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February 2026
Vol. 76 No. 903

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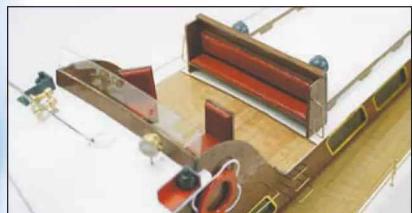
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CUSTOMER SERVICES

General Queries & Back Issues
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www.classicmagazines.co.uk

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Publishing Director: Dan Savage

Published by: Kelsey Media Group Ltd, The Granary, Downs Court, Yalding Hill, Yalding, Maidstone. Kent. ME18 6AL

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Tel: 01507 529529 – Mon-Fri: 8.30am-5pm
Enquiries: cs@kelsey.co.uk

NEWSAGENT RESERVATION (SEE PAGE 82)

Can't find Model Boats in your local shop? Then JUST ASK your local newsagent to order a copy for you.



PRINT AND DISTRIBUTIONS

Printed by: Acorn Web Offset Ltd, Normanton, West Yorkshire.
Distribution by: Frontline Distribution Solutions, 2 East Poultry Avenue, London, EC1A 9PT.

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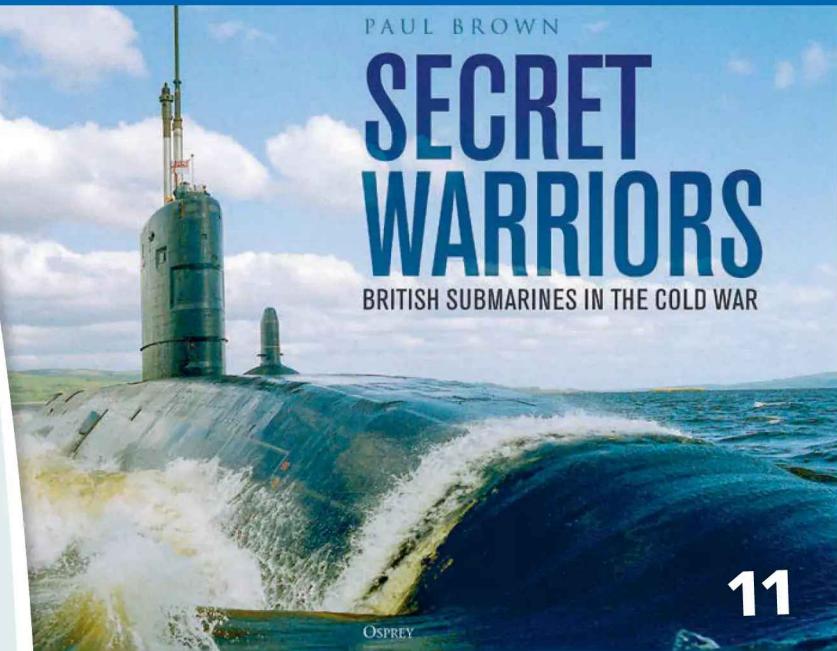
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Model Boats, ISSN 0140 - 2910, is published monthly by Kelsey Media Group Ltd, The Granary, Downs Court, Yalding Hill, Yalding, Maidstone, Kent. ME18 6AL. The US annual subscription price is \$9USD. Airfreight and mailing in the USA by agent named WN Shipping USA, 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Brooklyn, NY 11256. US Postmaster: Send address changes to Model Boats, WN Shipping USA, 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Subscription records are maintained at DSB.net Ltd, 3 Queensbridge, The Lakes, Northampton, NN4 5DT. Air Business Ltd is acting as our mailing agent.

PAUL BROWN

SECRET WARRIORS

BRITISH SUBMARINES IN THE COLD WAR



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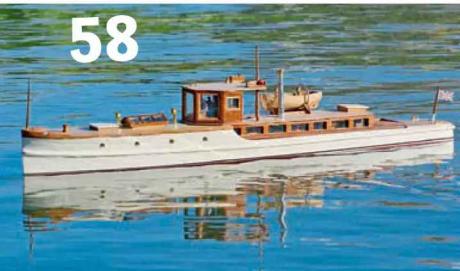
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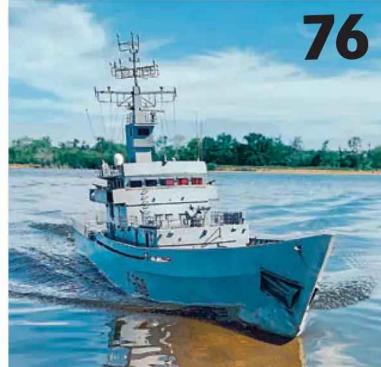
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WELCOME TO THE FEBRUARY 2026 ISSUE OF MODEL BOATS

So, what do you have planned for the year ahead? Well, whether you're considering getting stuck into a new kit, building something completely from scratch, tackling a conversion or renovation, or perhaps just learning a new modelling skill/technique, then hopefully you'll find this issue packed with inspiration, as on the pages ahead you'll find projects featuring everything from tugs to subs, windjammers to paddle-steamers, and from canoes to ducks and dolphins!

For most of us in the Northern Hemisphere, it's been a very chilly start to 2026. Perhaps not surprising then that, even while curled up cosily on the sofa next to our very lushly coated Husky for an evening in front of the TV, the *Titanic Sinks Tonight* on BBC iPlayer really sent shivers down my spine. For those of you who haven't caught it yet, the series provides a harrowing minute by minute account of what happened that dreadful night according to surviving crew and passenger accounts, and a detailed explanation of why a ship believed to be unsinkable was lost with such dreadful loss of life in the icy cold Atlantic on her maiden voyage. It was a must watch for me, as one of our contributors, Nick Brown, has just embarked on the build of Billing Boats' kit for the *Titanic*, which results in an enormous 1.8-metre-long model that he will be converting for R/C operation. Along the way, he will be recording the experience in order to bring you a full review of both the construction process and how the model eventually performs on the water (hopefully, without any of the tragedy of its full-size counterpart).

Naturally, being a bit of an epic task, that's a few issues off yet, but in the meantime we have loads of other exciting content lined up for you, including another of Ray Wood's fantastic free plans – this time around for a stylish slipper launch – in next month's edition (cover dated March but which goes on sale from Friday, February 20, 2026).

For now, though, enjoy your read, and please you're your highly valued feedback and input coming,

Lindsey

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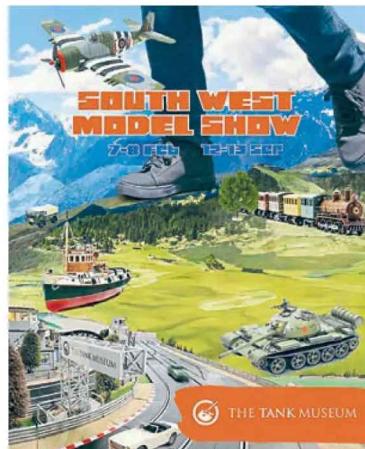


Compass 360

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

OUT AND ABOUT

The South West Model Show



The first South West Model Show of the year is scheduled for the weekend of **February 7/8** at The Tank Museum, Bovington, Dorset BH20 6JG.

Covering a broad spectrum of disciplines, on display will be model ships/boats, aircraft and various other forms of transport in miniature (including, of course, tanks), plus there will be live modelling demonstrations, specialists talks and tours, and plenty of club and trade stands to browse.

Open from 9.30am to 5pm on both days, the cost of adult admission (priced at £23 on the door or £19.55 when purchased in advance online at <https://tankmuseum.org/visit-us/tickets-and-prices/>) will include a free annual pass to the museum.

Midhurst model events

The Grange Leisure Centre in Bepton Road, Midhurst, West Sussex GU29 9HS, will be hosting not just one but two hobby related events this coming February.

The first, on **Sunday, February 8**, will be the **Midhurst Modellers Exhibition**. Since its relatively modest beginnings in 1983, this show has now grown into one of the biggest annual model events in the south. The main hall will be devoted to model railways, but the other halls will house a much wider thematic spectrum, including model boats. There will also be modelling demonstrations, club and trade stands to browse. Open from 10am to 4pm, admission will be charged at £6.50 for adults (with concessions).

Then, on the following **Sunday, February 15**, from 9.30am to 12.30pm, a **DP Vintage Toy Fairs' event** is scheduled to take place at the venue. Tickets will be priced at £2.50 for adults, while accompanied children will be admitted free of charge.

The Danny

Currently running at the Warrington Museum & Art Gallery, Bold Street, Warrington WA1 1JG is an admission free exhibition dedicated to the *Daniel Adamson*, a beautifully preserved steamship affectionately known as '*The Danny*'. Exhibits, which include a detailed scale model, trace the vessel's origins from humble workhorse on the Mersey and the Manchester Ship Canal through to pleasure cruise guise, and then, having been allowed to fall into a sorry state of disrepair, its rescue from the breaker's yard, success £5 million fundraising campaign and resulting restoration by a dedicated team of volunteers.

The museum is open from 10am to 4.30pm on Wednesdays through to Saturdays, and from 11am to 3.30pm on Sundays. For more details, visit <https://wmag.culturewarrington.org/visit-us/>.



Harbour & Horizon

Now on at the Scottish Maritime Museum in Castle Street, Dumbarton G82 1QS, is an exhibition of paintings, prints, drawings and photographs that span over 200 years and explore two very different aspects of Scotland's maritime heritage: the safety of home ports and the dangers of the open ocean.

Admission, from 10am to 4pm on Tuesdays through to Saturdays, will be charged at £5 for adults (with concessions). Free onsite parking is available, while for those using public transport the museum is 5-minutes-walk from Dumbarton Central station. For further details, visit <https://www.scottishmaritimemuseum.org/dumbarton-museum/>



MORECAMBE MODEL EXHIBITION

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facebook.com/MorecambeModelExhibition
eMail : morecambebaymodelgroup@gmail.com
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Morecambe Model Exhibition

From 9am to 4pm on **Saturday, February 14**, this family friendly, free to enter show at Central Drive, Morecambe, Lancashire LA4 5DL, will have models of all descriptions on display, along with a whole host of hobby related trade stands to browse. For more details, visit <https://morecambebaymodelgroup.org.uk> or email morecambebaymodelgroup@gmail.com

Modelbouwshow Goes Dutch!



Over the weekend of **February 21/22**, the Zeelandhallen at Goes in the Netherlands will be hosting the *Modelbouwshow*. Promising an inspiring experience for both seasoned modellers and newcomers to the hobby alike, this year's attractions for model boat enthusiasts (although the show does, of course, embrace all types of transport in miniature) will include a specially built harbour in which exhibits will be moored as well as lots of exciting on the water demonstrations. There will also be plenty of club, association and trade stands to browse and various workshops to participate in. For more details and to purchase tickets visit <https://modelbouwshow.nl/>

PRIZE DRAW ANNOUNCEMENT

Double whammy winners

Courtesy of the kind folks at Osprey Publishing, up for grabs in the exclusive prize draw featured in our December 2025 edition were two fantastic prize packages.

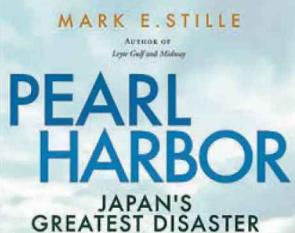
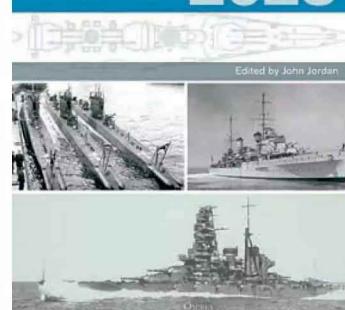
We are now delighted to announce the lucky entrants drawn, each of whom will receive a copy of both *Warship 2025* (RRP £45)

and *Pearl Harbor – Japan's Greatest Disaster* (RRP £25), two fantastic, recently released new titles, as:

- * Murray Service, Greenock, Inverclyde
- * David Bentley, Anderton, Northwich

Congratulations to you both!

WARSHIP 2025





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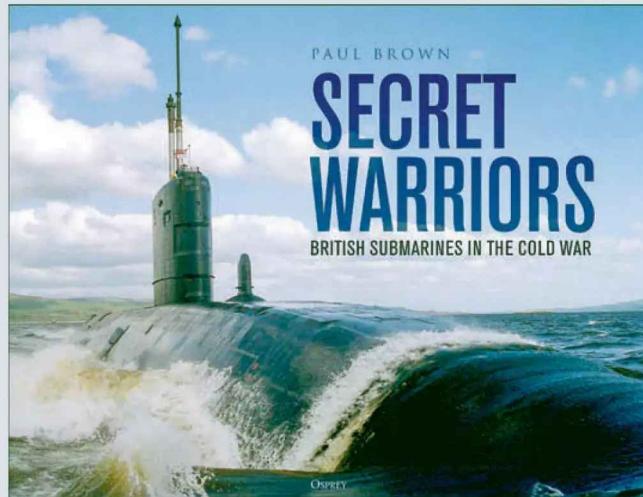
AN EXCITING NEW BOOK TO IMMERSE YOURSELF IN!

In this month's exclusive prize draw, we're able offer you, courtesy of the kind folk at Osprey Publishing, the opportunity to win a copy of this extensively researched new title from highly respected naval historian Dr Paul Brown.

Its release on February 12, 2026, will, thanks to the author's interviews with Cold War era submarine commanders and engineers, Freedom of Information requests and deep dives into archival material and many secondary sources, bring to light lots of fascinating new and previously unpublished material, all fully illustrated with stunning black and white photographs, technical drawings and maps.

Making the prize that little bit more special, the lucky winner will also receive a book plate signed by the author – adding to this first edition's potential future collectable status.

Presented in hardback format, *Secret Warriors* (ISBN 9781472865120) will carry an RRP (Recommended Retail Price) of £45. Pre-orders are now being taken, with a generous 10% discount offered on copies purchased via



<https://www.ospreypublishing.com>, where you can also browse Osprey Publishing's extensive range of specialist titles.

HOW TO ENTER

To be included in the draw, all you need to do is complete the entry form below, cut it out (photocopies will be accepted from those of you not wanting to deface your magazine) and mail it back to us at:

Secret Warriors Prize Draw,
Model Boats,
Kelsey Media, Media Centre,
Morton Way, Horncastle, Lincs LN9 6JR

Please note, the **closing date for entry submissions** will be **Friday, February 27, 2026**.

Good luck, everyone!

TERMS & CONDITIONS

N.B. For this particular prize draw we can only accept entries from those residing in the UK mainland and Northern Ireland. The competition closes on Friday, February 27, 2026. There are no cash alternatives available. Terms and conditions apply. To view the privacy policy of Kelsey Media Ltd (publisher of Model Boats) please visit www.mortons.co.uk/privacy

Secret Warriors Prize Draw

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Worth the graft!



***Banckert* – a small tug with big capabilities**

Tomasz Klyszyński reviews this perfect for R/C conversion 1:50 scale kit from Billing Boats

Banckert's backstory

Banckert, a Dutch tug built in 1965, was originally named *Maasbank* before being renamed in 1977. For many years she was a typical 'blue-collar worker' – hard grafting without fanfare in many Dutch ports until, in 1988, she was sold to Iran. There she had a close brush with death, because in 1991 she sank; fortunately, however, she was raised and returned to service. In Iran she sailed under the name *Takavar*, and the last mention of her dates from 2010.

The name Banckert has been used for a number of Dutch ships and naval vessels, in honour of famed Dutch Admiral Adriaen Banckert, including:

- Hr.Ms. *Banckert* (1929) – an Admiralen-class destroyer, which served in the Dutch East Indies, was sunk in 1942 and then used as a target ship after the war
- Hr.Ms. *Banckert* (D801) – a post-war destroyer (ex-British HMS *Quilliam*)
- Hr.Ms./Zr.Ms. *Banckert* (F810) – a Kortenaer-class frigate from the 1980s, later transferred to Greece.

It's quite interesting that a civilian tug should bear the name of an admiral just like warships do. On the one hand, it's only a name on the hull; on the other, it means that when we as modellers build this simple port tug we're also giving a nod to the naval history of the Netherlands, too.

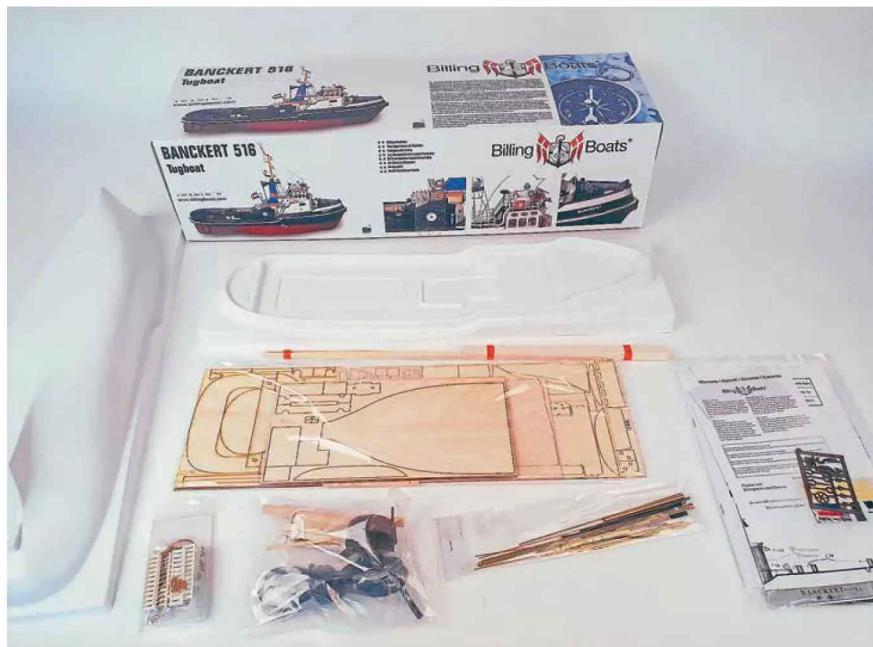
deck, for example, quite simply glues together. The real challenge, though, comes when working on the wheelhouse/superstructure and all the various other small but important features. Taken as a whole, therefore, the intricacy of detail and sheer scope of work involved fully justify the difficulty level allocated to this kit. Designed to 1:50 scale, the kit builds to a model measuring 65cm long x 42cm high x 16cm wide, a size that allows for a very satisfying amount of detailing while at the same time still being compact enough to fit on a typical shelf or in a display case. For those who plan to install radio-control, these dimensions also suit, as there's space enough to accommodate all the necessary gear required and yet the finished model

is not excessively heavy, making transportation easily manageable.

Opening the box

On lifting the lid of the box, the first things that catch your eye are the plastic hull and the deck. These large, ready-made shapes immediately enable you to envisage the silhouette of the finished tug.

'Don't worry if you find you have more parts than are actually needed, some spares are included to allow for any minor mistakes we may make – and that's definitely a plus'



The contents of the box.

The Billing Boats kit for this tug is aimed, according to the manufacturer, at the 'Experienced' – that's Level 3 of Billing Boats' four-step recommended ability requirements guideline. However, while it's clearly not intended as anyone's first ever kit build, it doesn't actually necessitate decades of accumulated modelling know-how but rather patience, accuracy and a willingness to refine the details. Admittedly, there are aspects of the build that even a relative novice could cope with, especially if approached calmly. The hull itself, which is plastic and divided into the 'tub' and the

The printed build instructions that come with the kit are still of the older type, but a new digital set that includes 98 colour photographs can now be accessed on the Billing Boats website, making the construction and finishing so much easier. The photos illustrate not only what each of the finished components/sub-structures should look like but also the colour scheme of the model, so you don't have to remember paint numbers or constantly refer back to the scheme diagrams. Let's hope we will see such changes in all Billing Boats instruction booklets going forward, because the difference this makes to the modelling process/experience is really significant.

Another very useful addition to the instructions is a 1:1 scale drawing, thanks to which we can easily determine the placement of the various components. This also comes in handy when drawing the waterline.

The number of metal, plastic and wooden parts is quite substantial for a model of this size – there are about 200 of them.

Metal fittings, railings, lights, radars and deck equipment are made of brass. The ladders mounted on the funnel, the radar parts and the bow winch in particular deserve attention; they look very good on the model whether painted or left as bare brass. We also get, among other things, plastic lifebuoys, anchors and the main towing hook.

The wooden parts mainly consist of the dowels and strips needed to build various parts of the model: masts, railings, supports, etc. Stickers with the ship's name in two versions (Maasbank and Banckert), a printed flag and thick clear sheet for the windows complete the package.

The last element of the kit is six sheets of laser-cut parts in plywood of various thicknesses. There are quite a lot of them, and it's worth copying the part numbers from the instructions onto the sheets before you start.

Before beginning the build it's a good idea to carefully check whether everything matches the checklist found in the instructions. Don't worry if you find you have more parts than are actually needed, some spares are included to allow for any minor mistakes we may make – and that's definitely a plus.

The hull and deck

While preparing for the build, decide whether you're going to be making a display piece or a working model. Even at this stage it's good to have the final concept in mind, because the layout of the equipment inside the



The manual and metal parts.



Metal parts from the kit.

hull, and the way you mount the parts, will depend on this.

Inside the hull there's a platform prepared for the basic components, but the available space is not spectacularly large, so it's worth arranging everything before closing the hull with the deck. Dry-fitting, trying out several arrangements for the motor, shaft, servo and battery, really pays off – later, access will be much more limited.

The openings you'll be able to use later will be more for servicing than for any serious future modernisation

"The layout of the equipment inside the hull, and the way you mount the parts, will depend on this"

of the model as an R/C unit. So, the better you think through the layout at the beginning, the fewer surprises will await you at the end.

You will need to leave some space for ballast, but before that you should check how much of it will be required and how to best distribute



The propeller and rudders

it along the hull; Banckert has a large superstructure positioned close to the bow, so it's worth verifying this before closing the hull. Lead diving weights work very well for this purpose; they're flat, and lead has a high density, so they take up relatively little space. You want your model to sit level in the water, in accordance with the waterline.

The drive and steering components included are prepared for R/C, so you only have to connect them to the motor and servo. The propeller shaft is in a shaft tube, just like the shafts for the rudders.

The hull itself, being a one-piece plastic moulding, is unlikely to give you much trouble. By putting in good prep ahead of painting – i.e., degreasing the surface and applying a good primer – finishing your hull should be a breeze. The number of elements that are mounted directly on the hull, such as railings, fender, anchors, bollards, etc, make this part of the job both simple and enjoyable.

In the aft section there's a fairly large hatch with a small deckhouse and supports for the towing line. If



The hull.

your model is going to sail, it's a good idea to seal this area very thoroughly, because underneath you will most likely have your motor and battery, so any leaks could quickly spoil your fun.

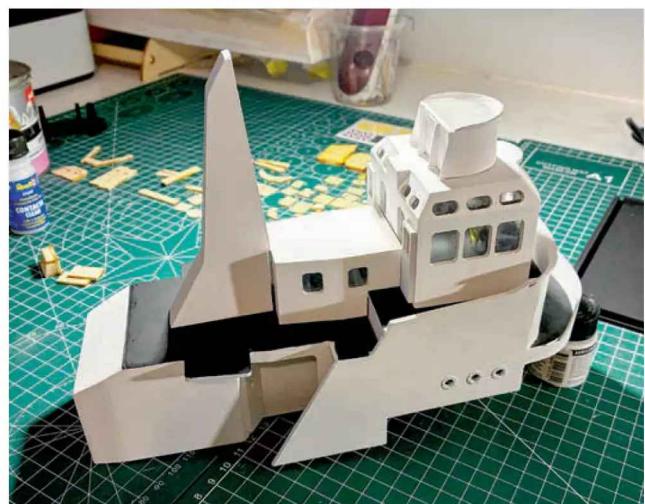
The superstructure

Once all hull-related tasks are finished, it's time to tackle the wheelhouse/superstructure, which is built as a single block and is not permanently fixed to the hull. It can, therefore, easily be lifted off to gain access to the electronics, wiring and servo. Anyone who has ever tried to repair something inside a model with a completely closed superstructure will greatly appreciate the benefit of this.

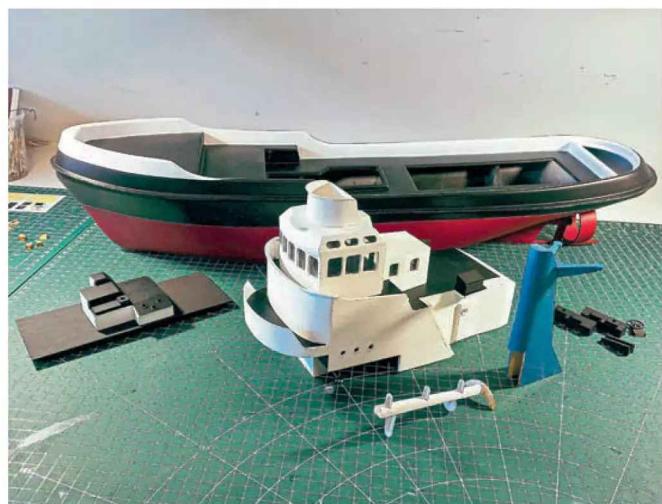
Building the superstructure is fairly straightforward – you will not find any particularly difficult curves or complicated breaks in the surfaces. However, I strongly recommend sanding all large areas before painting to reduce the wood grain and any fibres that may otherwise rise to the surface



The hatch that provides access to the interior.



The cabin dry-fitted in place.



The cabin, hatch, and funnel.



Finished funnel



Fire hoses, railings, and details on the tug's cabin



Banckert in 1:50 scale.



after painting. In some places you'll most likely need to use filler in order to finish the edges nicely and achieve uniform surfaces. Where the joints are larger and may 'work', automotive body filler is a good choice; its consistency is thick yet slightly elastic and you'll find it adheres particularly well on corners and wall joints.

You will need to pay some attention to the assembly of the funnel, which consists of two parts – in short, the yellow and the blue section. The blue

part is built from laser-cut elements, while the yellow part is made from a shaped wooden dowel, to which the mounts for lights, radars, and so on, will be attached. This is also where the previously mentioned metal ladders and the radar are installed.

After completing the walls of the superstructure and the funnel, it's time for all the remaining metal and plastic fittings to be assembled and installed. A fairly major task will be the railings. However, before tackling

them, it's worth preparing and shaping the fire hoses. Trust me, by doing this you will save yourself from having to squeeze them through the narrow gaps between your already finished railings later.

These pre-shaped and painted hoses can then calmly wait their turn.

There are quite a lot railings – the balustrades have three runs of wire between the posts, and 1 mm brass wire is not the most flexible material! There's enough wire included in

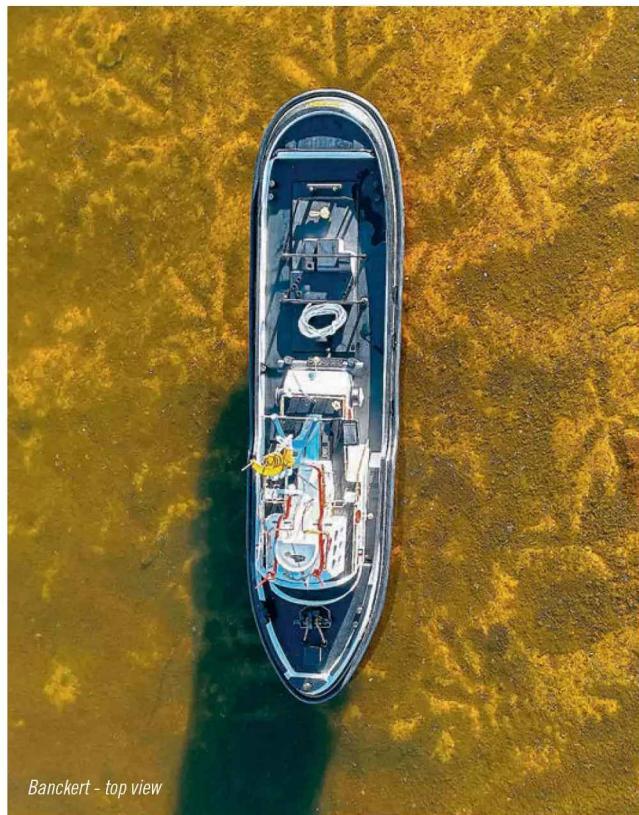
Worth the graft!



Bankert on water



Banckert - water tests



Banckert - top view

the kit, but I recommend checking the longer lengths right away so that you don't have to piece any together later from short leftovers. On my model I left the handrails in their natural colour because I like the effect of bare metal in some places,

especially against the painted hull and superstructure.

The kit also includes various lights, radars and lifebuoys, which add a lot of life to the model. A few figures in 1:48 scale will complement this effect perfectly – if that's your thing.

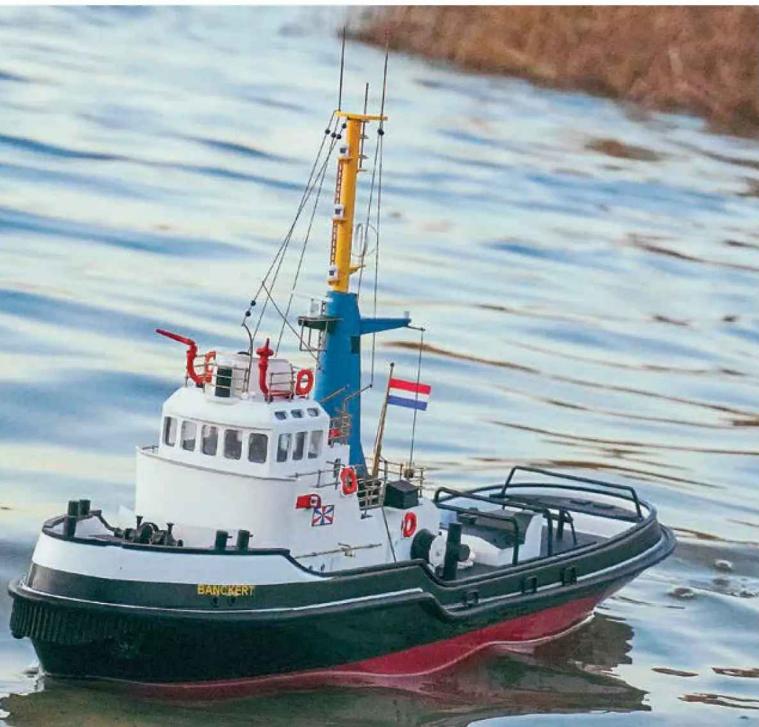
"This is exactly the type of model that practically begs you not to stop at the display case but to take it out 'into the wild' and actually sail it from time to time!"

Personally, I usually stick to the 'ghost ship' theme, that is, devoid of crew, something I feel creates an atmosphere all of its own, but the choice is, of course, yours.

The final aspects to add are the lines made from thin copper wire, the flag, and... your model is finished. At this point the Banckert from the box begins to look like a fully-fledged small tug, ready to work on a boating pond/lake or take pride of place on a shelf.

First outing

My build of Banckert fell in the autumn/winter season, so as yet I've only been able to take a few frosty photos of her on the water. By spring she will be fully ready for work, and I hope she will 'serve' our local ports – both the real ones and the model ones built from planks on a nearby lake. This is exactly the type of model that practically begs you not to stop at the display case but to take it out 'into the wild' and actually sail it from time to time! ●



The Learning Curve

Stuart Deacon takes on his first scratch build!

Part 4

Located in the Bischof Pioneer Park in Nerang on the Gold Coast, Australia, is the steel hull of the paddle steamer *Maid of Sker*. This steamer was built in 1884 by J.W. Sutton Foundry of Kangaroo Point, Brisbane, for C.H. Philpott and serviced the Nerang, Southport, Brisbane route, carrying timber from Philpotts Mill at Nerang to Brisbane, along with other supplies and passengers, in both directions.

On days off, the little ship took day trippers out to South Stradbroke Island for fishing trips and a day at the beach. According to historical records, one such trip involved 250 passengers! Being a flat bottomed, shallow draft vessel, the *Maid of Sker* was ideal to navigate the many shallow channels of Moreton Bay down to Nerang. By 1925 she was the last paddle steamer operating from the Port of Brisbane, and her final use

was as a gravel lighter towed along the Brisbane River; her engine had been removed around 1950. In 1974, due to the poor state of the old ship, the Kleinschmidt family (the owners at that time) donated the vessel to the Gold Coast Council, around 90 years after the ship's construction.

Being a keen cyclist, I had often ridden past the old iron hull but had paid little attention, until one day I decided to stop and take a proper look. To me, she had modelling project written all over her!

So, on returning home, it was straight online for a bit of further research, and I quickly discovered that Adrian Brewer of Float-a-boat in Melbourne had produced a set of 1:24 scale drawings of the *Maid*, along with many other Australian paddle steamers. An order was therefore placed and very shortly after the plan was delivered, along with some more of the nice Walnut strips I'd been so impressed with when working

"Being a keen cyclist, I had often ridden past the old iron hull but had paid little attention, until one day I decided to stop and take a proper look..."

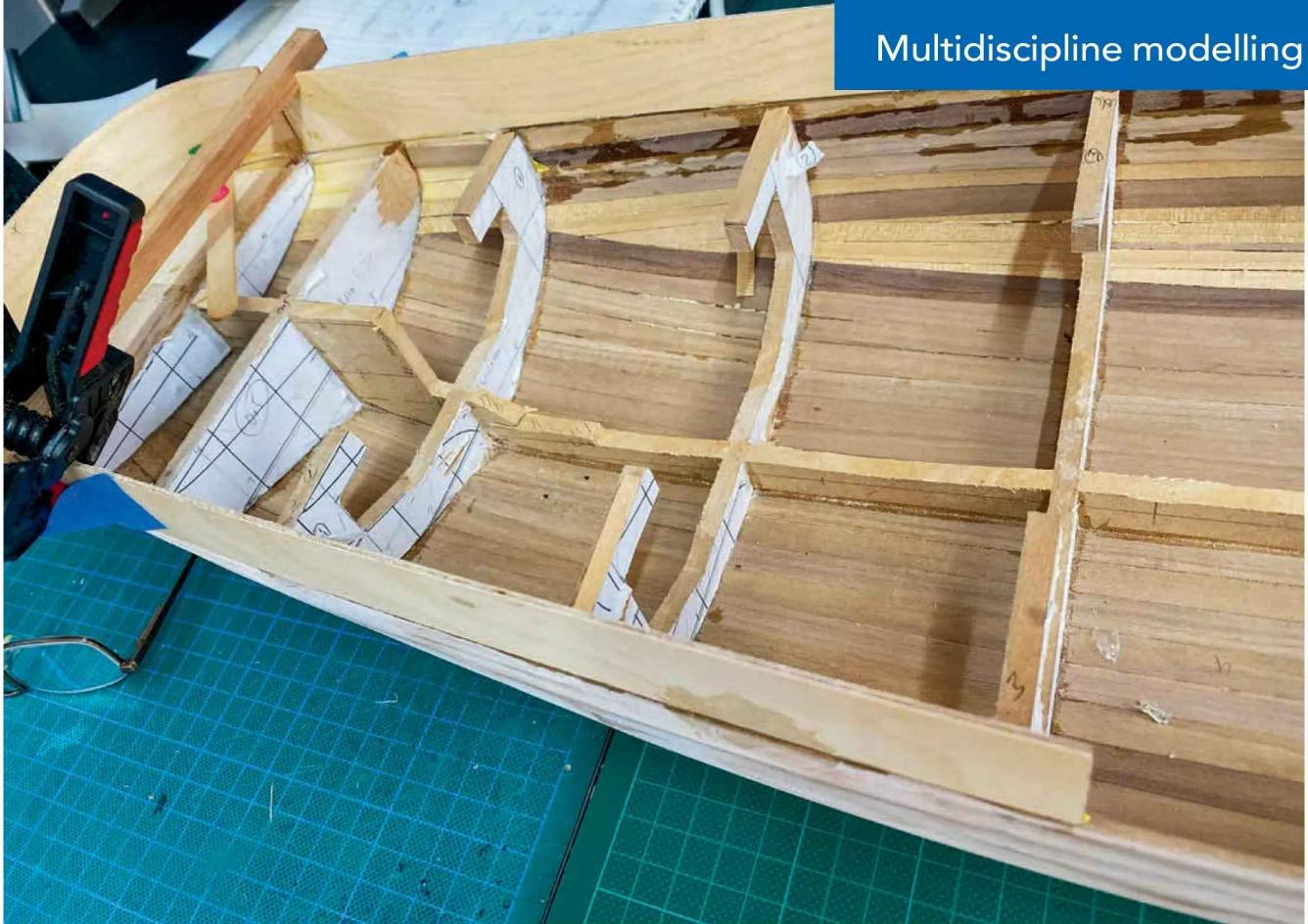


Gold Coast Libraries archive photo of the *Maid of Sker* alongside at Brisbane river wharfs.



The *Maid of Sker*'s original hull as it now sits in the park at Nerang.





Stuart's MDF frame and keel, with hull planking complete and ply bulwarks being installed.

on previous projects, although this time in 10mm by 2mm size.

The idea initially was a radio-controlled build, although now finished she is a static display model for the time being. Maybe a later project will see her converted for R/C.

The hull

With permission from Adrian, I made copies of the line drawings and pasted these onto 6mm thick MDF for the

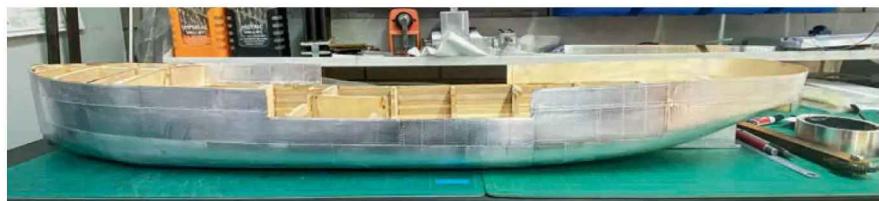
"I can hear the questions now about using MDF, especially for a model intended to get wet. However, ..."

bulkheads and keel. I can hear the questions now about using MDF, especially for a model intended to get wet. However, from experience restoring an old 1956 timber cruiser that we owned for 10 years, I had a product in mind to assist with sealing out any water that would cause the MDF to expand. The two-part epoxy timber preserver/hardener that I had used on the aforementioned old boat restoration had more than proven its ability to penetrate deep into the surface and create a reliable seal, so I was confident it could do the same for the MDF. In addition, I needed to keep the weight down low for stability and so MDF assisted with this.

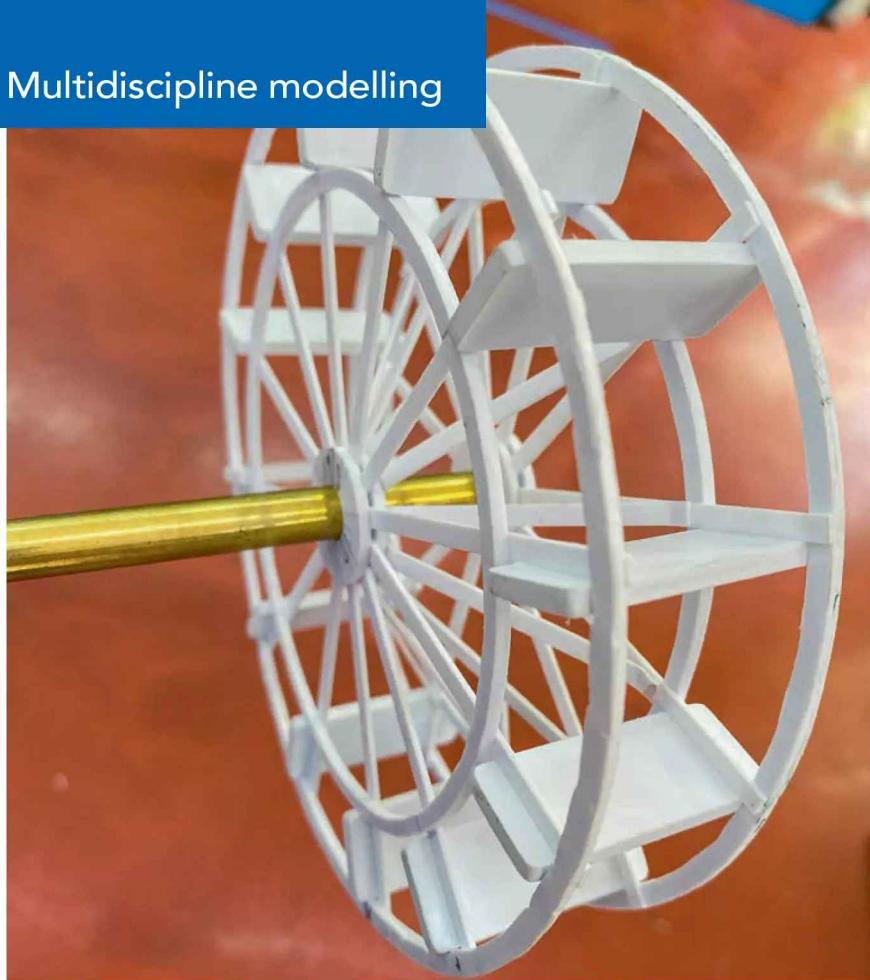
The hull was then planked in the walnut strips, along with a block of Paulownia at



With the hull construction completed, and its surfaces filled and sanded, it now receives an epoxy coating to make it waterproof and provide a smooth surface for the aluminium foil tape riveted plating to adhere to.



The plating to hull underway (left) and finally completed (right).



The portside paddle wheel, made up of 56 individual plastic pieces. Maintaining the wheel's shape made for a tricky assembly process. Fortunately, however, on completion, these pieces proved to be more robust than anticipated.

the bow and stern, before being treated to a further couple of coats of epoxy resin.

Riveting detail

I wanted to simulate the riveted hull and deck structure, so, once again turning to various forums, I found a great article by Nils Langemann on replicating riveted hulls. With this information to hand, along with a full roll of self-adhesive aluminium tape left over from fitting heat shielding to my little sports car and a plastic toy gear wheel, I had everything I needed for this task. By placing the tape foil side down on a stiff rubber sheet and then rolling the gear wheel mounted in a wooden handle along pencilled guidelines, a series of reasonable looking rivets were formed on the foil's surface. The tape, which had already been cut to size/shape where it was to be applied to the hull, then had the backing paper removed and was adhered to the hull. I had kept the epoxy coating glossy on its second application, so the tape had a nice smooth surface to grip onto. Even though the hull went through some knocks during construction, the tape stayed well and truly stuck to the hull. The odd little areas that did lift were treated with a small dab of superglue to reset them against the hull. A coat



The removable superstructure under construction.



The deck plating completed. Fwd, aft and engine hatches are removable, allowing access to the ship's hull for possible future R/C installation.

of grey primer followed by two coats of semi-gloss black finished the riveted hull. The plywood deck areas received the same treatment.

The paddle wheels

The paddle wheels have twelve timber blades attached to the iron framework of the wheels themselves. To obtain

the required lengths and angles I turned to using a 3D CAD program to produce some printable plans to scale. Although I had dabbled with various CAD packages, they were all well out of my price range as a hobbyist for the fully functional versions, that is until I came upon an online based program called Onshape. What really attracted me to

this system is the fact that it's free – and when I say free, as a hobbyist you get full access to the entire professional package at no cost. The only caveat is that any design you create is accessible to the public and therefore can be copied at will; professional users can, of course, pay for usage of the system and keep their designs out of the public domain.



A mock-up of a boiler and engine. The boiler started life as a can of coconut cream, while the engine was fashioned from various polystyrene shapes. The two paddle wheels have been installed onto wood blocks, which will be hidden by the steps once the superstructure is in place.

The other plus is that with plenty of tutorials available, the system is very easy to get to grips with.

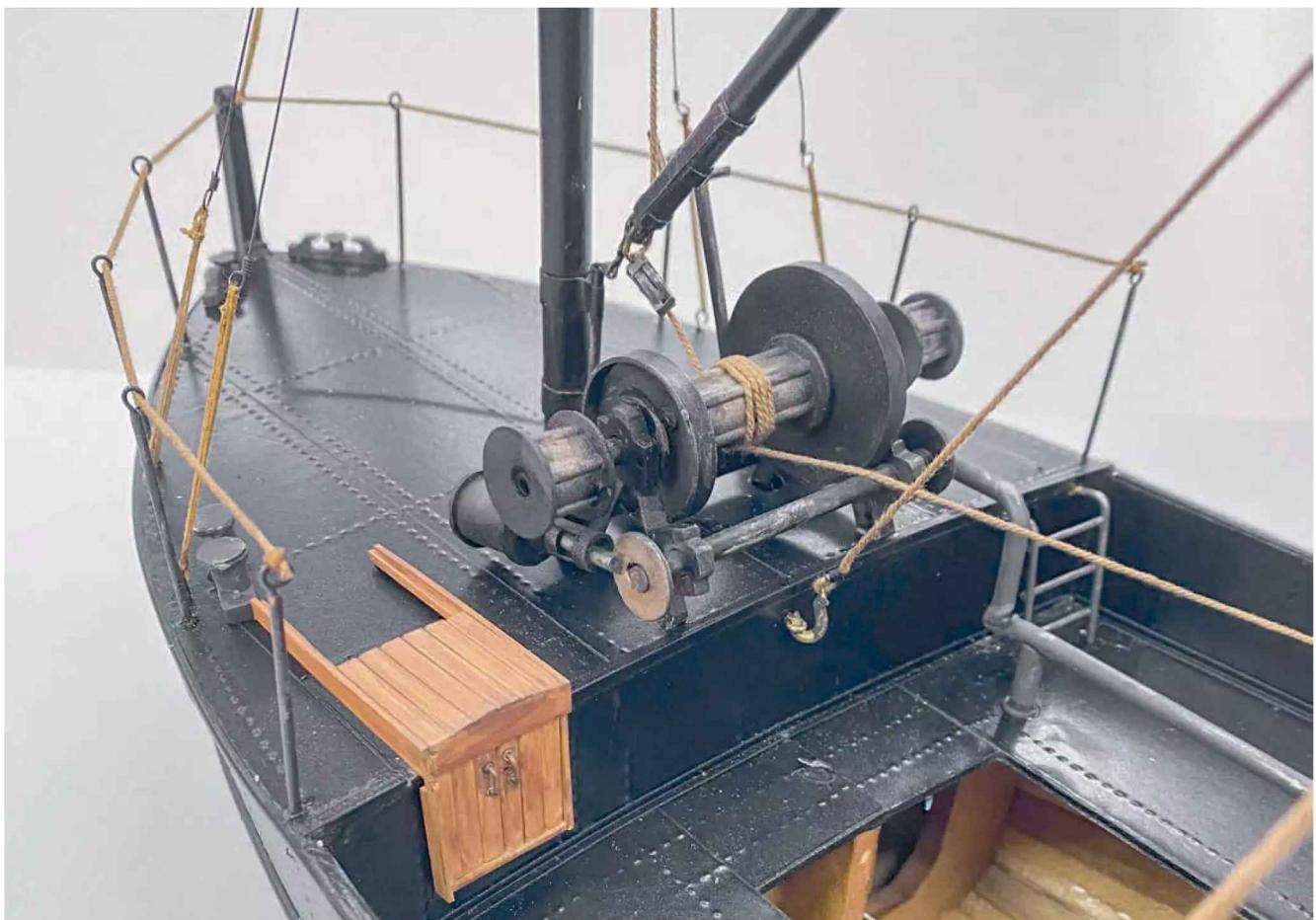
Wheels and superstructure

So, with my paddle wheels designed and dimensioned plans printed, construction

of the wheels and superstructure commenced. Evergreen polystyrene sheets, tubes and various profiles were used throughout the building of these sections. The superstructure was made so that it can be lifted off, along with the engine/boiler assembly and the two hatch

covers. The idea here was to allow easy access for the motor's batteries, etc, in the event of radio-control installation.

The boiler started life as a can of coconut cream, to which rivet enhanced aluminium tape was applied to the outsides.

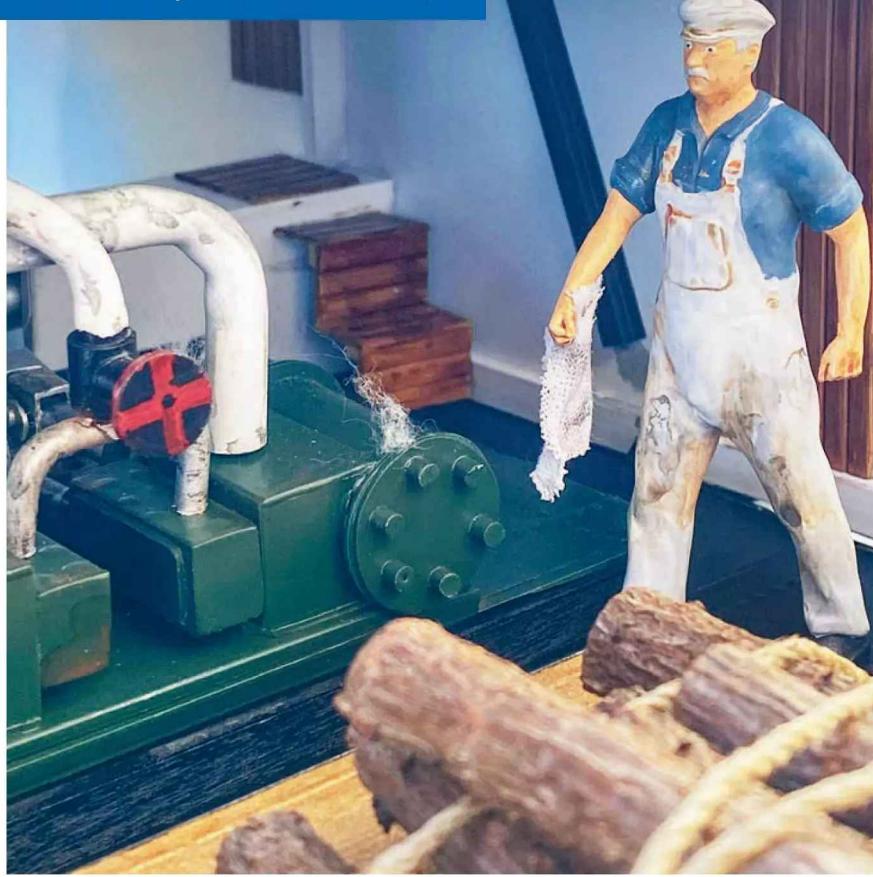


The steam winch, crew accommodation hatch and various foredeck fittings.

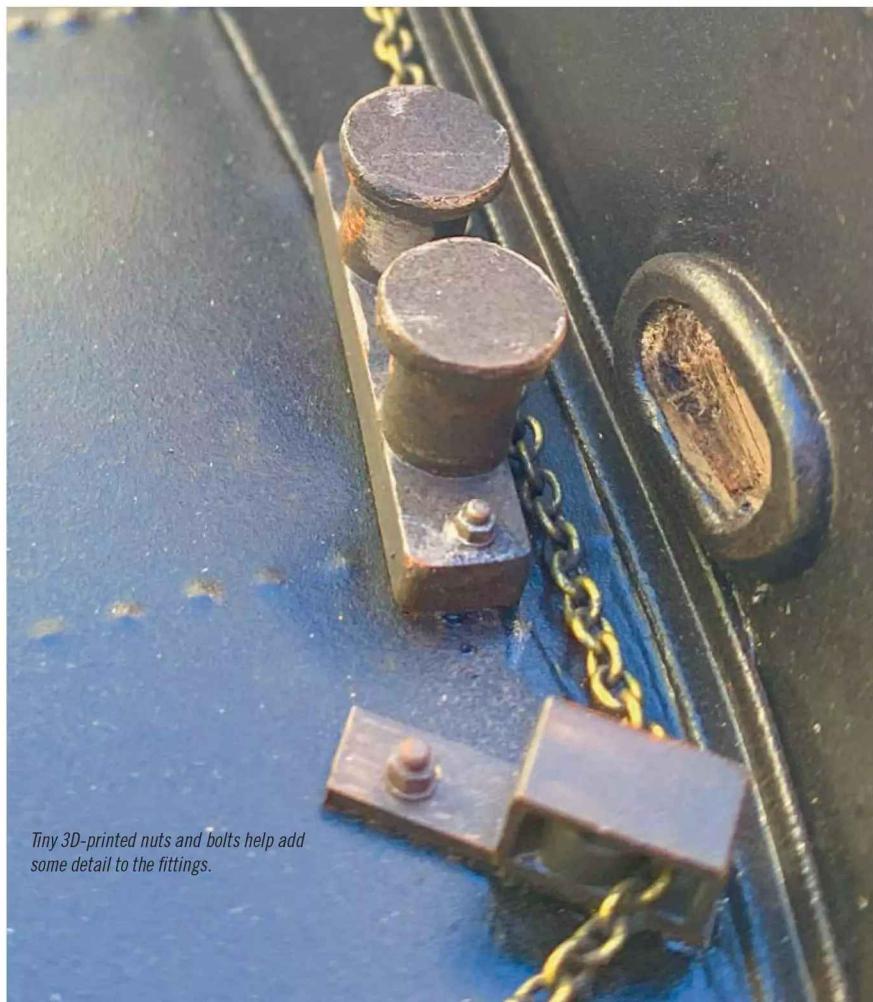


The finished vessel showing Stuart's first attempt at weathering. Must be time for a drydock and overhaul!

Multidiscipline modelling



Painting the four crew members was a new experience for Stuart. The engineer in particular looks rather startled; possibly because of the small steam leak he's just noticed on No. 2 cylinder!



Tiny 3D-printed nuts and bolts help add some detail to the fittings.

"What really attracted me to this system is the fact that it's free – and when I say free, as a hobbyist you get full access to the entire professional package at no cost"

Working with the polystyrene material was another new experience. The cutting of this is easily achieved by making a few score lines with a craft knife and then gently bending manually to snap the part off at the score line. Most parts were affixed with the standard cement used for plastic models; however, I found the extra thin cement very useful for the parts that would otherwise need to be held in place by hand while the glue/cement set, as this allows almost instantaneous adhesion. If the parts were under a little stress I would then add some of the thicker glue to improve the bond.

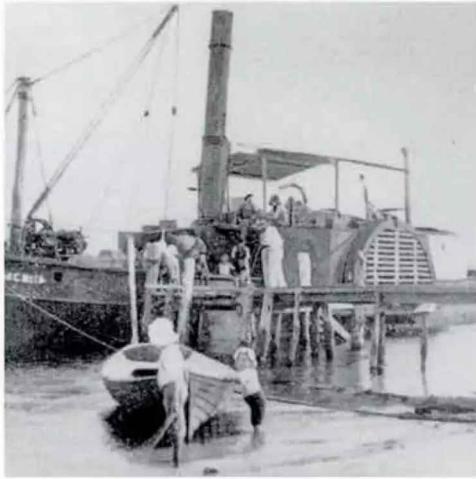
The engine and steam winch

These were also made from polystyrene sheet and tubes. I made the design for these items up as I went along, hoping to achieve something that would appear reasonably credible on casual glance – trust me, I did not fool myself into thinking this was going to pass muster amongst serious steam enthusiasts!

Initially, I wasn't quite sure how I was going to create the small circular components but then remembered I had a set of wad punches. Placing a suitably sized punch on a piece of sheet and tapping this with a hammer created enough stress in the plastic to allow the circular portion to be relatively easily broken out of the sheet. Once given a quick sanding, I found I'd managed to produce some very nice circular components. Larger circles were scored with a compass point or a card circle cutter.

Weathering

As I wanted the vessel to look like it had endured a hard-working life (as opposed to the model looking as if had suffered some severe bashing during construction) I decided to apply some weathering. Referring to some back issues of Model Boats magazine, I read through Richard Simpson's two-part article on the build and weathering of his Graupner Premium Line Corvette model. I think my attempt at weathering may have been a little heavy handed but, overall, I was happy with the results achieved. I used artist pastels in some areas, especially on any that featured hard edges where rust is prone to occur, then followed up with a clear matt spray to fix these pastel pigments in place. Other areas received thinned oil paint washes.



A collage of the model and historic photos of the vessel at Nerang and Southport.

Signs of life

Four 1:24 scale crew figures were purchased from Cornwall Model Boats. These were then painted to represent various crew members, although I think they do look a little startled when making a closer inspection of their eyes, especially the engineer that has noticed the small steam leak on No. 2 cylinder.

The fishing lure wire rigging tool used on my pond yacht restoration (see last month's issue) came in hand again to produce the wire rigging for the cargo derrick and funnel stays.

I then added further detailing, such as the timber logs on top of hold hatch covers, a passenger's trunk and small wooden crate, some tiny 3D-printed

nuts and bolts to deck fittings and a fun little bucket with spilt paint left in the tender by the deck hand.

No fear

Aside from showing you the finished model, how, then, can I sum up the experience of completing my first ever scratch build? Well, I still have all my



Stuart's model of the Maid of Sker set against the backdrop of the original vessel. It's interesting to note that the deckhand on the original ship is still employed painting the decks!

fingers, although there were a few minor bleeds from incorrect use of the craft knife. I also managed to get an entire tube of superglue stuck to my finger at one point and let me tell you I had some fun trying to remove it without stripping away several layers of skin, too!

Seriously, though, I think if you're a rookie, like me, throwing caution to the wind and taking on ever more challenging projects as soon as possible is the best way of progressing. Never be afraid to step out of your comfort zone; yes, there's always the possibility of failure, but when things do work, you'll be rewarded with such a sense of achievement, and very likely plenty of kudos from friends and family on inspection of your finished model. Perhaps one of the best things to come out of the model building process, though, is the confidence it instils and the desire it gives you to move on to the level.

Documenting your work

Whether you intend writing your project up for publication in *Model Boats* or whether you simply want to keep a record for your own personal

archives, I highly recommend taking a series of photographs to document the build process. Most of your shots will, of course, be taken on your workbench, but when it comes to the finished model it's important to shoot it against a more suitable background. Sitting it on the workbench or out in the garden can result in background clutter distracting from what should be the sole point of focus, i.e., the model itself. I learnt this from personal experience when I managed, in one garden-based shot, to let a wheely bin vie for attention! I now set my finished models up against either plain white or blue cloth (best pre-ironed to avoid wrinkles) or, better still, hook up a large roll of paper that can be pulled down and across a table/flat surface to create a completely neutral backdrop.

In this case, though, I couldn't resist taking some shots of the model sitting in front of the real vessel.

What next?

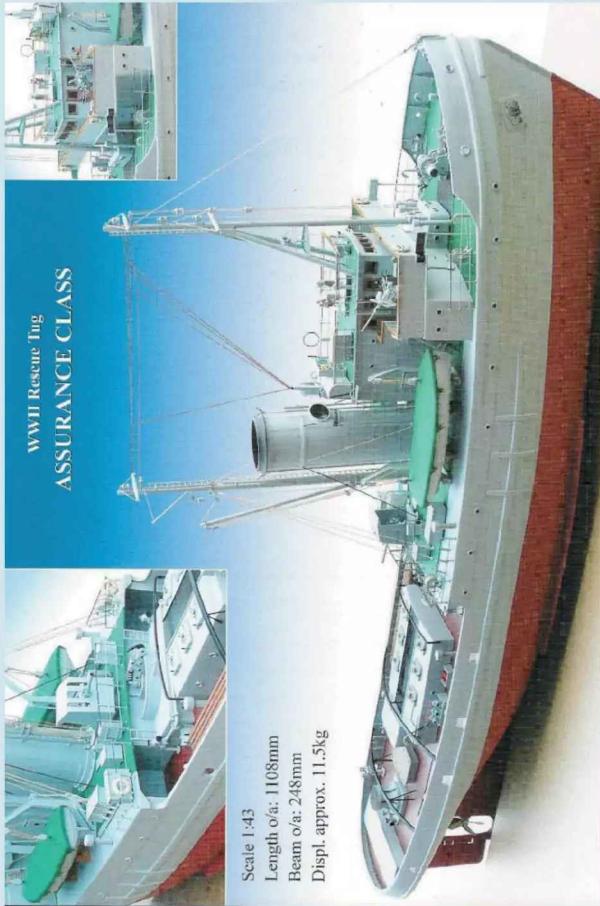
My mind has now turned to a new project. We are very fortunate to live next to a lake and have a small jetty at the end of the garden. So, after reading Nev

Wade's articles in this magazine about his superb radio-controlled square-riggers and having a real interest in this type of ship myself, I've hatched a plan... Luckily, the Admiral is blissfully unaware!

Once again, having searched the web for suitable subjects and plans, I've picked up on the sailing ship *Balclutha*, built originally in Scotland and now preserved at the San Francisco Maritime National Historical Park, part of the National Park Service, where she's berthed at Hyde Street Pier. Fully surveyed under the Historic American Engineering Record (HAER), detailed drawings and photos are available online through the Library of Congress, so, the aim is, one day, to build a scale radio-controlled model of this ship.

I've made a tentative start by uploading an image of the surveyed hull lines to my 'go to' free of charge CAD system, Onshape. As a result, after allocating scaled dimensions to just one of the digitally drawn up frames created I now have the entire 20 frame set to scale. Once details have been completed, a friend has offered to laser cut these frames for me. So, while it may be a while, but watch this space! ●

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No, this isn't an article aimed at manicurists! We're about to explain why the products and techniques used in beauty salons/nail bars are well worth exploring for modelling purposes.

The genius of gel

Monika Cybulska provides a lighthearted introduction to this incredibly versatile and game-changing modelling medium, along with a hands-on, and packed with tips, guide to its use

Let me start with a tiny bit of self-introduction, so you, dear reader, have some idea of who I am and why I'm taking up space in your modelling magazine. I'm the wife of a modeller, which, by definition, means *I know things!*

Every time I hear a rising tide of increasingly colourful swear words pouring out of the workshop, I make some tea and bravely step into that cave of despair. Trying to calm the storm of negative energy, I gently ask, "Everything alright in here?" Of course, it isn't – I passed three spiders fleeing in terror on my way in. But what else am I supposed to do? I worry that the next thing I hear will be glass shattering as something is hurled out through the closed window. My eyelid begins to twitch, but I keep my tone soft; replacing a window is not a cheap sport! Luckily, my presence (and hot tea) usually disarms the crisis. Occasionally, I can even come up with surprisingly good solutions to

seemingly insurmountable issues...

That certainly turned out to be the case recently when my husband, clearly frustrated by having mulled over and dismissed all of the various materials, methods and techniques he'd considered, finally restored to asking: "Any idea how I can plug this porthole?" Worried about that window, I quickly pulled the mental lever of the one-armed bandit in my brain, and instead of three cherries I got... nail gel!

So, a dentist, a nail technician and a scale modeller walk into a bar...

A bit of history – UV curing

Nail gel, of course, needs to be UV-cured. So, what does Wikipedia tells us about the process? Well, "UV curing is based on photopolymerisation – i.e., monomers/oligomers + photoinitiator → exposed to UV light → cross-linking → the material hardens". What does that actually mean? No clue! What I do know is when I paint my nails with gel polish

and put them under that little blue lamp, I get a perfect manicure that lasts at least three weeks. And it was this practical knowledge that turned out to be far more useful to my husband's modelling project than any academic theory.

The origins of UV curing are interesting. The technology itself is much older than people think. Its beginnings trace back to the 1960s when industry was looking for ways to cure coatings quickly, cleanly and permanently – without solvents, without hours of waiting, and without accidentally setting the factory on fire.

The first UV-curable resins were nowhere near as crystal-clear as

"Any idea how I can plug this porthole? I quickly pulled the mental lever of the one-armed bandit in my brain, and instead of three cherries I got... nail gel!"

“While in the nail industry these products have proved revolutionary in terms of aesthetics and convenience, in scale modelling they open up an entirely new set of possibilities”

the ones we have today. Early photoinitiators tended to yellow slightly during curing, so the material often had a warm, amber tint.

The earliest applications were in printing and industrial coatings – curing inks, protective layers and adhesives. The reaction was instant, which sped up production by hours. Over time the technology trickled out of factories and into more precise fields, eventually reaching dentistry in the 1980s. Back then, curing lamps were the size of microwaves, and so powerful that patients joked you could get a filling and a light tan in one visit. Only when efficient, narrow-spectrum LEDs arrived did curing resin stop resembling ‘grilling the patient’.

With improved photoinitiators came absolutely clear resins. That opened the door to modern dental composites, hybrid polishes – and, surprisingly, the perfect tiny portholes made from nail gel in a scale model. At the same time, LED lamps shrank from cabinet-sized equipment to something that fits in your pocket.

Eventually UV-curable materials entered the optics industry: lenses, micro-prisms, optical components. It's hard to find a better example of how far technology travelled – from printing houses and dental offices to beauty salons, laboratories and, unexpectedly, the world of scale modelling.

It's also worth mentioning that UV curing was one of the first technologies marketed as ‘eco-friendly’. Not because anyone in the 1960s cared about carbon footprints – fewer solvents simply meant cheaper, cleaner and safer processes. Environmentalism won here almost by accident.

A bit of theory

This whole story about these sculpting gels migrating between dentistry, cosmetology and modelling is funny, but also very practical. In the end it doesn't matter where gel came from, only what it can do. And it can do a lot.

Modern cosmetic materials – gels, acrylics and hybrid polish – are designed to be glass-clear, to cure instantly under UV light and to allow work with microscopic precision. While in the nail industry these products have proved revolutionary in terms of aesthetics and convenience, in scale modelling they open up an entirely

new set of possibilities. This becomes evident when you consider that their properties include:

- thixotropy
- self-levelling
- controlled plasticity
- different levels of hardness.

Traditional materials and techniques will always have their place, but take foil, for instance – a beloved classic. Fantastic, until it decides to show its temper. One tiny mistake and the glue marks are there forever. Or it refuses to stick to metal or plastic but happily welds itself to your fingers. And if it does stick, it's usually the paint which then peels off, sails gracefully to the floor and stays there for eternity.

Sure, your portholes may end up where they belong, but the edges will have ugly ridges because you needed half a bucket of glue to keep everything in place.

In short: a temperamental diva.

Cosmetic gels offer some interesting alternatives. You can:

- form parts on a flat surface
- cure them and glue them in with the same medium
- cut them out with modelling scissors, or fill openings directly ‘in place’

And the best part? Gel looks like glass, not a cheap plastic imitation.

Of course, other modelling compounds exist, but they lack one crucial property: transparency. For portholes, lamps, marine gauges, etc, that is often non-negotiable.

Another advantage to cosmetic gels is damage prevention, because:

- they're neutral toward paints and plastics
- they don't heat up while curing (so delicate parts won't warp)
- they don't react with acrylics, enamels or varnishes
- they don't cause discolouration
- they don't melt plastic

All these qualities are priceless when you're nearing the final stages of a project, and one wrong move could ruin hours of work.

Speed is another huge perk – something rather exotic in modelling. UV gel can be applied at the very end of the build. It doesn't smudge, cloud or drag paint. You apply it, cure it, and admire it – the new part will look like it was always meant to be there.

Precision is yet another major benefit.

“Of course, other modelling compounds exist, but they lack one crucial property: transparency... Another advantage to cosmetic gels is damage prevention”

When an opening is tiny, traditional methods can simply fail. Scale can be unforgiving, and working with gel makes truly microscopic detail achievable.

What's more, the incredible adhesion of gel makes it 100% watertight. Once cured, UV gels don't let water through, even when fully submerged. So, you can use them below the waterline in static models and in R/C builds, where even the smallest leak can kill the electronics, and the entire project. This is not theory. We tested it on our own model (more on this later).

And finally, we come to another game changing trait: minimal shrinkage. For modellers, that's the holy grail. Resin tends to pull inwards as it cures. Gel stays exactly where you put it – perfectly even, smooth and unwarped. Typical UV resins shrink 2–6%; epoxy resins 1–5%; whereas cosmetic UV gels shrink around 0.5–1% – in other words, by practically nothing.

All of the above make nail gels surprisingly useful in scale modelling. And although these worlds seem far apart, they operate on the same principles: precision, durability and a natural effect.

A bit of practical application

Having extolled the virtues of gel, let me explain a little about how you work with it...

• Key point

Start by very gently keying the surface of the material to which the UV/LED builder gel is to be applied. A fine grit and a few light strokes are all it takes to ensure your gel is able to grip well.

• Dust removal

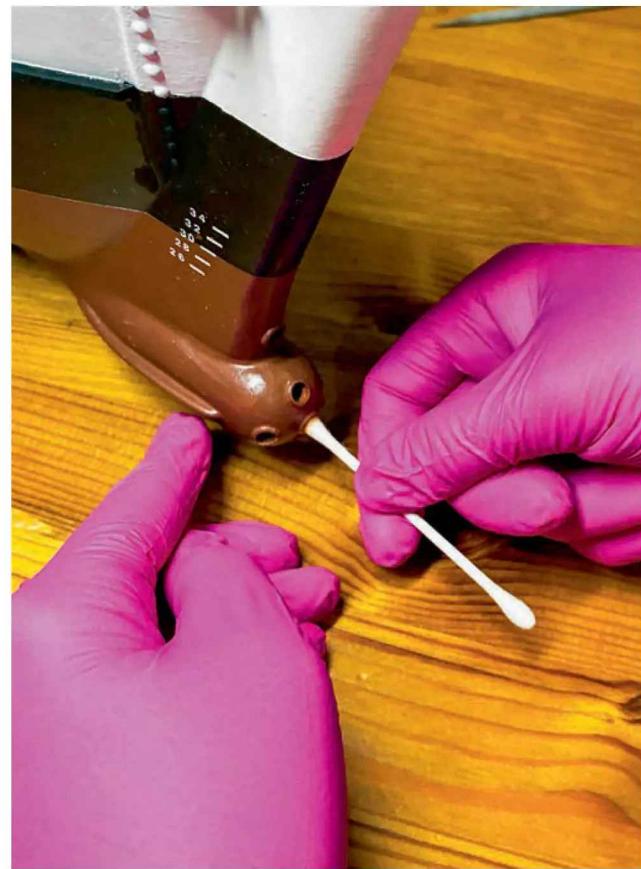
After sanding, there will be dust, and if you don't remove this it will stick to



Sanding the surface



Dust removal.



Degreasing the surface

“Working with gel makes truly microscopic detail achievable.

What’s more, the incredible adhesion of gel makes it 100% watertight. And finally, we come to another game changing trait: minimal shrinkage”

the edges or inside the opening. It can then mix with the gel and create a cloudy, dirty-looking surface,

and/or weaken adhesion, i.e., the gel won’t bond properly. That’s why dust removal is absolutely crucial.

Compressed air works great, as does a clean modelling brush, or even a makeup brush if someone happens to have one lying around (modellers often do, though they rarely admit it).

• Degreasing

And here comes the mistake people most often make: do NOT use nail polish remover! Nail polish remover contains acetone, which will eat through your paint.

What you want is nail cleaner – basically, the right concentration of isopropyl alcohol. It’s gentle, safe, and excellent at removing oils and any remaining dust.

In the first few photos shown here I am working without gloves, so why do they suddenly appear later? Well, cleaner may not be a dehydrator, but it does dry out the skin. That’s normal for alcohol-based products, they evaporate so quickly that they pull moisture out of the skin along with them.

It’s worth noting the key difference: every dehydrator degreases, but not every degreaser is a dehydrator – meaning not all of them remove moisture from deeper layers.

Cleaner is a degreaser, not a dehydrator, but the effect on the skin can feel similar: dryness, tightness, irritation.

The second reason for switching to gloves is purely practical: the materials I use later are safe for both the model and your hands, but you really don’t want them ground under your fingernails or smeared across your fingers. They’re not toxic, they’re just annoyingly sticky, and the dispersion layer loves to catch every speck of dust within a two-metre radius. Hence the gloves. Not

“Here comes the mistake people most often make: do not use nail polish remover!”



When applying nail gel - use a just small amount to form each layer.

a change of philosophy, just common sense and hygiene.

• The first, thin layer of gel

Do not apply a big blob of gel right away; it will only cure on the surface, leaving the centre soft and unstable. Start with a thin layer that closes the opening and creates a solid base for the next ones.



A thin first layer of gel being applied with a toothpick.

“Do not apply a big blob of gel right away; it will only cure on the surface, leaving the centre soft and unstable. Start with a thin layer that closes the opening and creates a solid base for the next ones”

For the porthole project illustrated here, I used a wooden toothpick to apply the gel. This simple ‘tool’ is perfect for high precision work, and afterwards you can throw straight in the bin without a second thought.

When you’re working on larger surfaces or more complex shapes, it’s worth getting some slip liquid, a cosmetic product used to moisten brushes or tools. This helps distribute the thick gel evenly and prevents it from sticking to the applicator, allowing you to shape the gel with ease.

- **Curing**

Place the model under a UV (or UV/LED) lamp and cure according to the manufacturer’s instructions.

- **Additional layers**

After curing the first layer, add more gel wherever you need to increase thickness or make surface corrections. Each layer must be kept thin, as this



UV curing in progress.

The porthole is built up from thin layers of gel, with each individual layer UV cured before the next layer is applied.





The finished portholes.

"When you're working on larger surfaces or more complex shapes, it's worth getting some slip liquid. This helps distribute the thick gel evenly and prevents it from sticking to the applicator, allowing you to shape the gel with ease"

will give you better control and will also prevent any air bubbles forming. After every layer: cure again.

• **The dispersion layer — remove or keep?**

Most gels and hybrid nail polishes leave behind a so-called dispersion layer, a slightly tacky, almost invisible film that indicates polymerisation has occurred. And sometimes that layer is actually useful. In cosmetology it's the surface on which various powders, pigments or 'mirror effects' are applied. And while that may sound unrelated to modelling, it really isn't. Similar additives can be used for weathering, special effects, metallic finishes, subtle colour shifts or advanced experiments with paints, pigments or Cat-Eye effects. There are so many possibilities that it's impossible to sum them up in a sentence or two. That's a topic for an entire article on its own — and quite an exciting one.

If you prefer a 'ready-to-go' workflow, no-wipe products exist as well; these cure without leaving a dispersion layer, giving a complete finish right away.

For the project illustrated here, however, we wanted crystal-clear portholes, so we simply wiped the dispersion layer off with cleaner.

First-hand results

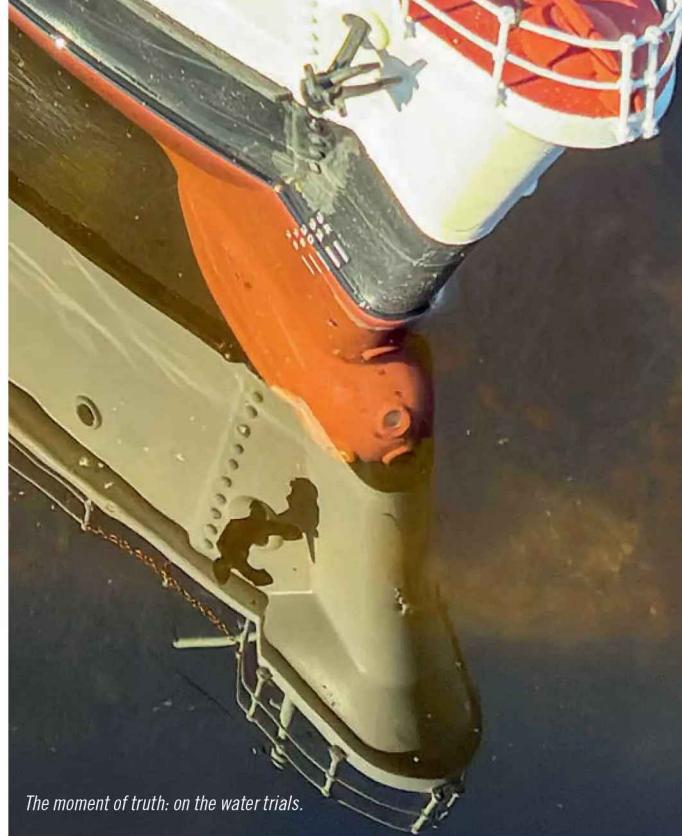
We had now arrived at the moment of truth! Even though I'd been confident in my idea from the start, every modeller knows that until a ship/boat is actually launched, there's always that tiny grain of doubt...

The clear inlays looked great, and the bathtub tests had gone smoothly, but real proof would only come once we put the model on the lake. Only then would we see whether the material sealing the openings would hold, and whether the 'glazing' would stay perfectly transparent. So off we went...

The result? Total success! The UV gel turned out to be completely watertight, didn't let in a single drop and stayed crystal clear. Every porthole held firm, remaining free of bubbles, clouding or even the slightest hint of warping.

Men vs Women? No. More like: Men and Women

Scale modelling has long been a male-dominated world. Workshops, tools, airbrushes, paints – for many of



The moment of truth: on the water trials.

you, these are your kingdoms, your sanctuaries, the place where you can disappear from the world for a few hours. And that's wonderful. Everyone needs their quiet space. Sometimes, though, it's worth cracking the workshop door open just a bit. Women aren't here to 'balance the statistics', prove anything, or take anyone's space. We simply bring different perspectives, because we work in different fields, have different hobbies and different skill sets. Our eyes often catch details a modeller may no longer see after staring at the same hull for three hours straight.

We don't need another battle of the sexes. Sometimes all it takes is a simple, "Got any idea how to fix this?". Those words aren't a sign of weakness; they're a sign of teamwork.

Tinkering together doesn't have to ruin the sacred peace of the workshop. It can still be your temple of focus and silence. But it can also become an excuse to spend time together, talk, laugh, learn from each other and – most importantly – share passions. If someone thinks that's a fairy-tale scenario, let me be blunt: it isn't. It's exactly what happened in our home. A bit of humour, a bit of experimenting, a bit of teamwork – and suddenly you realise that letting someone into your hobby doesn't take anything away from it. Quite the opposite. Once you gel, it gives it a whole new dimension! ●



Thanks to a team effort, the completed model performs beautifully, and those cleverly crafted and aesthetically pleasing portholes have held firm and remained completely watertight.

Nail a new skill





Moana's canoe

Ken Bedwell demonstrates just how far he'll go as a dutiful grandfather with this delightful Disney birthday gift

My granddaughter has been transfixed by the Moana films released by Disney over the last couple of years or so. Initially, I'd assumed these films were just child-friendly cartoons. However, after watching them with her, I found they also appeal to adults, as, once engaged with the characters and the storyline, the animation fades into the background, making the experience thoroughly entertaining. So, with her third birthday on the horizon, a canoe of her very own seemed the perfect gift choice.

Unfortunately, however, I found no suitable options online, only cheap, way out-of-scale, plastic toys. Since, as a modeller, these didn't work for me, I decided to design my own version, semi-scaling it to available

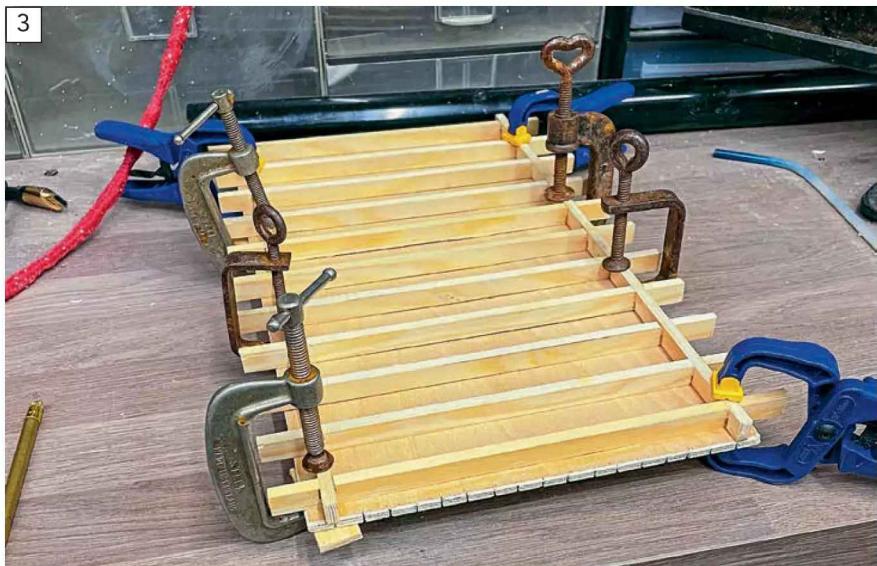


film character box sets from which figures could be used to act as crew.

Frame by frame

This called for some more research, so I watched the film through again a few

times (any excuse!), pausing it where appropriate so I could photograph relevant scenes using the camera on my phone. The series of about 20 or so photos taken were subsequently printed out on A3 sheets as detail reference



points to refer to during the build.

The project itself then started in earnest. There was no drawn plan, I just worked from the photos, with progress ensuing over the weeks and months ahead as I worked towards meeting my self-imposed mid-July 2025 deadline (this was to be a birthday gift, remember).

Photo 1 shows the twin hulls under construction using 6 mm plywood from a builder's merchant. The pieces I used were left over offcuts from projects at home, which served extremely well for this purpose once they'd been sanded and painted.

Photo 2 shows the sides and decks being applied using 1 mm plywood purchased from my local model supplies shops. The many clamps seen in this shot were used to form the curved top deck. The bows were formed from Balsa blocks.

The main deck proved relatively

easy to construct (see **Photo 3**). The materials I needed for this were found in the wood moulding section of my local builder's merchant, which were also used for the main parts of both hulls and the athwart sub deck which would support the mast I'd screwing to it. I used furniture screws for this, shown in **Photo 4**, which consisted of a wood screw thread and a machine (M4) screw thread combined. I made four aluminium alloy brackets that I screwed into both hulls on the inside face (two each side). Using M4 Nylock nuts allows for the whole model to be taken apart for storage or transportation and then just as easily reassembled. Any rigging that requires unhitching has hooks and rings attached for convenience. The other two fixings, which can also be seen in the centre of **Photo 4**, are for attaching a fin when sailing on a pond or lake. With that fin

removed the model can also be used as a tabletop play boat.

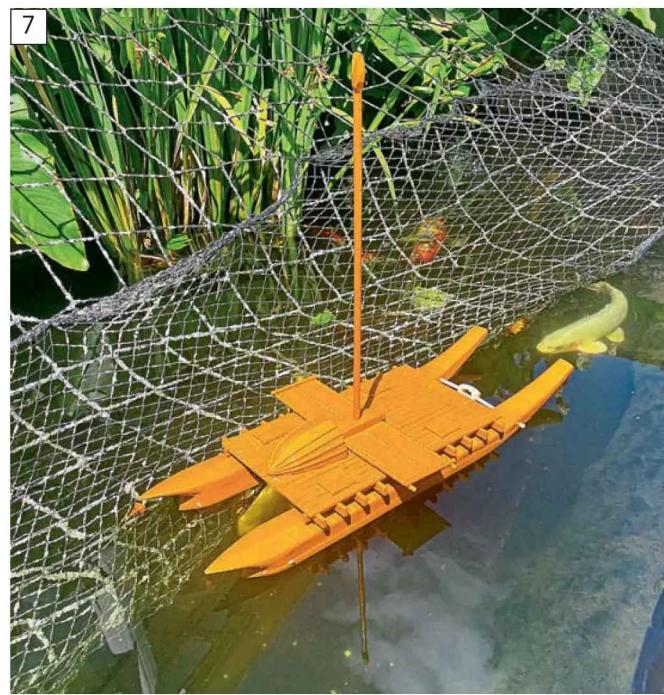
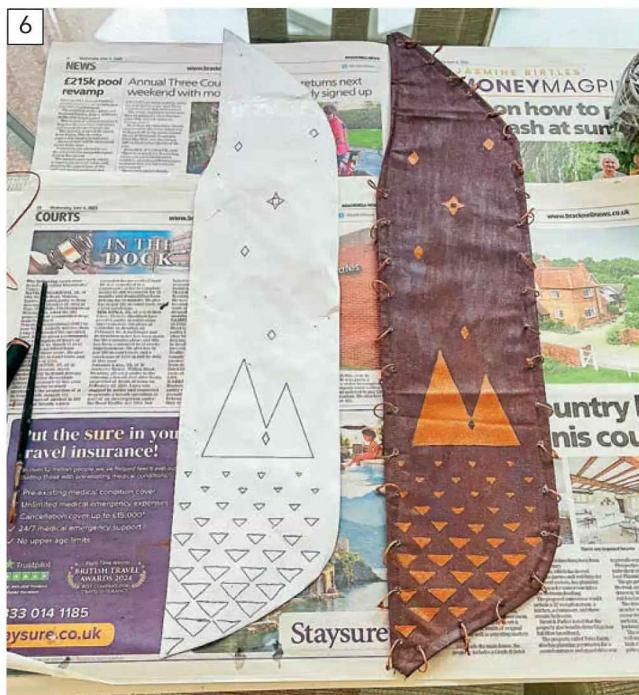
The above deck half bubble located near the bows was constructed using plywood formers with 1mm planking. Once the adhesive had set, I used my universal cutting tool (normally employed for cutting floor planks) and a file to remove most of the formers and create the hollow look desired. And after some filling and painting it really did look the part.

Plain sailing? Certainly not!

An interesting part of the build confronted me next: making the sail. How was I going to reproduce that? Fortunately, my clever wife suggested we used curtain liner material. With its very dense thread count this proved most suitable, so once she'd hemmed the paper pattern I supplied to this fabric, a sail was machined up. A grandparent joint effort indeed!

I then came across an advert online for fabric paint, so I duly purchased a box containing 16 colours, all of which can be mixed to create numerous more colours/shades. Although these paints are water-based, once they've been applied and have dried, they can be permanently fixed into the fabric by running an iron over them. Sitting on top of my paintbox in **Photo 5** you will see the piece of fabric onto which I painted test shapes and then ironed over as described. This was repeatedly immersed in water, including boiling water, and scrunched up to test durability. Amazingly, all of the shapes and colours stayed intact.

The curtain liner material was originally a much lighter colour than the photo shows, but I tried staining it first using cold tea which did not work too well! The next, much more successful, approach was to paint the sail's dark brown background onto both sides and



duly iron over it as described earlier.

For the lighter brown detailing on the sail, I displayed a side shot of the catamaran taken from the film on my computer screen and zoomed in for the appropriate size. A sheet of A3 printer paper was taped onto the screen and the shapes visible through it were traced on. My outline drawings were then transferred onto the sail and hand painted, using the same method of fixing the pattern into the fabric. The result is shown in **Photo 6**. This photo also shows the loops required to fit the sail to the main mast and the shaped boom to support the sail on the boat.

The shaped boom (refer back to **Photo 5**) is a length of 6 mm diameter nylon rod purchased online. Using a hot air gun and a plywood former, this was bent to the required shape.

Oi, Koi!

Photo 7 shows the initial floatation test of Moana's canoe in my garden fishpond, along with one of my curious Koi fish who had surfaced to investigate – the magic of Moana was already apparent! You can also see the deck half bubble crew accommodation and the athwart mast support deck referred to earlier in this shot.

Pool party launch

Photo 8 shows the completed model, with crew now aboard. Note, too, the oar type rudder, and the 1 mm diameter elastic thread for the rigging lines that should do the job of keeping everything taught. I do hope it will prove to be an easy, practical model boat to sail as the recipient (the little lady in the pink hat also in shot) has yet to send it (with a lot of help from her dad) on its maiden voyage. The paddling pool is the first step and an immediate request! It's not radio-controlled but, with the fin attached, it should hopefully be a good straight runner! ●



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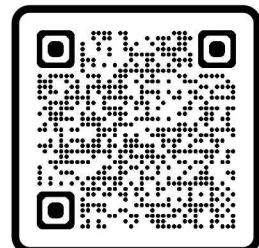
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The real ship, outward bound in the Baltic in the 1930s.

Herzogin Cecilia

Nev Wade sets about the retro-fit of a beauty of that had languished for far too long...

Herzogin Cecilia was built in 1902. She was named after the Herzogin (Duchess) Cecilie von Mecklenburg-Schwerin, a young woman betrothed to the Kaiser's eldest son, therefore expected, eventually, to become the Empress of Imperial Germany. She was built as a cargo-carrying schoolship by the Norddeutscher Lloyd Company and was seen as a beautiful and impressive representative of Germany, carrying cargo all over the world. She was a steel four masted barque, 330ft long, capable of carrying 4500T of cargo and she sailed right up to World War 1, which found her in Coquimbo, Chile, to which port she had carried coke.

In those days sailing ships brought



Near Cape Horn in 1933, seen from the four masted barque Olivebank.



In 1931 Herzogin was bound, in ballast, from Barry back to the Baltic, and was timed over a one and a quarter hour spurt between two good, onshore fixes in Denmark at the remarkable speed of 20.75 knots, an unheard of speed for 3000Ts of sailing ship, with 1200Ts approximately of ballast aboard.



Wrecked off the Devon coast in 1936. The event made headlines all over the world.

nitrates from the West coast of South America back to Europe as fertiliser, or to be the main ingredient of the explosives which powered World War 1. The war caught her there, as it did many German sailing ships, and she spent the next six years awaiting her fate. She sailed back to Europe in 1920 and became part of the last ever sailing ship fleet, that of Gustav Erikson, of Mariehamn in the Aland Islands in the Baltic.

She sailed from then until 1936, carrying the cargos that remained open to sailing ships, finally ending up in the carriage of grain from South Australia to Europe, the 'Grain Races' of the 1920s and 30s. She was lost off the Devon coast in 1936, due to a navigation error, a very sad end, which caught the imagination of lots of people in the UK, as you can still experience on YouTube, in newsreels of the time.

"As a subject, she was chosen because she was one of the most famous of the last windjammers, and because she was built with great lines, enabling her to sail beautifully as well as carry cargo"

The model

The Herzogin was my second R/C sailing ship model. As a subject, she was chosen because she was one of the most famous of the last windjammers, and because she was built with great lines, enabling her to sail beautifully as well as carry cargo.

On my first model I had learned how to brace round the yards to get a model such as this to sail under radio-control, so this build was a reasonably calm one, with no leaps into the dark required.

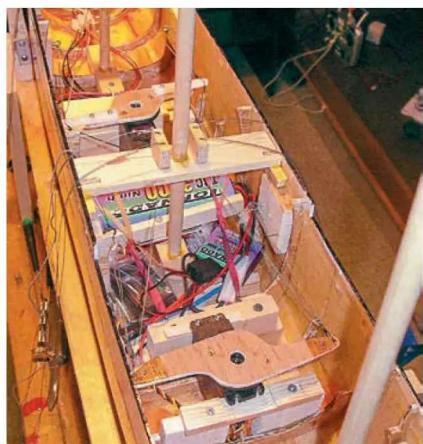
I did face one dilemma and that was to do with how many sail arm servos to use to control three masts worth of yards. Wrongly, as it turned out, I chose two, not the three which would have given me one sail arm servo per square-rigged mast. Without going into all the detail of how it's done, suffice it to say that I use a sail arm servo with a centrally pivoted arm, to use lines called braces pull 'in' one side of the yards as they let 'out' the other. I used one sail arm servo for the foremast, mounted between the fore and main masts (masts one and two) because it's useful to have separate control for this mast. To control the other two masts, the main and the mizzen (masts two and three), I also used one sail arm servo, mounted between the main and the mizzen. To achieve control of two masts worth of yards, it's necessary to have braces running to both sides of each end of the operating arm. It's obviously twice as complicated but it does work.

The problem with one sail arm servo bracing two masts worth of yards is tension in the braces. If you're pulling in one set of braces, while letting out the other, there has to be some slack in the system, otherwise the sail arm servo will be pulling against itself, with the obvious straining and lack of efficiency. If you add to that another mast's worth of yards and braces, you double the problem and have to leave still more slack in the lines. In turn, that prevents you being able to brace round the yards as much as would be desirable.

In those days I was not confident enough in my abilities to go the whole hog and have one sail arm servo per square-rigged mast, so I chose to go for the option I'd already used in my



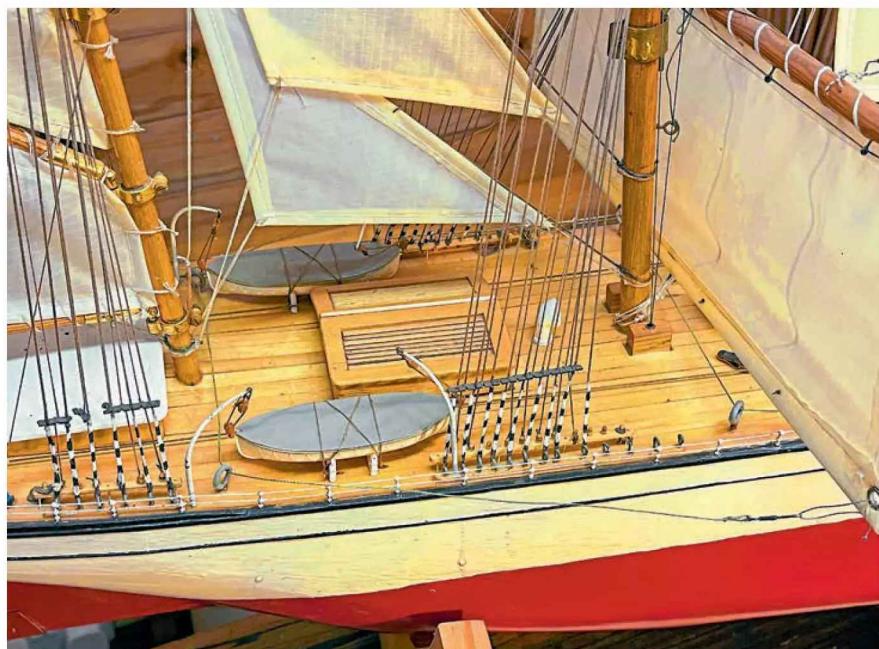
Nev's model of Herzogin as originally built, sailing with ten sails removed in 20mph of wind on a small pond in Sheffield.



The original below deck arrangements. At the bottom of the picture is the sail arm servo for the foremast yards, with the braces running aft from each end of the operating arm. The sail arm servo at the top is that for both the main and the mizzen masts. If you look carefully, you can see the braces on this arm running both fore and aft from the ends of the operating arm. Changing that arrangement is the subject of this article.

first sailing model of a square-rigger and use one sail arm servo to operate the main and mizzen masts. Such a system does work OK, but I was later to find that, where possible, it's better to have one sail arm servo per mast.

Over the next 18 years I built plenty of other sailing ship models and the Herzogin languished a little. Now I have less room for new models and have sought to re-visit a few of my boats, to retro-fit improvements, so it's no surprise that the shortcomings of the Herzogin have presented



The original deck between the mizzen and jigger masts (the third and fourth). As there was no servo below deck here, there was no need for a large hatch to give full access below.

themselves. Adding another sail arm servo would be a big job, potentially full of pitfalls, and could ruin the model, but doing it began to look more and more attractive. That's where this piece picks up the story...

Nerves

To tackle this job would involve a degree of violence to the hull, as I'd have to cut out a bigger hatch in the deck between the mizzen and jigger

masts (three and four). Through this I would add the mounting points for the additional servo and then fit the whole arrangement. I wasn't completely sure that I'd have enough room below deck in which to fit the servo, but the only way to find out was to get committed and make a start.

So, off I went, drilling holes around the edges of what would become the hatch. To my great relief, after completing the line of holes, joining



With heart in mouth, Nev drilled out an opening for a hatch between mizzen and jigger. There was no going back now!



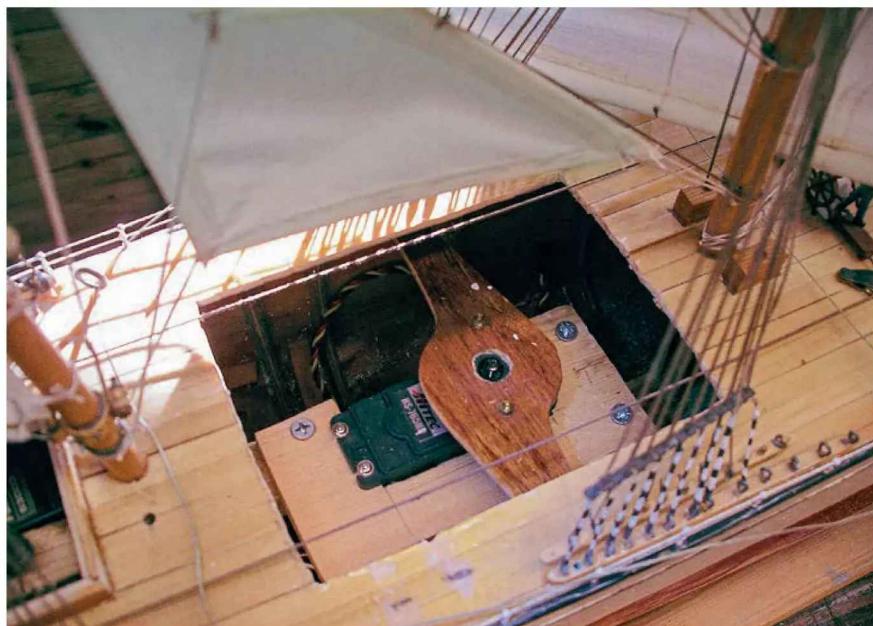
Nev was happier at this point, because he could see there would be sufficient room below for a sail arm servo.



The hole, tidier, and the work site visible.



Fitting wooden blocks in the bottom of the hull.



The sail arm servo fitted, complete with centrally pivoted arm. The mizzen mast braces (out of sight here) are attached to the ends of the operating arm.

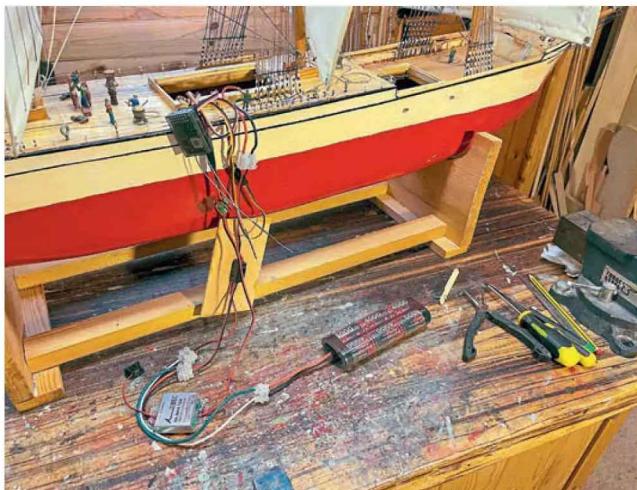
"To tackle this job would involve a degree of violence to the hull"

them up and removing the old hatch, it was obvious that I would have enough room, so I was able to proceed with some confidence.

Contortions

The blocks to which I fitted the servo went in easily, screwed to blocks already glued into the bottom of the hull, and the servo and its arm followed with no problem. I was now at the stage where the job went subterranean, in that wires and the lines that link servo to yards (the braces) all had now to be fitted through relatively small hatches and under pre-existing decks. This was the point at which tiny hands and double-jointed fingers would have been a real asset!

The first move was to remove the braces that currently operated the mizzen mast yards from the original, main and mizzen mast servo, sited between main and mizzen masts. Its



The other part of the refurbishment was a good look at all the other electrics on the boat. Here, the wiring/battery hang out of the midships hatch for inspection. Nev changed the UBEC and both the other sail arms.



The deck between mizzen and jigger now has a proper hatch, under which lies the new sail arm servo. The lifeboats now have to able to swing outboard to give access. If you look either side of the masts, you'll see the oblong blocks containing the fairleads.



Lifeboats swung inboard, hatch on, 'ready for sea'.

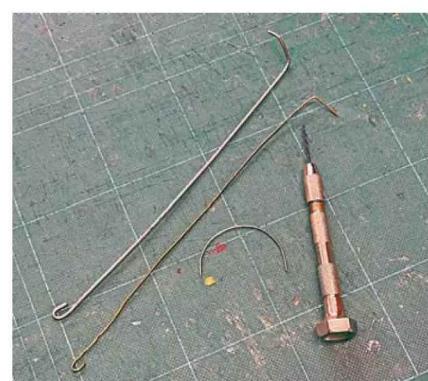
hatch was removed and the wiring for the battery, UBEC and receiver was uncovered and pulled up through the hatch. With the servo exposed, a scalpel, taped to a piece of stiff wire, enabled me to reach and cut the braces at the servo arm ends and the old braces were pulled up through their fairleads. They were disconnected from their yards (two per side, port and starboard) and discarded.

The new servo then had to be connected to the receiver, which meant its lead being hooked by a piece of stiff wire, fed in through the hatch between main and mizzen masts. Thus caught, the lead was pulled forward, so that it emerged between main and mizzen, where the receiver had been pulled up

through the hatch. I use a six-channel radio set up, and the fore mast yards were connected to Channel 4 (left/right LH stick) and the main/mizzen to Channel 3 (up/down LH stick). Under the new arrangement, the new servo, for the mizzen mast yards only, needed connecting to Channel 2 (up/down RH stick), leaving just the main mast yards controlled by Channel 3. With the new servo connected, it was possible to test its operation, which was fine.

Line dancing

It was now time to connect the new servo to the yards on the mizzen mast. I made two fairleads (port and starboard) from blocks of oblong section dowel (approx



From left to right, some of the tools Nev used to get at inaccessible places below deck: two long hooks, a circular needle and a pin vice – all indispensable!

"This was the point at which tiny hands and double-jointed fingers would have been a real asset!"

15 X 5 mm, 25mm long). Through these were fitted pieces of brass tube about 2mm diameter, with one end extending about 15mm out of one end of each dowel. Two holes were drilled through the deck, one each side of the jigger mast (No. 4), into which the tube extensions were inserted. This has the effect of pushing the tube ends below the mast supports either side of the mast, making a way through the deck for the braces on their way from servo to yards, with the top of the tubes about 25mm above deck level (to stop water across the deck getting below). The two blocks/tubes were glued into place. The braces for the mizzen mast run up the sides of the jigger mast to heights suitable for running them across to the mizzen mast yards they



Amid the green trees of the lake in the Pavilion Gardens in Buxton.



Quiet sailing.

The pride of Imperial Germany



About to put her lee rail under, Herzogin on a great day out!



Becalmed, in the sunshine.

All the mods done and sailing at Killingworth, North Tyneside.



are to brace. At these heights screw eyes were screwed into the jigger mast, through which would be run the braces.

Threading and connecting the braces was next and it was another job that filled me with dread! The system is as follows for one mizzen brace, say, on the port side. The brace is attached to a fixed point on a port side hull frame, below deck, by the jigger mast. It is run forward to the port end of the servo arm, where it goes round a pulley attached to the arm. This is a 'Multiplying Pulley System', which affords more yard movement for a given servo movement. From the pulley the brace runs aft to the underside of the fairlead on the port side of the jigger mast. It goes up, through the fairlead and on up the side of the jigger mast, to the correct height for running across to the yard it is to brace on the mizzen mast. At the correct height, it is run around a screw eye and sent across to the mizzen mast yard through a bowsie. At the yard arm it is run through a pulley and sent back across to the bowsie, which provides length adjustment. Two braces per side are arranged like this, one for the bottom yard and one for the fourth one up.

That's the drill when you make a new boat, with no deck fitted. I was, however, about to retro-fit four braces partially from the top down, a much harder proposition. Here's how it went...



Built as a cargo-carrying training ship, the Herzogin had an extremely long poop, stretching to forward of the main mast, to accommodate more than 50 cadets and their teachers. It can give the ship an overly 'heavy' look from some angles.



The model powering along in 15/20mph wind.

I used the pin vice to drill a 1mm diameter hole in a hull frame, below deck, at the side of the jigger mast. That involved getting the pin vice down below deck and holding it, horizontally, 50mm below deck level, and then twisting it in order to drill the hole. It gives you cramp in the fingers and is no fun at all! I cut two long braces, made from 'fishermen's braid' and tied them together at one end, so they could be run, initially, as one. I poked them down the port fairlead

"The main target had now been achieved, but the job didn't end there..."

and then caught them with my bent wire below deck. Having got them to my fingers, I pushed them through the pulley (made from a fishermen's 'swivel') at the end of the port servo arm. I then pulled them up, through the new hatch, above deck level.

From this point, it got really

complicated. I cut out the knot I'd made earlier, giving me two braces again. I threaded one on to the circular needle (see picture), i.e., a needle which allows you to push a line through a hole and have it come back, towards you. Next, I tied them back together and manoeuvred the needle back down below again, towards the hole I'd drilled in the hull frame, taking care not to get them tangled up with themselves where they'd just been run from the fairlead. With great difficulty and a small set of pliers, I pushed the circular needle through the hole and then pulled it back on itself to get the braces through the hole. I pulled the braces back above deck level, again without tangling them back on themselves, cut them to remove the circular needle and tied them to themselves in a slip knot outside the boat. I then pulled the slip knot tight on itself at the hole in the frame and took the slack up by pulling the braces back up through the fairlead, again without getting anything tangled below deck.

Phew!! I did the same thing on the starboard side and ended up with two braces per side, all attached below deck. It then only remained to send the free ends of the braces up the mast through the screw eyes, send them out to their yardarms via their bowsies and tie them off.





Finally sailing with the sun out.

Setting up

With the braces all attached loosely, the servo was centred in its travel with the operating arm at right angles to the hull, the yards were squared (at right angles across the vessel) and the bowsies were pulled to a central position between their yardarms on the mizzen mast and the screw eyes on the jigger mast. With the sail arm servos that I use, the multiplying pulley system and the length of the servo arms themselves, I knew that this arrangement would work, so it was then just a matter of tying off the bowsies in this central position in order for the mizzen mast yards to brace fully round, tack to tack, which they duly did.

The main target had now been achieved, but the job didn't end there... This boat is 19 years old, so it was a good idea to do some more renovation while I had the chance. In the end, I changed the other two sail arm servos for the fore and main masts. I also changed the UBEC (a kind of voltage regulator which enables my 15 year old R/C airplane radio equipment to deal with the loads imposed by square sail control), and finally, I replaced the rudder linkage, as the old one was rusty and loose.

During the work, some lines had been broken, so they were replaced.

The aft lifeboats had to be given the ability to be swung out on their falls to allow access to the new hatch, and the decks were cleaned with cotton buds and water. Last of all, the hull was given another coat of satin finish varnish to help with water-tightness.

The weather

The proof of any pudding is in the eating, so a trial sail was in order. I also wanted some good pictures of the boat sailing and some video footage with which to make a YouTube post of the renovation. Here's where this year's (2025) windy weather intervened. Just like the real ship, the model has its limitations. 15mph of wind is perfect, 20 is OK, but at that level on the big open lake at Killingworth on North Tyneside considerable waves build up, which make sailing too challenging for this boat. It seemed like every time I was free to go sailing, the wind was too high, for several weeks.

Finally, the great day dawned, and I had my trial sail. Everything went well, the only adjustment I felt I had to make being to the end point adjustments on the transmitter to get the final angles of the yards right. The wind intervened again after that, holding up picture and video sessions, but eventually they got done. After what I thought was the last

sail before I could go back to other boats besides the *Herzogin*, I was happily putting the sailing keel into my rucksack, with the boat on its stand, when the weather had another go at a final say. A gust blew the lot over, stand and boat, cracking the mizzen mast and breaking the rudder pivot! Repairs didn't take too much doing and, after another trial sail, I am now able to move on to other things.

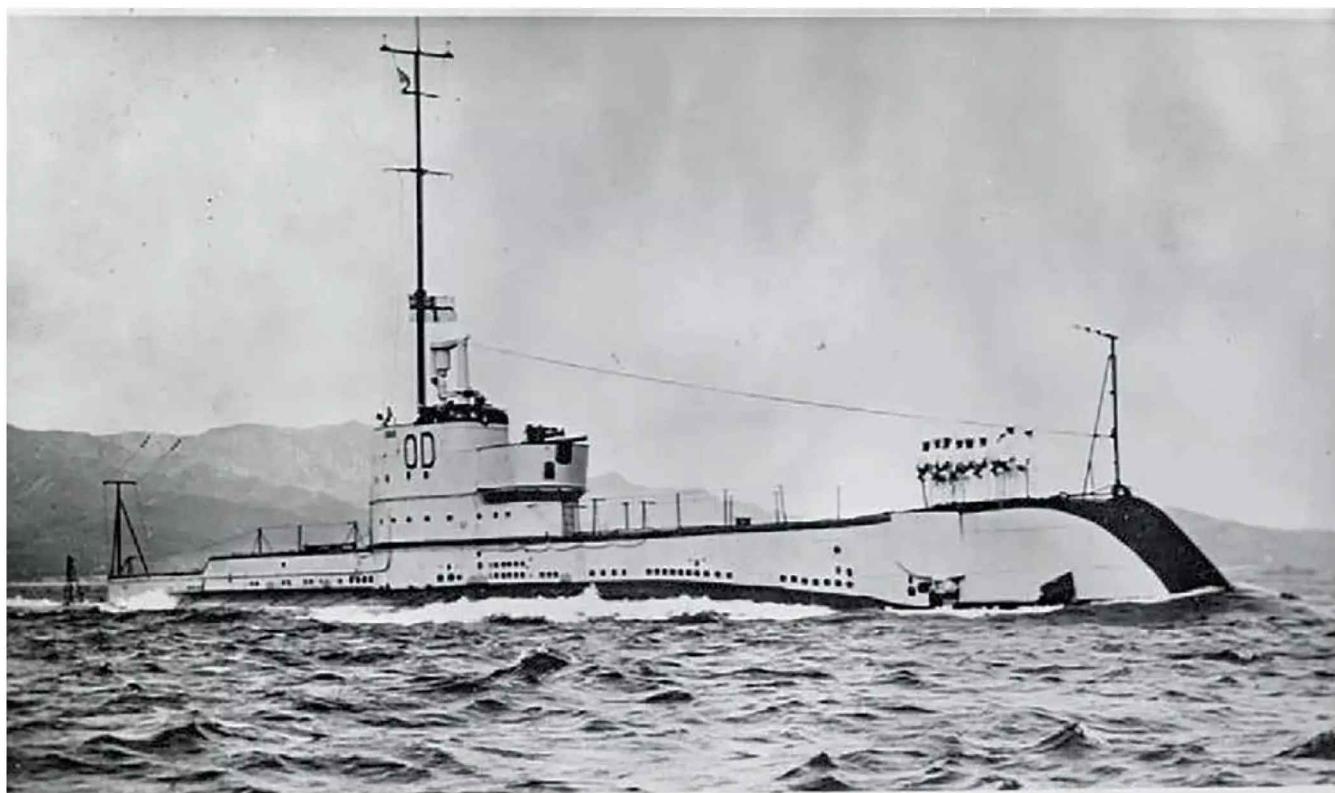
The epilogue

This project proved most enjoyable. All the jobs were interesting ones, and I experienced a lot of satisfaction from the big changes made. It also brought back to life a model of a superb sailing ship which had languished for the last six or seven years.

If you've got a model that's long been relegated to a shelf at home and which every now and then pricks your conscience, you might like to consider a restoration too. If you do decide to go for it, I hope you get as much fun out of your project as I did mine. Good luck! ●

Armchair viewing

If you search run a search for Nev Wade on YouTube, you'll find footage of *Herzogin*, amongst many other videos of his magnificent square riggers.



The British submarine HMS Odin (N84) underway off Hong Kong.

HMS Odin

Ross Pollard salutes this sadly lost sub and her crew

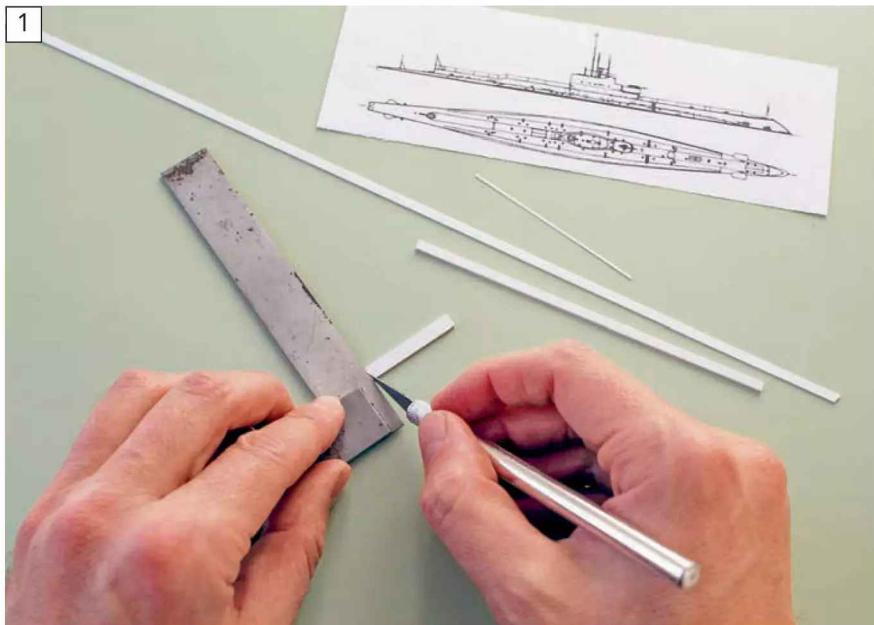
HMS *Odin* was an O-class submarine of the Royal Navy. She was launched in 1928 and served at Portsmouth from 1929-1930, at Hong Kong from 1930-1939, at Colombo from 1939-1940, and at Alexandria in 1940. *Odin* was deployed to Malta prior to Italy declaring war on Great Britain and was sunk off the coast of Taranto on June 14, 1940.

At 23.21 on June 13, HMS *Odin* was sighted by the Italian destroyer, *Strale*. *Strale* attacked with torpedoes and depth charges, badly wounding the submarine. *Odin* surfaced nine miles away, only to be spotted by the gunboat *Baleno*, who finished her off. Her entire crew perished in the attack.

Making the styrene model

I constructed my waterline model of the HMS *Odin* out of styrene and brass at a scale of 46 feet to 1 inch using basic hand tools.

To get started, I cut pieces of 1.5 mm styrene to size with a steel square



Ross scratch-built his model of the HMS *Odin* out of styrene plastic.



Double-sided tape was used to hold the pieces in place while Ross sanded them.



The main structure was laminated together using Tamiya extra-thin cement.



Ross beveled and smoothed the sub's ram-shaped bow with an emery board.



After cutting and sanding the various components, Ross carefully cemented them together.



Ross marked the limber holes with a pencil and then drilled them with a pin vice.



The radar mast, gun, and periscope were made out of .4mm and .8mm brass stock.

“Odin was deployed to Malta prior to Italy declaring war on Great Britain and was sunk off the coast of Taranto on June 14, 1940”

and hobby knife (see Photo 1). Making straight cuts in styrene is easy: you simply score the plastic with your knife and then snap off the parts with your fingers. I used a jeweler's saw, though, to make the curved cuts for the tower and hull. After cutting these pieces, I smoothed

and shaped them with an emery board. Double-sided tape to hold the hull sections in place was used during the sanding process (see Photo 2).

I checked my cuts against a scale waterline drawing before laminating the sub's main structure with Tamiya extra-thin cement (see Photo 3). I applied the glue sparingly, letting capillary action do most of the work. Once the adhesive was dry, I shaped and smoothed the bow with, once again, an emery board (see Photo 4).

Next, I glued on the pressure hull and

tower (see Photo 5). I then attached the hatch doors and other topside details. I added walls to the bridge and gun turret by gluing thin strips of styrene around the tower. The limber holes were drilled with a pin vice (see Photo 6).

Adding brass details

The model's cylindrical details were fashioned out of 0.4 mm and 0.8 mm brass rod (see Photo 7). To cut the rod, I simply scored it with my knife and then snapped off the pieces with a pair of needle nose pliers. I find this

8



Painting was done with a round sable brush and black and white matte acrylics.

"I have tried other techniques for rendering water, but this is one of the simplest and cheapest methods I know of"

technique to be more accurate and efficient than using snips.

To make the radar mast, I chucked a piece of brass rod into a rotary hand tool and tapered it with an emery board. I then carefully soldered on the cross members and glued it into a hole in the tower with thin cyanoacrylate adhesive. Needless to say, soldering and gluing small parts like this requires a steady hand!

The periscope and deck gun were also made of brass. To fashion the latter, I simply soldered two lengths of brass rod together – one for the barrel and one for the recuperator mechanism. I considered adding smaller details, but my manual dexterity was at its limit.

9



Ross used superglue to affix the elements of his diorama to a stained and varnished quarter-sawn oak plaque.

Painting

I primed the model with spray primer and then brush-painted the black and white color scheme using matte acrylics. According to my research, *Odin*'s gun, dorsal hull, deck, and radar mast were painted black, while the sides of the turret and superstructure were painted white (see Photo 8). Once all the paint was dry, I carefully applied *Odin*'s initials on the tower with a 0.3 mm felt tip pen.

Creating the display

I decided the best way to display this model would be to represent the model 'in the water', so I made a wooden base for a diorama out of quarter-sawn oak that I duly stained and varnished.

To craft the illusion of water, I moistened several layers of tissue paper on a piece of hardboard using

watered-down PVA glue. I briefly pressed the model into the paper and then sculpted the wakes around it with a stiff bristle brush. I have tried other techniques for rendering water, but this is one of the simplest and cheapest methods I know of.

When the glue-soaked tissue was dry, I brushed on a basecoat of greyish blue paint. I then dry-brushed the tops of the waves with greenish blue paint and added a few white, foamy highlights. I let the paint dry overnight and then sealed it with two coats of gloss acrylic varnish. This simulated water was then affixed to the base using superglue (see Photo 9), along with a brass nameplate, the script on which I added myself using an old diamond-drag engraving machine.

The end result is my tribute to the *HMS Odin* and her crew. ●

10



Ready for display as a tribute to *HMS Odin* and crew.

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A Boatograph Album

John Parker pays tribute to the talent of his fellow modellers/sailing buddies

Over the 20 or more years I have been associated with the Bosuns Model Boat Group here in Melbourne, Australia, I have seen many members' creations take to the water and managed to get photographs of most of them. The

creativity of this relatively small group of some ten to 20 active members has been quite amazing, especially since most of their models were scratch-built and often to a strict budget. So, I have selected some favourite 'boatographs' here, choosing

examples that represent the different classes of model. Unfortunately, it hasn't proven possible to have an example from every member, past or present, but a fuller gallery of models can be seen on the website: <https://bmbg.au/Gallery.html>

Lady Iris

I am starting with this picture of the *Lady Iris*, as it also provides an opportunity to show our current sailing venue, Valley Lake. The

construction of the *Lady Iris* was commenced by member Elmars from a Model Boats plan for the *Waterwitch*; with Elmars' passing, the model was taken over by Murray, the present

leader of the group. Murray spent some time re-building the hull to his satisfaction and then went to work on a nicely detailed superstructure with masts and an auxiliary sail.



The Lone Ranger

The PS *Ranger* is a replica of a fishing boat built at Echuca, Victoria, in 1909 by Charles Felshaw. Typical of the rustic craft used in Australia at the time, the *Ranger* was powered by a six-

horsepower single-cylinder Marshall steam engine and displaced around eleven tons. The model has some fine detail despite its simplicity – notice the realistic crew figures (including one feeding logs to the boiler), the ship's wheel – which turns with

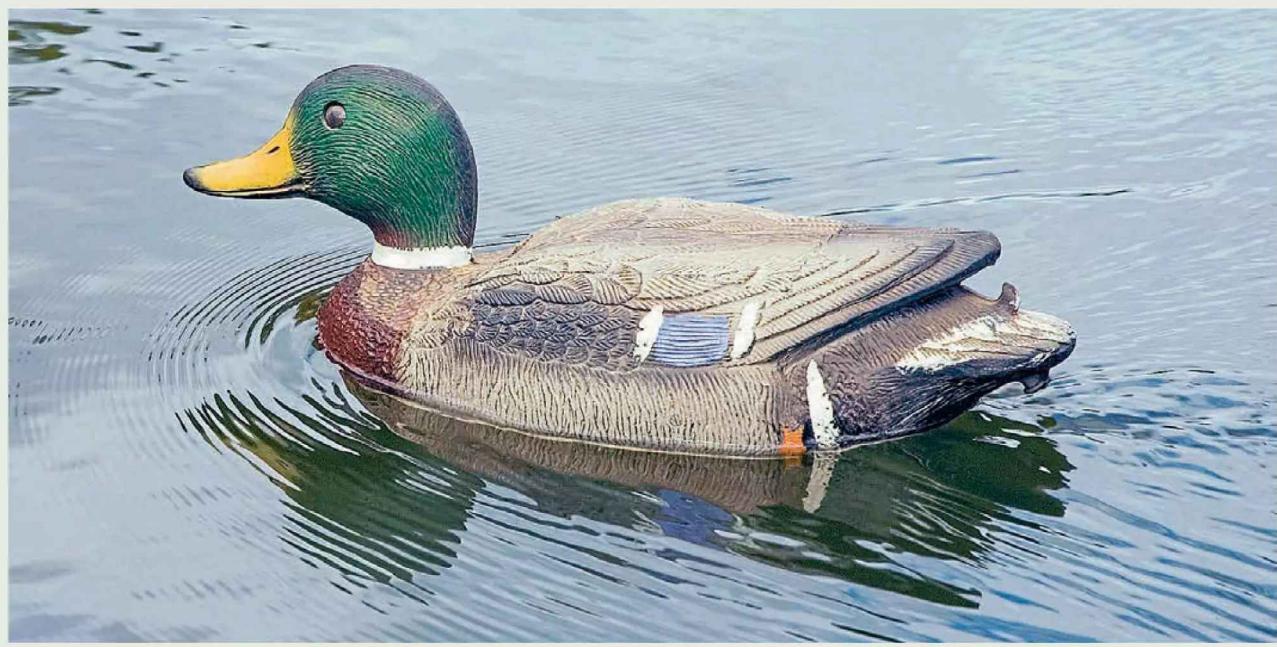
the rudder, and the 3D-printed fishing baskets, logs and other paraphernalia. An onboard MP3 recording has the captain calling "More steam! More steam!" on demand. Builders: Clare and Peter.

**Don't feed this duck!**

HMAS *Daffy* is a navy-trained duck decoy used for surveillance in enemy waters. It was carefully crafted from the more common

plastic variety and has all its mechanism hidden by a set of hinged feathers. Propulsion and steering are via a conventional propeller and rudder, for the duck's

usual environment is around the muddy banks of a suburban lake, and the dark waters conceal the lack of paddling feet. Builder: Peter W.



Schooner or later

Altair is a 1:32 scale gaff-rigged schooner built to a 1996 Marine Modelling plan. It represents the small but keen contingent of members who are interested in sailing models, often in the form of

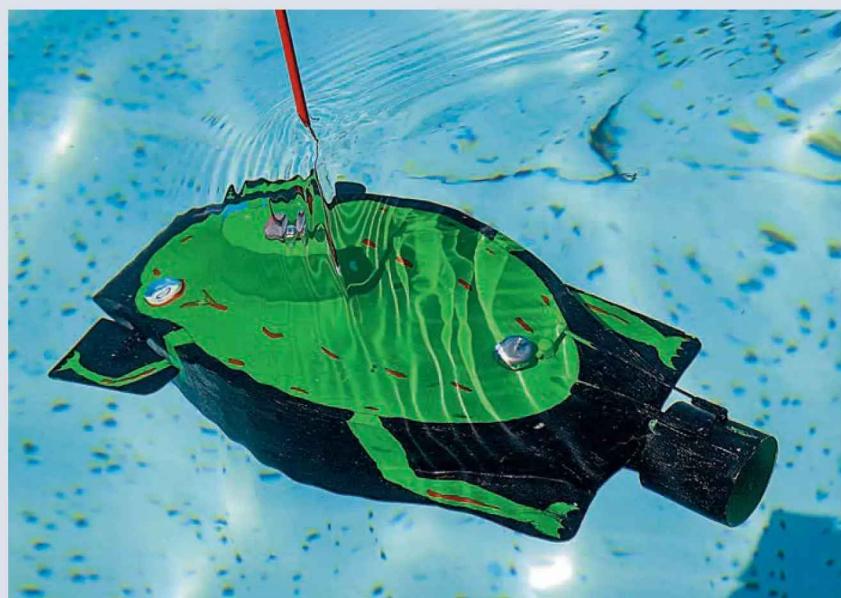
classic wooden designs of the past. The real *Altair* is still in existence and was designed by W.M. Fife in 1931; it certainly provided plenty of deck detail for initial builder Elmars to duplicate. When Don took over completion of the model he decided

to make it as a practical sailing model, with aluminium masts and spars and all sails controlled by a single winch. It is impressive on the water, slower to respond but very graceful



It isn't easy being green

This simple model submarine prefers operating in a swimming pool where its colouring enables it to be more readily seen. Built from a plan published in a magazine, the model has been a true test bed for experimentation. Its construction, for example, is of metal, as befitting its builder's profession of boilermaker, and, although intended as a dynamic diver, it has been fitted with various means of static diving apparatus at different times. These included a proportional servo-operated piston tank and a mechanism that pushed out or contracted its belly surface slightly to control its buoyancy, surely the most unusual means of diving. Builder: Les.



Remorqueur Francaise

There has to be a tug in any collection of model boat images, and this immaculate example is of a French one, the *Côte d'Emeraude*, that was based in St. Malo. Built from an old Maquettes kit, the tug is to 1:20 scale, 1.36 metres long, and takes some lugging around even without its 10kg car battery fitted. Launching is problematic at the current site as there is no convenient shoreline, only a vertical drop from the boardwalk. Its builder, Denis, visited the actual tug in France, identifying various details that needed to be corrected before he could complete his model.

**Handsome Halvorsen**

The Halvorsen seaplane tender was built to the tune of 178 boats by Lars Halvorsen and Sons Pty Ltd when World War II came to Australia. It proved tough and versatile enough to be used for air-sea rescue and as a patrol boat with the Australian Army. This 1:12 scale model was featured in the 2012 Model Boats Winter Special and performs well on twin brushless power. A two-sheet CAD plan (Sarik MM2077) incorporates much of the research that went into this model. Builder: Alan.

**A pod of dolphins**

I'm cheating a little here, as this is actually a composite image of one mechatronic dolphin built from a kit that was put out by Norbert Bruggen. The image was inspired by the realistic manoeuvrability of this little model, which can appear to be everywhere all at once. A dynamic diver in all senses of the word, the dolphin is powered by a small propeller under its tail and has two automatic pitch controllers that work the tail flippers both together and in opposition to achieve stability in both pitch and roll. And they're needed too, for the model is very fast and can be lost from sight in the blink of an eye. Builder: Chris.



I Got Sunshine

This shows my own entry in the category of Alternate Energy. Onlookers are waiting on the pier for departure of the Sunbeam, a traditional wooden ferry converted

to run on the power of the sun thanks to the 15 solar panels on its roof. While the sun is out the Sunbeam can cruise indefinitely on the lake, while any excess power generated during stops is put into

the back-up battery to ensure it doesn't get stranded mid-lake if it turns overcast. Described in the Model Boats January 2019 edition (Sarik plan MB2141). Builder: John.



LARCing about

A LARC-V (Lighter, Amphibious, Resupply, Cargo, Mk 5) model is shown making a splash into the sailing lake to join its water-bound friends. Equipping such a

scratch-built model with the means of navigating both solid ground and water while keeping the latter out of the working mechanism and housing it all in a scale body requires a certain ingenuity, as anyone who has

attempted such a model can testify. It also requires, in the words of this model's builder, a working bilge pump! Builder: Gordon, specialist in amphibian and other unusual models.



1930s' gentleman's launch

This vintage model was acquired by the owner's father prior to World War II, when it was not vintage but a current model. Of solid wood construction, it had a large propeller and engine bearers that

hinted of electric propulsion, but little else to provide clues to its intended powerplant. Bringing it to operational standard involved quite a bit of work, including the sourcing of a 350kV brushless motor to turn the large propeller, extensive (but unobtrusive)

slimming down of the structure to reduce weight, and the addition of a false keel to aid stability. It now provides a relaxing reminder of a more serene past – providing the waters are calm! Owner and modifier: Andrew.



African royalty

Many will be familiar with the classic Humphrey Bogart and Katherine Hepburn movie in which the *African Queen* stars. This steam powered model version was built

from the Billings kit but considerably modified to improve its accuracy and realism. Note, for example, the bucket hanging off the side of the engine, the teapot and cups of the picnic setting, the period dressed

figures, and the bottles of hydrogen and oxygen that were to play an important role later in the plot. Builder: Bob with help from his wife Dyllis.



BOILER ROOM

Richard Simpson inspects Denes Designs' new ABC2 (Automatic Boiler Control) system

Those of you with a good memory may recall my review of Denes Designs' (then) new Automatic Boiler Control unit, or ABC, back in the July 2021 edition of Model Boats. Comparing it to the old Cheddar ABC that was made available a few years previously, I pointed out that, by way of improvement, better sensing of boiler water level and temperature compensation had been built into the level sensing head of this new unit.

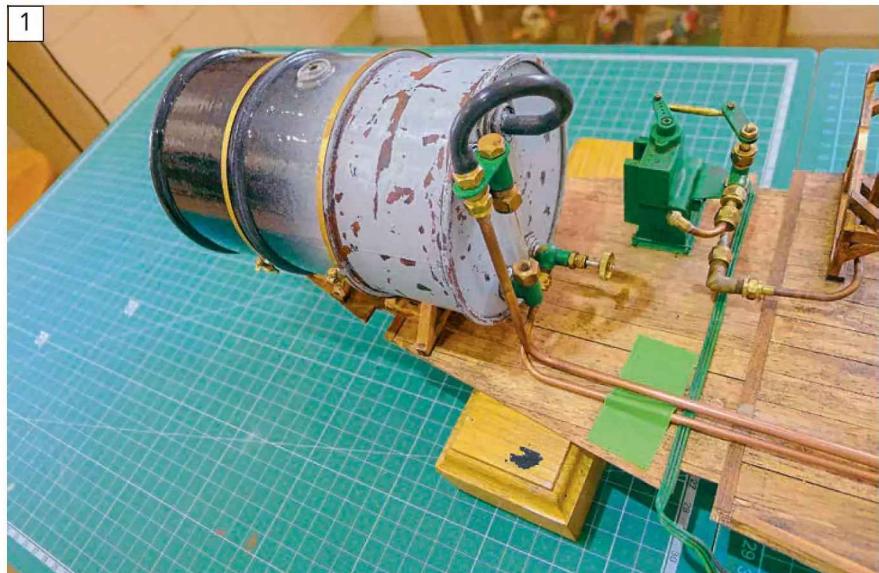
At the beginning of this year, I received the latest new unit from Denes Designs in the form of an updated ABC, called, not surprisingly, the ABC2. My original intention had been to use the same test bench approach I'd taken with the previous unit, but, as I described last month, I just happened to be right in the middle of stripping down Hereward so I that I could make a few updates and modifications. Consequently, I decided I might as well go the whole hog and swap out the original ABC unit fitted to the Hereward and replace it with the ABC2, as this would allow me to thoroughly test it and see if it lived up to the promises made. The boiler had already been thoroughly cleaned out, a new 3D printed feed tank fitted in place of the failed tin one (see **Photo 1**) and remedial work done on the engine, so I was ready to give the ABC2 my full attention.

So, what are the improvements?

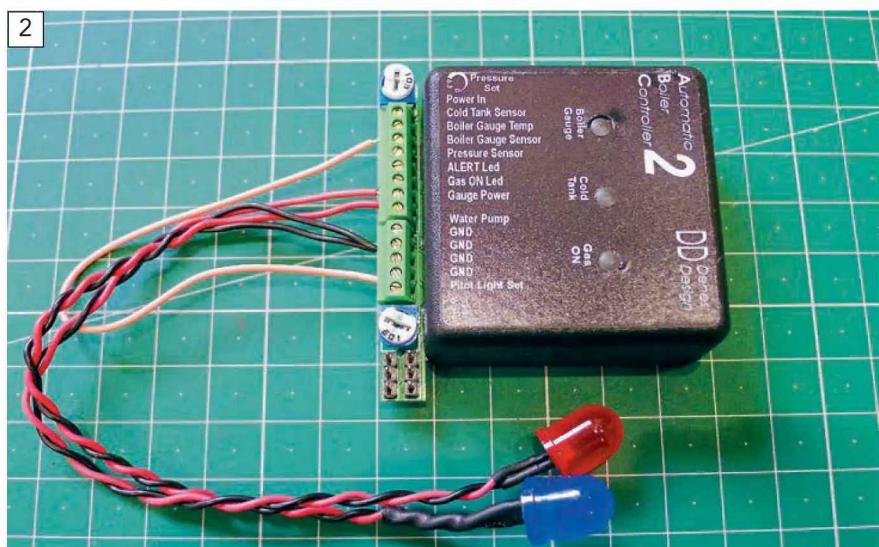
The ABC unit handles two functions independently, although there is a small degree of cross referencing, which we will look at later.

• Function 1

The first thing the ABC does is to control the water level in the boiler. It does this by sensing the water level in the boiler sight glass via a sensor that sits around the glass. The supplied sensor is designed to fit a 5mm glass, but different



Richard's new 3D-printed feed tank sat in place on the removable deck. The suction valve is at the bottom, the return line is the rubber hose at the top, and the filling pipe sits into the bush fitted on top of the tank. Only the end is painted, as the rest is hidden.



The ABC2 unit arrives with all LEDs and sensors ready connected. Richard, however, removed everything to make fitting the unit and laying the cables in neatly that bit easier.



All the existing gas pipework and valve arrangements are exactly the same as they were on Denes Designs' original ABC, and as Richard already had the latter installed in Hereward, nothing needed be changed when swapping this out for the ABC2 unit.

sizes can be supplied on request. This sensor is connected back to the ABC2 unit, which then uses the information to either control a shut off servo-controlled water valve, or stop and start a motor driven feed pump. Consequently, as the water level falls, the ABC2 unit either closes the shut off valve to force feed water into the boiler or starts the feed pump supply. Once the water level is sensed as being at the correct level again, either the shut off valve is reopened, returning the feed water back to the feed tank, or the electric feed water pump is stopped. This function operates in exactly the same way in ABC2 as it did in the original ABC. The sensor head remains compensated for temperature and incorporates a delay so that the sensing is effectively damped to prevent excessive stopping and starting of the pump or operation of the shut off valve servo. In the Hereward I have a feed water pump attached to the Hemmen's Caton 'V' four engine which sucks feed water from the feed tank to supply the shut-off valve, which then either returns the water to the feed tank or supplies the boiler.

• Function 2

The second function of the ABC2 is to control the pressure in the boiler. It does this through another sensor, which is mounted on the boiler, somewhere in the steam space. This sensor actually measures temperature, which is directly proportional to pressure in an enclosed volume so can be used to supply the ABC2 with a pressure signal. This signal is then used to operate a servo-driven gas control valve. This is where the significant improvement over the original ABC comes into it. In the original ABC the servo simply switched the gas valve from fully open to a pilot setting, dependent on the boiler pressure. This is operated by comparing the sensed pressure with the set point,



Likewise, all the feed water plumbing and valve arrangement were left exactly as originally fitted.

and if the sensed point is below set point then the gas valve would open to full until the pressure had returned to the set point. Then the gas valve would shut down to give just a pilot flame. The ABC2 unit is significantly more sophisticated in this function. There are now three positions of the gas valve to consider: fully open, the pilot light position, and fully closed. The fully closed position can be set up as a failsafe to enable the gas valve to be completely closed in case of the model becoming disabled. This is done via a spare channel on the model's transmitter, which operates a relay switch wired into the pressure sensor line. Another significant improvement is the fact that the gas valve now works proportionately between the pilot setting and fully open position. Consequently, the gas valve now supplies exactly the right amount of gas to the burner that the boiler requires for every corresponding boiler pressure.

The crossover between the two functions that I mentioned above are that when the feed tank level sensor detects no water it will shut off the gas valve completely, and, equally, on start up the gas valve will not open fully if the water level sensor detects no water in the boiler. So, basically, there are more safety features built into the ABC2, should you wish to use them.

Opening the box

Inside the packaging, you will find:

- The ABC2 unit, **Photo 2**, after having the sensors removed
- A water level sensor, pre-wired to the ABC2
- A pressure sensor, pre-wired into the ABC2
- A Blue warning LED pre-wired into the ABC2
- A Red warning LED pre-wired into the ABC2

"I decided I might as well go the whole hog and swap out the original ABC unit fitted to the Hereward and replace it with the ABC2, as this would allow me to thoroughly test it and see if it lived up to the promises made"

The instructions can be downloaded and printed out from the Denes Designs website. These are comprehensive, well laid out and take you through the installation and set-up superbly. I would recommend that they are read thoroughly at least once before even picking up a screwdriver.

Other items required:

- If your engine has an engine-driven water pump you will need a shut-off valve which operates from fully open to fully closed within 90 degrees of movement. Clevedon Steam supply a suitable valve here: <https://www.clevedonsteam.co.uk/product/lever-valve>
- A servo to operate the water valve. Micro servos are suitable as very little torque is required, this is the type I used: <https://uk.rs-online.com/web/p/stem-robot-kits/2049891>
- If your engine doesn't have an engine-driven pump you will need an electrically driven feed pump and a 6V drive motor.
- A gas control valve capable of operating from fully closed to fully open within 90 degrees of movement. Clevedon Steam do just such a valve here: <https://www.clevedonsteam.co.uk/product/servo-gas-valve/>
- A servo to operate the gas valve.
- A transmitter switched relay; if you decide you want the function to shut gas off completely from your transmitter, Denes Designs can supply this relay.



The easiest arrangement for operating the valves was to mount the servo and the valve onto a common block of wood. The two arms could then be connected by a bottle screw, making for a very convenient fine adjustment of the valve position.

- A capacitance sensor to fit to the feed tank if you wish to incorporate the feed tank's empty automatic shut off.

Fitting the ABC2 unit

As the operation of the ABC2 is dependent on such major items as a feed water storage and filling system and a gas control valve with all the associated pipework, it is certainly much easier to fit it while a model is still being designed and built than it is to retrofit it into an existing model. That's not to say the latter can't be done, but the modifications may be extensive and far from nice and

simple, especially if it's a model with an enclosed hull.

My model was already set up from its original design to take the ABC unit, so swapping that out for the ABC2 proved fairly straightforward. I was even able to use the existing gas valve (see **Photo 3**), water valve (see **Photo 4**), operating servos and all the connections. Basically, all the hardware was already in and working, so all I had to do was fit the ABC2 unit, the new sensors and the wiring.

The two sensors come ready wired in and coiled up, but life is significantly easier if you remove everything

"It is certainly much easier to fit it while a model is still being designed and built than it is to retrofit it into an existing model. That's not to say the latter can't be done, but..."

from the ABC2 unit, fit it where you want it to go, then run the cables in neatly after the boiler with the two sensors in place. I decided to take a close photo of the ABC2 unit before disconnecting everything to ensure I got the right wires in the right terminal, but the instructions are excellent and list the connection of every component to the ABC2's terminal block. For my installation, both valves were mounted along with their servos on a wooden block so that all operating forces were isolated from the deck. The servo arm was connected to the valve with a bottle screw to give the best possible adjustment and therefore make the set up as trouble free as possible (see **Photo 5**).

- **The Water Level Sensor**

This is probably going to be the trickiest part of the entire process for many. The sight glass has to be removed from the boiler to enable the sensor to be slid over the glass as it's being reassembled. Sight glasses are notoriously delicate and can easily be damaged during fitting, especially if there hasn't been enough care taken to ensure the two fittings are not perfectly aligned. They can also become quite tight with age, and the sealing 'O' rings can harden and break during dismantling, so there are a few pitfalls. I had to take mine apart anyway, as I was pickling the boiler to clean it out, but the Hemmens arrangement where the fittings are on the side shell of the boiler rather than the end plate are even more difficult to get perfectly aligned. Thankfully, I managed this without hearing that sickening 'crack' as the glands are being tightened up (see **Photo 6**).

- **The Pressure Sensor**

For this you need a spare fitting in the steam space of the boiler. The thread needs to be $1/4$ -in x 40 tpi. Ideally, it should be mounted as directly as possible to ensure the best possible contact with the steam space, but it is possible to use the glass fitting plug on the top gauge glass mounting if you have no alternative. There's a chance there could be a delay in sensing temperature accurately there though, so be warned. I was lucky to have a spare fitting available, so simply mounted my sensor on that, after having to manufacture a fitting to



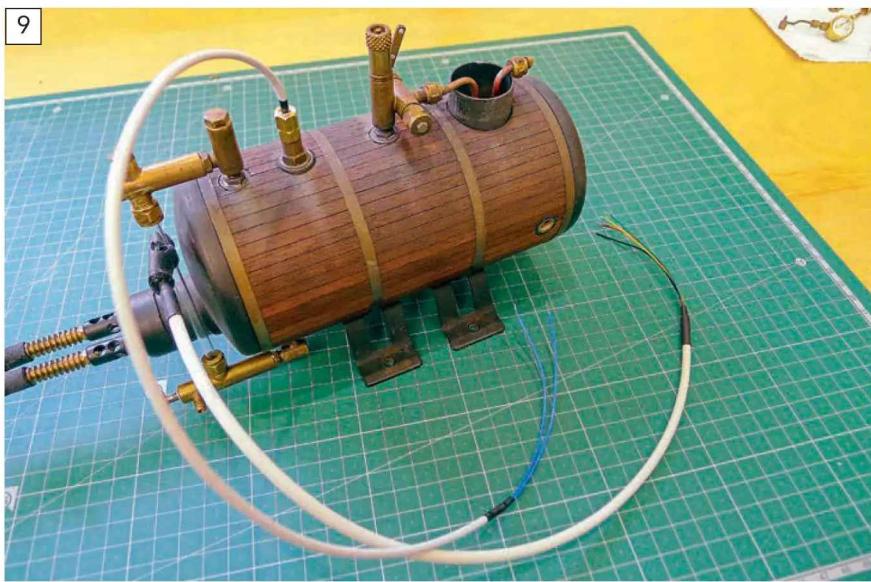
Probably one of the more challenging aspects of the installation is fitting the level sensor, for which the gauge glass has to be dismantled. Perfect alignment of the fittings is critical if they have to be removed, although you might get away with just taking out the glass.



Older Hemmens boilers like Richard's feature unusual threads, so a one-off adapter was necessary to convert the boiler thread to the $\frac{1}{4}$ -inch x 40 tpi thread needed for the sensor.



Once fitted, the sensor sits neatly into the steam space of the boiler.



With both sensors fitted the boiler can be completely reassembled and put back into the model.



The wiring finished but the ABC2 unit remaining visible for a test run. As it has its own independent power supply, the ABC2 can be left to do its job irrespective of whatever else is going on in the model.

change the thread (see **Photos 7 and 8**). With both sensors fitted, the boiler could be completed and refitted in the boat (see **Photo 9**). As both sensors were then to be taken back to the box where the ABC2 is mounted, I kept things tidy by fitting a section of flexible cable trunking to run the two sensor cables in.

My ABC set up was originally designed to be self-contained as I wanted to ensure that it was isolated from the receiver, thereby ensuring no interference in any way. I also wanted the reliability of it having its own battery, so the ABC2 and its dedicated battery were mounted into a wooden box built into the side of the boat. As the ABC2 is exactly the same size and configuration as the original unit, it was simply mounted on the bulkhead with some double-sided foam tape in the very same location as the original. All the wires were reconnected with a link to replace the feed tank sensor, as my tank is fitted with a sight glass, and the two LEDs simply coiled up in the box. They are then available for trouble shooting but I didn't want them visible as they would spoil the scale period look of the model (see **Photo 10**).

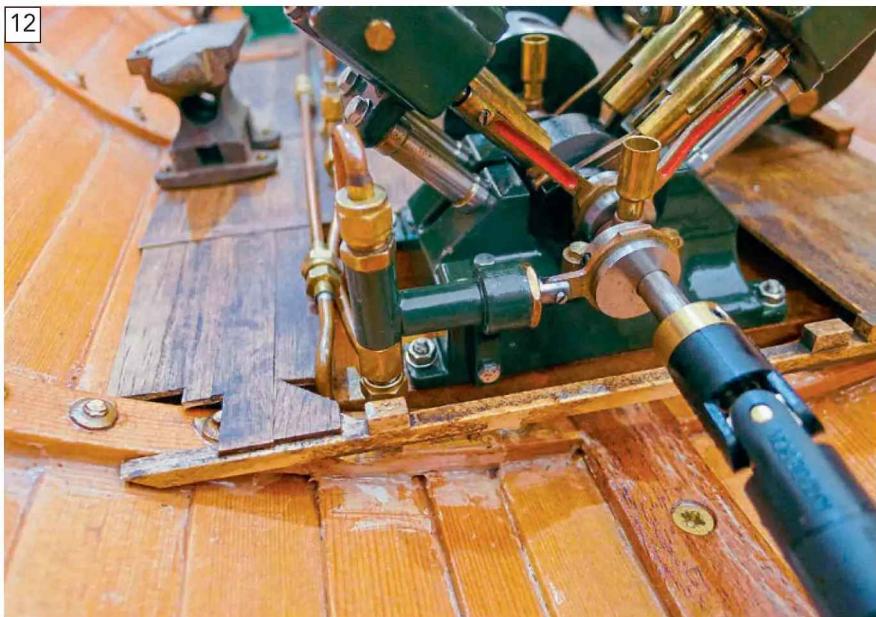
Setting up

Both servo-operated valves need to be set up so they operate precisely within the 90 degree sweep of the servo arms. Both valves purchased from Clevedon Steam can be easily adjusted by simply slackening off the lock nut on the lever and positioning the arm. The instructions take you through the correct set up of both valves step by step. I'm not going to repeat the process here as it's so well described in the instructions, suffice to say both valves need to shut off completely at one extreme of the servo movement and open fully at the other. The gas valve pilot position can be adjusted with the lower potentiometer,



All the gas pipework refitted, and the gas valve connected up to the ABC2 unit. The gas tank has a cover to hide it when the boat is in operation.

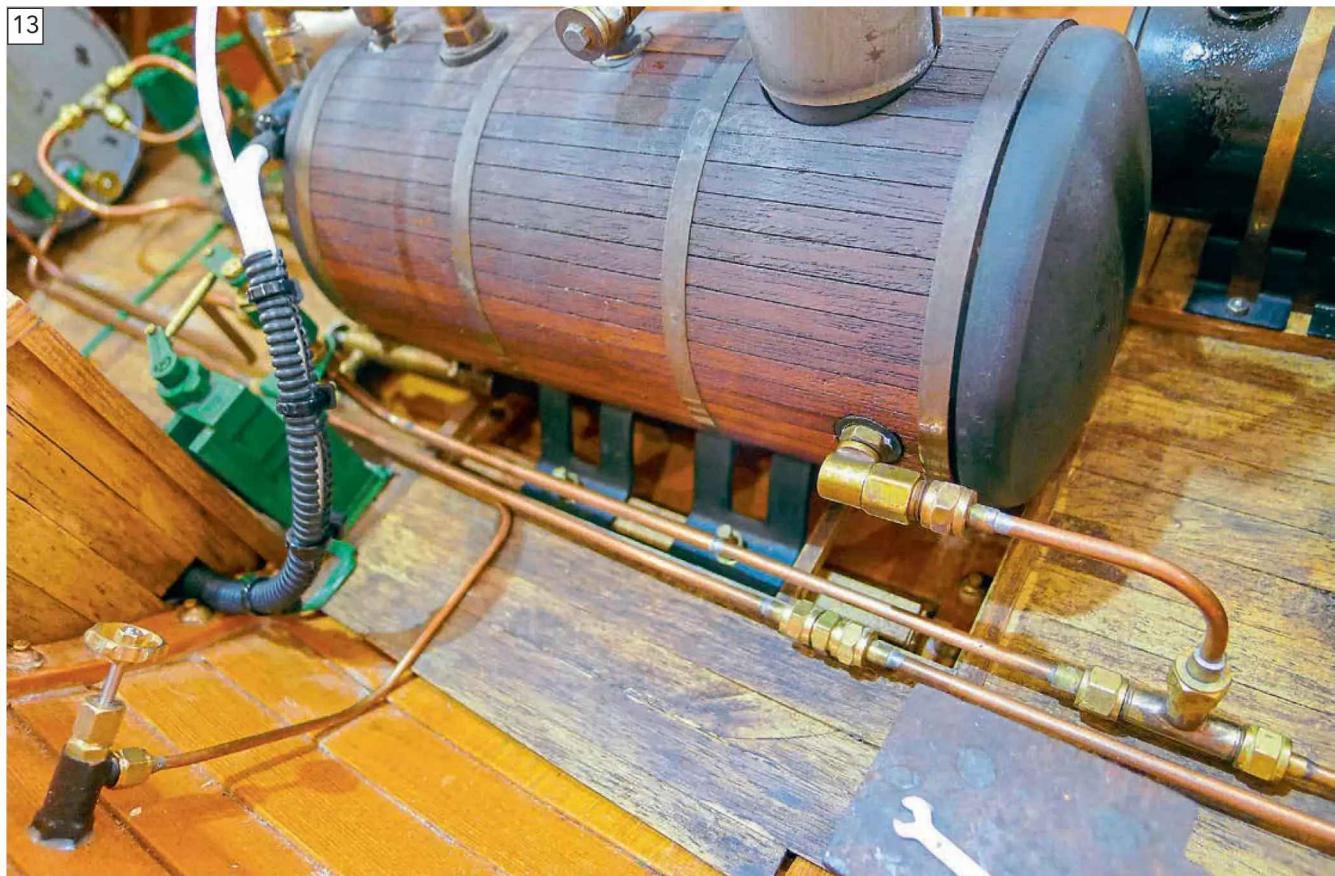
which sets the servo arm at anything up to around a 30-degree position from closed initially. Once both servos have been set up manually according to the instructions it's time for a test



The engine-driven water pump is driven from an eccentric on the engine crankshaft. All you need to do is connect up the feed tank to the suction connection and run the discharge connection to the feed water valve with a branch off to the boiler non return valve.

run. To keep things relatively simple to start with, for the first test I decided to concentrate on the gas valve, choosing not to fill the feed tank and to just fill the boiler to around 75% of the gauge

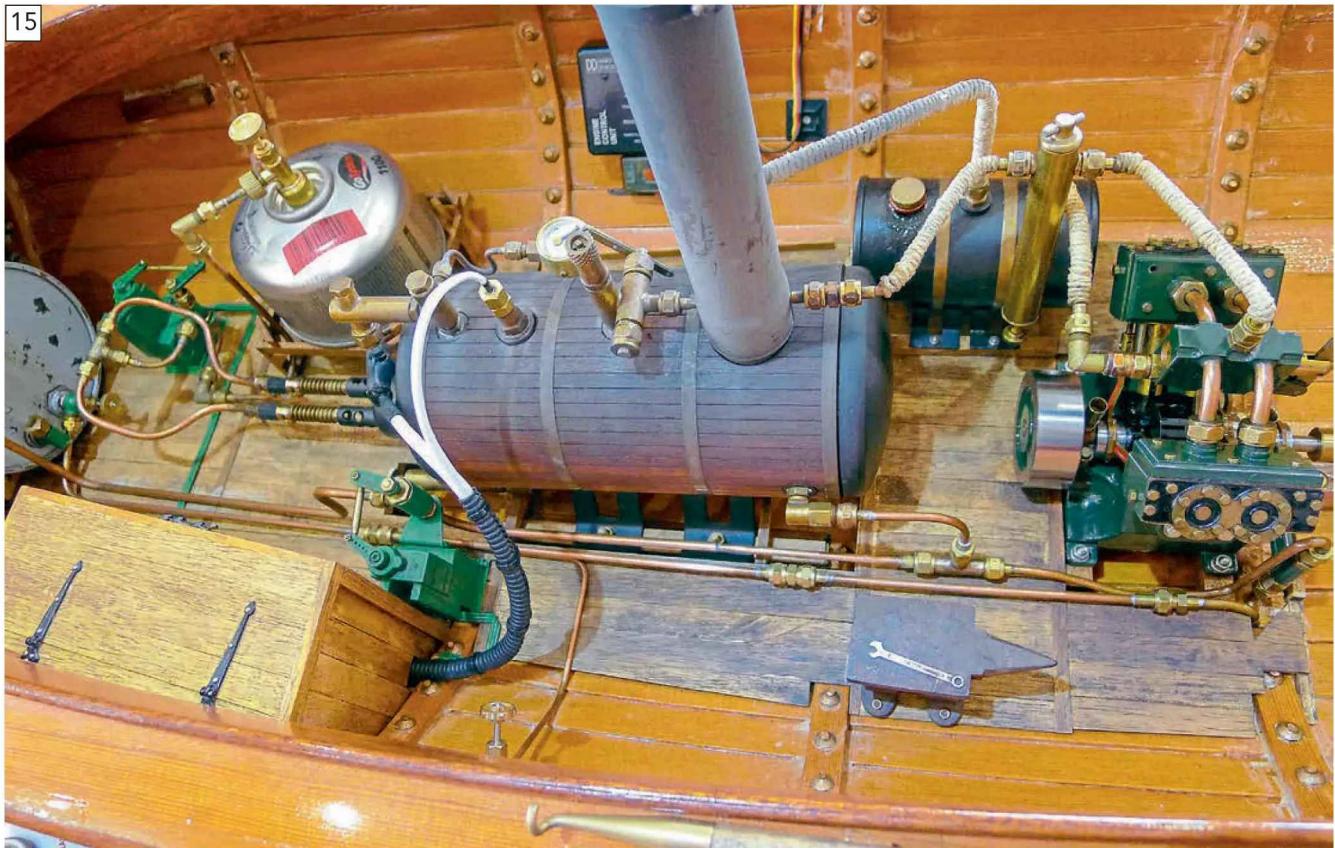
glass. With the gas valve all plumbed in again (see **Photo 11**) and the water valve reconnected to the engine pump (see **Photo 12**) and the boiler via a non-return valve (see **Photo 13**) to



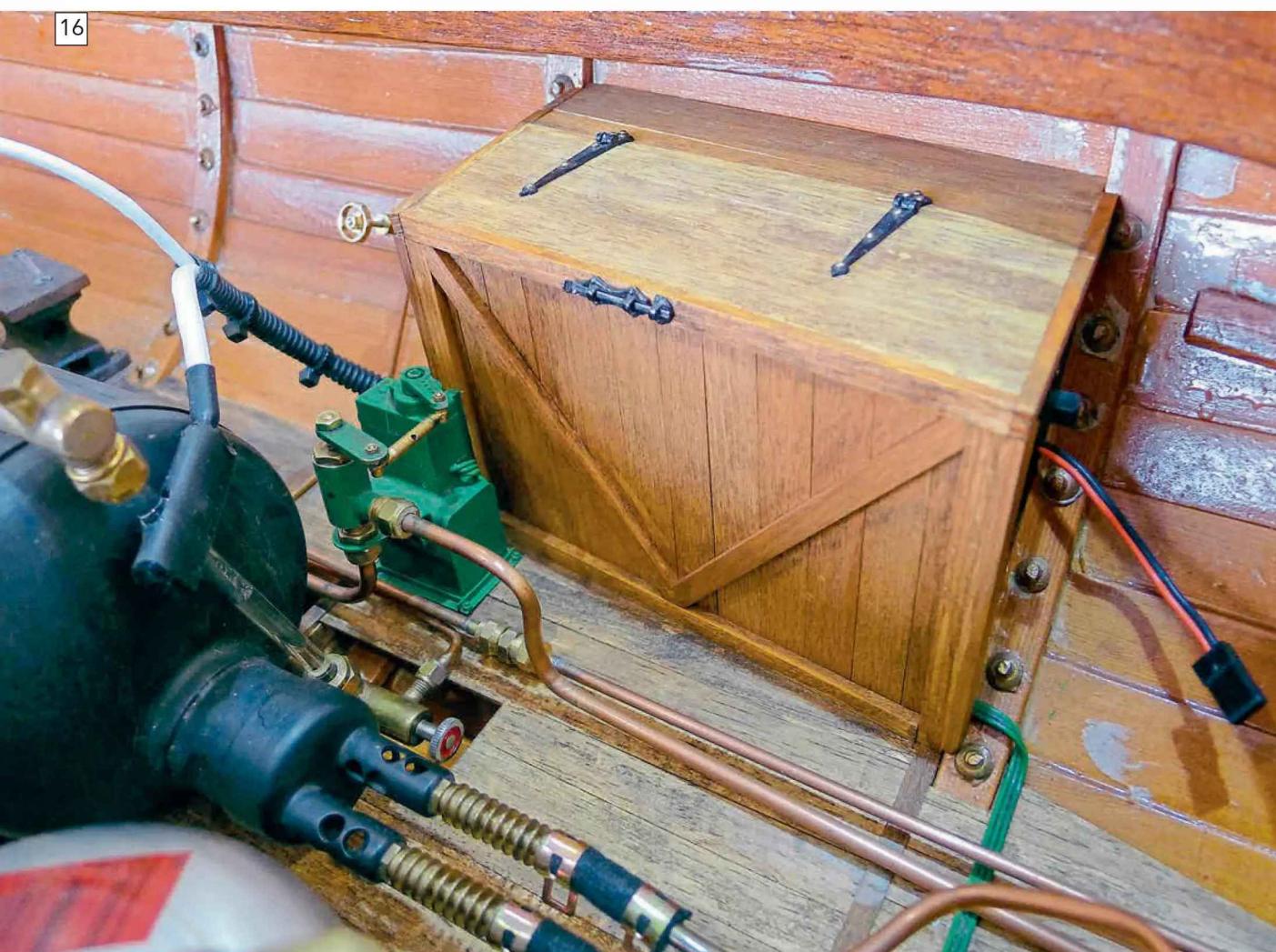
The non return valve on the boiler is kept closed by boiler pressure but opens up to allow feed water in when the feed water valve closes and the feed pump pressure overcomes the boiler pressure.



The completed water system with all piping reconnected and the valve set-up and connected into the ABC2 unit.



An overview of the entire installation. The valves have been painted up in machinery green to help them blend in and look like hydraulic equipment, etc.



The ABC2 unit sits neatly in its own locker, with just a battery charging point visible at the front face. This is actually hidden by a wooden batten when everything is completely reassembled.

"I have no doubt this is a much better way of controlling the gas valve than the old on/off arrangement. It should ensure the steam pressure remains nice and consistent, meaning your engine performance should follow suit"

complete the feed water pipework (see **Photo 14**), we were ready to go.

The first test run

The main purpose of the first test run was to ensure that the set-up of the gas valve was OK and check for any leaks. Before igniting the boiler, the power is turned on and the two valves go through a set up procedure, which you can follow via the LED lighting sequence, before settling down to an operating position. The gas valve won't open if the ABC2 doesn't detect water in the sight glass, so be sure to

check the sensor is reading the water level. You can simply slide the sensor down the sight glass to ensure this when starting up.

I found the pressure came up nicely on the pressure gauge with the outlet valve closed, and I noted with interest that the gas valve didn't switch from full flame to pilot flame as the pressure rose but that it moved proportionally to the boiler pressure. Once the boiler pressure gets to the desired pressure, the top potentiometer on the ABC2 is then adjusted to shut the gas valve down to the pilot setting. You should still be able to hear the pilot flame, which will confirm that it's not gone out. Once the set point was where I wanted it, I adjusted mine to a couple of psi below the working pressure mark on the pressure gauge, then opened the steam outlet valve and gave the engine a run. Playing around with the engine saw the pressure starting to drop but, interestingly, the position of the gas valve responded

perfectly to the boiler pressure and opened accordingly. I have no doubt this is a much better way of controlling the gas valve than the old on/off arrangement. It should ensure the steam pressure remains nice and consistent, meaning your engine performance should follow suit.

The second test run

A second run was undertaken so I could concentrate more on the water side of the system. The feed tank was filled, the boiler was again brought up to pressure, and the engine was given a run. The best way to test the operation of the water valve is to slide the sensor up and down the sight glass to observe the valve operation. Hopefully, the performance of the pump will ensure that the boiler level remains constant, but we're in the hands of the original engine manufacturer there. One downside of using an engine-driven pump is that the engine has to be running, hence using steam, for the pump to be filling



The new 3D-printed feed water tank sitting in place in the bow of the boat. Hopefully, this will prove to be more reliable than the tin example first used and prevent the feed water turning a rust colour.

Denes Designs contact details

If you would like to make an enquiry or place an order, Denes Designs can be contacted via its website at: <https://www.denesdesign.co.uk/>

the boiler. This is an argument in favour of using an electrically driven pump, which can be topping up the boiler when the engine is stopped.

The servo-operated valve definitely operated according to the sensor position and the water level, so a proper test of the pump's performance can only really be done with the model on the water, which in this case will not be happening until we see some warmer weather. A couple of interesting points did come to light during this test though. Despite the boiler being cleaned, and distilled water being used in it, the sight glass still at one point had an air bubble in it. This is obviously no reflection of the ABC2 unit but it does demonstrate the challenges we can have in reading the water level in this way. I believe this may well be due to the boiler's sight glass design, so there's little that

can be done about it. What it does indicate, though, is that a vertical boiler will almost certainly give a more consistent and reliable level reading in the gauge glass, which will also tend to be that bit more stable in a moving boat. My boiler is proportionally quite long and slim, so I can possibly expect the level reading in the glass to be less stable – something that might be worth considering at the design stage.

Conclusions

The installation can certainly be neat enough to have on display in an open hull (see **Photo 15**), perhaps with the ABC2 unit and its battery conveniently tucked away in a nearby locker (see **Photo 16**). With my 3D-printed feed tank (see **Photo 17**) and new ABC2 fitted and working, I'm now really looking forward to getting the *Hereward* on the water again this summer. ●

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Best of British

PART 1

Dave Wiggins reflects on the dawn of British 'modern electronic control systems' during the 1950s...

The very first wave of commercially made multi-channel R/C gear in Britain used old style radio 'valves' and worked at high voltages. The best of these sets were manufactured by ED (Electronic Developments) Ltd and REP (Radio and Electronic Products), both of which owed their success to one man – George Honnest-Redlich – a German immigrant who was himself inspired by development work done in the USA just after World War II. It's fair to say that, through both his work and writings on R/C, George Redlich either designed or influenced every decent single or multi-channel valve radio built in Britain in those post-war years.

While successful in their way, all these early radios, whether single or multi-channel, were primitive, big, heavy and

bulky bits of kit that needed a lot of expertise to wire up and operate. Home-built gear, of which there was a lot at that time, was even more of a challenge. The invention of the semiconductor transistor, however, changed everything. Even today this device, albeit in various more sophisticated forms, remains the fundamental building block of every single electronic gadget we use.

RCS (Radio Control Specialists) Ltd of Hounslow took over from firms like ED and REP as the leading British manufacturer of the 1960s, offering

"The invention of the semiconductor transistor changed everything"

a full range of genuinely British-engineered and fully transistorised radio sets. These included everything from simple single channel (with its very popular 'guidance system') sets to vibrating reed multi-channel ones like the 'Competition Ten' (pictured) and Inter or Marine '6' (not shown), and then on to proportional R/C outfits (see next month's instalment) – starting with an analogue set (the short lived 'Tetraplex') and ultimately moving on to a fully digital range once the principles of such advanced control systems had been established out in the United States.

RCS single & reed radio sets

The already mentioned RCS Guidance System was hugely popular, and



The RCS Competition-10 transmitter. Note all the internal controls that required adjustment before every use.



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R.C.S. Inter 6 Outfit (SUPER POWER TX)

Slimline Super-regen Rx. as above but with 6 Ch. Reed Bank. New design Tx. 1/2 watt output. £34.

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The RCS Competition-10 transmitter. Note all the internal controls that required adjustment before every use.

examples still pop up for sale and change hands on the internet today. The earliest model of this first generation/fully transistorised single channel product employed a super-regenerative receiver that allowed only one model to be operated at a time, using the entire 27MHz waveband. Such simple receivers, normal in the valve era, were still much used back then, but they were soon replaced by a more modern, crystal-controlled Superheterodyne option. Naturally, this came at extra cost, but it allowed six models not only to share the waveband but to be operated together.

The same receiver options were made available in the first RCS multi-channel reed sets, which offered a choice of six or (as shown) ten channels. Having begun with single channel, my own first multi-channel set was in fact an early example of the RCS 'Inter-6', afforded by purchasing a much-used radio from my local hobby shop.

Compared to the earliest valve radios, by the time that these RCS sets were being made and sold technology had advanced considerably, and the best of the improvements rolled out eliminated relay control. In the first valve

"A word or two regarding the channel requirements for reed R/C is probably appropriate for the benefit of modern (i.e., younger!) vintage enthusiasts..."

multi outfits it was necessary to employ an electro-mechanical 'relay' switch between every reed and actuator, and these were the cause of much difficulty for users. The invention of transistors permitted these devices to be dispensed with, and all actuators were thereafter fitted with internal amplifiers. A 'Relay-Less' system we called this.

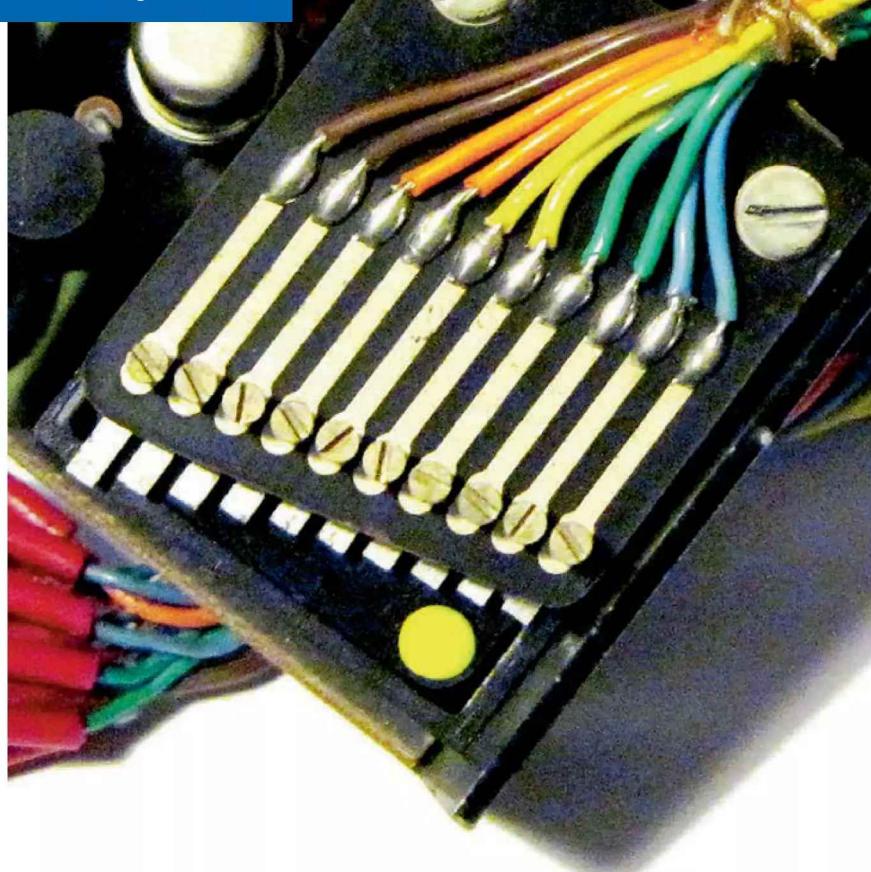
Initially RCS Ltd offered these multi radios with ready to go Climax (C&L) made relay-less actuators, like the 'Servomite or Servomite-Pack' (illustrated in previous instalments of Memory Lane), and this unit suited the 10-channel 'Competition' transmitter I'm featuring here very well. Actuator 'packs' (several actuators mounted on a printed circuit board) made and offered by C&L Developments of Weybridge greatly reduced the amount of wiring and expertise demanded of the British multi-channel buyer in the early to mid-1960s. Climax Ltd also offered single channel actuator products, these being its 'Unimite' and 'Unimite Pack'. I used these in my own early (pre-multi-channel) power boats, with much satisfaction. Later, RCS Ltd designed and offered its own actuators with these reed radios.

A word or two regarding the channel requirements for reed R/C is probably appropriate for the benefit of modern (i.e., younger!) vintage enthusiasts... The 'Competition 10' channel reed radio pictured would be equal to five modern control channels. Two reed channels are required for each control surface operated (left and right rudder + faster or slower engine in a boat, for example) and, therefore, a multi-control model boat requires a minimum of four channels.

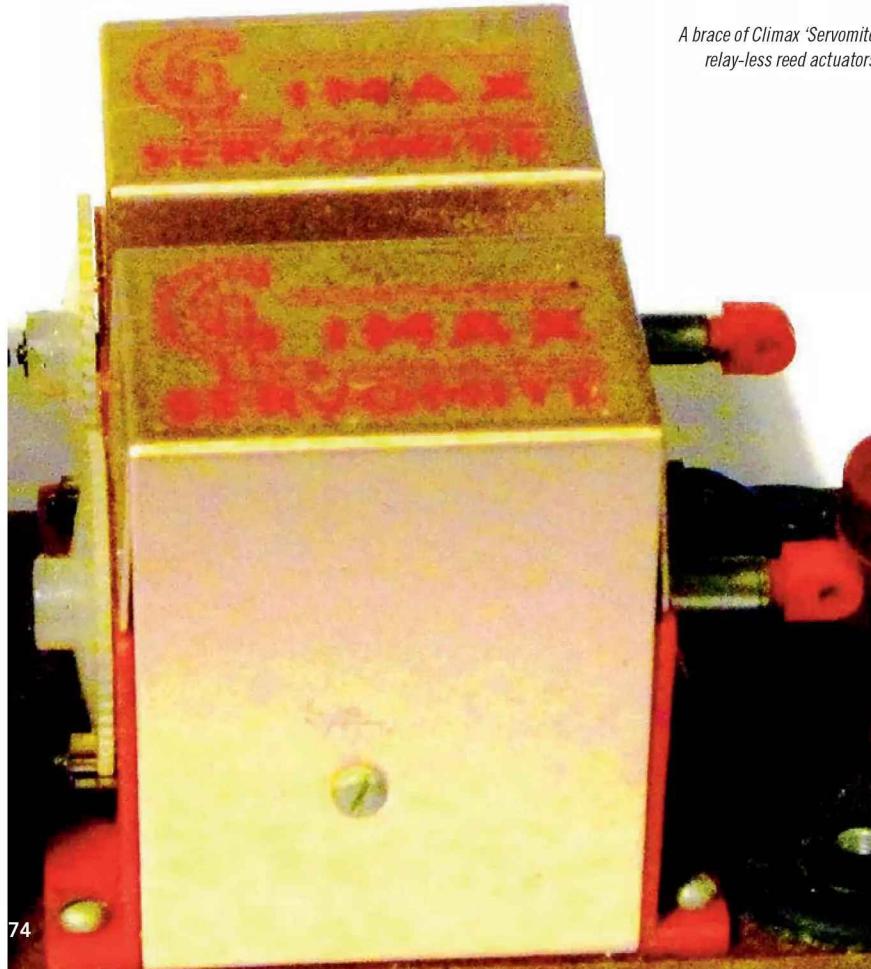
A 'Marine-6' set gave power boat users like me full control, plus a spare function in a radio set whose broader appeal also encompassed R/C gliders or the simpler powered model aircraft.

Stability, reliability & quality

Each key on the transmitter generates a pair of audio frequency 'tones' and the essential point to grasp is that all the audio tones (i.e., audible low frequencies) generated must fall into no more than a total bandwidth of one octave. This is because the end effect (in a vibrating reed receiver) is a powerful trembling (a resonance)



A sample 10-channel reed unit from an American Orbit radio.



A brace of Climax 'Servomite' relay-less reed actuators.

"The other thing that needs to be underlined concerns all of the very first wave of fully transistorised R/C transmitters..."

of a plated metal strip (or reed) against an adjustable contact, and if two audio tones generated should happen to fall outside of one octave there is a real danger of the reed harmonic resonating on both. I include a photograph of a sample reed bank unit; this is not of RCS origin but from an American Orbit-10 receiver in my possession. That said, any reed transmitter ought to be able to operate any reed receiver if they are both on the same RF channel.

The reliability of any resonant reed control system can be said to be dependent on two factors, these being the frequency stability of the transmitters audio tone generator/s (two types are found, these being single or dual-simultaneous – the latter type being fitted in the 10-channel transmitter pictured) and the sheer mechanical integrity of the reed unit itself. The very best were made by two American firms, one called Deans and the other called Medco. Not all reed-banks were of such quality.

Summarising then, the reed control system was essentially an electro-mechanical concept, and because of this it was often said (and rightly so) that the reed bank was the 'heart' of such systems. The stability of the audio oscillators inside the Tx, however, were every bit as vital – as little as a few Hertz (cycles per second) of drift (ambient temperature or falling voltage could both cause that) and it was game over. Anyone who ever used a reed outfit will know that it was essential to peak-up the audio tuning before each control session, which is why there are so many frequency adjusters seen in the circuit board shot.

The other thing that needs to be underlined concerns all of the very first wave of fully transistorised R/C transmitters, this being the essential usage of centre loaded antennae (as per the example illustrated). The first semiconductors specified for high frequencies (i.e., at 27MHz) were very low power devices (for example, OC170) and as such an antenna maximised the little power available to best effect.

Part 2

Next time around we will be looking at RCS Ltd's very well received digital radios, before moving on to a selection of very useful R/C test equipment. ●

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

NSRI lifeboats

I am sending you some photos of my first go at building a Mount Fleet Models Brede-class lifeboat kit, which I decided to give a slight twist by finishing it's served the NSRI (National Sea Rescue Institute, South Africa). This particular craft, based at Hout Bay, Cape Town, is now being phased out.

I'm indebted to the NSRI, who supplied me with no end of information in my attempt at authentication.

My next modelling venture will be the replacement for the NSRI Brede-class lifeboat, *i.e.*, an ORC (Offshore Rescue Craft) currently already in use in South Africa and specifically designed to compensate for severe conditions up to 40 miles offshore. So, I am also sending you a photo of a 3D-printed static build ORC from Jacques Kruger, who runs a small custom model business in South Africa, which I intend, with his input, to convert for R/C operation.

Early days, but we'll see what 2026 brings!

DOUGLAS TWINE DERBY MODEL BOAT CLUB

What a fantastic companion this will make for your splendid NSRI liveried Brede-class lifeboat, Douglas. I look forward to hearing how you get on, and, hopefully, at some point in the future, seeing a photo of both models on the water together. Ed



Doug's next mission will be the conversion of this 3D-printed static ORC (Offshore Rescue Craft) model – the replacement for the now being phased out NSRI Brede-class lifeboat – for R/C operation.



The Mountfleet Models' kit-based model Douglas Twine has finished to represent a Brede-class lifeboat operated by the National Sea Rescue Institute, South Africa.

One, two, three...

I am sending you some photos of three of my models.

The first is a 1950s' pond yacht. I found this in a market in Tavistock, Devon, and paid £25 for it. Basically, however, what I bought was just the hull, which needed repainting and varnishing before remasting and rigging, adding linen sails. I also had to replace the missing rudder.

The next is a model of Jules

Verne's Nautilus, which I scratch built using card, wood and metal. I based it on the description in *20,000 Leagues Under The Sea*, which was written in 1866. The model is 16 inches long and features internal lighting.

The last of the three is a Viking Knar, the ship they sailed to America. The long ship never sailed out of sight of land, but the Knar, built to take bigger waves, had a wider beam and deeper,

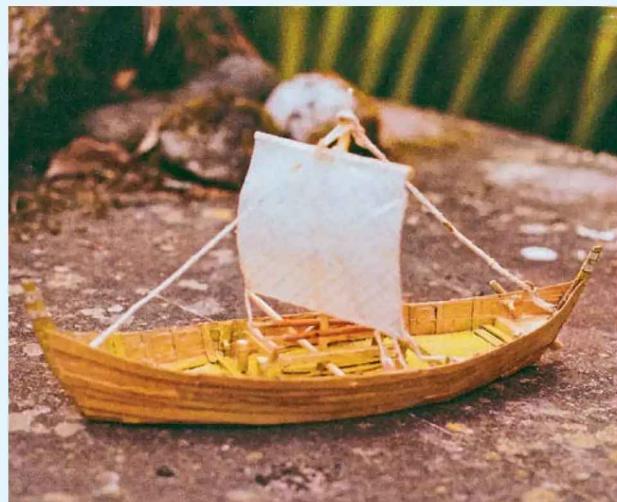
with a hold for food and water. I modelled my 6-inch-long example using wood sourced from cheese boxes.

**J.A. TEDMAN?
WEST DRAYTON**

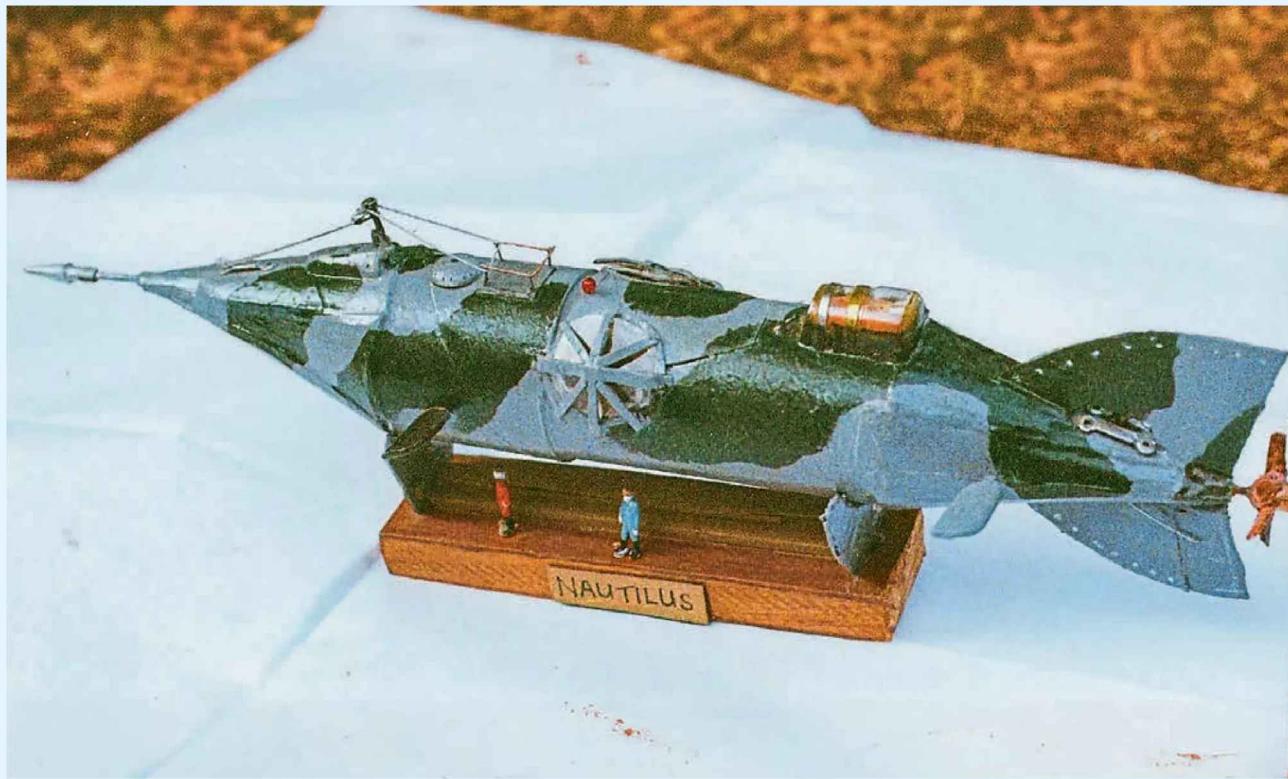
Three very different subjects, but all so beautifully modelled. Thank you very much for sharing your fabulous work! Ed.



Once much in of some TLC pond yacht market find, now beautifully restored.



This 6-inch Viking Knar was constructed using wood sourced from cheese boxes.



*Scratch built from card, wood and metal, and based on Jules Verne's Nautilus, the sub featured in his famous novel *20,000 Leagues Under The Sea*.*

HMS Leeds Castle

I thought I would send you some shots of my latest model, a 1:72 scale scratch build of HMS *Leeds Castle* on a MFM hull.

I'd built a few kits after getting back into modelling a couple of years ago, but I realised what I really enjoyed was the freedom to create and build from scratch, especially from old bits and pieces lying around the workshop. I'll admit, though, I was somewhat daunted by the prospect; the thought of starting and then not being able to complete a project, or spending hours on something that ultimately didn't look the part was forever on my mind.

When I began looking for a subject I'd not heard of this Leeds Castle-class of OPV (Offshore Patrol Vessel) and, if I'm honest, when I first saw photos, I thought it rather odd in appearance. However, as I researched its history further, the design and (to my eyes at

least) beautiful hull lines grew on me, to the point where I felt compelled to have a go.

Not without its problems (the mast/ Mack was an absolute headache), my photos show probably the 3rd iteration, but, after all, solving these build problems is half the fun.

For a first attempt at a scratch build I was really pleased with the outcome. She sails beautifully, looks the part, her paint job came out well (with, in my opinion, just the right amount of weathering) and she always brings a smile to my face when I put her on the water.

Hope you enjoy.

STUART HENDERSON
EMAIL

You've done a truly marvellous job of her, Stuart! Particularly love your almost dead ahead shot of her in the water. Ed.



An Imperial solution (No, not the Empire Strikes Back!)

RNLB *Lucy Lavers* was my first attempt at a large (1:12) scale lifeboat scratch built to a modified Vic Smeed design, updated by details from the web.

The original vessel was built in 1940 as a single screw Liverpool class Lifeboat, is a Dunkirk veteran and is currently berthed at Wells-next-the-Sea in Norfolk.

I built the model in 2013/14 and, as well as being used to raise funds for the RNLI, she is currently my favourite boat to sail, so she's been well used over the years.

A few weeks ago, she was happily navigating Warminster Lake when that pungent electrical 'trouble' smell drifted across the water, and she slowed to a halt. The initial findings were a burned-out motor, very burned out, and I wrongly assumed the original had simply given up the ghost after so much use and replaced it with a near alternative. Subsequent sea trials, however, revealed that my diagnosis was hopelessly wrong and so started a complete breakdown of the drive train.

Everything was conventionally based about a 4mm propeller shaft with simple plain brass bearings, linked to the motor by a 'HUCO' style flexible coupling and, running within, as it turned out, a tube with an internal

diameter of 5mm. Careful investigation revealed wear in just about every moving part, not much, indeed what I would refer to as barely fingertip detectable, but the cumulative effect was apparently significant.

That tube was the problem because, while everything else was readily removable, it was very securely bonded to the keel and obviously buried deep within the hull structure, so replacing it would require either drilling out (you cannot be serious, a 150mm length!), significant surgery and reconstruction, or retiring the boat. I did consider replacement bearings but alignment within the probably damaged tube seemed a daunting prospect.

Fortunately, I am a member of the Warminster Club and one of the members (thanks, Robin) suggested clearing what I could from the existing tube interior and trying to fit an Imperial sized assembly within.

Long story short I managed to extract the bearings, worryingly easily actually, leaving me with that 5mm internal diameter tube still embedded within the keel. With the help of the team at Mobile Marine Models, we sourced an assembly based upon a 3/32nd shaft, threaded M2 at the propeller end and complete with metal bearings, all housed within a tube having an outside diameter nominally less than 5mm.

Upon receipt the new tube proved to be a sliding fit into the old one, so I sealed them together with a thin smear of silicon sealant for two reasons, firstly to avoid any water seepage but also, should it become necessary, I can remove the new tube assembly, a design quirk which actually might reappear in future builds.

With further help from Deans Marine and Cornwall Model Boats I managed to acquire all the other bits necessary (motor, mount, coupling, etc) and, taking a lot of care with the alignment, set the whole train up, including a replacement propeller (M2 threaded). In theory I should have been able to use the old motor mounting bed but could not, and I wonder now if the original alignment was accurate enough for such extended usage.

This time sea trials demonstrated success, a smooth and waterproof drive, so hopefully I have my favourite, pretty and reliable boat back fully in service. Only time will tell.

My sincere thanks to all those who helped and advised me in this refurbishment exercise.

**MIKE PAYNE
WARMINSTER MBC**

Well done to you and everyone else involved in getting her sorted and back on the water, Mike! Ed



Back on the water: the lovely Lucy Lathers.

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**

The importance of R&R

My first introduction to the hobby came when I was about 10 years old and my dad made me a model boat. It was just a hull, about 18 inches long, fitted with a Kako motor and 41/2-volt battery. We took it down the local pond on the west common in Lincoln. It turned out to be really fast, so we had to aim it at each other across the pond!

I made several boats after that but was limited by a lack of pocket money. Life then moved on with O Levels, A Levels and young ladies.

Fast forward 50 years, I retired in 2012 and immediately found myself busy with various projects and activities. One day, however, during a visit to my local bookstore I happened upon a copy of Model Boats. Memories of childhood down at the pond came flooding back, which moved me to buy some plans.

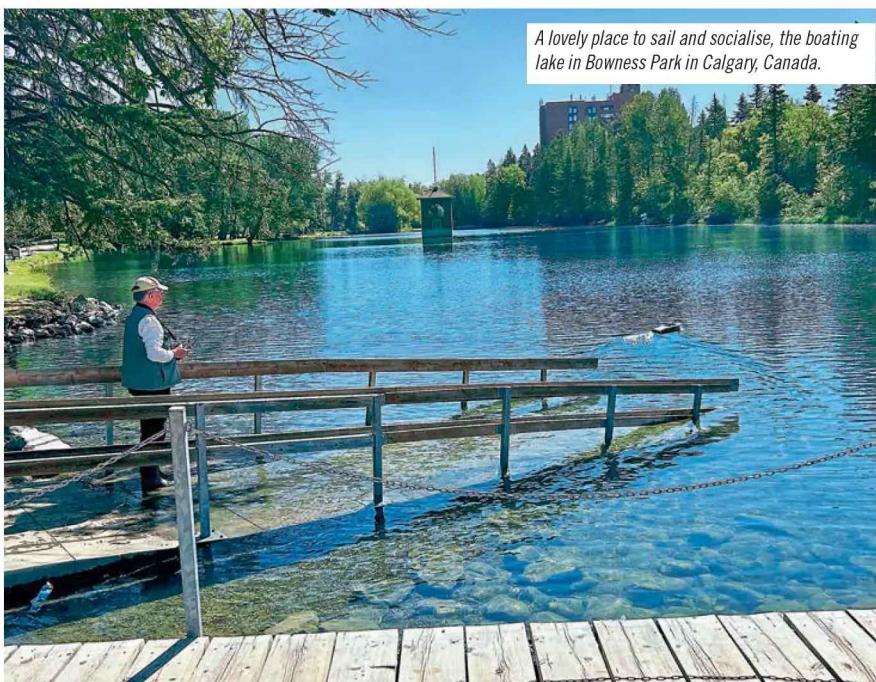
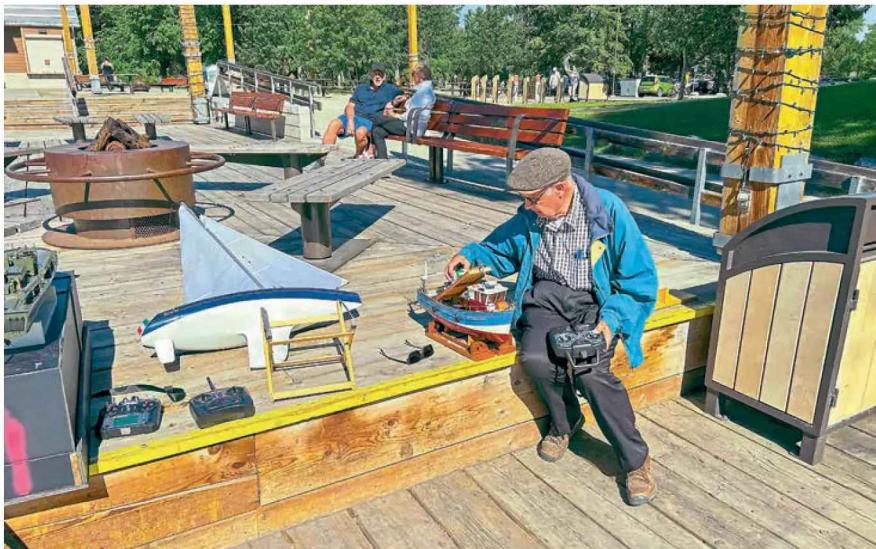
My first build was a Fairey Swordsman, which took about three years to complete, mainly because of other projects and interests. I built it from a plywood I had stored, powered it with a 500 motor and 7.2 v battery, and bought a Flysky transmitter/receiver set to control it. It verily flew around the lake, much to the interest of bystanders. It now resides at my daughters' in Abbotsford, near Vancouver, where I sail it locally when I visit. I have also taken it to the Burnaby Model Boat Club to use their lake on Sunday mornings.

Following that, I built about eight other boats, which I sailed alone as it appeared there wasn't a model boat club in Calgary. My late wife was sadly developing dementia, which limited leaving the house without someone looking after her. This was also during COVID, which further limited activities but did mean that in between caregiving I was able to model more. In one of the issues of Model Boats there was mention that model boat building helps to keep dementia at bay. I don't know about that, but it did help take my mind off

the worry and unpredictability of the situation. Eventually, my late wife had to be admitted to a care facility, which left me alone and with even more time to work on model boats. Then, one Wednesday morning, I went down the local pond in Bowness Park only to find

four or five guys sailing their boats. "Wow – a model boat club in Calgary!"

Ever since, I've joined them every Wednesday morning. We get down to the pond between 9am-9:30am and go for coffee about 11:30am. With our numbers having swelled, there are about twelve of



A lovely place to sail and socialise, the boating lake in Bowness Park in Calgary, Canada.

us now, plus we are frequently joined by wives, friends and lots of spectators.

In the past we've used several methods to retrieve dead boats, from hauling a passing canoe or kayak to gently pushing with another boat but working from a design in Model Boats we now mostly use an 'S' retriever I constructed from a design in Model Boats mag and kayaks of our own.

After my first wife passed, I was lucky enough to meet another lovely lady. She thoroughly enjoys either coming down to the pond with me and socialising with my fellow

members' partners or going out to lunch with friends while I spend time at sailing sessions (as close by, and in the setting of beautiful Bowness Park on the west side of Calgary, we have a very nice café and restaurant), and this has led to a very happy second marriage.

I have included some pictures showing the pond and deck we sail from and some of my boats.

**DAVID (DAVE) CLAYTON
CANADA**

Thank you so much for your letter,

Dave. I, and I am sure many others reading, know only too well how exhausting and heartbreaking in equal measures caring for someone with dementia is. I am really glad, therefore, that not only did you find a little bit of respite in the hobby during those difficult days but that you have now, after what must have been a very difficult and distressing chapter in your life, found happiness again and are clearly living life to the full. Your club's local boating lake is very pretty and looks a lovely, relaxing place to both sail and socialise. Ed.

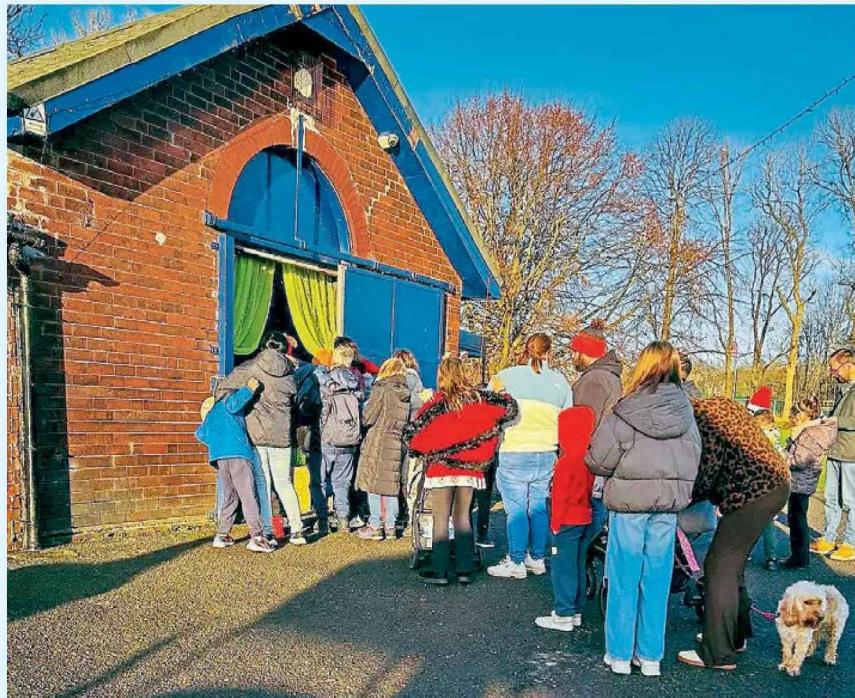
Festive fun at Glasgow Richard MBC

On Saturday, December 20, 2025, we (the Glasgow Richmond Model Boat Club) opened our doors to children and their family members from the local community, inviting them to come along and enjoy a Christmas afternoon with us and meet the main man himself, Santa, and his assistant The Grinch!

We also had some Christmas decoration making, toasted marshmallows, a snowball toss, Christmas story time by Grandpa, not to mention the children were able to sail some model boats, while members had decorated theirs accordingly for the time of year with lights and tinsel.

Santa had over 65 children come to see him, and he left with a few letters and coloured drawings to take back to his workshop in the North Pole!

A great day had by all!
**COLIN MILLER
SECRETARY, GLASGOW
RICHMOND MBC**



Fun for all the family at a special pre-Christmas event held by the Glasgow Richmond MBC.

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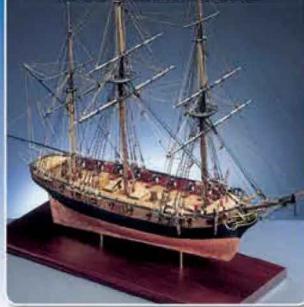
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