additives included, so as to be better suited to given applications. That said, all of the different guises PVA comes in can be used similarly. It's unbelievably versatile, as it can be watered down, mixed with pigments or paints, mixed with textures, or indeed mixed with anything else water-based for a huge variety of purposes. As an example, I've included an image showing how PVA mixed with black powder paint has been used to create caulking (see **Photo 2**). It works at its best when it soaks into a permeable surface, such as wood, card or paper, to form a bond that is invariably stronger than the parent material. Diluting it with water might help this process but remember that you will reduce the strength of the bond with the dilution. Once dry, this glue retains a degree of flexibility, so it won't crack, which makes it very useful for situations where the parent material might flex. As an aside, if you require a PVA type glue that has a thin enough consistency to afford good capillary action without losing too much strength, aliphatic glue works extremely well (see **Photo 3**).

"Once dry, this glue retains a degree of flexibility, so it won't crack, which makes it very useful for situations where the parent material might flex"

Aliphatic glues share properties similar to those found in PVAs, but they're very thin and particularly good at soaking into close fitted joints by capillary action, while at the same time maintaining their strength.

Because PVA will not soak into a non-porous material such as plastics, fibreglass, metals, *etc*, it doesn't form anywhere near as strong a bond with these materials. If, however, less strength is required in the joint, it could still be a glue worth considering for

LEFT: When non-porous items are to be joined, captive fasteners can be held in porous items such as these beams, which are then bonded to the main structure with PVA.

BELOW: Applying PVA to the joint faces creates a strong bond, but the further addition of a fillet along the external faces of the joint makes for an incredibly strong structure. This softwood and ply superstructure is half the weight of the fibreglass kit supplied part, and perfectly strong enough.

these materials. It will still grip onto a non-porous surface by microscopic adhesion and the exclusion of air, but you'll be able to peel it off again with the use of a knife. This may still be of sufficient strength for your particular purpose. If greater strength is required between a metal component and a wooden one, though, some mechanical means, such as captive nuts and bolts within a wooden bearer that is then glued in place with PVA, will be your best option (see **Photo 4)**.

As mentioned, PVA can be combined with many other products, such as grit for non-slip deck mats for instance. The hardened glue sands well and can be painted over with both enamels and the various types of acrylic paints. If, however, a clear varnish is used on a wooden joint, any residual surface glue will be noticeable, because it will prevent the varnish soaking into the wood. Being stronger than the wood itself, PVA is a superb glue for wooden structures and, when applied to the joint faces as well as supported by a fillet of glue along the structural members, you'll get an incredibly strong unit for the model (see **Photo 5).**

Epoxy glues

While epoxy glues have the same basic base chemical formula, once again, the various types are modified by the use of additives in order to tailor them for specific purposes. Some are fast curing, some are better suited to non-porous surfaces, some harden particularly clear, *etc.* Epoxy glue will normally come in two parts, frequently in two tubes; these parts are usually mixed in a 50-50 ratio by volume (see **Photo 6)**. This makes it fairly easy to judge the quantities when you're squeezing the two parts onto a surface ready to mix. It's important to be aware of the properties of the epoxy you're using as, for instance, the rapid type will start to harden in around five minutes, so you'll need to work within that time frame. Conversely, the slow setting variety will remain free flowing for a number of hours, so the glue might require containing to keep it in the joint, and your parts will almost certainly require clamping together to prevent them creeping apart during the long cure time.

Epoxy glues tend to be incredibly strong. While they can be used for wood and porous materials, the cost can be prohibitive and may seem over the top when PVA will do just as good a job. Epoxy is particularly good, though, for various fibreglass materials and, likewise, for gluing non-porous materials such as metals and glass, especially the crystal variety. Because this glue doesn't actually soak into the surface, it can, like PVA, be removed with a knife; however, the grip is such that it will, for majority of applications, be more than strong enough.

6

Epoxy resin glues, again, come in many varieties. Care should be taken to select the most suitable one for your joint, bearing in mind both its properties and curing time. Make sure you use the right hardener for the appropriate resin, and always replace the top on the correct tube.

"Epoxy glue will normally come in two parts, frequently in two tubes; these parts are usually mixed in a 50-50 ratio by volume"

ABOVE LEFT: A typical use of a two-part epoxy glue: this is a slow cure variety for maximum strength and water-resistance and has been finished with an epoxy car body filler to smooth everything in. This same glue has been used for the stern tube and the rudder stock tube. ABOVE RIGHT: Another handy mechanical arrangement is to use an epoxy glue to hold bolts into a wooden base that allows the metallic components to be bolted to the wood. This is a steam engine pedestal, which can now be glued into the hull.

One point worth remembering is that the rapid set variety is not as water resistant as the normal version of this glue, so prolonged immersion in water may require additional protection. Epoxy glues tend to set with a thin film on the surface which prevents the proper adhesion of paint; they must, therefore, be thoroughly degreased and the surface keyed before applying paint, after which most forms of paint will adhere successfully. It's a particularly useful glue when bonding metals to fibreglass, but the slow cure water-resistant type is best for hull fittings, as with the stern frame illustrated (see **Photo 7).** It also works very well when bonding metals to wood, as with the captive bolts shown as example here (see **Photo 8)**.

Cyanoacrylate glues (Superglue)

Yet again, the basic chemistry of the various glues in this category remains the same across all types, with various additives being used to modify the properties. The most common types are a thin penetrating type, a thicker medium density general purpose type, and an even thicker gel-like type. There are even dispensers with an inbuilt brush for easy application (see **Photo 9)**.

Cyanoacrylate or 'Super' glues have been with us for many years now and, again, come in many varying types, typically as regards viscosity. They're not always the best choice for things like flexible plastics, however, as they don't always bond to the surface and can peel off when flexed.

Thin

This type is extremely useful due to its capillary properties. Items can be assembled, and the joint spotted with the glue, which will soak right into the joint and give a secure joint. The downside is that this glue can be quite tricky to control and can easily end up everywhere. Cocktail sticks are very useful for applying small spots, as inverting the bottle, with even the smallest of holes in the spout, will almost certainly result in a flood of the stuff all over the work bench. I usually put a blob on a piece of scrap then apply with the cocktail stick. This type of glue doesn't work very well on porous surfaces, as it soaks in so quickly and sets in a fraction of a second. It is very useful, however, for rigging work, when a spot on a piece of rigging will prevent fraying when it is cut.

General purpose

This is the good old superglue that has been the staple of modellers for many years now. An incredibly strong bond can be achieved with this glue, which can set within a few seconds, so you can usually hold things together by hand while it does so. As it has the ability to fill gaps, this can be used when the very thin variety might not be successful, and it dries clear. Given that it's so hard, it can be difficult to sand once set, but on the upside, it can be painted over with most paint types.

Gel type

This is, not surprisingly, the best gap filler, and modellers even use this glue mixed with various powders, such as talcum powder, to create a filler. In this form it becomes much easier to sand, so can be considered as a filler as much as a glue. All superglues are good, if not at their best, with non-porous surfaces but they should always be tested when working with various types of plastic as they prove more effective with some than others – indeed, with some plastics adhesion can be surprisingly weak.

Although I find cyanoacrylate glues to be extremely useful with some materials, especially when rigging, I tend to stay away from using them as a general modelling glue. While superglue is undoubtedly incredibly strong, I sometimes feel that the adhesion with certain materials doesn't stand the test of time. It must also be remembered that the fumes given off while these glues cures can be particularly toxic, especially in the case of the thin type. Well ventilated work areas are essential, and definitely avoid having your face over the glue while it cures.

Plastic specific glues

As there are a huge number of different types of plastic around nowadays, it would be almost impossible to suggest a glue that would work with them all. Even general-purpose plastic glues, such as

LEFT: The correct glue for the appropriate plastic should always dissolve the surface to create an extremely strong bond. While Plastic Magic is a good general purpose plastic glue, it doesn't always work with some plastics, so test pieces are essential.

In conclusion

Glues can be a bit of a minefield for the inexperienced modeller and there's nothing worse than finding out far too late that the one you've used for a plastic superstructure hasn't done the job and that things are starting to come apart. As with so many things to do with modelling, then, I'd strongly suggest doing test pieces to establish whether a glue is indeed fit for purpose. If in doubt, use a mechanical fastening.

As an example, when putting together a Club 500 a few years ago I followed the instructions and initially used the glue recommended to attach the deck to the hull. Unfortunately, despite the numerous dry runs working perfectly, I found that this glue acted as a lubricant, making it damn near impossible to keep the two parts together while it cured. This left me no choice but to dismantled and clean all the glue off. Various tests then showed that polystyrene cement dissolved the surface of the plastic to give a superb bond so, on reassembly, the joint itself was spotted with glue and then, once dry, a full bead was run around the joint.

In modelling, within a single structure, such as the removable bridge section shown in this example (see **Photo 12**), various glue types can be used. The woodwork here was all glued with a PVA glue, the metal fittings were attached with a two-part epoxy and the dodger stanchions were sat in a close-fitting hole and then spotted with a thin cyanoacrylate glue. ●

Use the correct glue – in the case of this water tank, a polystyrene cement with polystyrene sheet – however, and an extremely strong and waterproof joint can be achieved.

BELOW: A typical model structure using multiple glue types for the different materials featured. In this single piece, cyanoacrylate, epoxy and PVA glues are all used to make the most of their respective properties.

Plastic Magic, have limitations. The key is to try, wherever possible, to identify the plastic and then use an adhesive designed specifically for it. Invariably, the best result will be achieved with a glue that actually dissolves the surface of the plastic, as with polystyrene cement, and forms a bond that is at least as strong as the parent material (see **Photo 10).** If it's not possible to identify the plastic, then testing various glues is critical. Polystyrene cement is perfect for polystyrene but will simply have no effect on some other plastics, so would be useless. Many plastic manufacturers will produce their own glue, such as ABS cement for ABS plastics, but we also have to accept that some plastics, in particular polythene types, simply will not glue and have to be fixed with a mechanical device, such as a nut and bolt or a screw. With the correct glue for the plastic in question, which dissolves the surface to create a completely fused joint, extremely strong and waterproof structures can be built (see **Photo 11)**.

John Mileson takes us on a voyage back to the Age of Romance, via the rather less glamorous setting of his potting shed!

Welcome aboard, Mr Onedin!

While I cannot claim to have watched all eight series and an unbelievable 91 episodes of *The Onedin Line*, this BBC television drama left an indelible mark on me. As I write this article the theme tune to the series courses through my mind; it was the Adagio from Spartacus by Khachaturian.

What was it about, this fairly innocuous programme that still haunts my memory? Well, it was set in Liverpool and charted the chequered history of James Onedin, owner of the Onedin Line, during the period from 1860 to 1886. It starred Peter Gilmore and Anne Stallybrass as the fictional husband and wife, and, as it happened, the actors ended up getting married to each other in real life. The indisputable star of the show, however, was the schooner *Charlotte Rhodes*, which in reality was the schooner *Kathleen and May*, built in 1900.

To establish the outline of the inside of the fibreglass hull in order to make cardboard templates for bulkheads, a piece of card was roughly shaped to size and then card fingers were glued on. The end of each finger then determined the outline at that point.

"The BBC television drama series conjured up all the 'romance' of the 19th century seafaring traders, and the allure of this then drew me to the Bristol Channel pilot cutters, which operated in a similar era"

Most of the filming took place in Bayards Cove, Dartmouth, a location I came to know very well. The series conjured up all the 'romance' of the 19th century seafaring traders, and the allure of this then drew me to the Bristol Channel pilot cutters, which operated in a similar era.

These cutters, as the name implies, worked out of a number of small ports set around the estuary of the River Severn. The Bristol Channel, noted for its tidal range of over 46 feet, strong tides, underwater obstacles and ever shifting sands, presented one of the most hazardous approaches to a major port in the UK.

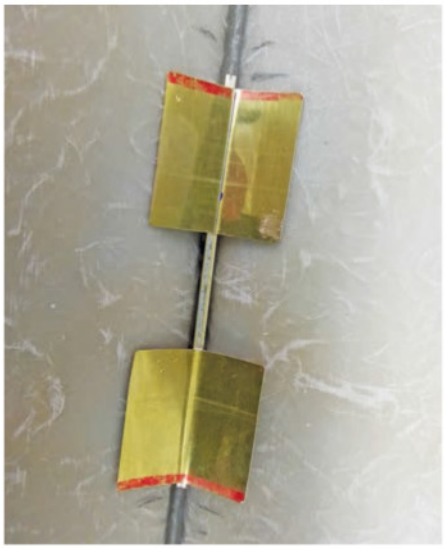
Bristol at this time developed into a major international trading port, dealing with cargoes as varied as sherry to tobacco and, of course, served the reprehensible slave trade.

ABOVE LEFT: The finished card templates located in the hull. ABOVE RIGHT: Using the card templates, plywood versions of the bulkheads were cut out and fitted.

"By opting for a fibreglass hull, a lot of what could have been tedious hull construction was simplified"

Many ship owners and traders feared losing both vessels and cargoes in these turbulent waters. Having local knowledge of the estuary encouraged the fishermen from the various estuary ports to apply this knowledge to become pilots. In fact, in many instances, pilotage became their main source of income. Ensuring the safe passage of merchantmen in and out of the estuary became a very lucrative trade, with the first pilot to reach the incoming vessel winning the contract.

To be more competitive, fast cutters were developed and built to enable the pilot to 'race' out to meet the incoming ship. They knew that if they brought the vessel in to a safe haven there was every chance of being contracted by the owners to pilot it again on its outgoing voyage.



ABOVE LEFT: A slot was cut along the keel line in order to fit a brass keel.
ABOVE RIGHT: The brass keel plate bonded into the slot in the keel: to this is attached a separate removable brass keel with lead weight. This was to give greater stability to the cutter and make transportation easier.

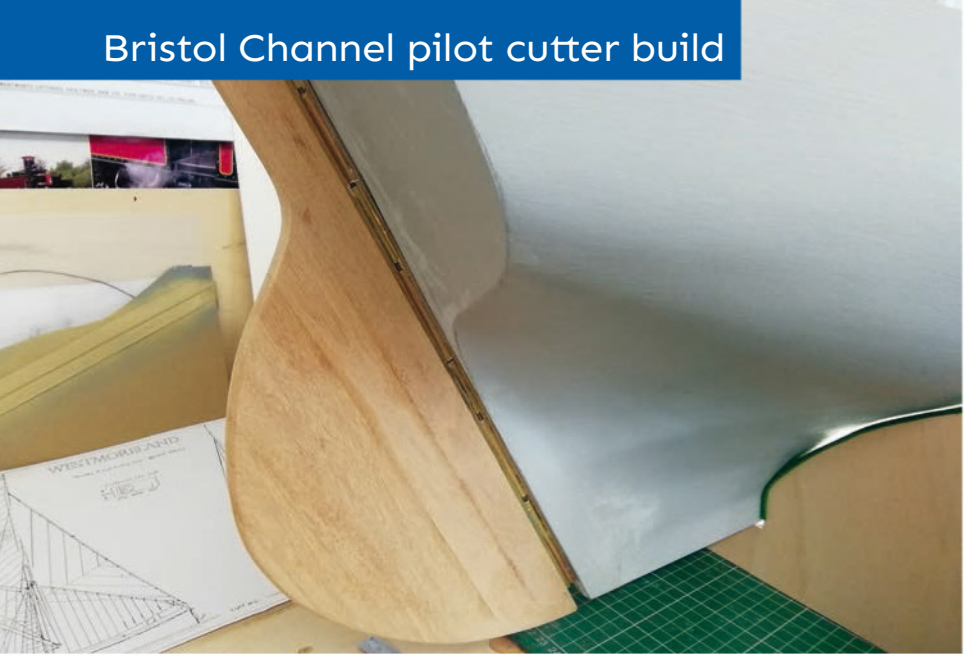
Struggles in the potting shed

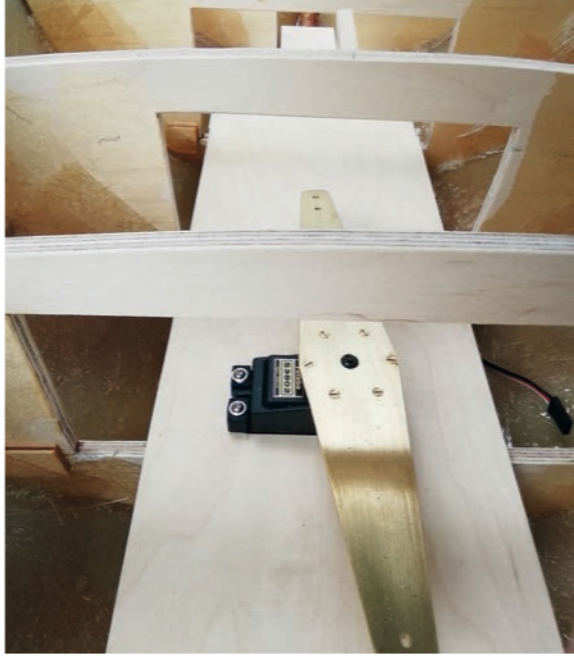
Wanting to capture a bit of this excitement and romance led to me purchasing the Sarik Hobbies plans and fibreglass hull for its model of the Bristol pilot cutter *Katie* (by opting for a fibreglass hull, a lot of what could have been tedious hull construction was simplified).

This is no small cutter, however. The finished model ends up 1430 mm (56-inches) long, 1680mm (66 inches) high, and has a beam of 350 mm (14-inches). So, it was really far too ambitious a project to have considered tackling in a small potting shed like mine. What's more, I made the mistake of building this at the same time as a 40-inch-long paddle steamer.

My shed is 12 feet long by seven feet wide and it not only accommodates two workbenches but also a model railway. It has, therefore, become a great source of irritation having to move stuff around just to access a workbench – a frustrating situation only exacerbated as the cutter grew. Due to the height to the top of the mast, and no longer fitting on a bench, much of the construction had to be carried out on the floor, with all that this implies. It's commonplace for me to leave the shed with blood running down my head, and aching legs and knees. Worst of all, each time I attempt to stand up I suffer from giddiness and disorientation!

The photographs featured here illustrate the build of the boat. Much the same as any other boat really, and probably not worth further comment.

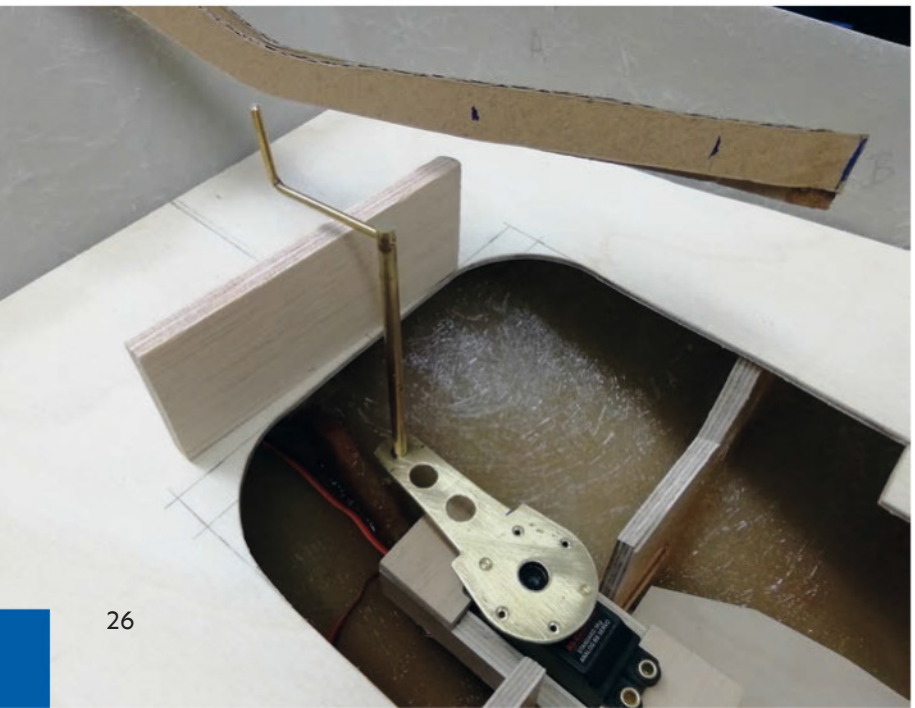


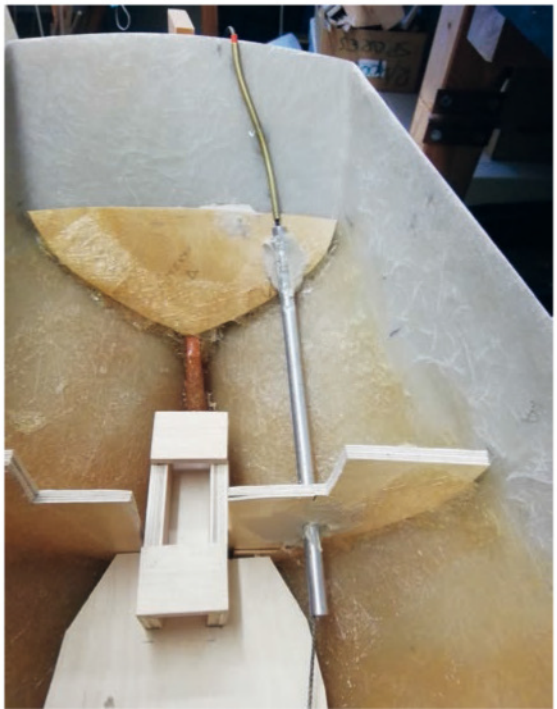


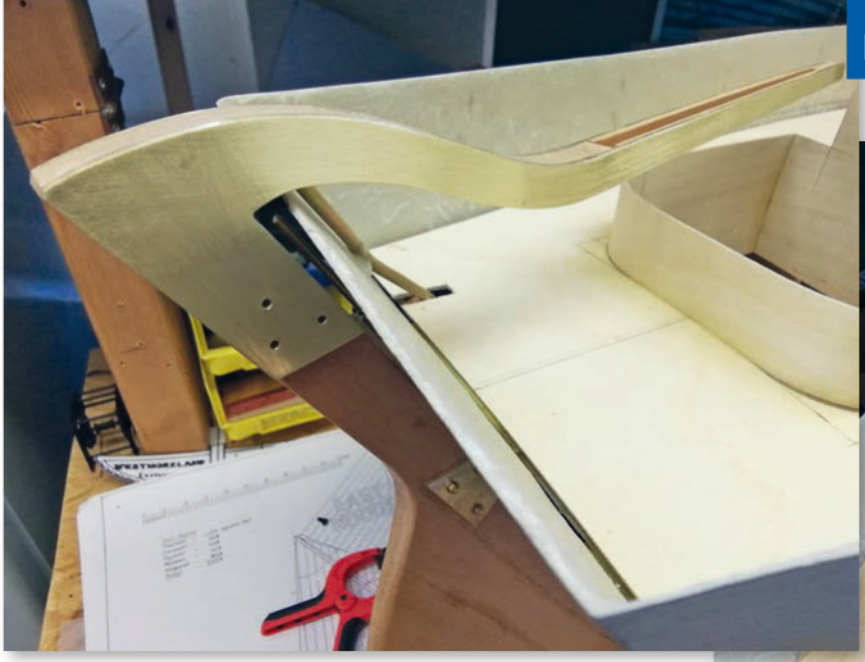
ABOVE LEFT: The teak rudder attached to the transom with a homemade hinge. ABOVE RIGHT: The sail servo in place. This serves both the main and foresails.

A cardboard mock-up of the tiller. This was a fiddly job, and it took several attempts before it was at the correct angle.

ABOVE LEFT: The plywood deck being tried on to ensure a reasonable fit.BELOW LEFT: The steering servo was fitted with a long vertical arm, which was to locate in the long slot in the tiller arm. BELOW RIGHT: The arrangement of the guide tubes to lead the sheets from below the deck up to the sails.







ABOVE: Trial fitting of the companionway leading to below the deck and the cockpit area. The floor of the cockpit area required an arc slot to be cut to allow the vertical servo arm through to the tiller.

RIGHT: With the plywood deck glued into the hull, the teak planks were added.

BELOW: The outside of the bulwarks was also planked. These were glued to fibreglass with superglue.

Admittedly, one major problem did arise. The rudder was to be operated via a tiller arm. Due to the steep rake of both the stern and rudder, the tiller arm had to straddle the stern rail. This made connecting the tiller to the servo motor particularly awkward. The servo is in the bowels of the model, and the tiller swings about well above deck level. The solution, and I am sure there are many more simple ones, was to attach to the servo arm a vertical extension. Onto this an angled bracket was soldered; this in turn located in a long slot in the tiller arm. It's a bit Heath Robinson, but it does, in its own clunky way, operate quite adequately.

Having sorted this, other than a few minor snags, construction went well.

ABOVE LEFT: The cockpit and companionway were clad in teak. The arc slot in the floor of the cockpit is to allow the vertical servo arm to operate.

ABOVE RIGHT: The removable hatch cover in place and awaiting glazing.

ABOVE: The exterior of the fibreglass hull was brush painted using Phoenix enamel paint. While appearing black, the colour is actually a mix of black and white, giving a dark grey finish.

INSET BELOW: John forgot to cut a hole in the bulkhead to allow the bowsprit to come through, which looked a bit ragged to start with. RIGHT: The bowsprit in place.

Sail solution

My attention then turned to the making of the sails. Hmm… Should I make a set myself or have some made professionally? Reflecting on my previous attempts at sail making, all of which are now used for handkerchiefs or dusters, I was left with little choice.

I'd heard fellow club members extolling the virtues of fitting Nylet sails to a model,

ABOVE: Having carved the mast and boom, etc, from solid teak, this photo shows a variety of the mast fittings.

ABOVE: The Nylet sails fitted: the quality of the workmanship, John notes, is outstanding. ABOVE RIGHT: Ready to go.

so I contacted Frank Parsons at Nylet, and right from the start of our conversation I realised I was talking to an expert sail maker; I suppose after 56 years in the business, he should know what he's talking about! While I didn't understand a lot of the terminology used, Frank went to great lengths to establish exactly what I required. Further to his advice, I opted for Egyptian cotton, with all the 'trimmings'. While no firm delivery date was specified by Frank, I understood that, due to his workload, I would have to wait several months for delivery.

Patience paid off big time! On arrival, rolled in a cardboard tube, with instructions on how to treat them before and after rigging, I was beside myself with excitement. Who'd have thought I could get such a kick at looking at a suit of sails; they were a joy to behold! So much so that, at first, I was frightened to handle them in case I marked them. The quality and attention to detail really was exceptional. Indeed, it occurred to me there were probably too good for my boat!

The superb sails, however, presented me, however, with a yet another dilemma. While I had initially intended to rig the cutter as per the prototype, it occurred to me that simplicity of rigging would be hugely beneficial when preparing the cutter pondside. Simplicity prevailed. The hope was that, when I removed the vessel from the back of the car at some point in the future, I would be able to set sail in minutes.

So, I plucked up courage and started to rig the cutter and fit the sails. To my delight, the sails fitted perfectly. Such a relief!

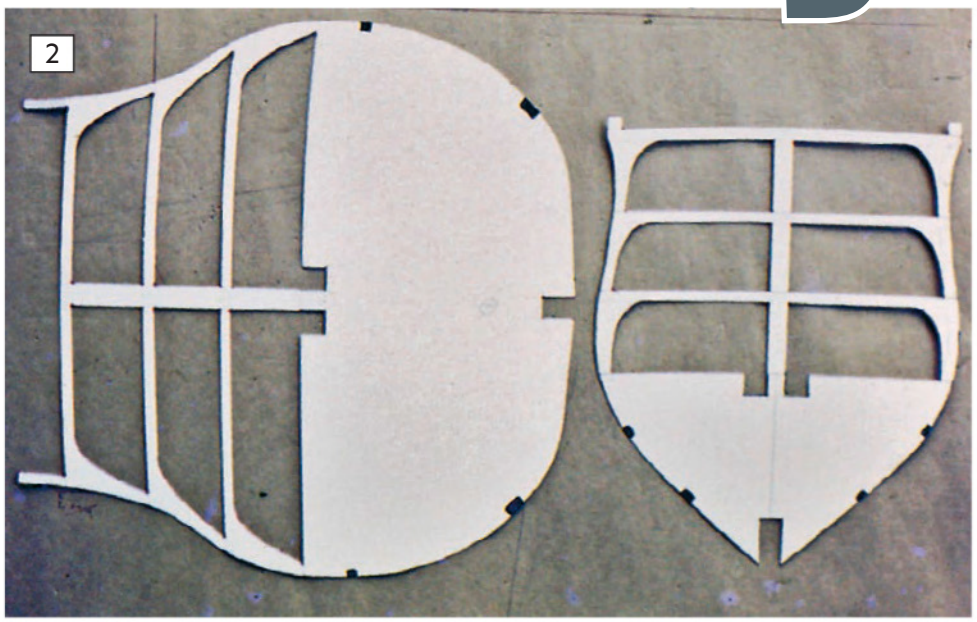
A satisfyingly happy ending

I am very pleased with the overall look of the finished cutter. Whether or not I will ever be brave enough to actually sail it and risk damage to my precious sails, I don't know. What I'd really like to do is move the cutter into my living room and just sit and drool over it! But I have a sneaking suspicion my wife may have some opposition to this idea.

Anyhow, thanks to *The Onedin Line*, I now have a lovely Bristol Channel pilot cutter. Welcome aboard, Captain Onedin! ●

HMS Victory

Michael Byard shares the story of a long build that – so deservedly – ended up going viral!



In 2021, just before my 81st birthday, I finished – well, almost except for about six items of stern decoration – a 1/4-inch to 1ft (1:48) scale model of *HMS Victory*, based upon the plans included in a slip case of the HMSO Publication of 1966 *HMS Victory Building, restoration and repair* (this printed volume came with drawings, photographs and slip case). The plans are based upon the 1797 rebuilding of *Victory* when the stern galleries were removed and, instead, the stern was all glassed in, as we know her today.

Now, I have to admit that I'm not an experienced model maker, and I had to learn as I went along, especially when it came to *Victory*. Over the years, however, I have managed to construct three models from scratch; the first being a British Power Boats High Speed Launch 141 (HSL, afterwards called Air/Sea Rescue Launches) I built in Australia in about 1960 or so (See **Photo 1**).

"HMS Victory, took me some 50 years to complete!"

1970

The second model I built from scratch, *HMS Victory*, took me some 50 years to complete! Having finished the HSL, my mother, by this time a widow, suggested that as I'd purchased the aforementioned publication I should perhaps try and have a go at building the model. Around the same time, I came across a book, in a Melbourne bookstore, by C. Nepean Longridge entitled *The Anatomy of Nelson's Ships* in which he described the model that he had built, to the same scale, which is now on display in the Science Museum in London. Longridge was an ex-Royal Naval surgeon who started his model whilst still in the Navy and finally completed it some years later after World War II had put his model making on hold for the duration of the hostilities. This book really fired my enthusiasm, so, in 1970, I started by marking out frame templates (see **Photo 2**) and keel template. From the outset, I decided to photographically record my progress with the intention, ultimately, of producing a book for myself and family on the construction.

Once the templates were completed, I traced them all onto 1/8-inch ply (now aged 82, I'm still an Imperialist: that is, I use only imperial measures). So, both the BPB and

"On New Year's Day 2014, my archaeologist daughter, Annaliese, asked when I was going to finish this partially complete model, if ever!"


3

Victory vessels were built using Imperial measure – although I did make an exception when it came to purchasing 1mm birch ply for the foundation of the hull and decks (initially from the Model Dockyard in Melbourne, then, latterly, from model suppliers in England). With my frames cut out, I started to assemble them onto the keel section and photographed them in situ (see **Photo 3**).

1972

By December 1972 I had encased the lower hull section – up to the lower gun deck – firstly on a bed of 1mm birch ply. This was then covered with 1/4-inch x 1/8-inch 'planks' of 36-inches in length.

At this point my job in Melbourne meant that I had to return with my wife to England (I was working for a round-the-world shipping company) so I had to construct a suitable box in which to pack the model. The box was about 5ft 6-inches in length, 20-inches deep and 20-inches wide.


4

1973-1977

Arriving back in the UK in March 1973, the model then remained in that box until we were able, some four years later, to move to a house in South Oxfordshire, where we still live to this day. When it was finally taken out of the box, in late 1977, it was hung up from the rafters in the garage. There it stayed until, on New Year's Day 2014, my archaeologist daughter, Annaliese, asked when I was going to finish this partially complete model, if ever! So, I decided at the age of 74 to do just that. This took me another six years. In my defence, I was restricted to the months between Easter and October because it was simply too cold to spend time in my workshop (*a.k.a.* the garage) during winter and having arthritic thumbs didn't help much either.


5

2014

When I'd initially taken it down, I'd found that some of the frames had broken, so these first had to be re-instated before applying an undercoat of paint to the hull section so far constructed, as of April 2014 (see **Photos 4** & **5**).

I must reiterate that I was building virtually everything from scratch. The only items that I didn't make were the timber planks, gratings, brass canons, canon balls, window frames and the four 'ships boats'; all the rest was made as I went along. By June I was busy

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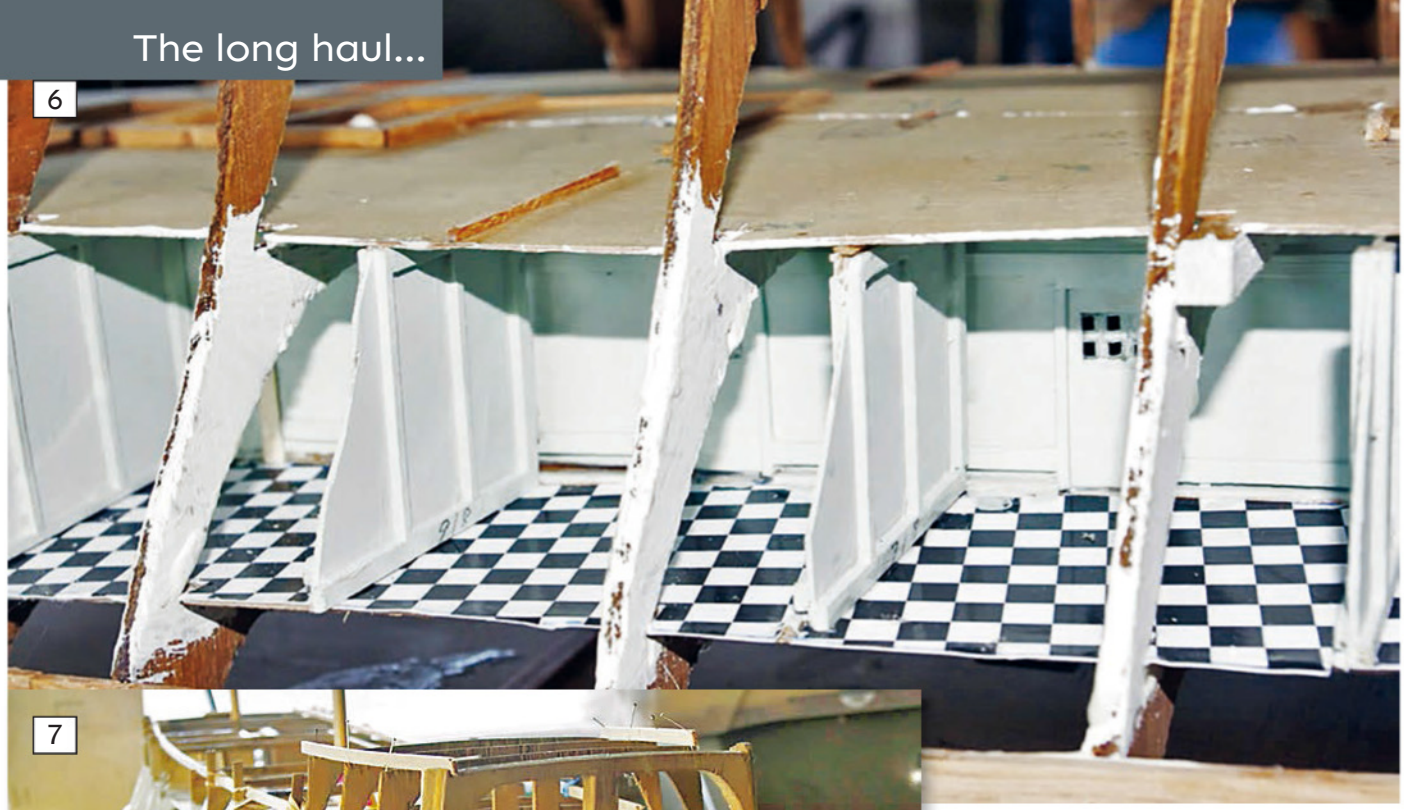

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constructing the Middle Deck Officers cabins at the stern, (see **Photo 6**) and by July 2014 the Upper Deck was in position. All the decks and topside frames were covered first with the 1mm ply, before planking (see **Photo 7**).

2015

By May 2015 the model was built up to the Middle Deck and had received the first coat of her 'colours. I had also installed the anchor ropes to the internal bitts, made secure so that they could not come adrift (see **Photo 8**)!

By September that year I had completed some of the gun carriages – each cheek individually made then placed in a home-made jig to enable the barrel to be installed – with their breech and tackle rings in place.

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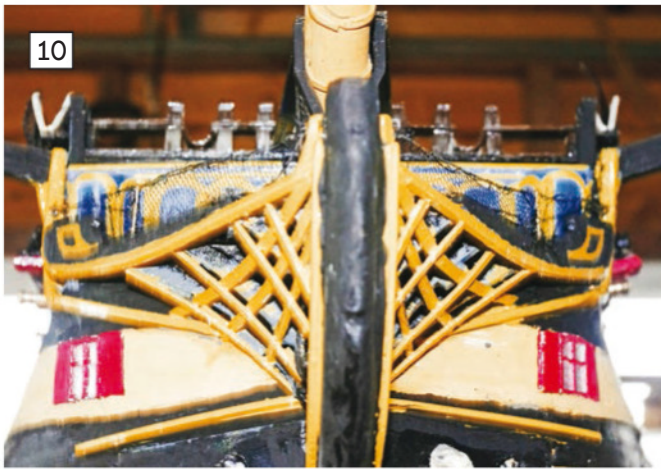
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Victory's guns were painted black, but I chose not to paint mine black but instead to leave them as is. (There were four spare ones, which I now have mounted on a separate block in the case at Victory's bow, which I have painted to show as an example.)

2016

By October 2016 I had installed the mounted canons, together with their breech ropes, in the ship's waist, each one secured to the deck with a dab of glue under the wheels and a pin pushed through the back end of each carriage. The visible deck areas were planked in accordance with proper fashion and using thin strips of black paper on edge between each plank to simulate pitch (see **Photo 9**).

2017

By August 2017, the foredeck, belfry, gratings, carronades, spare canons, bitts 'stunted' masts, hoops, hammock cranes and first of the three boats – sat on the skid beams – were in position. I'd decided some time before that I would not rig the model. The beakhead bulkhead, round houses, beakhead rails and netting, and cheeks were now also in place, sporting their first coats of paint (see **Photo 10**).

2018

Work steadily progressed and by July 2018 I had constructed the bower anchors from wood and fitted copper flukes, which were then hooked in place. The two bower anchors are attached to their respective ropes, while the other two are suspended attached to the fore channel on each side.

2020

In July 2020 the two other boats (purchased as small kits) had been built, painted and installed on the skid beams, and the Jolly Boat had been hung from the stern davits (see **Photo 11**). Interestingly, the 1797 plans show the stern davits – and this is what I

11

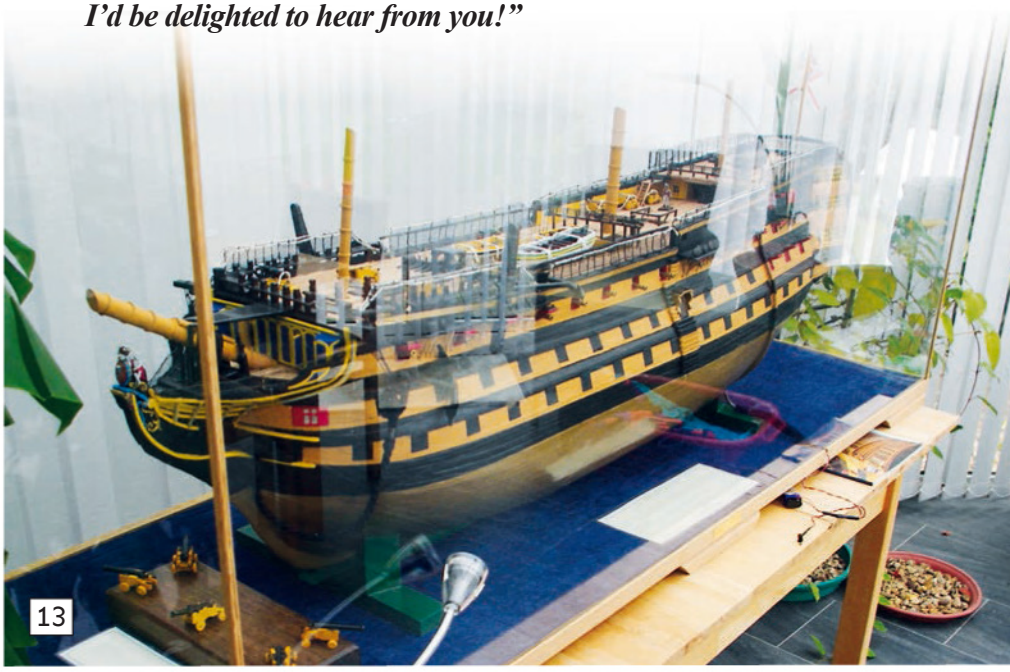

12

stuck to; however, in 1798 the Admiralty decreed that stern davits be abolished in favour of being situated on port and starboard sides aft. Indeed, I've had to make a few compromises. It will be noticed that the stern windows are each of four panes and not nine. A friend who laser cut them tried many times to cut them with nine panes – as per the plans – but they kept breaking, so I had to make do. Those on the outer stern galleries were made from tapestry plastic bases with cut-outs, which did give me the nine panes, but I couldn't bend them to curve on the stern. I just did not, and do not, have that sort of skill.

To the victor, the spoils...

So, after some 50 years, July 26, 2020, I announced to my daughter that, apart from the stern decorations, the model was finished. I'd managed to get the figurehead and scrolls made to scale through Shapeways in the USA; these are 3D-printed, and a local artist skilled in miniature painting painted them for me. (see **Photo 12**). My daughter took a few photos on her mobile phone and then, later in the day and unbeknown to me, put them on her Twitter page! That started off an amazing series of events, because the post went viral. By the end of the third day, there'd been over 14,000 tweets, some 1,500 re-tweets and over 1,000 absolutely lovely comments about my modest efforts. For me, the icing on the cake was a tweet to my daughter from Admiral Tony Radakin, the First Sea Lord, who said "*This is an amazing achievement, demonstrating dedication, persistence and skill. You have done HMS Victory proud*". What an accolade! This was followed, on July 30, by my becoming famous nationwide for a day, because photographs – taken by *Solent News* from Southampton – appeared in all the daily newspapers. I was also interviewed by BBC Local Radio (Oxford) and national BBC and ITV, who sent camera and reporter

"If there is anyone reading who can help, I'd be delighted to hear from you!"


13

teams and the results were shown on their evening TV news broadcasts. A couple of days later I had a further interview by BFBS (British Forces Broadcasting Service) and that TV interview was shown on their network. In addition, my son found I had appeared in a newspaper in Panama!

The finished model, measuring 4ft 11-inches in length, 14-inches wide and 16-inches from keel to cut off section of main mast, is now in a bespoke museum quality case (an 81st birthday present) in our conservatory (see **Photo 13**).

And yet...

There is, however, still a little to do in order to finish *HMS Victory*; namely, the stern decorations! I have contacted Shapeways and the designer - Victory Modeller – in order to get the figures, scrolls and trophy section 3D-printed in 1:48 scale – as he/she has said can be done. As I mentioned, the figurehead section was done, however since then I've heard absolutely nothing. I have, through his/her 'message section' made in total 14 requests – all, so far, to no avail. Shapeways has contacted the designer with the request to contact me, too, but still no go. I am desperate to get these items but do not have the skill or wherewithal to do it myself. One company in England initially seemed very keen to help, but that enthusiasm soon tailed off. When I enquired why, I was told this was due to being very busy but, that if I placed an order, it could be done for a cost of £1,000! The items offered by Shapeways are on average about £30 – a bit of a difference. So, if there is anyone reading who can help, I'd be delighted to hear from you!

One, two, three...

As a child, I lived on a converted BPB class MTB (Motor Torpedo Boat) on the Lymington River in Hampshire, which had been purchased by my parents in November 1947 in Poole for conversion into a very comfortable houseboat. My late father used to work for British Power Boats at its No. 2 yard in Poole during the war as the Chief Storekeeper, or Chandler as he would now be called.

After completing *Victory*, therefore, I built model number three: a scale model of our boat as she was in wartime (see **Photo 14**). This model was also built from scratch, as far as the hull and superstructure were concerned; I bought the deck fittings, props, shafts and rudders from a variety of model boat sources in England. I completed her within the year – a bit different to Victory.

I had intended that she should be radio controlled and I may still do that. In the meantime, however, she has pride of place in my study in another bespoke museum quality glass case. ●

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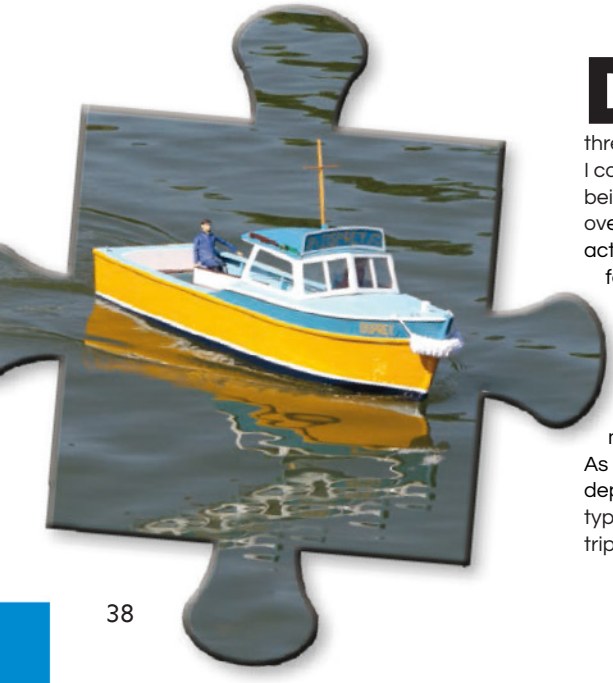
The jigsaw puzzle that proved the inspiration for Ray's model.

Osprey

A perfect staycation project

"Sometimes the inspiration for a project comes from comes from the most unexpected of sources; in this case it just happened to jump out at me from a jigsaw puzzle my wife was in the process of completing"

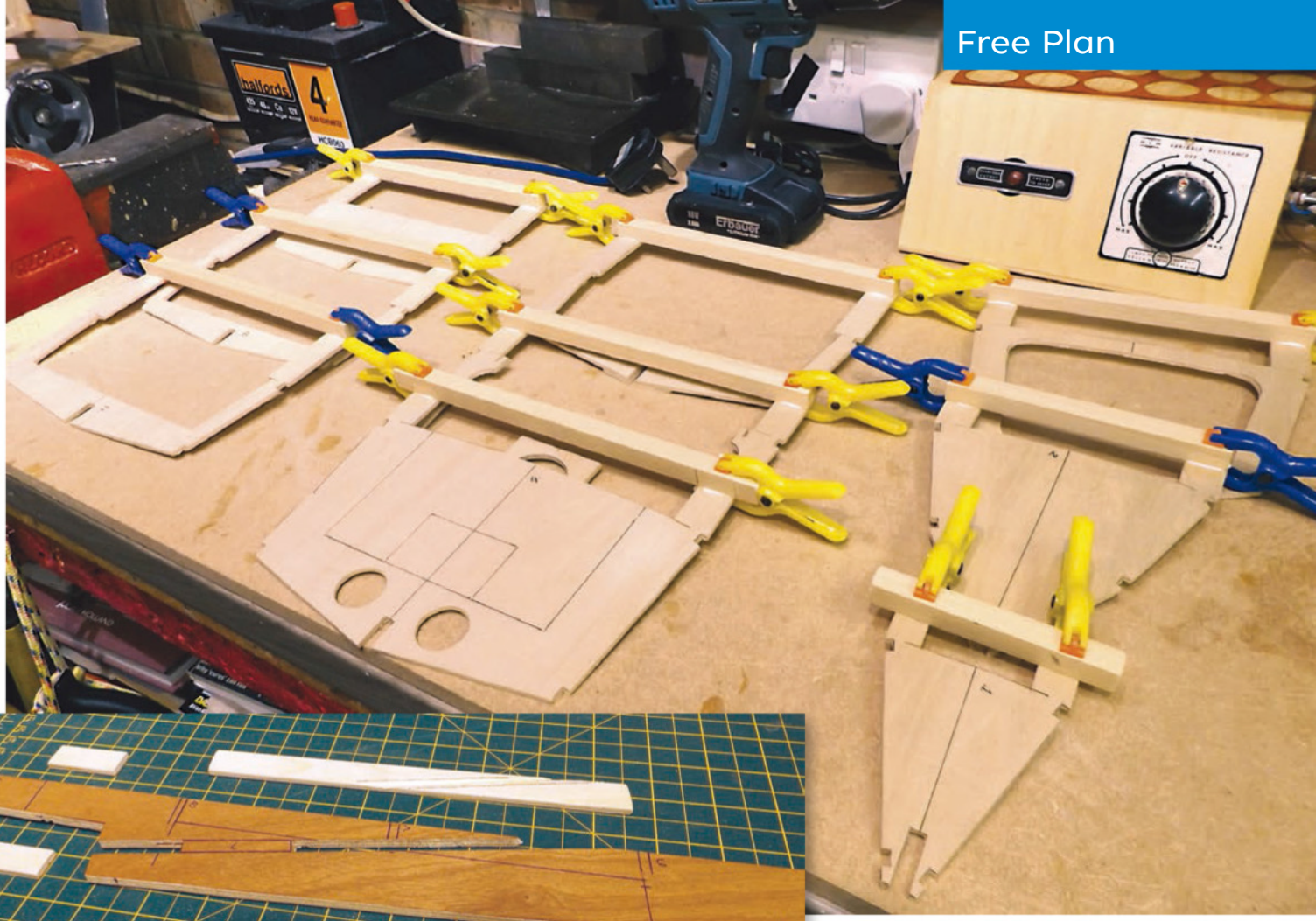
Whether you're a well-seasoned modeller or a complete novice, there's nothing too puzzling about this month's free pull-out plan. As a little bit of additional guidance, however, **Ray Wood** explains exactly how he constructed this pretty little 1:12 scale seaside trip boat...

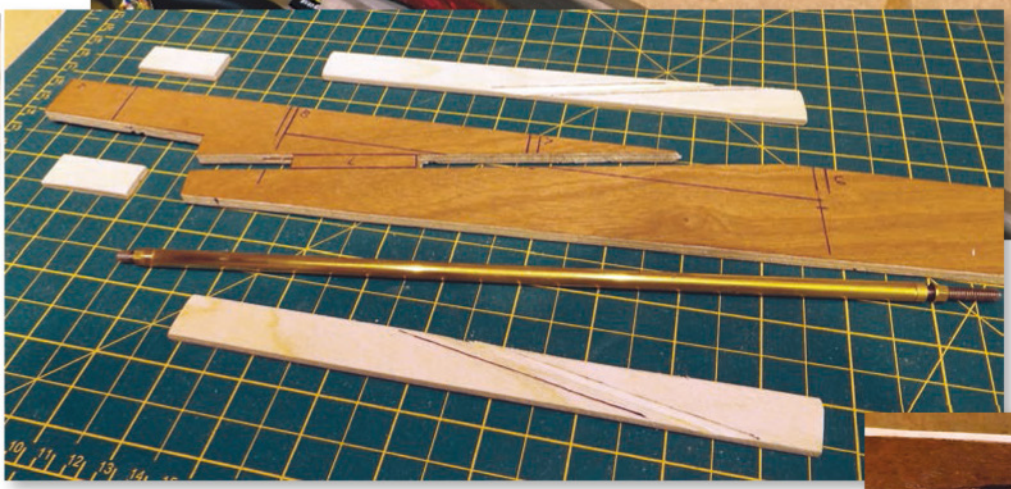


Due to the pandemic, in 2020, I, like many others in the UK, found myself furloughed from work for a period of three months. Of course, due to lockdown, I could only go out for essentials, and not being able to travel anywhere was tough, but, overall, as a model maker the situation wasn't actually that bad – particularly as I was fortunate enough to have a good supply of modelling materials to hand. Sometimes the inspiration for a project comes from comes from the most unexpected of sources; in this case it just happened to jump out at me from a jigsaw puzzle my wife was in the process of completing. As she pieced the colourfully painted scene depicted together, a seaside trip boat (of the type used for passenger cruises or fishing trips) moored at a lively quayside emerged. I estimated her full-size dimensions to be 28ft in length, with, let's say, a 9ft 6in beam, which allowed me to draft some plans at 1:12 scale (1-inch = 1ft) for the build. There she was, my next project, and with very little else to do, she took me just a month to build and finish.

Hull construction

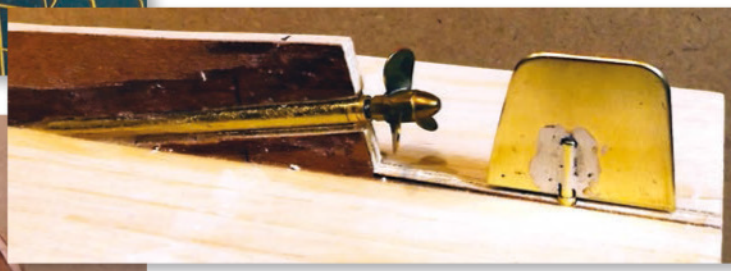
I opted for my preferred method of construction, which was to build the hull inverted on a good flat MDF board, with the plywood bulkhead frames extended to a common datum and secured on crossbeams to the board, with the pre-assembled keel and stem fitted; this included the cut out for the stern tube and rudder, with their associated doublers. The stringers at deck and chine positions were made from 1/8-inch X ¼-inch obeche strip, rather than the traditional thin plywood side and bottom skins that could have been used, I went for 3/16-inch balsa planking cut from sheet 3/8-inch wide, using balsa cement as adhesive (which sands easily when dry) and small soft block infills at the bow for ease of construction. The single chine hull is typical of this popular type of vessel and the change of level from the rear gunwale to the foredeck adds some character and

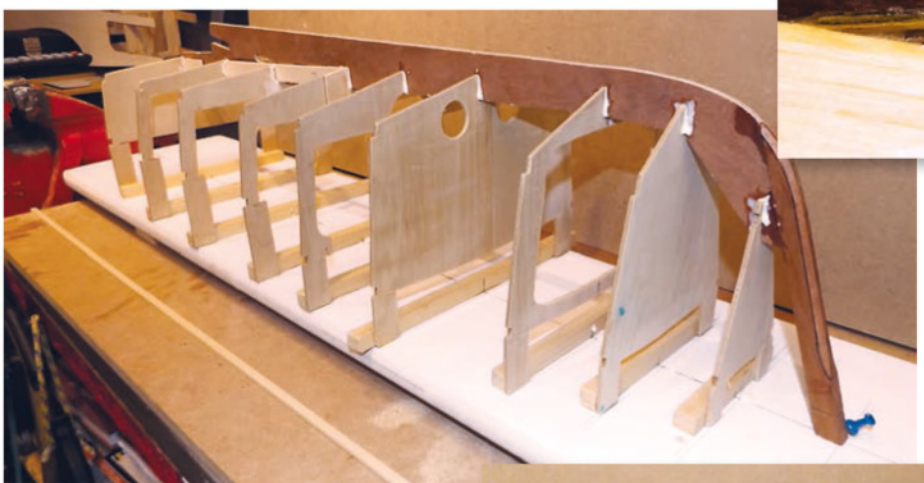




ABOVE: All the plywood bulkheads cut and ready for mounting on the building board.

LEFT: The keel shaped and partly cut, ready for the stern tube and doublers to be glued.





"At this stage it's a good idea to build a stand for the hull to sit in, and I highly recommend incorporating some foam rubber strips to protect the vulnerable balsa prior to it being sealed"

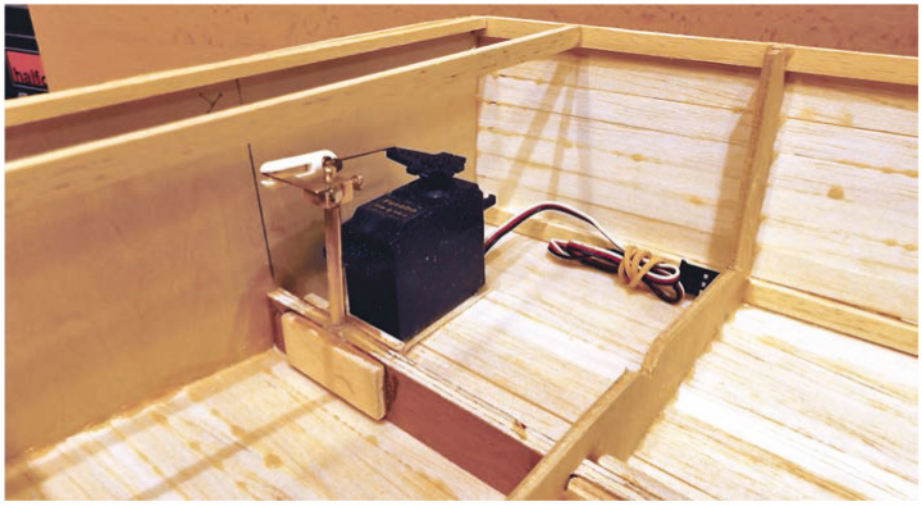
ABOVE: Keel and bulkheads mounted on the building board.

RIGHT: The hull, with the planking complete, on the stand.

interest to the shear line. Once the hull was complete, the frame extensions were cut and the hull released from the board. At this stage it's a good idea to build a stand for the hull to sit in, and I highly recommend incorporating some foam rubber strips to protect the vulnerable balsa prior to it being sealed.

ABOVE: The hull complete, with rubbing strips attached and cabin in place.

ABOVE: The cockpit floor and engine/motor cover. BELOW: The rudder servo and linkage installation under the rear deck.



"I use card templates to establish the right shape before cutting my ply, as it's not cheap these days!"

Foredeck & cockpit floor

The foredeck was cut from 1/32-inch ply, using the actual shape of the hull as a template. Some framing was added to make an access hatch under the small cabin shelter in front of the helmsman's position for the radio equipment, receiver and speed controller. The bulkheads were drawn to allow the floor of the cockpit to be formed in a number of 1/16-inch ply sections, which I fitted around the frames/bulkheads. I use card templates to establish the right shape before cutting my ply, as it's not cheap these days!

Engine casing & motor Installation

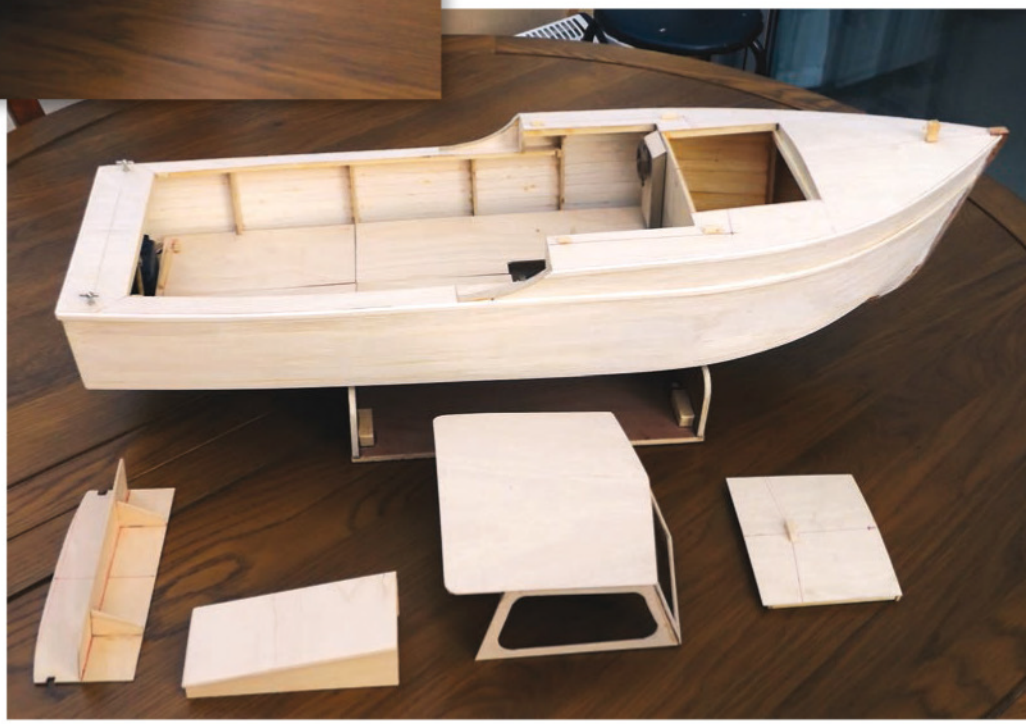
I tend to use whatever I have in the spares box for propulsion, which in this case was a recycled 600 size brushed motor from a defunct hand drill – too big really – but,

"I tend to use whatever I have in the spares box for propulsion, which in this case was a recycled 600 size brushed motor from a defunct hand drill – too big really – but, alternatively, you could use a 385 or 400 size"

ply, while the front windows were glazed with acetate (you could use old CD case plastic). Interior wise, as Osprey is basically a day boat, I imagined she would have a loo and small kitchen for brewing up a cup of tea. The simple mast on the roof I made from pine, while the grab rails were crafted from mahogany and then varnished.

ABOVE: A transom view, with mooring cleats installed.

RIGHT: The basic hull ready for sanding sealer and enamel painting.



alternatively, you could use a 385 or 400 size. My intention was never to try and achieve a boat with planning performance, but, actually, she has a good turn of speed with a six cell Sub C Nmh battery and a 25-30mm three-blade propellor. The motor, located on a balsa cradle, has a Huco type coupling to the shaft, which I secured with two pegs and some rubber bands, which can be adjusted should there any misalignment.

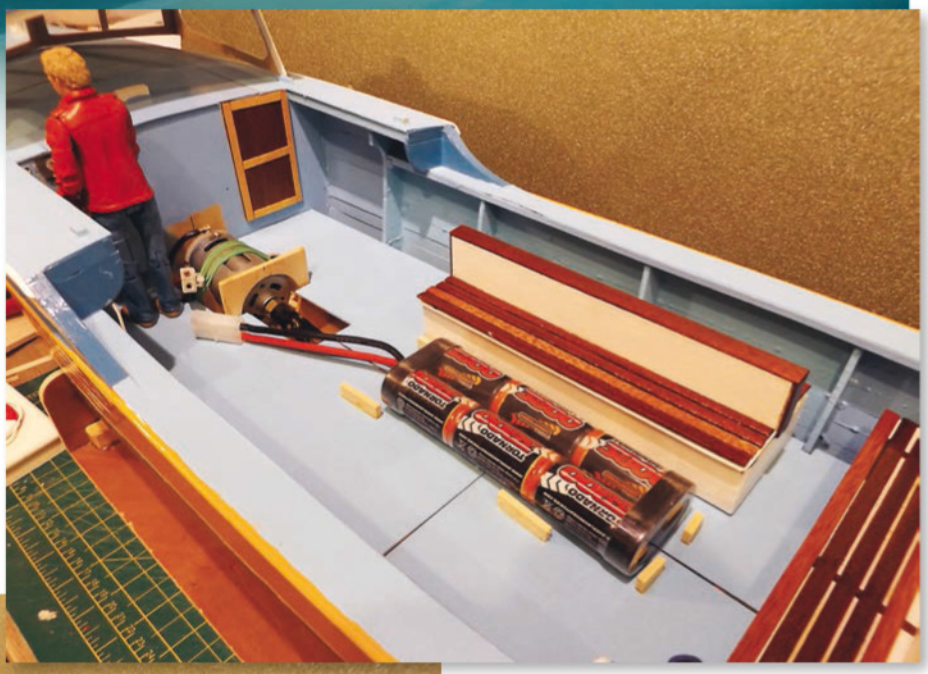
Superstructure

The small cabin/shelter, which allows some protection to the helmsman and crew from the elements, was easily built in situ. I constructed the sides and roof from 1/32-inch

The hull and deck painting complete.

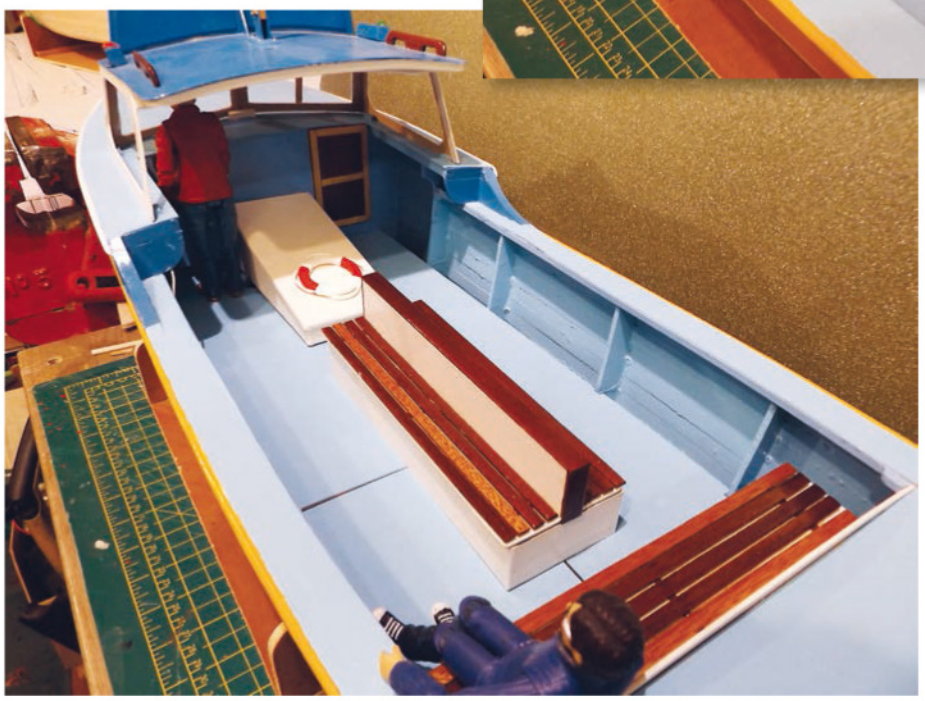
A Summer 2020 test floating in an inflatable paddling pool.

"The central bench seat houses the drive battery, and also provides the ballast for Osprey to sit correctly on her waterline with no additional weight required. You could locate your drive battery in the front cabin, but bear in mind this will necessitate adding some ballast at the rear to compensate and to keep the stern down"



RIGHT: The drive battery in position and motor installation.

BELOW: The central battery cover bench seat in place.



Cockpit seating & battery box

The bench seat across the rear of the cockpit, which lifts out to access the steering servo and linkage to the rudder, consists of a simple ply arrangement for the seat and back board. Cushions are, of course, optional. The central bench seat houses the drive battery, and also provides the ballast for Osprey to sit correctly on her waterline with no additional weight required. You could locate your drive battery in the front cabin, but bear in mind this will necessitate adding some ballast at the rear to compensate and to keep the stern down.

Finishing & decoration

The basic hull and superstructure I sealed with two of coats of sanding sealer, which I rubbed down between coats. The hull was then glass clothed for protection and applied with a water-based resin; this is very easy

to apply, and brushes used can be cleaned in water. My prototype was painted with Humbrol enamel, which gives a good durable finish, and the good news is the slightly larger tins have just become available again. The vessel's name I emblazoned in large script across the cabin roof, as is so often seen in real life as a way of marketing trips around the bay in little boats such as this.

Fixtures & fittings

I've kept my model basic, using the fittings I had to hand. These consisted of navigation lights, some fairleads and cleats for the basic operation. The helmsman's console is a simple box and features a ship's wheel and some bent glass-headed pins for the throttle. This can also be embellished with anchors and warps, fenders, *etc*. As you will see, I've fitted a knitted fender to the bow to prevent damage to other vessels if the skipper has had one too many!

Sea trials

Osprey's maiden voyage took place on a fine day at my model boating club at Bluewater in Kent and was a complete success. The model demonstrates good steering control going forward and, indeed, pretty reasonable control in reverse. Plus, with some crew figures installed onboard, she just looks right! ●

More to see

More constructional photos and narrative can be found on the www.modelboats.com forum under the 'Scratch build' thread section, and you'll find some additional photos of *Osprey* in my album 'Ray's Boats'.

"There are currently four versions: the Flight I, II, IIA and III. I chose to build the Flight IIA version"

USS Roosevelt (DDG-80)

Dave Reith talks us through how he created a 1:96 scale model of this Arleigh Burke-class destroyer, which includes a particularly nifty working feature...

My last Model Boats magazine article was published back in 2014 (a 1:48 *HMS Clyde* build), and, with my cold casting and master fitting making skills greatly improved post that build, I can now share with you how I took things to the next level by embarking on an even greater challenge.

My passion has always been building warships, so an Arleigh Burke-class destroyer had for some time been on my bucket list. The ships of the Arleigh Burke class (DDGs) are among the largest destroyers built in the United States and number 70 built to date. This class of guided missile destroyer (DDG) has been built around the Aegis Combat System and the SPY-1D multi-function radar. The lead ship, *USS Arleigh Burke*, was commissioned in 1991 during Admiral Burke's lifetime. The DDGs are designed as multi-mission destroyers, able to fulfil a strategic land strike role with Tomahawk missiles, an anti-aircraft warfare role with powerful Aegis radar and surface-to-air missiles, and anti-submarine warfare (ASW) with towed sonar array, anti-submarine rockets, and two ASW helicopters.

There are currently four versions: the Flight I, II, IIA and III. I chose to build the Flight IIA version, as I liked the ship's lines, weapon fit and the fact I'd have a hanger to detail, and after three years the build is now finally complete. I should point out that the Flight IIA upgraded versions of the class no longer have the towed sonar, or Harpoon missile launcher their hull and superstructure were designed to have a reduced radar cross-section.

My reason for basing the model on owner of Scale-Warship John Wills' Arleigh Burke hull (length 161.6cm x beam 20.9cm) was that, to the best of my knowledge, it's the only 1:96 scale offering available from a UK supplier. I'm aware Justin from Fleetscale produces a 1:72 scale version, but this would have been far too big for what I had in mind. The Scale-Warship hull is, however, of the Flight I version and, as already mentioned, I wanted to base my model on a Flight IIA version, so some minor modifications to the aft section of the GRE hull would therefore be required.

Having picked up the hull from John (see **Photo 1**), the first thing to do was to clean off the small amount of flashing left over from the moulding process. Next, I sat down to study the drawings and to plan which working functions I'd like to include, access for maintenance and the internal electronic layout.

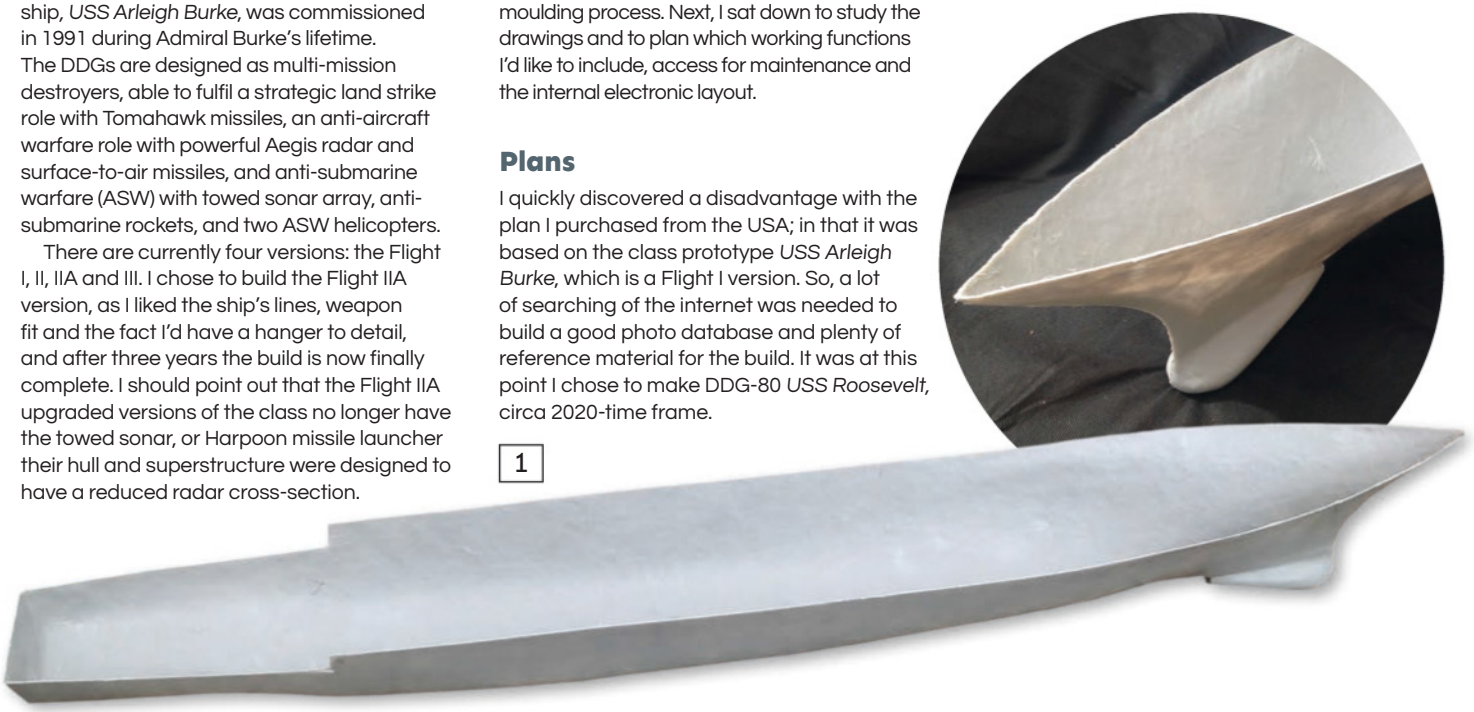
Plans

I quickly discovered a disadvantage with the plan I purchased from the USA; in that it was based on the class prototype *USS Arleigh Burke*, which is a Flight I version. So, a lot of searching of the internet was needed to build a good photo database and plenty of reference material for the build. It was at this point I chose to make DDG-80 *USS Roosevelt*, circa 2020-time frame.

1

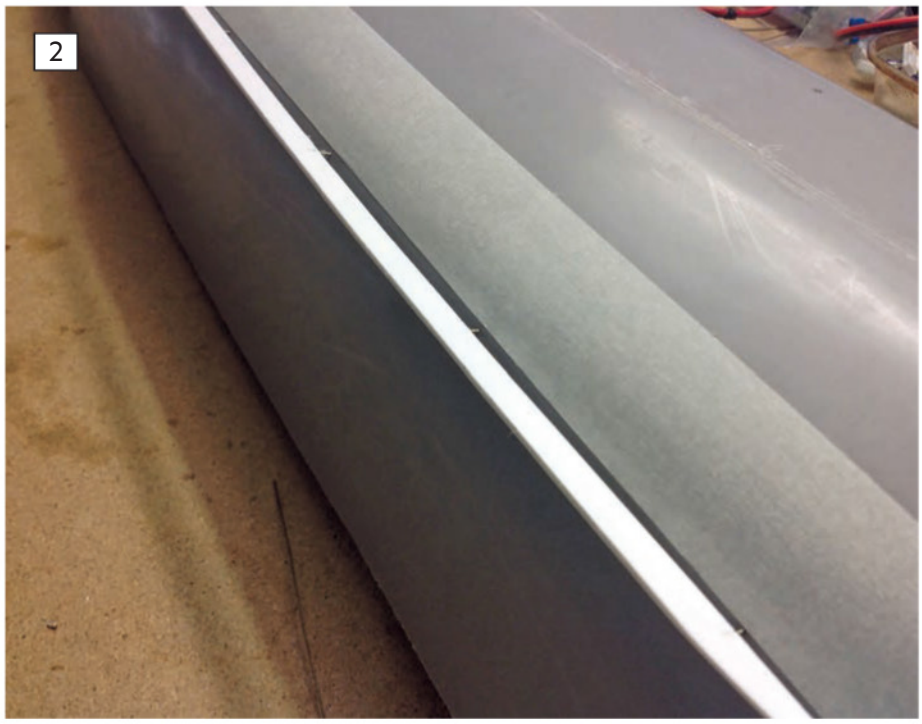
Hull

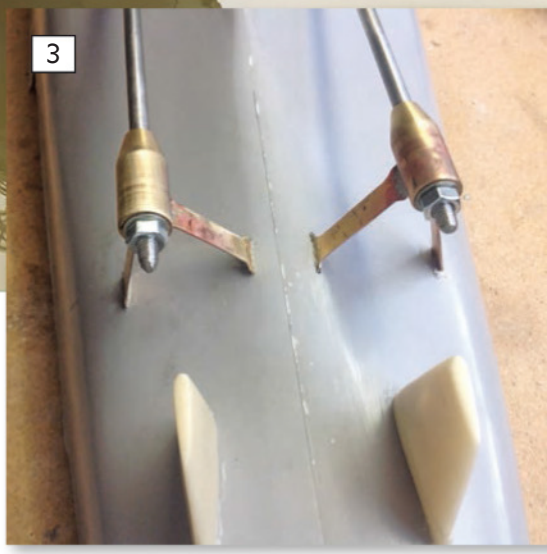
The first stage of the build was to extend the aft section of the hull sides by using 3mm plaster card, which was required for the increased in length sides of the hangar structure. One set of rudder mounts was constructed using plastic card and p38 filler. Once I was happy with the master, I made a casting box, which I poured silicone rubber into to make a rubber (Shore 25-RTV silicone) mould.. Once the mould had hardened, I used a poly resin for my castings. As for the rudders, I built one as a master, again using 2mm plastic card layered up to the required thickness; this was then shaped to the finished form. A mould was then made, and a



resin casting was taken. Moving on to the hull, I used 6mm x 6mm sprue around the insides, as this would provide a good base to attach the 3mm ABS plastic deck to. Cross beams were also added to the hull as stiffeners.

The hull rubbing strakes and stabilisers were all constructed using layers of ABS card shaped to size. These were, again, used as masters from which I could make moulds and then cold cast these components from (see **Photo 2**).





Propulsion

I decided to use two 540 motors with two 50mm x 6mm thread five-blade props sourced from the US-based modeller/supplier Keith Bender.

Prop shafts were self-made using 6mm 316 stainless steel for the shafts, brass tube for the stern tubes, with the bronze bearing 'A' and 'P' frames machined from bronze (see Photos **3** and **4**).

5

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"I'd already decided that being able to remotely control one the helicopters moving in and out of the hangar would make for an impressive feature. How I would make this work took some thinking about, but in the end the solution I came up proved very simple…"

The wiring lay-out was also drawn to keep the power cables away from the signals. My first plan was to have two 12v Nmih batteries. I decided, however, to instead opt for a power distribution board from Forge, as I've used these distribution boards in the past and found to them to be both easy to set up and very reliable.

Superstructure

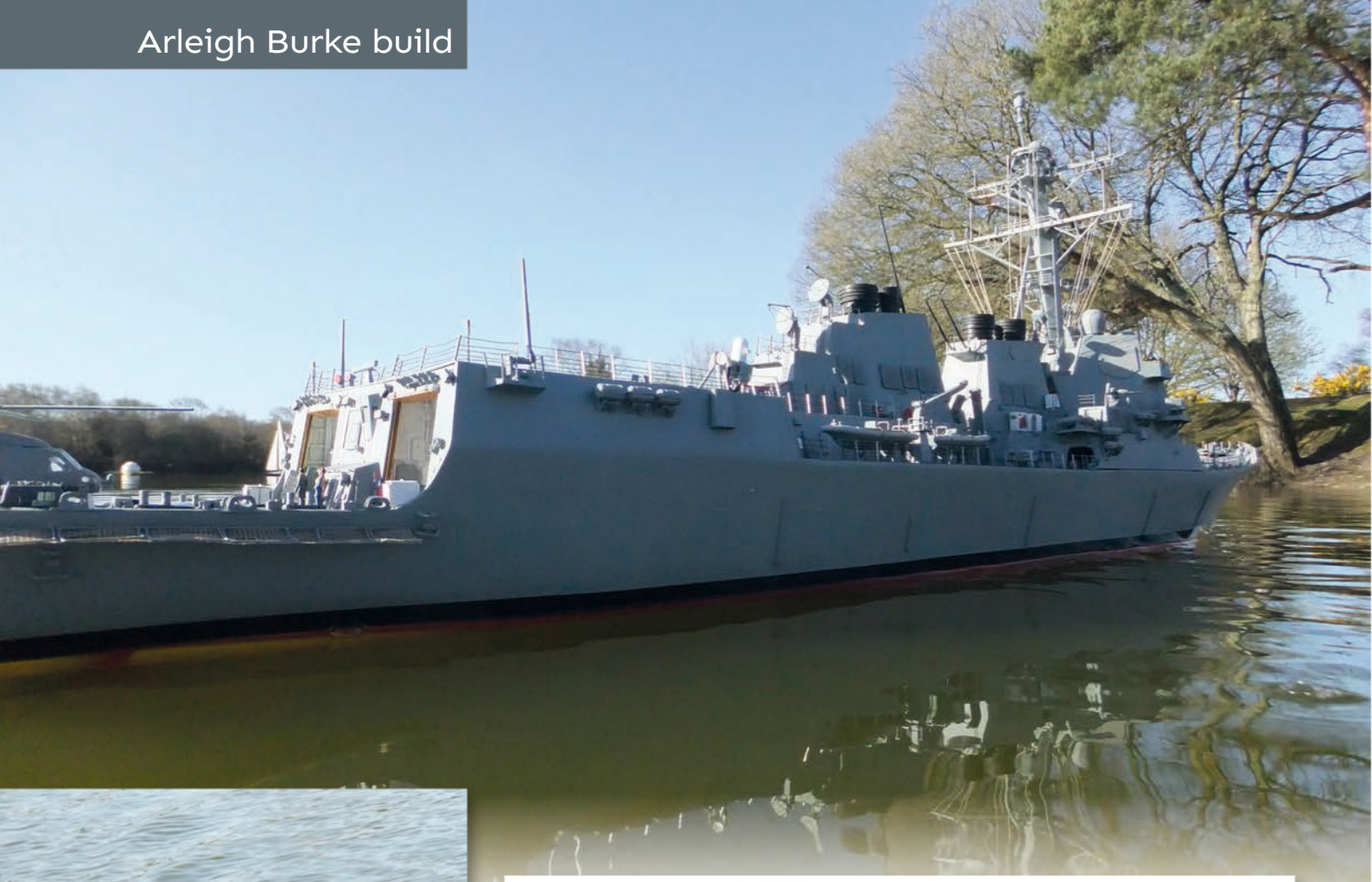
As most modellers have their own preferred methods for constructing superstructure, I won't go into great detail in terms of what I did here. In brief, however, the superstructure section was all constructed from 2mm ABS plastic sheets. My starting pointing was making the aft superstructure; this being far less complicated than the fore structure.

In the past I've cut my bridge windows out, but this time they were created using 1mm clear plastic. The windows were masked off using Tamiya tape and were then, once the bridge section of the forward superstructure had been constructed, painted before the tape was removed, thus leaving neat and convincing window and frames (see **Photos 5** and **6**).

Aft hangar

The hangar was the area I wanted to really super detail, and I'd already decided that being able to remotely control one the helicopters moving in and out of the hangar would make for an impressive feature. How I would make this work took some thinking about, but in the end the solution I came up with proved very simple. I made my own simplified version of a model railways' Magnorail system by using two 10mm in diameter strong magnets, one mounted in the helicopter trolley and the other in trunking self-made to mirror the photoetched flight deck tracking. The trunking was attached under the fight deck by Velcro, making it easy to remove during any future maintenance that may be required. At the aft end of the trunking, I fitted a brass roller which the loop cable could roll off smoothly. The second magnet was attached to this loop cable, which in turn was connected to a sail winch affording the movement required. This system works very well, and the helicopter moves smoothly out of the port side hangar bay and back in again.

One other function I wish to have working was opening hangar doors. After several experiments, I managed to get the doors to fold up as per the real ship's doors; this, however, was completed late in the build, which meant detailing already completed on the hangars had to be removed and modified to allow for installation of these working doors (see Photos **7**, **8** and **9**).




10

Main build items

* The 1:96 GRE hull, photoetched helicopter tie downs, helicopter track and Nickel photo-etched USN style stanchions were all purchased from Scale Warship

* The 1:100 scale SH 60 helicopters were purchased in kit form from Revell

* The 5-bladed props were supplied by Keith Bender

Equipment for the model's working functions

* The Forge 12-volt distribution board, sound unit, 8-way switching unit (this facilitates being able to switch each of the lighting functions on/off, along with the other low voltage functions) and servo morphs were all ordered from Forge Electronics.

* I used a mini servo linked to a Forge Electronic servo morph for the Gun Mod 4 longer 62-calibre barrel.

* Working LEDs were fitted to the navigation lights, mast, superstructure, bridge, helicopter hanger internal lights (both red and white) and all the flight deck landing lights.

* I used small pager motors for the helicopter's main blade rota. Magnets and a sail winch were used for ease of moving the helicopter in and out of the hangar.

* On the flight deck, the nets can be manually folded down.

* The main radar works by use of a robot pile-geared motor, so turns at the correct speed.

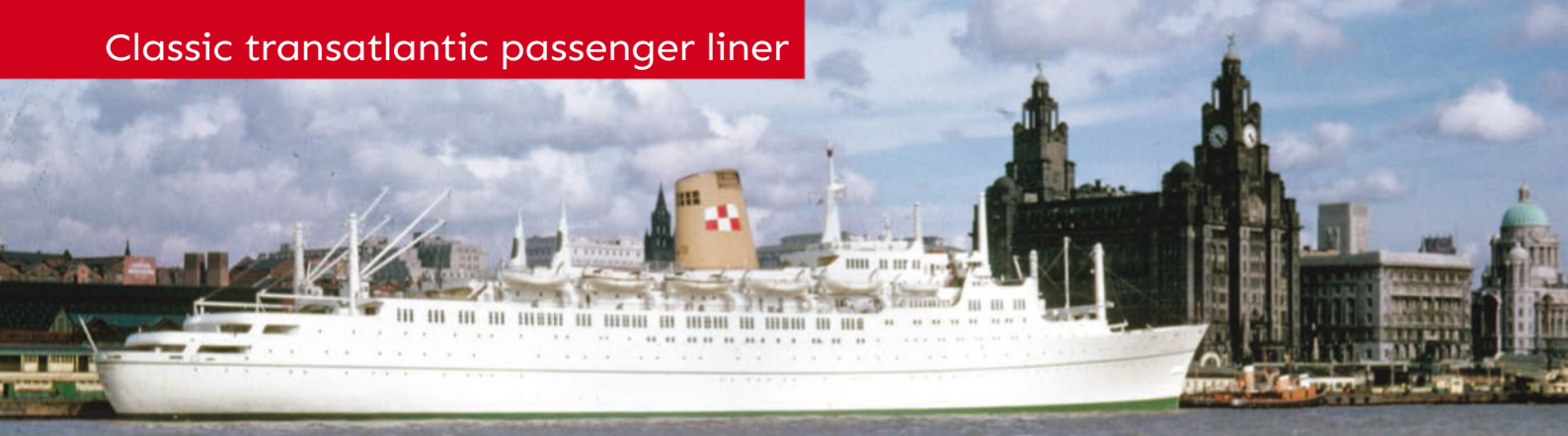
Fittings

A vast number of fittings for this model were self-made by cold casting, but to show or explain how I made my masters would require an entire article (perhaps a topic I will cover in a future issue). In the meantime, however, in short, fittings such as doors, vents, bulkhead lights, *etc*, were all made using 1mm, 0.25 & 0.5mm thick ABS plastic and these components were then used to take moulds from. All other fittings, such as the capstan, anchors, *etc*, were made from brass and aluminium. The more complicated amongst these fittings required them to be made in kit format, as shown with the CIWS Phalanx and Sea RIM-116 Rolling Airframe Missile (RAM) (see **Photo 10**).

On the water

USS Roosevelt sails very well running on 12 v motors (see **Photos 11**, **12**, **13** and **14**). She can turn in her own length when using her motors in one ahead/one astern mode, and when it comes to general manoeuvring, she answers the helm well. The sound output from the Forge Electronic unit is good. As for the self-made fittings, I'm very pleased with the majority of them, but I'd still like to improve the vent grilles.

It's particularly rewarding that, when representing my Club (South Coast Modellers) at model shows, that the ability to move the helicopter in and out of the hangar remotely draws a lot of attention, with not just spectators but fellow modellers posing lots of questions about how this was achieved. ●



Empress of Canada Part 2

Roy Cheers embarks on next leg of this 1:160 scale scratch-building voyage of discovery...

Having covered most of the work undertaken on the lower hull last month, this month we'll continue on with the construction of the upper hull. The sequence for completing this was adapted as I went along, but was generally as follows:

1. The completion the four lower wrap-around walls of the superstructure at forward and aft ends, plus the fitting of the bulwark supports at the bow.

2. The priming and paint finish of the superstructure, including both the exterior and visible interior surfaces.

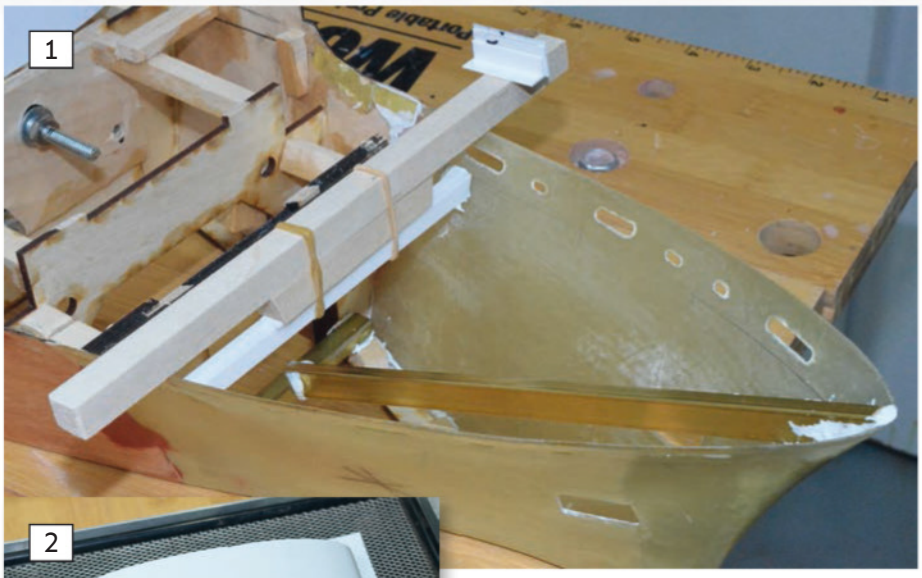
3. The making, painting and gluing into position as one unit of the Promenade (4) and Sports (5) decks and lifeboat davits.

4. The making, painting and gluing into position as one unit of the Sun/Bridge (6) and Observation (7) decks.

5. Fitting the lifeboats, derrick posts, masts, funnel, and all other details.

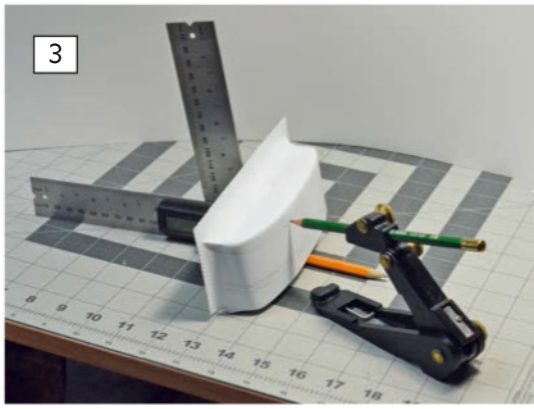
The scratch-built parts were mainly made from styrene. Unfortunately, the plans that I had weren't detailed right down to providing templates for all the individual parts. As the build progressed, therefore, all I could do was rely on previous experience and a sense of confidence that I could in fact create these myself. I mostly drew the shapes onto the styrene sheets, taking dimensions from the plan as I went, and that mostly worked out OK.

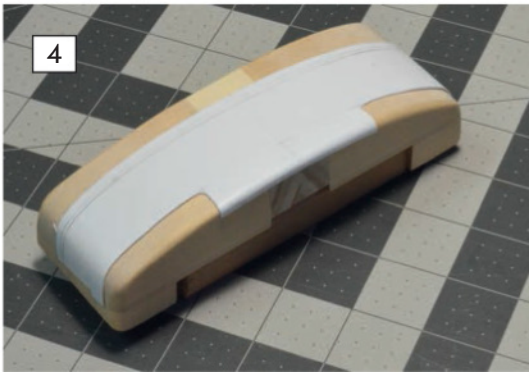
The Upper deck (2) forecastle was made of two layers: a sub-layer and a top (visible) layer. Transverse supports for the forecastle sub-layer were glued in using a temporary support to hold them at the correct height. Because of the complex angle of the hull in this region, the ends of these supports were only approximately shaped to fit the hull walls, and paste epoxy was used both as filler and glue to hold them in position (see **Photo 1**).

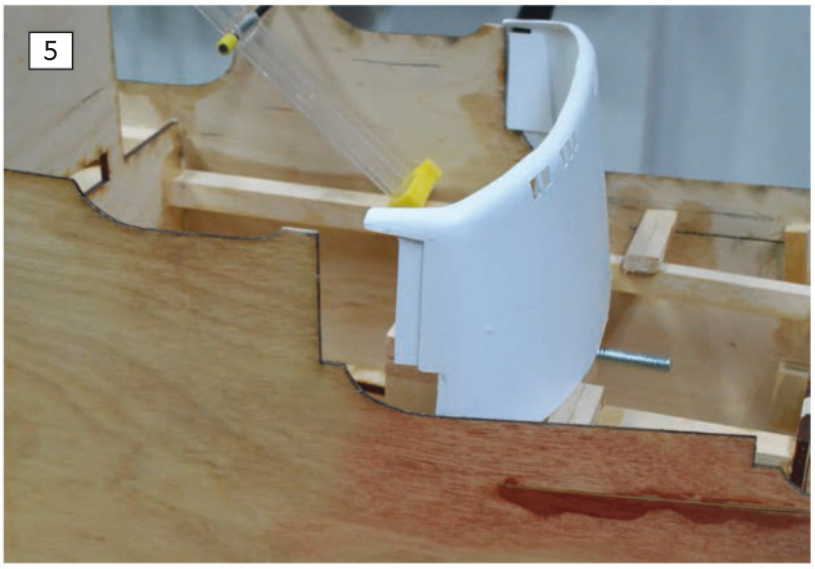


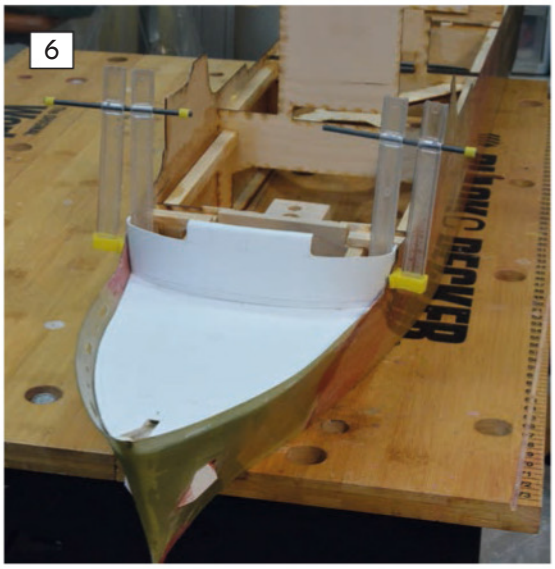
At the bow, a rectangular brass tube was glued from the tip of the bow to the bottom edge of a frame to brace it against accidental collisions. This was not a scale feature but deemed to be appropriate. The anchor recesses were built from styrene and fitted into an opening in the bow.

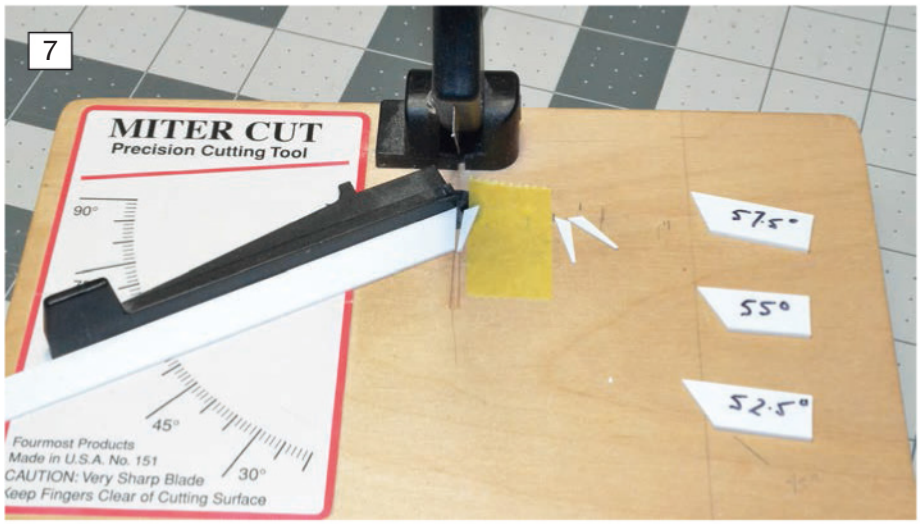
The superstructure fronts were all made from 0.030-inch styrene using a Hobby-Vac vacuum moulding fixture. The wooden former for three of them was built in three pieces, the outer two together made the pattern for the *Empress* front; a middle piece was added for the Promenade and Bridge fronts. A separate circular-plan former was made for the Observation front. Tipping the former and the front backwards to its installed angle allowed me to mark and trim the cut edges of the moulded part and provide the correct slope of the front (see **Photos 2, 3 and 4**). Unfortunately, the result of this was that the top of each front was not level but











dipped towards the sides – not quite to scale. After trimming, backing strips were glued onto each front where it was blended to the superstructure side (**Photo 5** is typical).

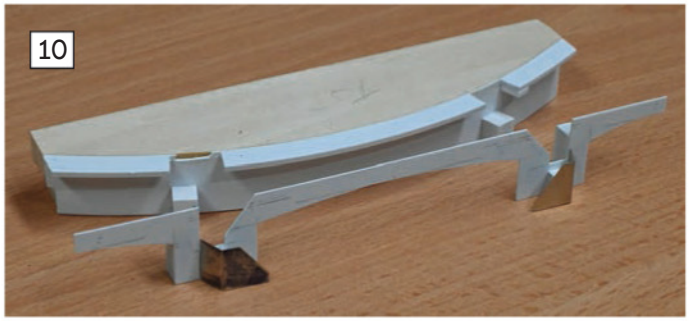
The foc'sle - Upper deck (2) - sub-deck was full width and glued both to the supports and the hull walls. Three pieces of card were overlapped and trimmed to obtain an accurate template for the final outline of this deck. After fitting this deck, the Empress Front was glued into place (see **Photo 6**). The bottom edge was glued internally to the sub-deck.

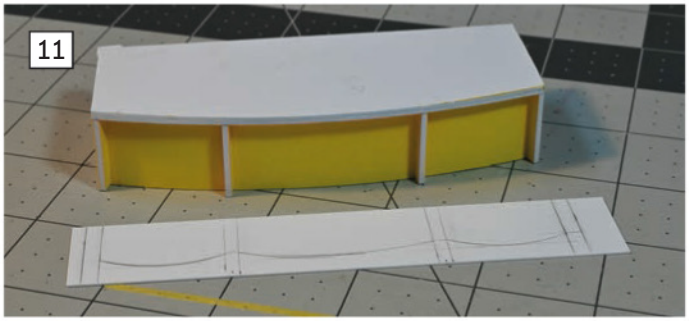
The bulwark supports were cut and glued in next. There was some trial-and-error in fitting the supports, due to the changing angle of the bow flare, but the process was fairly straightforward. First, a number of angle-measuring strips were cut, in 2½ degree increments between 47½ and 75 degrees and these were used to find the angle to cut each support. A strip of styrene of width equal to the vertical height of the bulwarks was cut and a mitre cutter was used to cut supports from this strip (see **Photo 7**). The best way to apply glue, I found, was to touch the edges of the piece to a drop of CA glue and then place in position.

The aft ends of the lower decks

Getting the correct shape of the aft wrap-around bulwarks started by fitting an oversized piece of card in place of the bulwark, and then using a laser level to mark the upper and lower edges. This was a good start, but the final sizing of the pattern was a matter of step-by-step trimming. The lower one was made by transferring the shape to another wooden former and then vacuum moulding it. The upper one did not work so well as a moulding, and instead it was made from a flat piece of styrene and bent then glued to hold it in place (see **Photos 8** and **9**)

When all that had been done, the upper hull was primed, painted, and after all the windows and portholes on the hull were made and attached, finally given a sealing coat of matt varnish.





Lower decks forward and aft

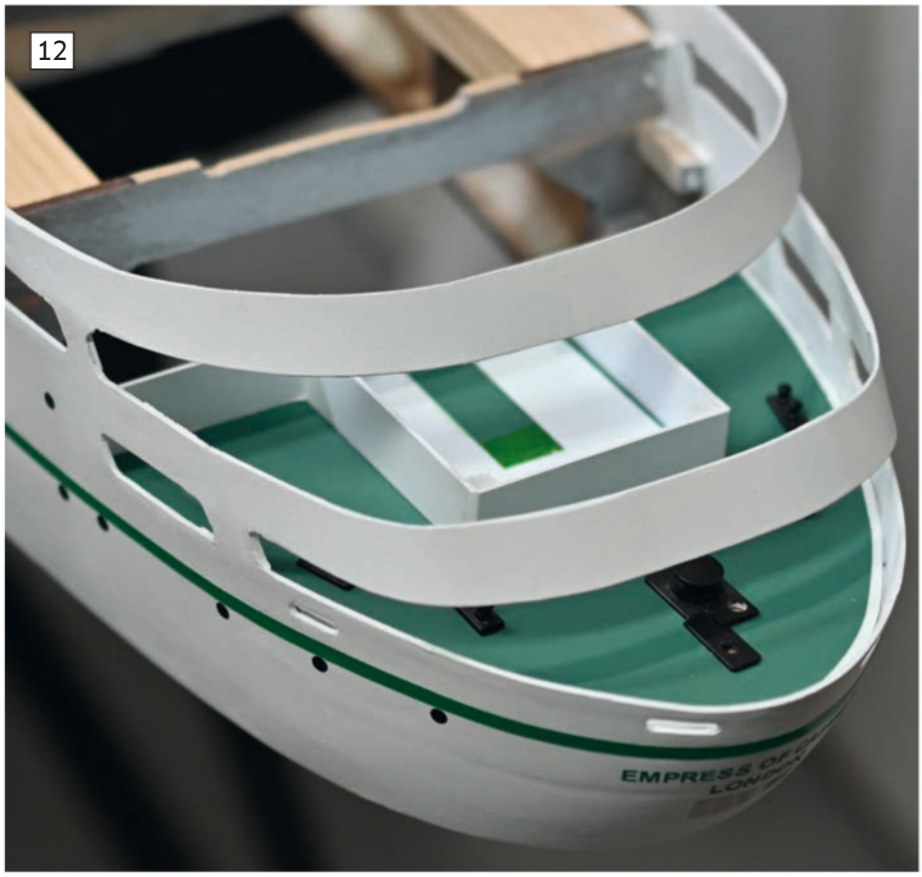
The aft ends of the deck houses on three of the decks were double walls, an inner continuous wall, and an outer wall of arches. Two of these were built on basswood blocks. **Photo 10** shows the construction of the end of the deck house on the Upper deck (2), and **Photo 11** that on Empress deck (3).

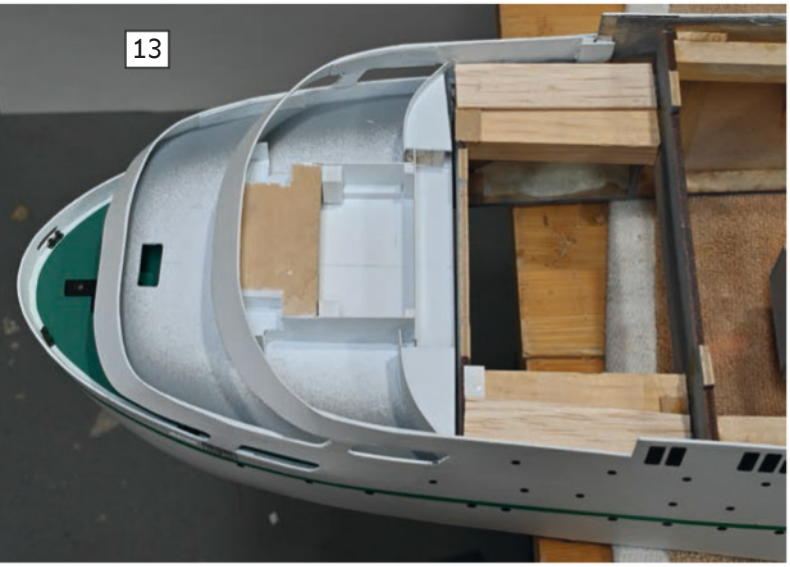
The foc'sle - Upper deck (2) - top layer was cut to shape inside the bulwarks and trial fitted. It was painted and a few of the details, breakwater and bollards, added on and then the layer was glued in place. The Empress deck (3) forward was temporarily fitted into position, while the Promenade front was glued in place. Fitting it was only temporary so that it could be removed while the bulwark supports on the Promenade deck (4) were glued in and those exposed internal walls were painted.

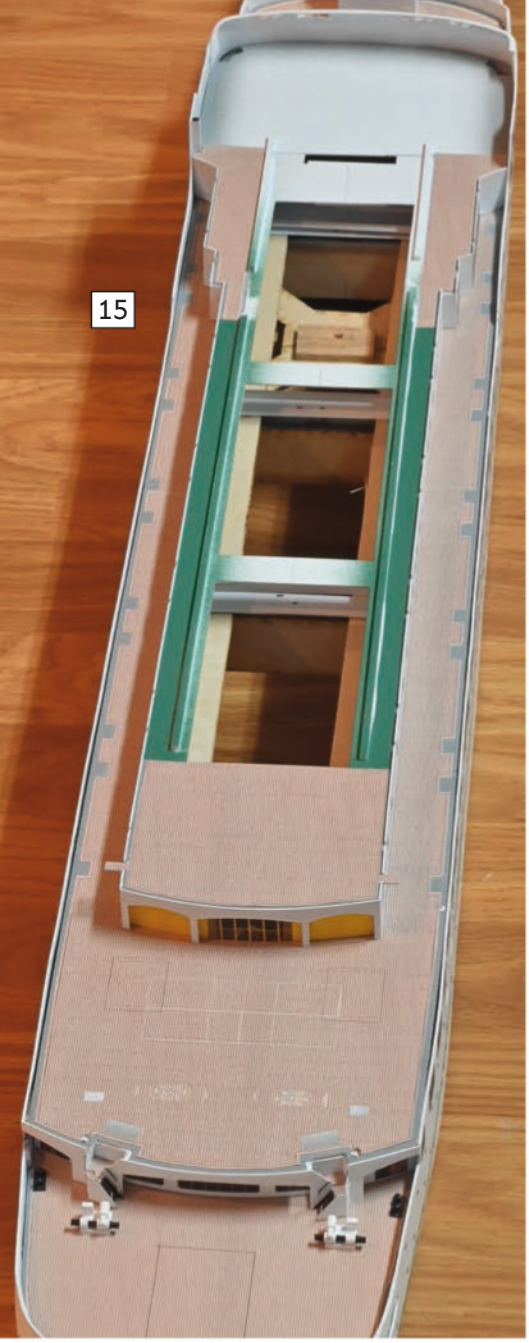
The aft mooring deck - Main deck (1) - was cut to shape, painted, and the bollards, windlass, winches and deck house glued on before the deck was glued into place (see **Photo 12**).

Photos 13 and **14** show the Upper (2) and Empress (3) decks and deck houses trial fitted and installed. Note the openings for the stairs.

All planking is a printed vinyl overlay coloured to my idea of weathered teak. Once a deck had been cut and trial fitted, I scanned it into my PC, and this became the starting outline for the planked deck. Features of



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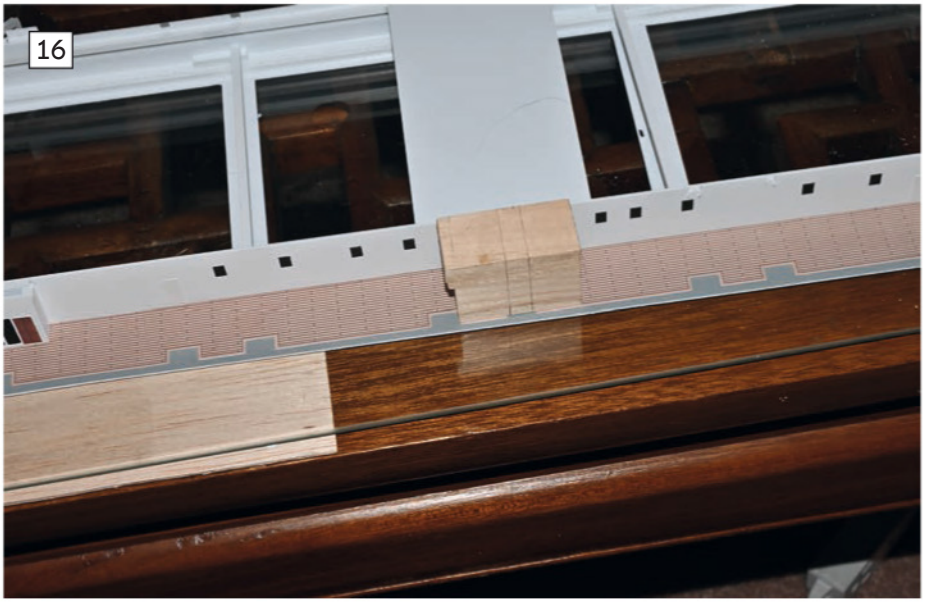
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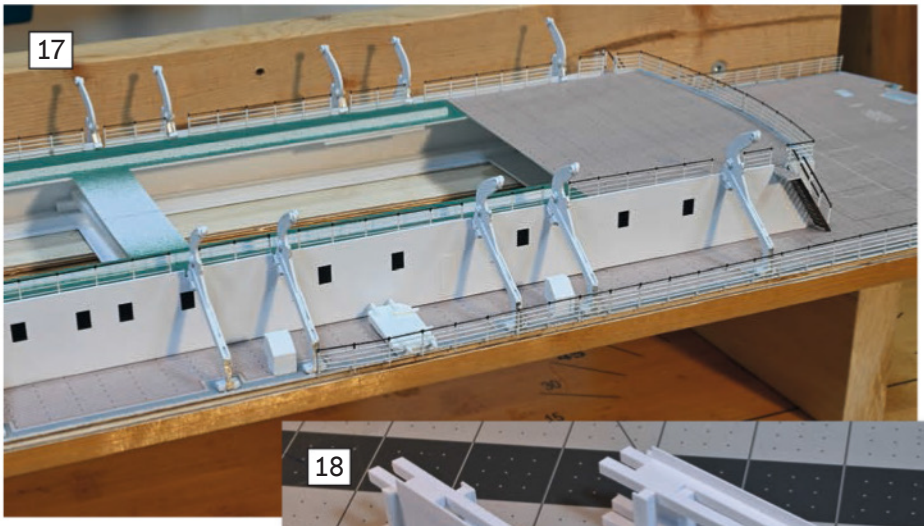
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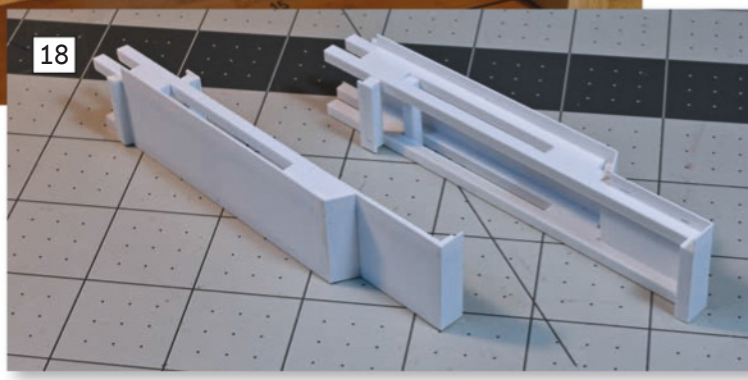
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Photoshop made it easy to reduce the size all around – leaving visible a painted waterway – then mark the margin plank and a grid of the regular planks.

Midship decks

The higher decks were built as two substantially complete stages. The first stage comprised the Promenade deck (4) with its deck house and the Sports deck (5) (see **Photo 15**). Also shown is the separate forward end of the Sports deck being trial fitted. Building the Promenade (4) and Sports (5) decks together allowed me to glue the railings to both the Promenade deck (4) edge and the davits before I glued the unit into the hull.

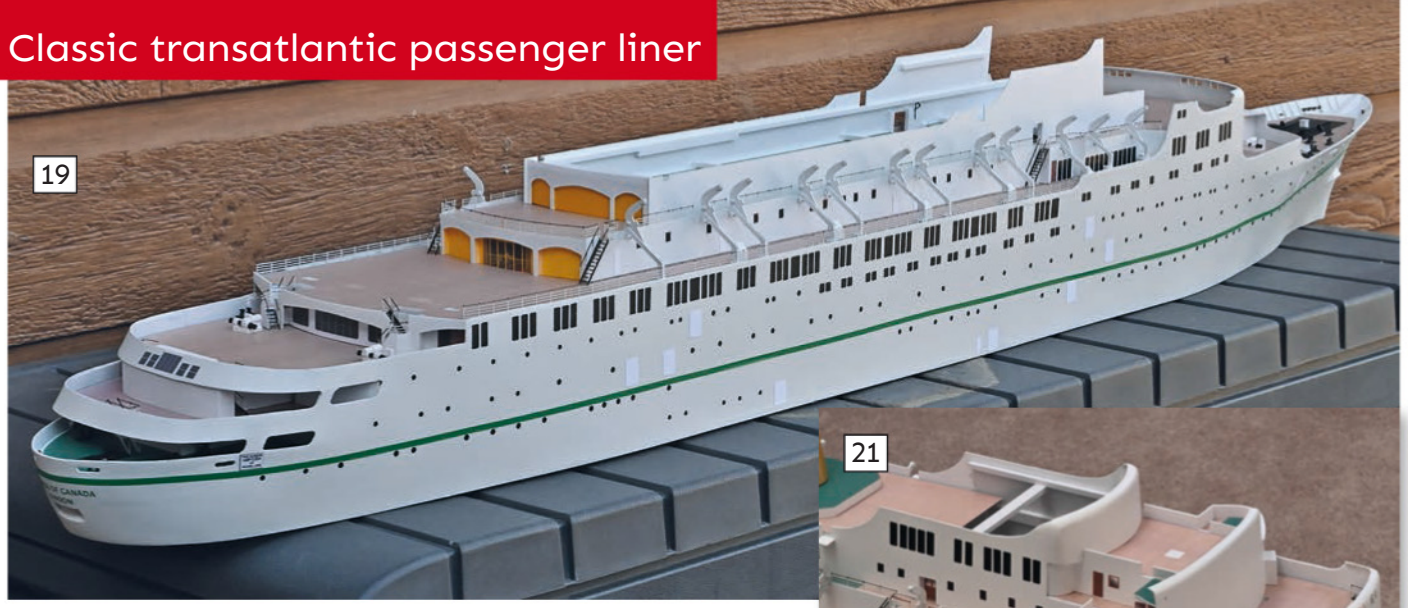
The bottoms of the davits sit on the Promenade deck (4) and the tops in cut-outs at the top of the deckhouse wall. These walls extend above the level of the Sports deck (5). I decided to align the cut-outs when I assembled the deck house and not rely entirely on measured dimensions. I used a block of wood to transfer the position of the bottom end of the davits to the top, and then make the cut-out for the davit tops (see **Photo 16**).

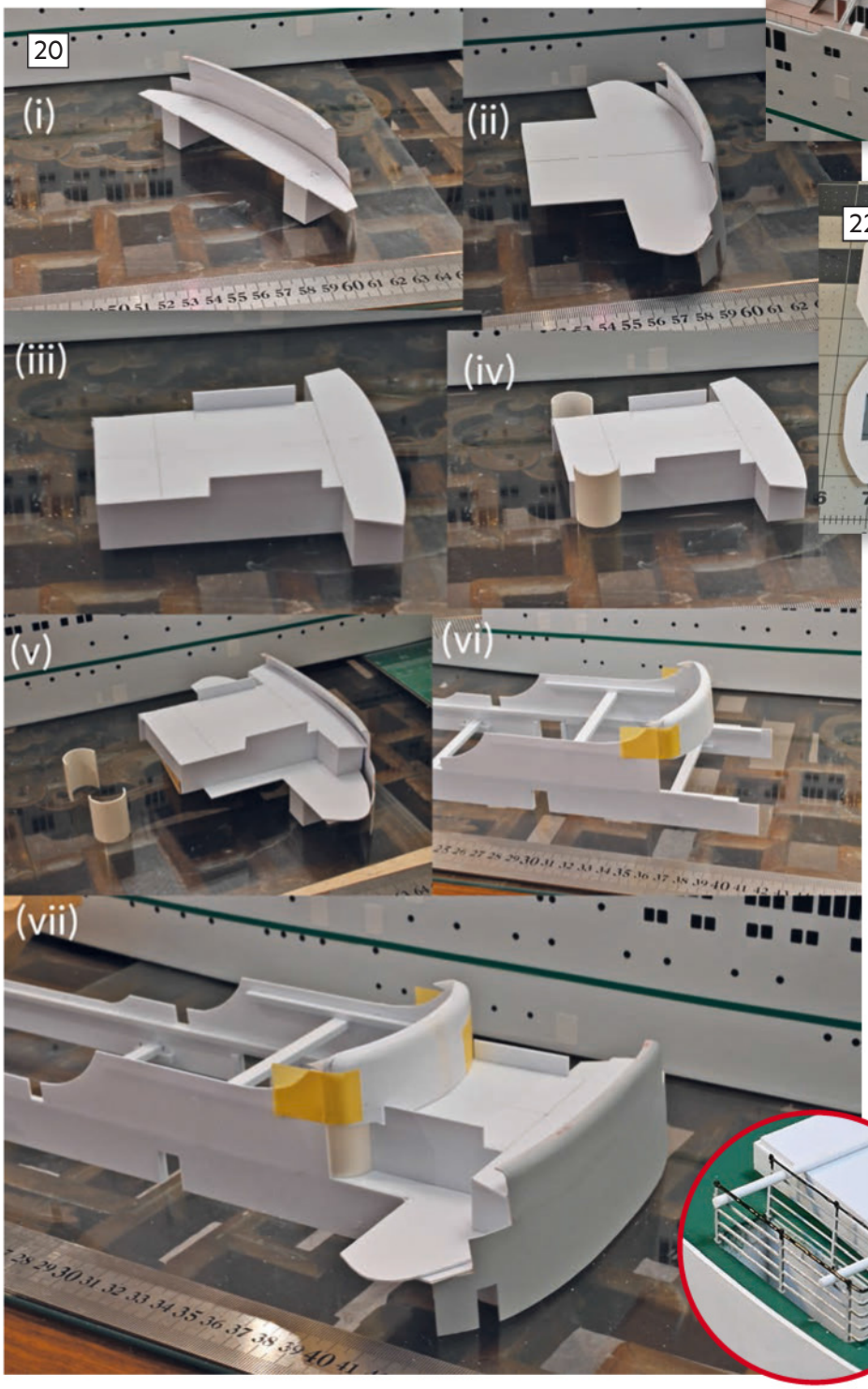
Since only the tiny stubs on the foot of the stanchions of the etched brass railings were available to glue to the deck edge, a supporting strip of 0.005-inch styrene was glued over the stubs along the edge. When cutting the Promenade deck (4) I had made the width slightly undersize; this left a gap for the railing stubs and their covering strip. **Photo 17** shows the aft end with the davits in place and the railings being added.

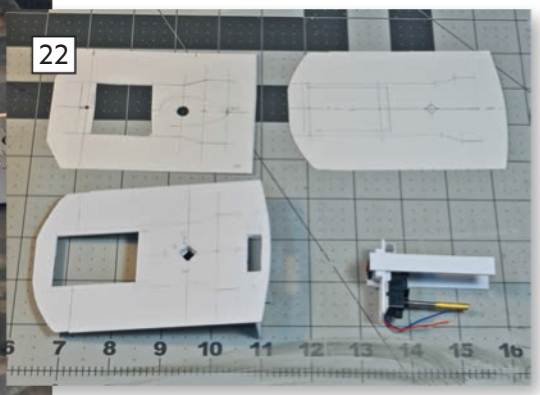
The Promenade deck (4) is the longest deck and single piece of styrene on the model. I have learnt from the experience of another modeller that a long piece of styrene glued to a wooden hull is in danger of buckling when exposed to the heat of a summer sun. For that reason, the Promenade deck (4) is fully epoxied to two lengthwise strips of $^{1}/_{8}$-inch plywood which are in turn glued to the hull frames.

The deck house which sits on it has parallel side walls for most of its length but at the forward end the side walls step outwards to the hull sides. These were built up using $^{1}/_{8}$-inch square and triangular section styrene (see **Photo 18**). The Promenade (4) deck house, as with all deck houses, was finished and painted before gluing to the deck. The Sports deck (5) follows this outline except for projections at the aft end to support the top of stairs. The forward end of the Sports deck (5) under the bridge is a separate piece and supported on cross-pieces in the hull.

The second stage comprised the Sun (6) and Observation (7) decks, built in four steps. The first step was the forward part comprising the bridge front and deck, and the house which contained the wheelhouse, chart room and radio room. The second step was the



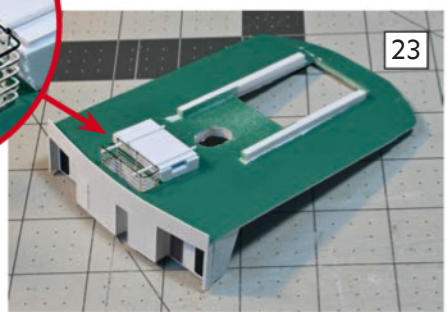


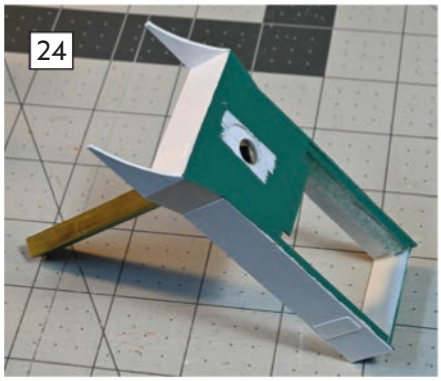


remaining aft deck house which is shown trial fitted in **Photo 19**.

The third step was assembling these two sub-assemblies, and is illustrated in the trial fitting in **Photo 20**: (i) the bridge deck support was attached to the partially completed bridge front, (ii) the bridge deck was attached; the separate bridge deck house (iii) had two half-tubes (which were later cut down) added (iv); (v) shows item (iv) was glued on top of (ii); (vi) the Observation front was glued to the aft deck house walls and then (v) was slid into (vi). After establishing this sequence, the parts were painted and finished before being glued together. The end result can be seen more clearly in **Photo 21**.

The fourth step was the deck houses on the Sun (6) and Observation (7) decks. Two preliminary plans of the Sun (6) deck house and Observation deck (7) were drawn on card and fitted (see **Photo 22**, top) to check clearance underneath for the radar motor drive, before the final styrene deck was cut. **Photo 23** of the Sun (6) deck house shows the staircase railings





"My 13-year-old grandson's purchase of a 3D printer encouraged me to test the water here"

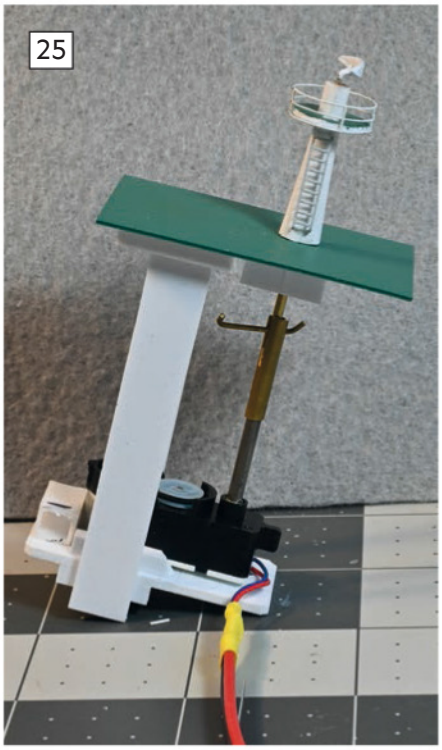
fitted. **Photo 24** illustrates the Observation (7) deck house fitted with brass box section tube to hold the removable mast and the opening where the radar unit (see **Photo 25**) sits.

3D printed parts

My 13-year-old grandson's purchase of a 3D printer encouraged me to test the water here. I first designed a prototype funnel using 'Tinkercad', which was simply a hollow elliptical cone with the point cut off and tilted backwards so the rear edge was vertical. The printed version was fairly rough and would have needed a lot of filling and sanding. However, after my grandson updated his printer, a much smoother part became possible. By this point, I had started trying out Autodesk's Fusion 360 professional-standard 3D modelling software. Fortunately, Autodesk provide a free, full-featured version for use by students and hobbyists. Developing these models involved study and trial-and-error but was an interesting activity in its own right. Using this I made a new funnel, closer to the shape on the plan and **Photo 26** shows the CAD [Computer Aided Design] image for this. A hole halfway around the shell near the top was needed to fit a set of vanes. The printer could not do the strip above that hole unsupported, so the slots near the top that you see were there only because some columns of material had to be left to support the top strip. The half rings supported the vanes which were to be glued into that position (see **Photo 27**).

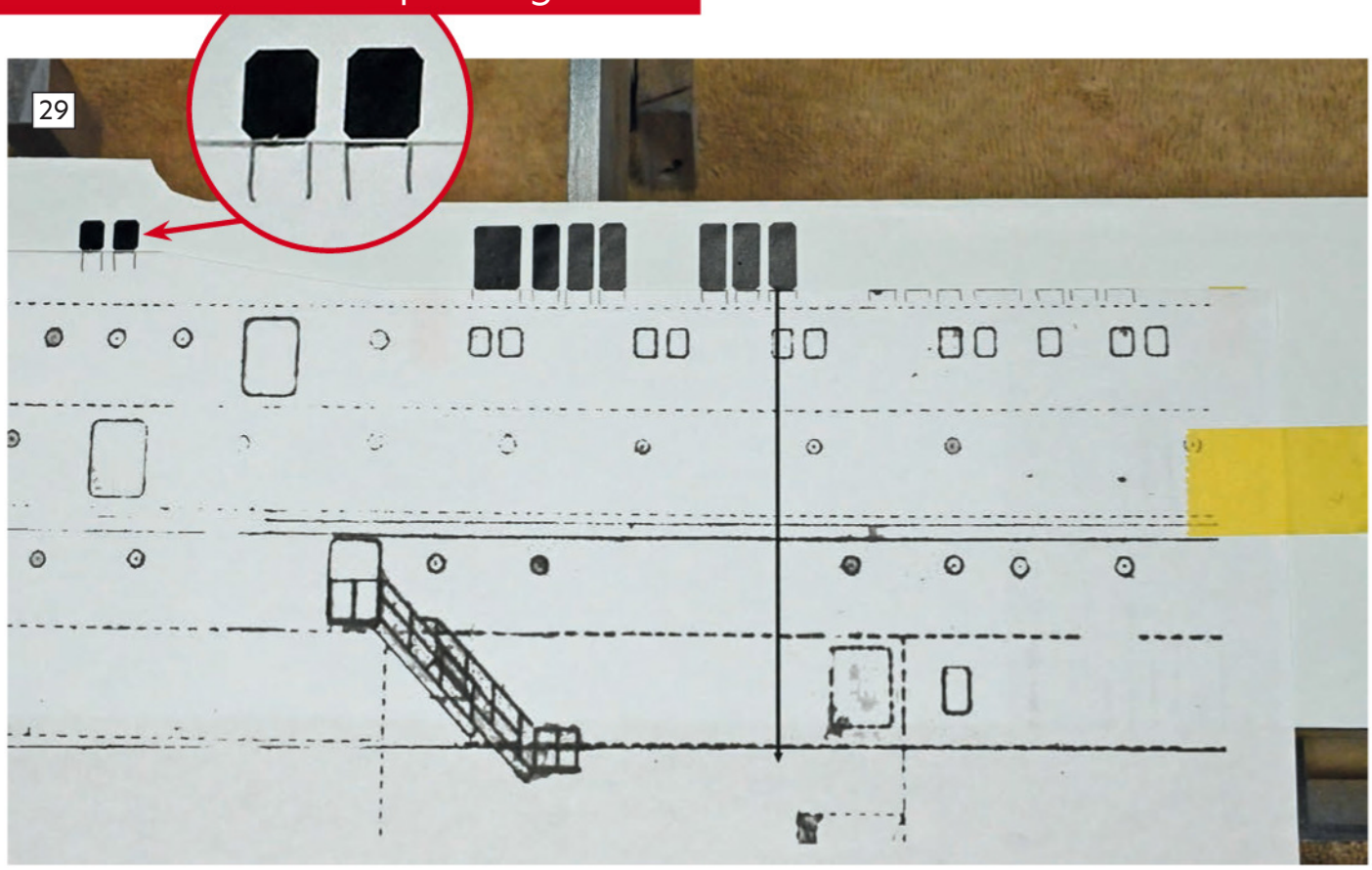
A suitable lines plan for open lifeboats was found on the internet. Models had to be printed starting on a flat surface, so one half of a boat was modelled and a mirror copy made for the other half (see **Photo 28**). The four semi-covered lifeboats/tenders were made the same way.

The two engine room vent masts were printed in three parts: base, hollow shell, and top cone. The topmast was brass rod.



Hull features, windows, etc

The author of an earlier MB article about ocean liners pointed out that the numbers of windows on such vessels must be off-putting for modellers. Believe me, it's not just windows; portholes were more numerous, plus there were 24 pulley blocks on 12 derricks, 14 lifeboats (including four tenders with a total of 24 windows – and two small boats), 12 cargo winches, and an innumerable length of railing. The latter, plus 28 davits, were purchased.



Making lots of identical pieces can be tedious and frustrating, so my lazy 'grand plan' for the windows was to have them cut on the vinyl cutter at my local library with prototypical rounded corners. Unfortunately, when the time came all the municipal services were closed due to the pandemic. Instead, rectangular pieces of self-adhesive black vinyl were cut from strips taped to a grid. The rounded corners would have been very tedious and awkward to recreate by hand. I found, however, that, by cutting off the corners at 45 degrees, when viewed from a reasonable distance, they are indistinguishable from rounded corners (see **Photo 29**).

As I had only a port side profile to work from when positioning windows, portholes, and doors, I considered that making the sides mirror images was reasonable. A careful scrutiny of the deck plans to locate portholes could have been done, but I passed on that idea.

By way of information, the rectangular windows near the mid-length of the Upper deck (2) were the suites of the first-class passengers, the portholes (punched from black vinyl) towards the bow were the first-class cabins and those towards the stern were tourist class (see **Photo 19**). Passengers one deck down on the Main deck (1) and the next lower deck were lucky to have portholes, and passengers and crew on the next two lower decks had no external light.

The hull side doors were cut from a not-quite-matching white vinyl. That was a tip I obtained from another one of the experts: if you want something to be noticeable, colour it a slightly different shade from its background.

Windows were needed to finish the tenders after painting. I cut these from BECC mirror chrome vinyl sheet. I thought this might better represent the windows since the real boats had open space behind them. In fact, it suggested I should have used the mirror sheet for all windows. From some angles they appeared black and from others they looked like sunlight reflecting off glass.

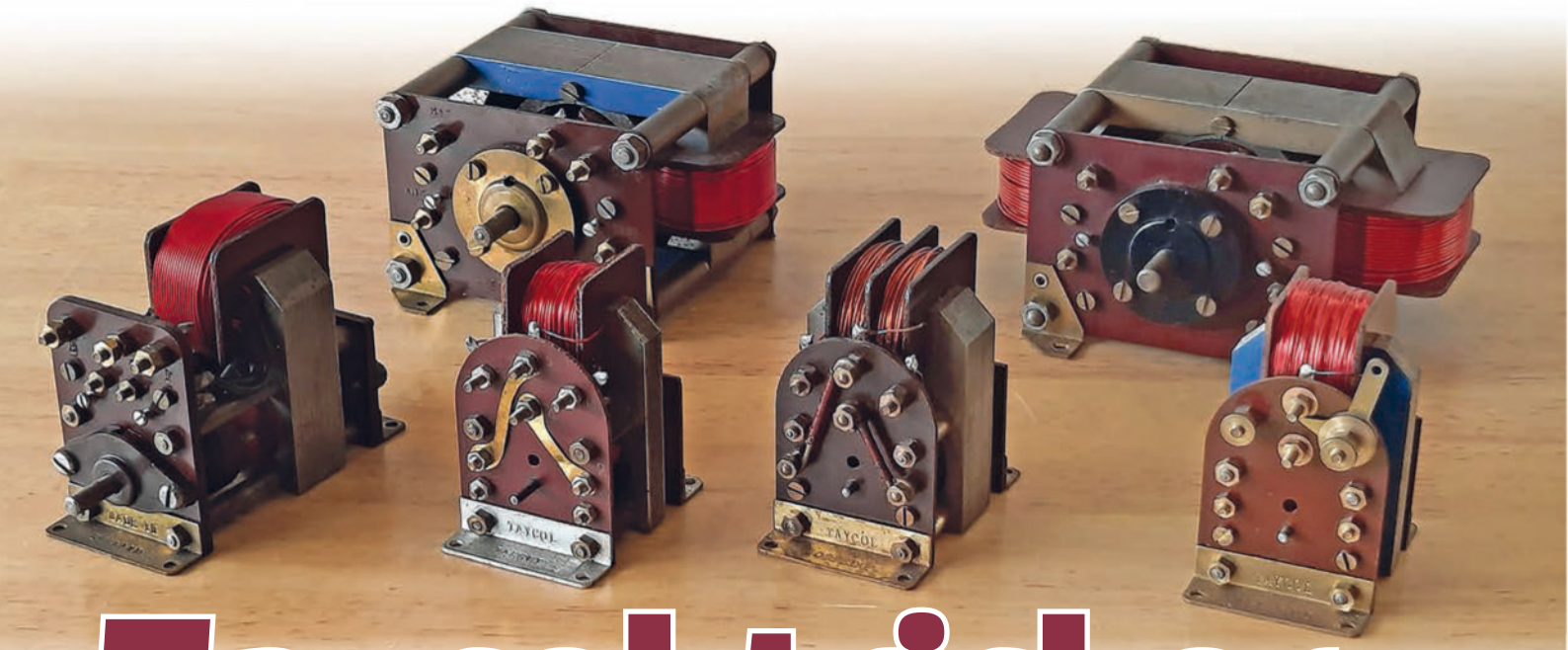
Part 3

In the August issue, we continue with the deck fittings and electrics and get onto the water, finishing up with a look at some aspects of the build which didn't go as expected. ●

This attractive model is a representation of a 512ton general cargo motor vessel built in the Netherlands in the early 1960s. There have been many vessels built to this basic design so you can invent your own colour scheme.

The kit is to the usual high standards and includes building manual, GRP hull, lifeboat, other materials; CNC cut styrene decks and superstructure, full size plan, resin and white metal fittings.

Price £320



A tribe of Taycols: from the left, Standard, Supermarine Special, Target, Torpedo, Double Special and Asteroid.

Taycol trickery

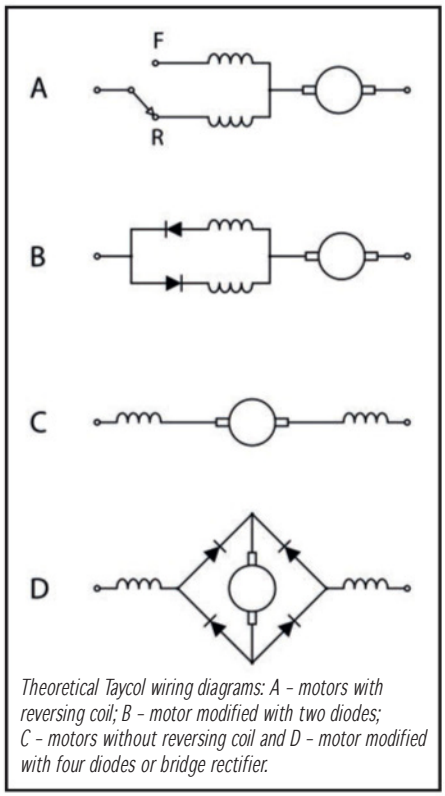
John Parker explains how these vintage British-made motors can be modified to use alongside modern R/C equipment to achieve not just a convincingly nostalgic look but reverse running, too...

I told the story of Taycol (Taylor and Collis) motors back in the February 2014 edition of Model Boats. It is obvious that these British-made motors, which had their heyday in the 1950s and 1960s, still hold a special place in the hearts of vintage enthusiasts and collectors judging by the number of questions about their operation that have come my way or are posted on forums. Most of these queries relate to the use of these motors with modern R/C equipment and, specifically, how it is possible to obtain reverse running. What follows, then, is an explanation of how this can readily be achieved so that a vintage boat may not only be made to look right in the engine compartment but have that heady whiff of sparking brush gear and vaporising oil that only a Taycol can provide...

The problem

Taycol motors, with the exception of the low powered Comet and Star permanent magnet models, used an electromagnet connected in series with the armature to provide the necessary magnetisation for their operation. They are thus known as 'wound field' motors. Wound fields provided stronger magnetism for a more powerful motor at a time when permanent magnets were weak and anything but permanent. The problem occurs when the polarity of the battery is reversed with the expectation that the motor will run in reverse. To the surprise of many, it doesn't, and continues to run the same way regardless of the battery polarity.

This happens because reversing the battery polarity reverses the polarity of both the armature and field magnetism, with the result that there is no net change. To achieve reversing of the motor, either the armature or the field magnetism needs to be reversed, but not both. This could be accomplished by wiring in a double-pole, double-throw switch, but was considered too complicated for most modellers and, in any case, wouldn't work with simple R/C. Taycol realised this was an issue and, from 1958, started to produce versions of its motors with an additional field coil wound over the existing one purely for the purposes of reversing. Versions of the Target and Torpedo fitted with a reversing coil were known as the Asteroid and Meteor respectively, whereas the Supermarine picked up the suffix Special. The later Standard and Double Special models only ever came with a reversing coil.

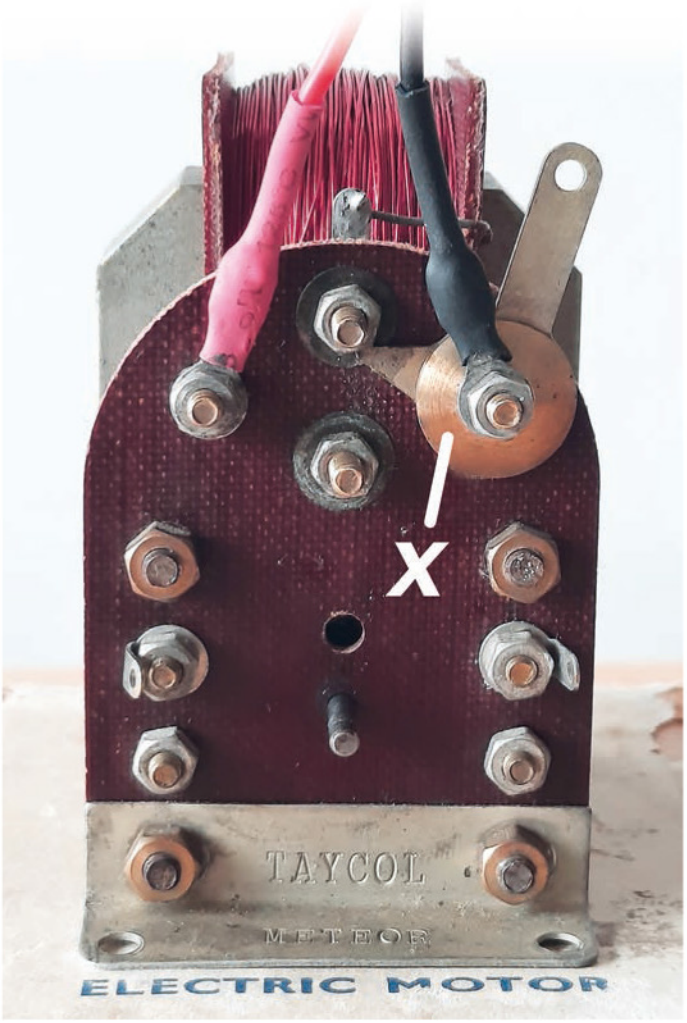


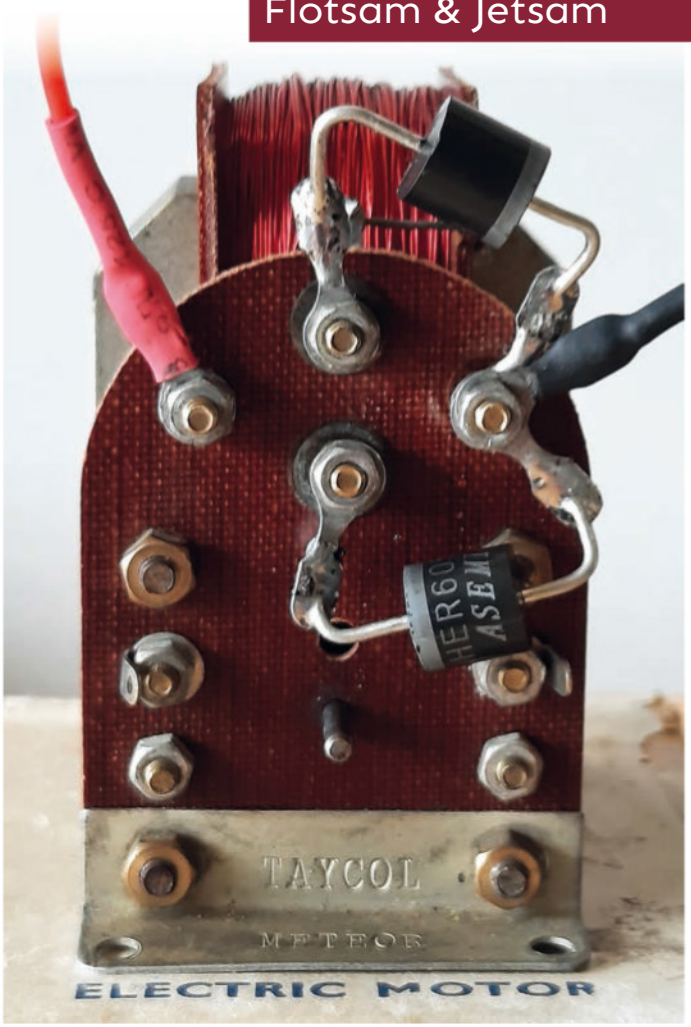
Theoretical Taycol wiring diagrams: A - motors with reversing coil; B - motor modified with two diodes; C - motors without reversing coil and D - motor modified with four diodes or bridge rectifier.

The reversing coil still needed to be selected via a switch, but now only a single-pole, double-throw one was required. This was a questionable improvement, as the reversing coil added significantly to the cost and weight of the motor. Operation via R/C was possible, but the advertised 'instantaneous reversing' resulted in great strain on the drive train and caused many a lost propeller, spun off its shaft by the shock reversal.

The answer

A more modern approach to the reversing problem is to use semiconductor diodes: small devices that only allow current to flow one way. A different arrangement of diodes is needed dependent on whether the motor has a reversing coil (Asteroid, Meteor, Standard, Supermarine Special and Double Special) or not (Target, Torpedo, Marine, Supermarine). In the case of models with a reversing coil, two diodes are used to effectively switch power to the forward or reverse coil(s) depending on the battery polarity. On models without a reversing coil, four diodes are needed and are connected so that the armature current is always flowing one way, whereas the direction of the field current changes with





ABOVE LEFT: Meteor, Asteroid – remove switch lever 'X'. ABOVE RIGHT: Meteor, Asteroid – reversing diodes fitted. BELOW LEFT: Standard – reversing diodes fitted.

the supply polarity, ensuring that the motor reverses with it. A bridge rectifier, which consists of four diodes in a single package, is a convenient way of fitting the four diodes.

There is a small price to be paid for this trickery: each diode causes a voltage drop of about 0.6 volts, so we lose 0.6 volts in the case of motors with a reversing coil and 1.2 volts in the case of motors without a reversing coil (since only half the number of diodes are conducting at the one time). The diodes carry the full current of the motor so must be adequately rated. I used type R250H diodes rated at 6 amps and a Z0085A bridge rectifier rated at 10 amps, priced at the equivalent of under £1 and £2 respectively. If you have an installation that is known to be particularly thirsty for amps you may need higher rating diodes and/or mount them on a heatsink.

Modifications – motors with reversing coil

In the case of the Asteroid and Meteor only, it is necessary to remove the built-in reversing switch first. For these models it is convenient to mount the two diodes on the existing studs as shown in the photo, preferably using solder tags. Note the direction of the diodes, indicated by a stripe of the case. That's all there is to it. In the case of the other models with a reversing coil (Standard, Supermarine Special and Double Special), connect the diodes in opposite directions to the F and R studs on the motor and to the supply wire as shown in the photos.

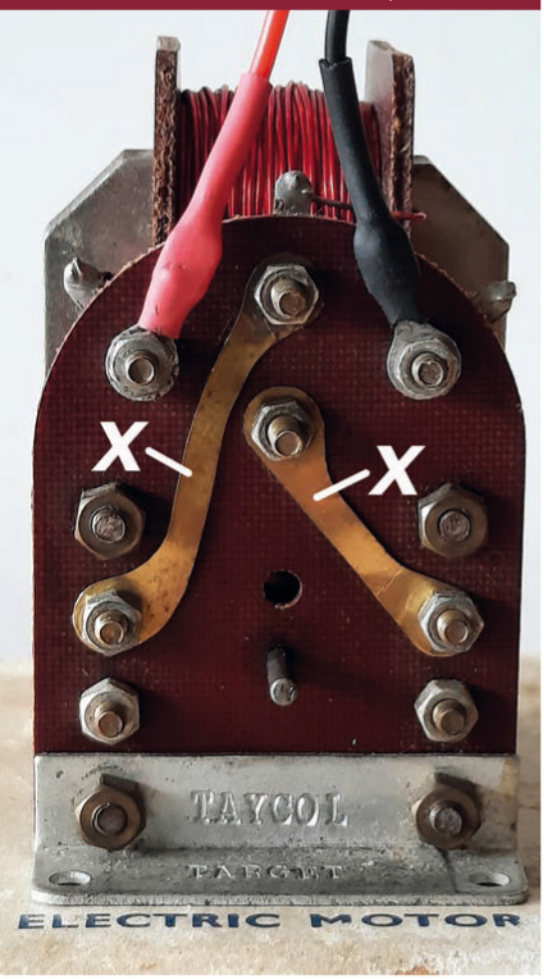
In each case, check that 'forward' corresponds with normal running (motor turning anti-clockwise when viewed from the output end) and that the motor runs slower in reverse when the battery polarity is swapped (a deliberate Taycol characteristic, due to fewer turns on the reversing coil). Swap the two diodes around if this is not the case.

Supermarine Special, Double Special – reversing diodes fitted.

Modifications – motors without reversing coil

On these models it is necessary to remove some links fitted to the end plate. They will be wires or thin brass strips on the Target and Torpedo models and thicker brass linking plates on the Marine and Supermarine models (see appropriate photos).

The bridge rectifier is then wired up as per the photos. The yellow wires connect to the leads labelled '~' on the rectifier and the red and black to the wires labelled '+' and '-' respectively; note there is usually a chamfer



Target, Torpedo - remove two links 'X'.

"Modified as discussed, Taycol motors are much more convenient to use and work fine with all the electronic speed controllers"

"The interference Taycols were notorious for simply isn't an issue with a modern 2.4 GHz RC system"

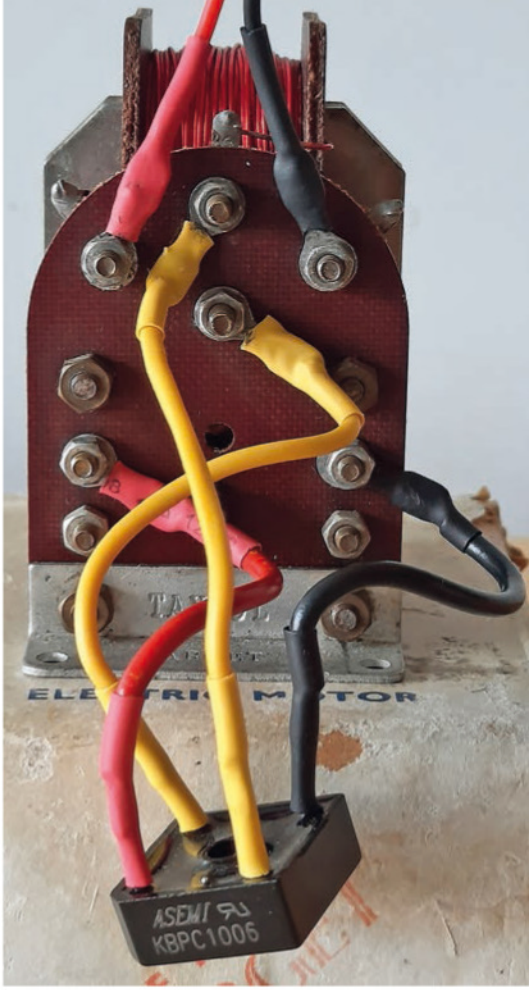
or marking on the corner of the bridge rectifier nearest the '+' as extra identification. As before, check that the motor now runs in reverse (at the same speed this time) when the battery polarity is swapped and that 'forward' corresponds with normal operation.

Operation

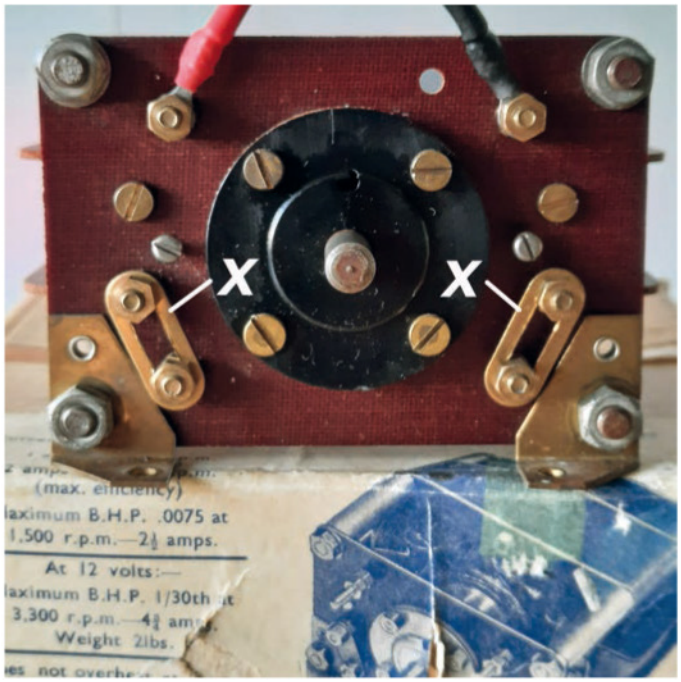
Modified as discussed, Taycol motors are much more convenient to use and work fine with all the electronic speed controllers I have tried, reversing smoothly with a reversible controller using just one channel. This makes a vintage Taycol powered boat quite practical if you can disguise the modern R/C equipment. The diodes, etc, can be made less conspicuous by mounting them on a tagstrip away from the motor in the superstructure somewhere, or even fitting them behind the end plate of the motor. Finally, the interference Taycols were notorious for simply isn't an issue with a modern 2.4 GHz RC system.

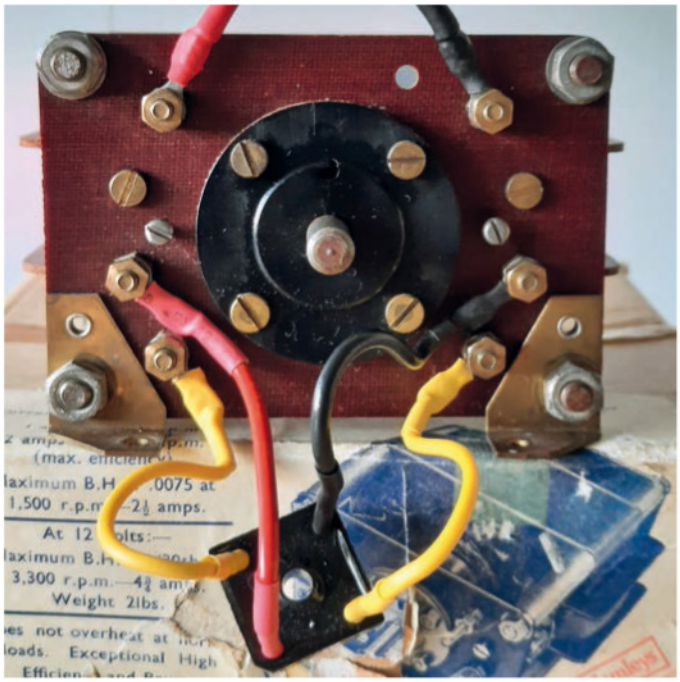
Refurbishing

If you decide to strip and clean your old Taycol be sure to take careful notes or photographs of the stud, nut and spacer arrangement before you begin. Badly worn bearings are best addressed by making new Tufnol end plates, using the old ones as templates, or making new brass bearing plates that can be bolted to the old end plates. There isn't much you can do if the brush gear is worn, so it's best to preserve its life with limited running and a drop of oil on the commutator. The laminations can suffer badly from rust, being unprotected steel in a marine environment, but if not too far gone can be cleaned up and varnished to help preserve appearances. The nicest looking Taycols are the early ones with nuts, thumb screws, mounting brackets, spacers and bearing caps in brass; these gradually got replaced with plated steel and plastic in later production. ●



Target, Torpedo - bridge rectifier fitted.





ABOVE LEFT: Marine, Supermarine - remove two links 'X'. ABOVE RIGHT: Marine, Supermarine - bridge rectifier fitted.

Boiler Room

Richard Simpson provides the second of four instalments detailing a recent build designed and constructed to test out some innovative new equipment...

Last month I explained how and why I decided to marry up a Wide-A-Wake clinker-built hull design with a Hemmens twin poker burner boiler and a Caton 'V' four engine. Having documented this project to the point of getting the deck with the feed tank and the separator tank fitted as a removable module, it's now, therefore, time to progress the internal build and the outside of the hull.

The hull exterior

The more I looked at the hull, admired the stylish lines of the clinker construction and appreciated the beauty of the finished wood, the more I wondered whether it would benefit from an additional finish below the waterline. I toyed with the idea of painting the lower surfaces with an anti-fouling finish and considered various different gloss colours, such as bottle green. But what paint would I use? I wanted to achieve a finish that would be very hard and resilient but didn't really want to get into two pack paints, as there may be a tendency for these to crack on such a large and potentially flexible surface. Eventually, I found a company that manufactures enamel paints specifically for use on the restoration of vessels/vehicles such as canal barges, traction engines, model steam engines and even steam locomotives, by the name of Craftmaster Paints. The descriptions read very well, and the brand's online gallery certainly looked impressive, so I took the plunge and went for one of the enamels in Craftmaster's standard range: Crimson Lake – which is actually an old LMS railway colour.

To prepare the hull I first mounted it on the workbench in its original building stand and shimmed it up to get the waterline shown on the plan level. To achieve this, I tied a marker pen to a dial gauge base and marked off the fore and aft waterline points from the plan. Once certain it was perfectly level, I very gently drew a line along both sides of the hull. This was made particularly tricky by the clinker construction and the fact that the stern section is a very shallow shape, but with careful angling of the pen, a great deal of patience and attention, and more than a little rubbing out, I eventually generated a decent line around the hull on the waterline. The hull was then turned over and masking tape applied up to the line. Again, this proved a bit of a challenge on a clinker hull, but ensuring the tape followed the plank joints perfectly resulted in a satisfyingly accurately masked waterline.

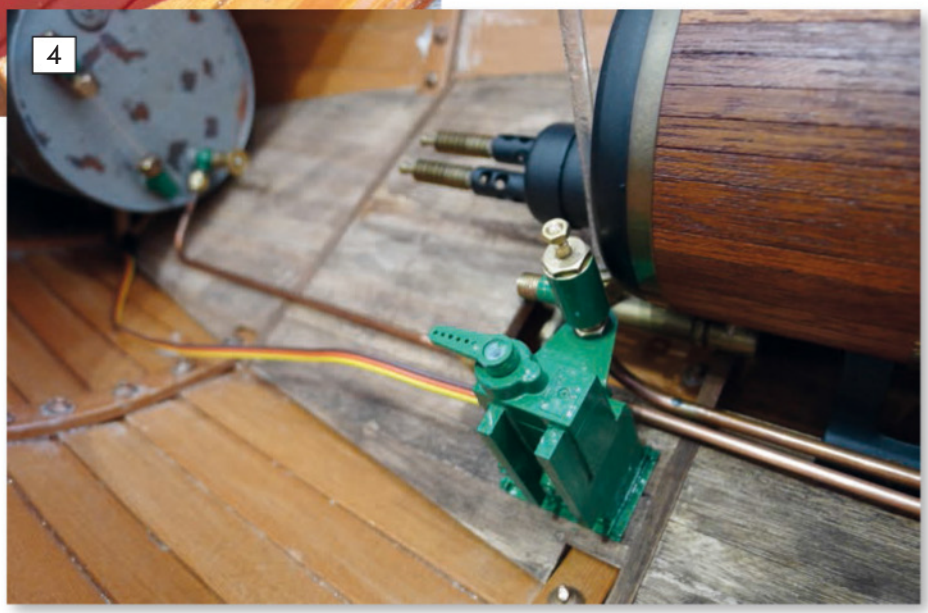
The next job was a gentle rub down of the entire surface of the hull with a fine wet and dry paper to create a key for the paint. As I'd already applied a two-pack epoxy produced by the company West to the hull, I needed to be sure that the paint would adhere well. Care was taken not to touch the edge of the masking tape, but to still get as close as it was safe to. Once that was done it was time to open the tin of Craftmaster Paint. I find there's always something about strangely satisfying about opening a brand new tin of enamel paint, but on this occasion I was filled with a sense of uncertainty. Firstly, the paint smelled slightly different from any other enamel I'd ever used, and when stirred, the consistency was much thinner than I'd expected, so I was immediately concerned about how it would perform in terms of coverage. But, in for a penny, and so a pristine new brush was dipped into the pot, and I set about painting the planks. What a surprise! It may sound strange, but I can safely say I'd never before enjoyed painting something with a brush quite so much. I started with the keel and then went down a plank at a time to keep brush strokes in line with the planks and ensure consistent and minimal overlap. This paint seemed to slide over the surface in a way I've never experienced before. It was an absolute joy to work with. With the first coat complete, I couldn't believe the level of gloss finish that the paint had settled to and the beauty of the colour. After a good workstation clean up, the paint was left untouched for a day before applying a second coat. When the masking tape was finally removed, I was truly delighted by how stunning the finish was. If you ever you

ABOVE: A lot of care and attention is required to mask a waterline on a clinker-built hull. Get it right, however, and it looks simply superb and greatly enhances the overall look of the model. BELOW: Richard has never before used an enamel paint that goes on as satisfyingly as the one he selected for this project from the Craftmaster Paint range. The brush, he explains, seems to glide over the surface of the hull and the paint settles to a beautiful full gloss shine.

"If you ever you have a large surface such as this to paint and need a good gloss finish, I highly recommend you try this remarkable product"

LEFT: The trickiest part, Richard points out, was getting the line correct around the very shallow stern and the transition into the transom. The beauty of masking tape, however, is that you can try as many times as you want until you're completely happy with the result.

BELOW: First to be installed, the water control servo and valve unit, both mounted onto the same block of wood and enhanced with some angle iron detailing to further the idea of creating something that looks for all intents and purposes like a piece of machinery.



"This idea had worked well previously, but…"

have a large surface such as this to paint and need a good gloss finish, I highly recommend you try this remarkable product (see **Photos 1**, **2**, and **3)**.

The insides, again

The enamel was then left untouched for over a week before I eventually turned the model over again and sat it in its building stand, to which I'd added some soft foam tape to the surfaces to further protect the paintwork. It was now time to have a deeper think about the layout of the interior. While I knew where I wanted to place the various components, the details of how best to get them there had yet to be finalised.

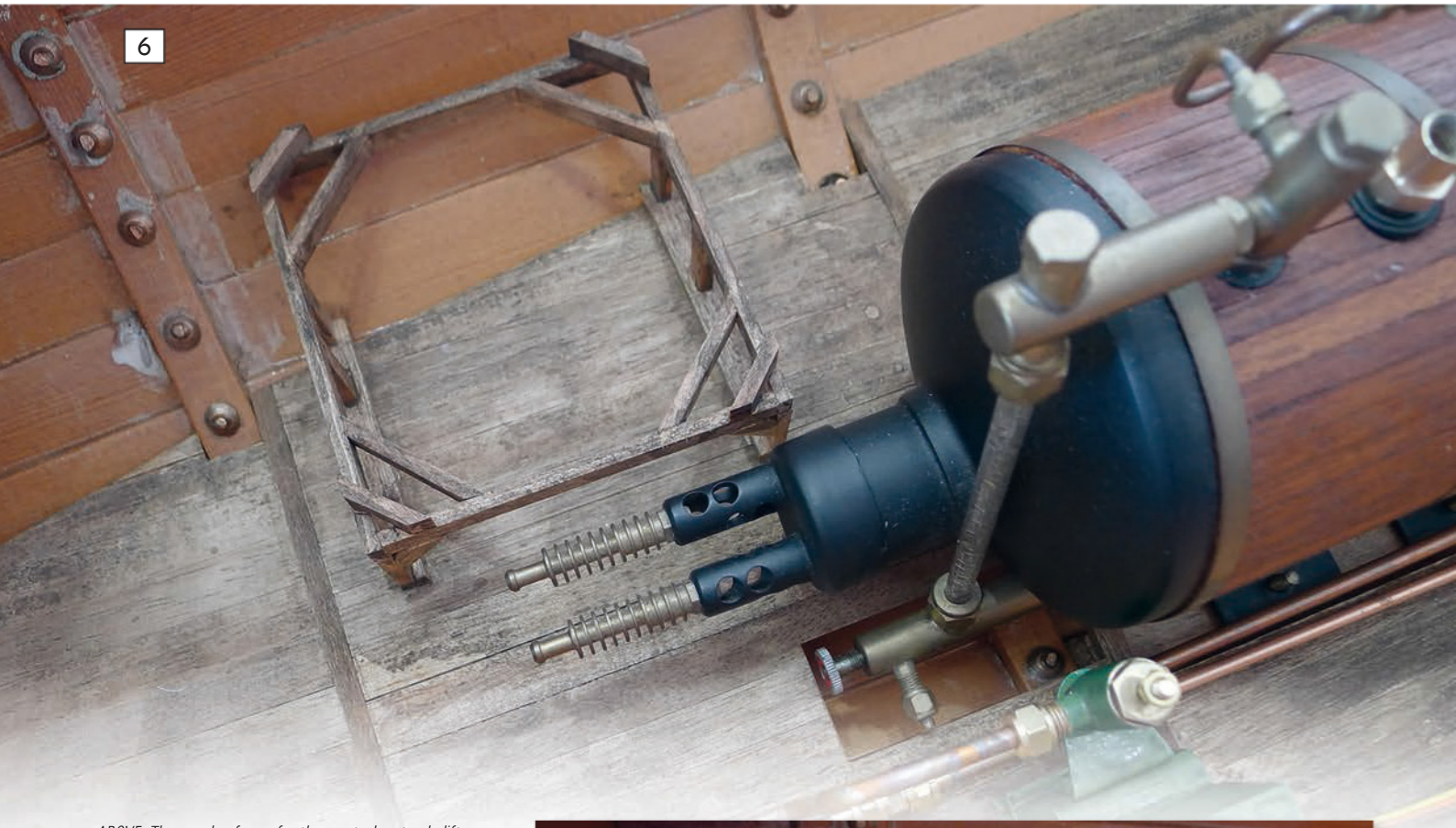
1) Boiler control

I decided the Automatic Boiler Control Unit and the Engine Control Unit would sit inside lockers on either side of the model, which would be built between two frames. This meant that the servos for operating the engine and the two servos for water pump and gas control could now be considered. I wanted to use the same general idea that I'd employed in my last open launch (as described in Boiler Rooms Pts.122 and 123), whereby, rather than the normal arrangement of putting the servos inside a wooden box featuring an operating rod miraculously coming out of it, I painted up the servo to look like a piece of machinery, conscious of the fact that it would, after all, be on view.

This idea had worked well previously, but this time there were more servos to contend with, and they were significantly more obvious. As the two control servos simply operated valves, mini servos were used. I started off with the water level servo and mounted it onto a wooden base, with battens fitted to it for mounting the servo. I also added some plastic strip angle iron and some plastic mounting nuts to the base. The water valve, obtained from Clevedon Steam specifically for this purpose, was mounted to the same block of wood so any forces involved with moving the valve would be isolated from the deck. The feed water pipework was then plumbed in from the engine-mounted water pump to the valve and the boiler feed valve, as well as the return line to the feed tank. My servo assembly was painted up with common gloss green engineering paint before simply being glued to the deck, while the servo cable led to the area of the control unit (see **Photo 4**).

The gas valve and servo installed next, using exactly the same process as was used for the water valve. The water return line has now been fitted to the plastic plug in the water tank with a small section of copper pipe that's simply pushed into a tight hole.

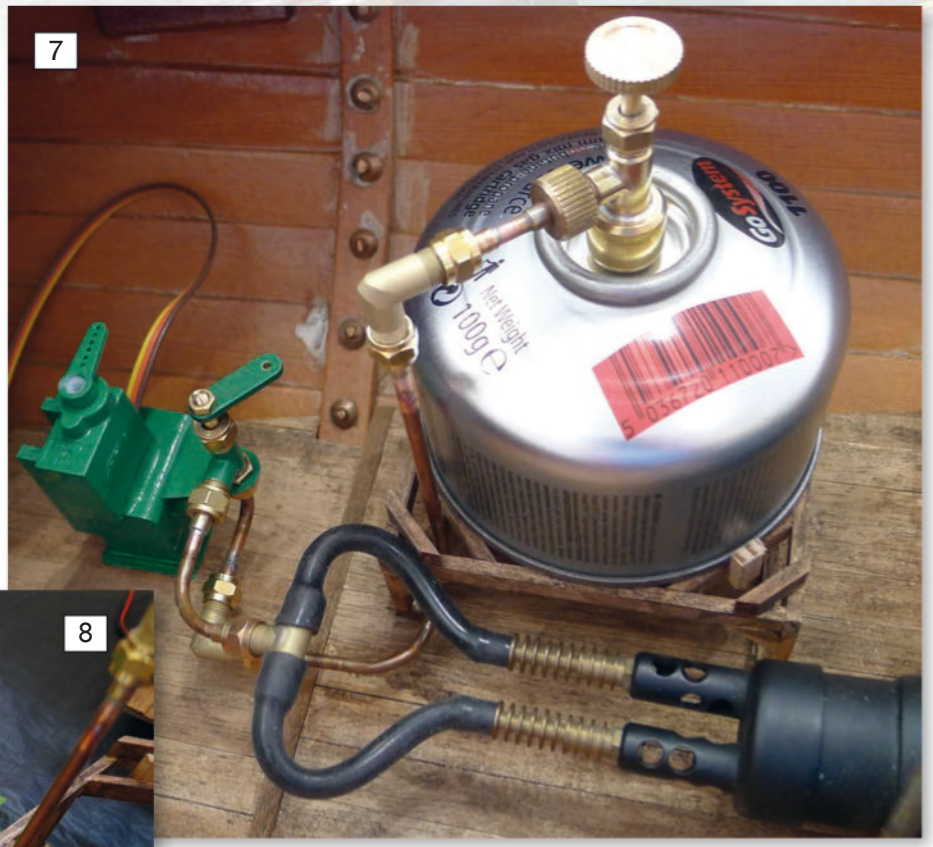
The gas servo was dealt with in a similar manner, with both the servo and the gas valve mounted on the same block of wood, which I detailed with some plastic strip. The gas valve was, again, supplied by Clevedon Steam specifically for this purpose (see **Photo 5)**. I mounted the gas tank onto a wooden frame base, which enabled the gas pipe to pass out at the bottom of the frame. This also provided

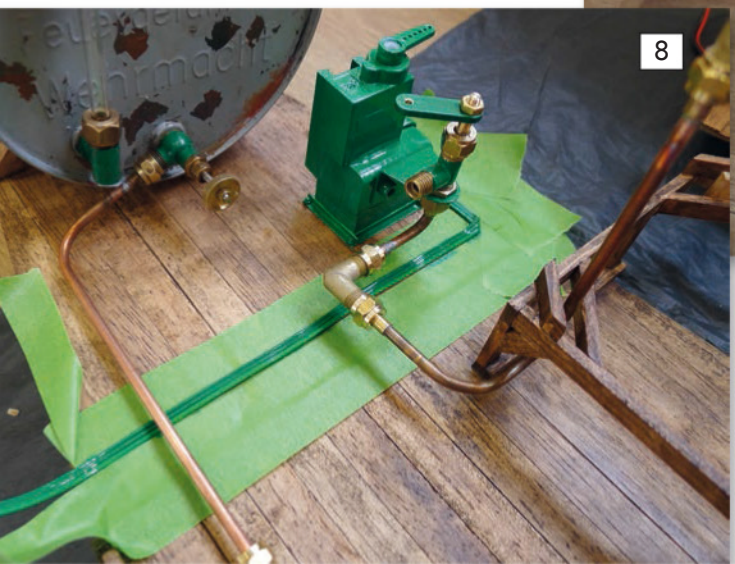


ABOVE: The wooden frame for the gas tank not only lifts the tank off the deck to make for easier pipe runs but also allows the tank to be moved slightly outboard to give more space on the deck.

the base for the oil tank cover and hid the disposable gas tank (see **Photo 6)**. The pipe work was all completed, from the tank to the valve and then onto the twin burner connections via a splitter pipe (see **Photo 7)**, with the servo leads painted up in the same enamel to represent hydraulic pipes (see **Photo 8)**.

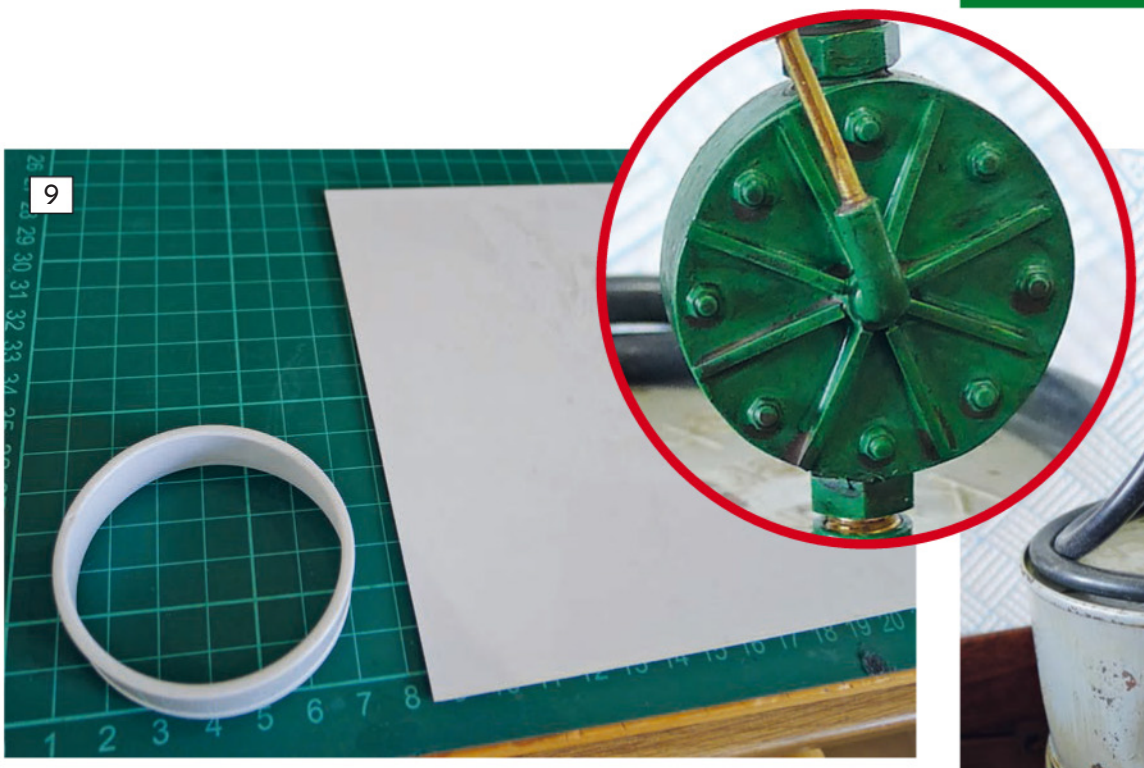
At this point I also turned my attention to the oil drum and decided that it would be significantly enhanced by the addition of what I've always known as a 'Barrel Pump'. This usually screws into the threaded fitting of the cap and allows oil to be drawn out of the barrel by the operation of a handle on the pump. I modelled this as a scratch-build item, drawing on memories of my own time at



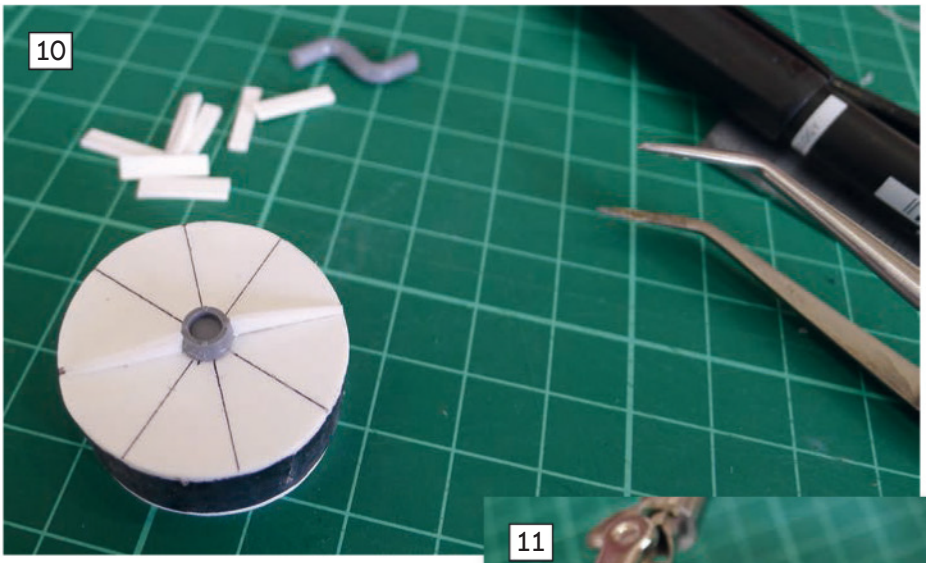


ABOVE: The disposable gas tank sat on its completed framework, with completed pipework connected up to the twin poker burners. All gas pipework was silver soldered as a safety precaution.

LEFT: Continuing the idea of making the servo arrangements look like machinery, the servo leads were painted up to resemble hydraulic pipes.



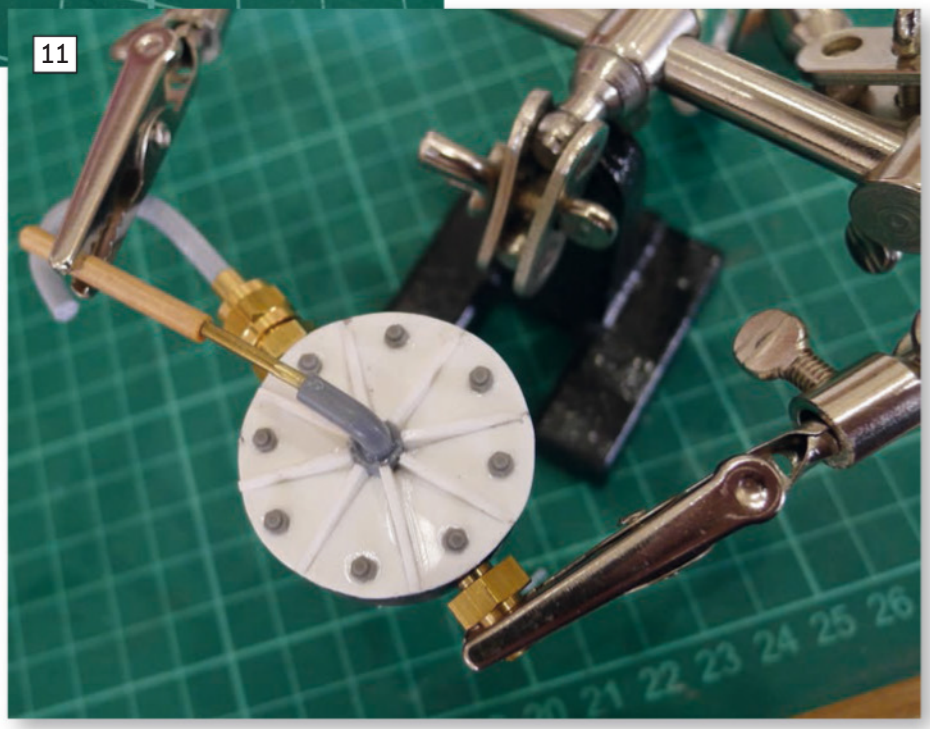
ABOVE: The barrel pump started off life as a slice of plastic domestic drainpipe.



ABOVE: Discs of polystyrene sheet were added to both sides, and stiffeners made out of cut up plastic strip were added around a plastic pipe fitting looted from a model railway pipe set.

RIGHT: Finally, a handle and the main pipe fittings were added, along with some plastic nuts from a plastic armour modelling set.

ABOVE & INSET: The completed pump fitted to the top of the tank makes the area far more interesting to look at and gives the oil tank a little more credibility.



sea. It was created simply from a slice taken from a piece of plastic tube (see **Photo 9)**, with the covers and cast stiffeners made up from pieces of cut polystyrene strip (see **Photo 10)** and enhanced with some plastic nuts. The handle was fabricated from a bit of brass rod, with a wooden handle fashioned from a bamboo skewer, and the main fittings were simply a couple of brass steam fittings epoxied on (see **Photo 11)**. A piece of rubber hose was added, and the item was finished off with the same green enamel, washes and weathering techniques; note the spilt oil sat in a puddle on the top of the drum in a fairly typical manner (see **Photo 12)**. Now the gas operation and the disposable tank were

ABOVE: The forward area, showing the disposable gas tank with the cover off.

LEFT: Another view of the forward area but this time with the oil drum cover in place to hide the tank. This will allow ready changes of gas tanks to minimise the gas cooling effect and maintain gas pressure to the hungry burner.

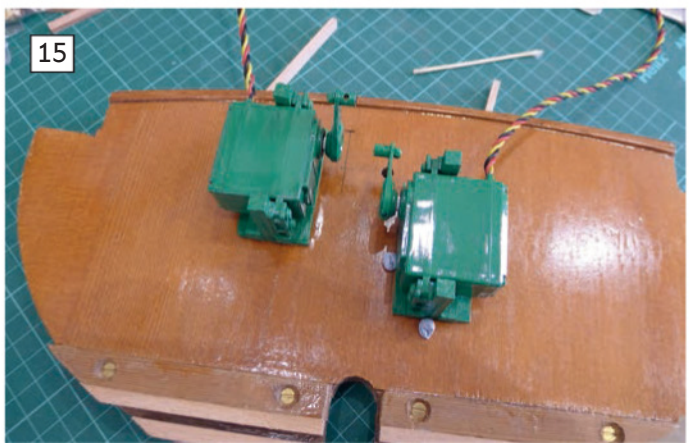
completed (see **Photo 13)**, plus the cover and the water valve and pipe work were also in place (see **Photo 14)**.

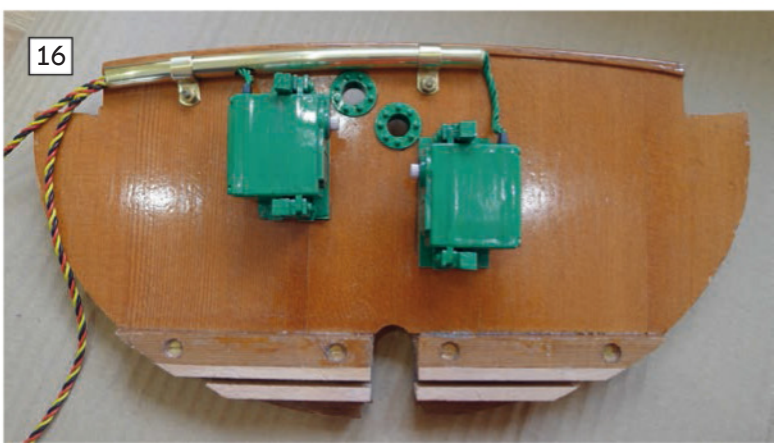
2) Engine control

The engine control side of the installation was going to require servos of a much greater capacity, and the two valves mounted on the top of the boiler and the engine were a good deal stiffer than the boiler control valves. As I wanted the figure I'd be including to appear as if actually 'operating' the engine, the servos would have to be able to move my man's arms. As there would be two controls – one for speed and one for reverse – the two handles he'd be holding would need to be connected to the speed control valve on the boiler and the reversing valve on the engine respectively and be powered by the two separate servos.

I decided the easiest way to achieve this was to mount the two high torque servos onto wooden bases, which in turn I then mounted onto the front face of the cockpit bulkhead after positioning with Blu Tac (see **Photo 15)**. The operating rods I passed through rotating clamps on the servo arms, so that the same rod could be used throughout. The two valves were very conveniently displaced by a suitable amount so the servos could be positioned precisely where I wanted them in order to achieve the movement I was after. Holes were drilled through the bulkhead and framed by scratch-built flanges, and everything was then painted up before gluing the servo units in situ with two-part epoxy. The servo cables were led to the starboard side through a brass conduit tube, from where they were then fed to the electronics (see **Photo 16)**. Finally, to make my figure move

BELOW LEFT: Richard used Blu Tac to get the two servo units in precisely the location he wanted. The swivel pins determine the line of the rods, but the arc of the servo arm determines the total size of the hole required. BELOW RIGHT: The servo units now fixed in place and the rod holes drilled and finished off with a couple of decorative flanges. More plastic bolt heads complete the look, along with a copper cable conduit to carry the servo cables away out of sight.





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ABOVE: Richard looking justifiably very pleased with the progress made so far.

BELOW: The cockpit floor unit enhanced by a model binnacle, with a ship's wheel bolted to the front of it. Loose cushions add a little more interest to the bench seats.

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believably, his body was dismantled and the ratchet mechanisms for his arms were removed. As a result, when his hands were attached to the ends of the operating handles, his arms moved far more freely and put less stress on the servos.

The cockpit area

The original build's floor and seating area for the cockpit were all suitable for reuse here – although, that said, a fair bit of enhancement and detailing was called for. I'd wanted to install not only a figure operating the engine but another steering the vessel, but where the steering position could be located initially had me scratching my head. While pondering this, I don't know why but I suddenly remembered a kit of a binnacle that my father had bought me as a teenager, which I'd built, put in a display cabinet, and simply forgotten about for the past 40 odd years. It also occurred to me that I had a ship's wheel somewhere in the stash box. So, after the emptying of a lot of boxes, both items were dug out. I couldn't quite believe how perfect the binnacle and the ship's wheel looked when placed in the cockpit area. And while it proved a bit of a tight squeeze, I could just fit one figure at the wheel, and the other at the engine controls. So, the wheel was attached to the binnacle on a long brass BA screw, with nuts used along the length to space everything, and the binnacle was screwed into the base of the cockpit. Finally, cushions were made from some foam tape and some left-over scraps of cotton, which I weathered with a light wash for a bit more credibility (see **Photo 17)**. I was now pretty happy with the cockpit area (see **Photo 18)** and indeed the progress made so far (see **Photo 19)**.

Next month

In the August issue, I will be covering how I started to put all the big bits together, how I made the lockers required to house and hide the electronics, and how I dealt with all the remaining little fiddly bits, so join me again then! ●

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The cockpit is also a loosely fitted part that simply sits on the internal frames and a couple of lugs glued to the hull. Richard's binnacle looks spot-on in terms of scale and fits perfectly in the cockpit area.

ABOVE: Christopher Platford on the bridge of the Finnmarken, preserved at the Hurtigruten Museum, Stokmarknes, North Norway.

The Finnmarken appropriately displayed against a digital backdrop of the Northern Lights.

Your Models

Whether you're highly skilled and experienced or completely new to the hobby, you're definitely invited to this launch party! So please keep the contributions coming by emailing your stories and photos to **editor@modelboats.co.uk**

ABOVE: Having been inspired to build his own version of Finnmarken, Christopher ordered this 1100 scale kit from a company based in the south of Norway (https://www.hobbyruten.com). BELOW: The Finnmarken on the water at Etherow Country Park.

MS Finnmarken

My model of the *MS Finnmarken* was inspired by a visit in 2017 to the Hurtigruten Museum in Stockmarknes in the north of Norway. Here the original vessel has been lifted out of the water and positioned on the quayside adjacent to the museum building. Visitors are able to wander around the boat, so I was able to take numerous photographs to aid my build project.

To speed thing up, I found a business in the south of Norway that was able to supply a 1:100 scale kit of the *Finnmarken* (https://www.hobbyruten.com). The kit arrived in a long, attractive box, illustrating the route of the coastal steamer service. Numerous drawings and build photographs helped overcome language problems. My research has enabled me to add detail and to build the ship as she sailed under the VDS company flag in the mid 1970s.

The *Finnmarken* served on the 2,000 kilometres, seven-day, coastal steamer route from Bergen to Kirkenes, linking 35 ports, some in really quite small villages. This service, however, played a vital role in connecting up some of the more remote Norwegian communities from north to south.

My model sports the Norwegian post flag flying from her stern. In the late 19th century letters took three weeks by road from Bergen to the far north. The express coastal service, Hurtigruten, introduced in 1893, however, reduced this time to seven days. Even today, ships still carry post to some of the small coastal communities.

Until the introduction of regular internal flights, the coastal route was the fastest way of moving people and goods, too. At the various ports one would see all sorts of goods being moved, including machine parts, agricultural products, drink, building materials and even coffins. Ports along the route would be visited daily by a northbound and a south bound steamer according to a strict timetable.

Featured aboard my model are two officers watching milk churns being loaded onto the deck. Along with other cargo, these would be lowered through the large cargo hatch on the forecastle deck. There's also a car on the port side (the *Finnmarken* could take on board five or six cars).

Placed around the model on the various decks there are some 40 plus figures. (The actual ship could carry up to 585 passengers hopping on and off along the route. Some would be tourists doing the seven- or 13-day round trip voyage, hoping to see the midnight sun in summer or the Northern Lights in winter, while many were making short journeys on business or visiting families living in the coastal communities). There are passengers seated on bench style seats containing the life-jackets. Three ladies have wisely positioned their deck chairs in a sheltered spot aft.

The model is seen displayed in one of my photographs against a digital backdrop showing the blue-green glow of the *Aurora Borealis* (*a.k.a.* the Northern Lights).

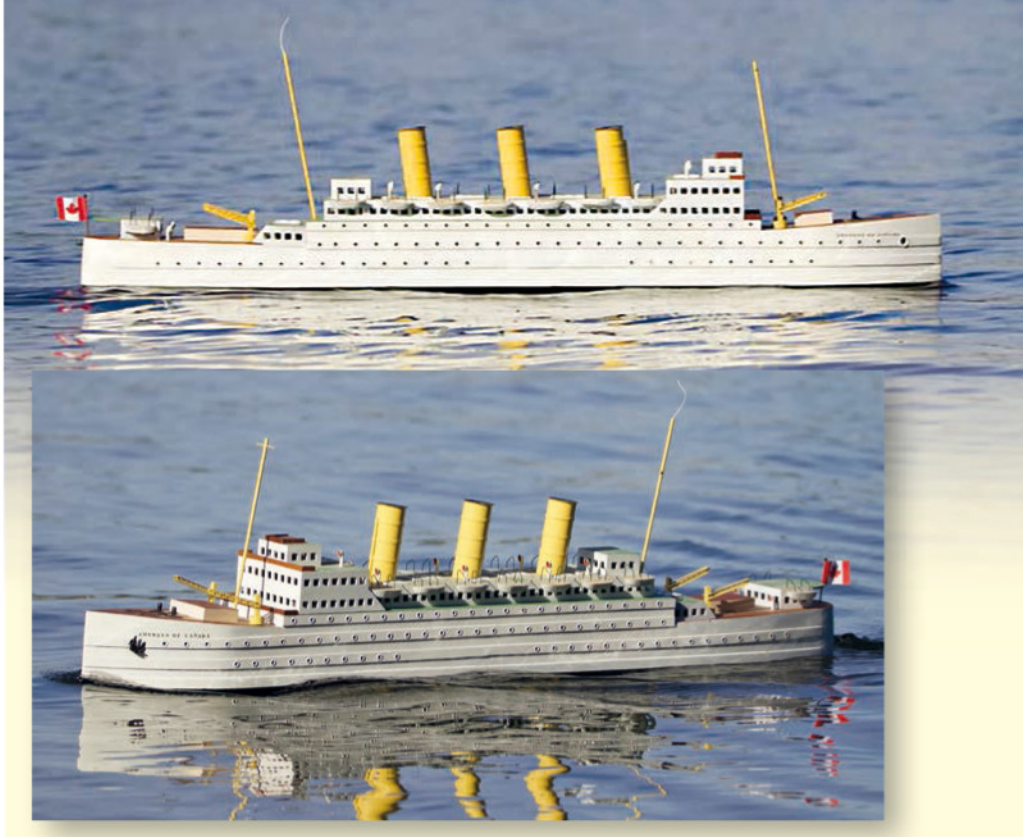
She sails well on my local lake at Etherow Country Park, needing only a small amount

To customise his model, Christopher put a lot of work into detailing the deck with some unique little touches of his own.

of lead ballast thanks to the use of four batteries: 6v for the motor, a receiver battery, a 6v battery for the ship's lights (mast, navigation lights and cabin lights) and a 9v battery for the ship's siren. This is sounded on entry to and exit from ports and when passing other coastal steamers along the route.

CHRISTOPHER PLATFORD
ETHEROW MODEL BOAT CLUB

What a cool model, Christopher! And I love all the thought that's been put into authentically detailing her. I'm very envious of your trip to northern Norway, too; getting to actually witness the magical splendour of the Northern Lights has long been my bucket list. ***Ed***



Brandon Somerville's excellent model of the oh, so stylish 1920s' Empress of Canada, based on a plan by Glynn Guest.

RMS Empress of Canada

Following Part 1 of Roy Cheers' *Empress of Canada* build feature in last month's issue, I thought fellow readers might be interested to see some shots another *Empress of Canada*.

There were actually three Canadian Pacific Steamship vessels that carried this name. Mine represents the first, built in the 1920s. Although obviously designed as an ocean liner, following the outbreak of World War II she was converted to a troopship, a role in which she served until, at midnight on March 14, 1943, she was torpedoed and sunk by the Italian submarine *Leonardo da Vinci* approximately 400 miles (640 km) south of Cape Palmas off the coast of Africa.

I built her in 2009 while I was still in high school with the help of my dad, and during the Covid pandemic had her shipped across country to where I currently live. She'd only been on the water once or twice prior to that, so on arrival I set about getting her seaworthy again. I did have to add a 2500-gram keel to keep her stable in the waters here off Vancouver Island, but she sails really well. As you will see from the photos, we also custom built a wagon for easy transportation and installed lights for night sailing and a working sound system that operates via a Bluetooth speaker.

BRANDON SOMERVILLE
VIA MB's FACEBOOK PAGE

Brandon's Empress of Canada on her custom-built transportation wagon, set against the backdrop of another marine inspired work of art.

She's stunning, Brandon. I love that you built this with your dad and am blown away by the fact that you were still in high school at the time. Your photos are fab, too. Brilliant choice of background for your model on her custom-built trolley: two, or if you count the wagon, three, fantastic works of art in one shot! ***Ed***

All lit up for night sailing. The model also sports a working sound unit.

Your Letters

Got views to air or information to share? Then we want to hear from you!

Letters can either be forwarded via email to **editor@modelboats.co.uk** or via post to **Readers' Letters, Mortons Media Group, Media Centre, Morton Way, Horncastle, Lincs LN9 6JR**

A warm Blackburn & District MBC welcome awaits

The Blackburn & District Model Boat Club would like to welcome anyone in East Lancashire with an interest in model boats to come and join us. We sail every Wednesday and Sunday morning throughout the year at Queen's Park Lake in Blackburn (BBQ 1QF). We have just reached agreement with the local Council for us to use toilet and shelter facilities at the Watersports Centre, right at the edge of the lake.

We have every type of craft imaginable (internal combustion power not permitted unfortunately) and quite a variety of boats is usually to be seen on the water. We are a small friendly club; we spend almost as much time nattering as sailing!

To find out more, either come and see us at a sailing session or email Les Pollard at les29pollard@gmail.com 07445 879256, or Chris Taylor at hmmwavemaster@btinternet.com 07952 544970.

CHRIS TAYLOR
CHAIRMAN, B&D MBC

It sounds like a lovely, friendly club, Chris. Hope this helps to swell your ranks. ***Ed***

Memories surface

John Parker's Oberons Down Under feature in last month's issue came as a nice surprise. I served on HMS Rorqual from 1962 to 1964. The Porpoise class were the forerunners of the Oberons. Rorqual had the pennant number S02, and this got translated into "*Esso Blue means happy motoring*" (the slogan used in an Esso ad that appeared on ITV at the time) – we did do a lot of sea time! This was roughly at the beginning of the Cold War. I remember one trip we did was over seven weeks and the extra tinned food we took on board had to be laid out along the accommodation space deck.

This was my first submarine and within three months one had an extensive practical exam, not only on one's departmental knowledge but the rest of boat's equipment and operation. In an emergency it was a case of the nearest person (have to say that these days as S/Ms complement is now open to both sexes) to whatever switch or valve needed to be operated.

Further on in the June issue, there was a good clear image of a moving F197, although *Grenville* would not have had a pennant number painted on in wartime.

The model depicts her as she was before conversion, which involved removal of two of the 4-inch gun mountings and all the AA armament, while the stern mounting was replaced by a twin Bofors radar (type 262) controlled mount. The bridge was rebuilt to the same width as the hull at that point and was totally enclosed and rounded at the front. The fo'csle deck was continued further back, with all items now 'underneath' this addition removed or converted into office or workshop space. The ship's boats went up a level onto the new deck.

Grenville was now Leader of the 2nd Training Squadron at Portland. At that time the Icelandic gunboats tactics were to get near our fishing boats and endeavour to cut the fishing net adrift, which would result in the complete loss of both the net and the catch. I didn't ever see or hear a collision between a Royal Navy ship and an Icelandic vessel; however, we were supplied with fuel, mail, *etc*, by Royal Fleet Auxillary (RFA) tankers, one of which hit us while carrying out a refuelling. Strict safety regimes are carried out to avoid injury or damage to either ship. This is difficult at the best of times, but with a wave height of about 4 metres it can be really tricky (15,000 tonnes against 2,200 tonnes). We lost a big section of guard rail, and the starboard motorboat was a write-off, plus part of the ship's side and deck had to be re-engineered, requiring almost two weeks spent in harbour.

DAVE FRANCIS MM0DYX
EMAIL

Glad these stories hit the nostalgia button for you, Dave, and thanks for providing such a fascinating insight into what life aboard these vessels was like. ***Ed***

Empress of Canada

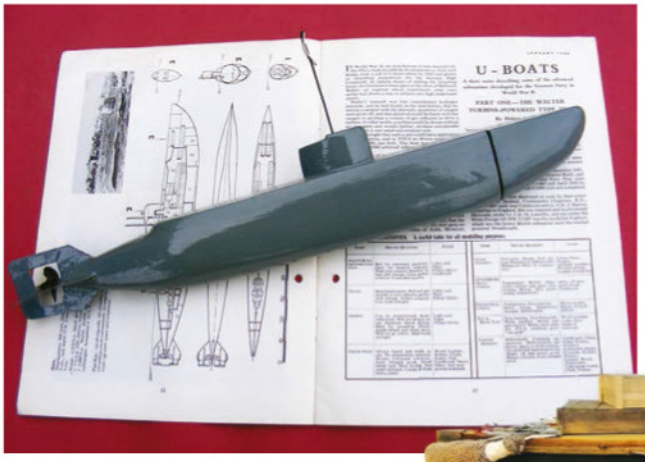
In Part 1 of Roy Cheers's *Empress of Canada* series last month, I noted his comment about no bow views of the ship being available, so I am attaching a shot I took of her when at tail of the bank on the Clyde, opposite Greenock, during one of her visits.

JIM POTTINGER
EMAIL

What a superb shot of this magnificent ship, Jim – but, then, I would have expected no less coming from you! In my eyes, these 20th century ocean liners, just as is the case with classic cars, look so much more elegant and stylish than their modern day equivalents. Many thanks indeed for sharing. ***Ed***

Next month in Model Boats

In our August 2022 issue, on sale from July 22, 2022, be sure not to miss...



Two takes on the *Hood*

A superb plastic magic build PLUS
JSC's newly updated card kit reviewed

Taking the plunge

Glynn Guest explains how he dived into the tricky art of R/C submarine modelling

Fenland lighter

A steam-powered designed to spark up interest

PLUS A thematically varied selection of feature-length articles, all your favourite regular pages – including Your Models, Your Letters, news, reviews – and lots more *(Please note: content may be subject to change)*

You will find more about the exciting content coming next, features of particular interest you may have missed in past editions and details of the very latest subscription offers on our website at www.modelboats.co.uk

You can, of course, order you copy of the August 2022 issue, which goes on sale at all good newsagents from July 22, now, but why not treat yourself to an annual subscription, as monthly copies will then be delivered directly to your door.

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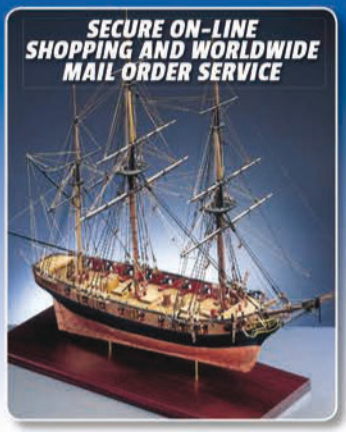

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