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February 2025
Vol. 75 No. 891

model Boats

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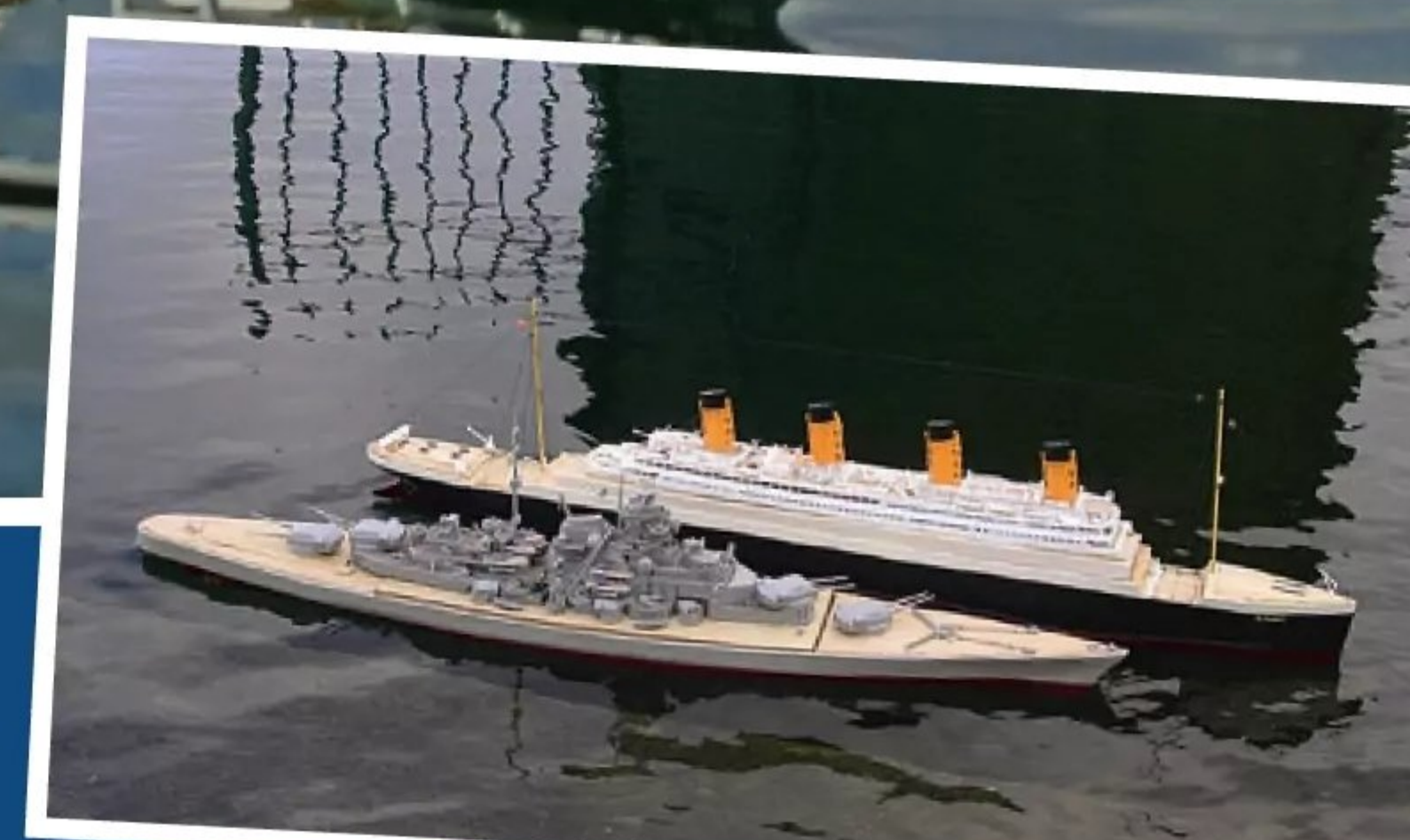
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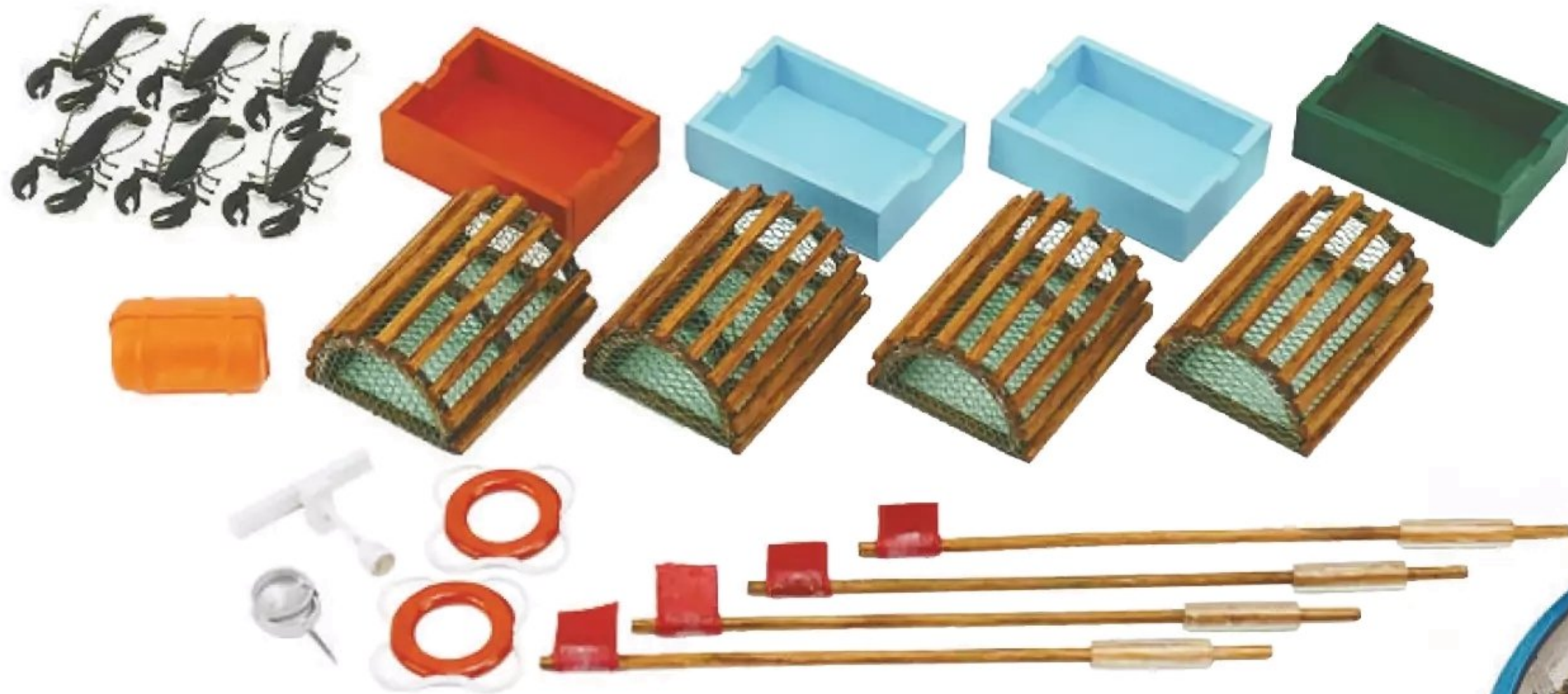
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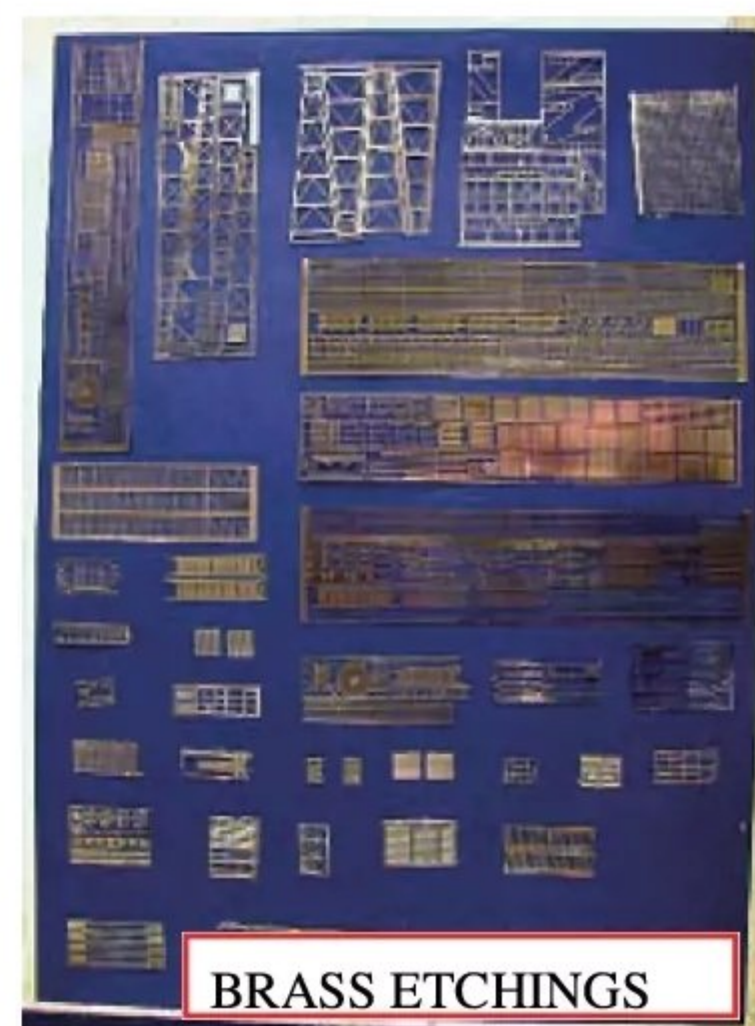
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contents

10 Compass 360

This month's hobby-related news round-up

12 Scale Model World

Dave Wooley reports back from Telford in a six-page photo special

18 XV Patrick Blackett

Photographer Fraser Gray throws down an exciting new year build challenge

20 Tackling the Tamar

Brian Knight takes on the 1:16 scale former Model Slipways kit, now available to purchase via Mountfleet Models

30 Lead Acid Batteries

Want to get more longevity out of yours? Glynn Guest offers some top tips in this 'power point' presentation

32 "Grandad..."

Nev Wade creates two simply superb models of *Titanic* and *Bismarck* for budding young captains

38 Save money with a subscription

Check out the latest print and digital offers for 2025 and get your favourite mag for less

40 TSS St David (III)

Barry Lalonde tells the tale of this finally, but very finely, finished ferry

46 Shell Welder

More plastic magic from Phil Button, as he explains how he converted a partially built plastic coastal tanker found at a car boot sale into a super little 'sea-going' radio-controlled model

55 Model Plan Designing

Jim Pottinger provides a fascinating insight into the *modus operandi* he's developed over the past five decades

60 Flotsam & Jetsam: Quick, slow down!

John Parker takes a retrospective look at speed controllers

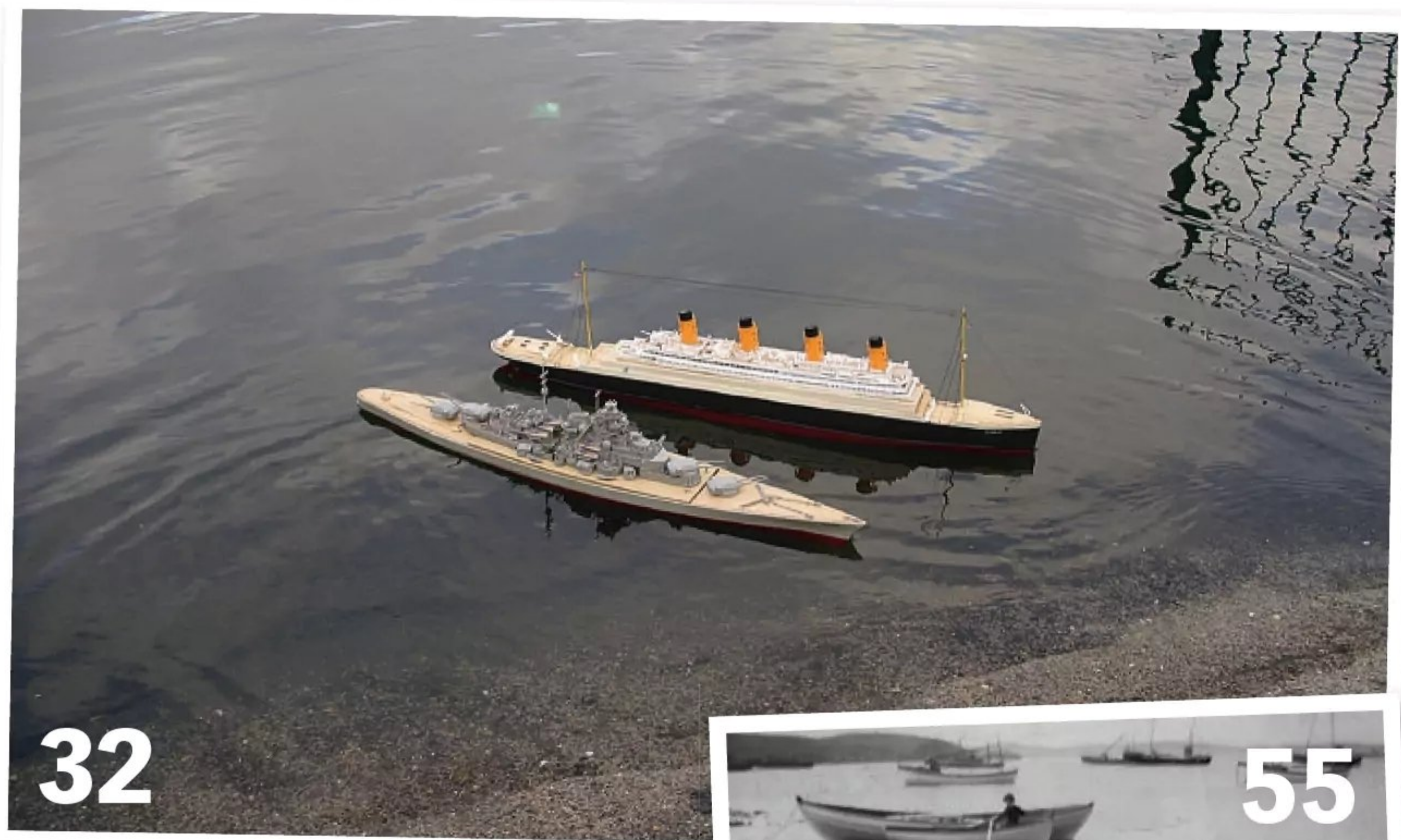
64 Boiler Room

In a must-read for all model





18



32

steamboat operators, Richard Simpson revisits the Rules

68 Your Models

More of your VIBs (Very Impressive Builds) showcased

73 Your Letters

Open forum for all matters model boat related

74 Next month...

Just three of the reasons you won't want to miss the March 2025 issue of Model Boats



55



64



40

Following the publication of last month's free plan for the MS *Oldenburg*, thank you so much for all the enthusiasm already shared. It's always lovely to get such immediate and positive feedback. This, of course, I have been delighted to pass on to the plan's super talented creator, Ray Wood, and our brilliant draughtsman, Grahame Chambers, and we now all look forward to seeing some of the resulting builds in the not-too-distant future. That said, as a little spoiler, I can reveal that an absolutely splendid example features in the Your Models section of *this* month's magazine – although, as you'll discover, this isn't quite the miraculously speedy achievement it would initially appear to be!

I can also reveal that our next free plan will offer you yet another exciting new venture for 2025 – quite literally, in fact, as Jim Pottinger's design for the MV *Venture*, a Shetland-based fishing trawler, is scheduled in for the March 2025 issue (on sale from Friday, February 21, but likely to be with subscribers up to a week earlier). As a prelude to this, starting on page 55, Jim shares the story of his own personal journey as a model plan producer, which began while he was still a mere schoolboy intent on constructing his very own canoe. It's an inspiring tale, especially if you've been toying with the idea of putting pen to paper and drafting out an idea of your own for the very first time but are perhaps still needing that final little 'yes, you can' nudge.

Don't worry, though, if, like me, you see drawing a stickman as a bridge too far. You're bound to find something that will float your boat in the pages ahead, because we've got features focusing on everything from an epic large scale kit constructed lifeboat to a finally and very finely finished passenger ferry, and from *Titanic* and *Bismarck* easy builds for budding young skippers to a very pleasing 'plastic magic' R/C coastal tanker conversion, not to mention a six-page photo report from the Scale Model World show in Telford, some great advice on how to get more out of your lead acid batteries and a fascinating retrospective on speed controllers.

Enjoy your read!

Lindsey

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Plan	£ 80.00
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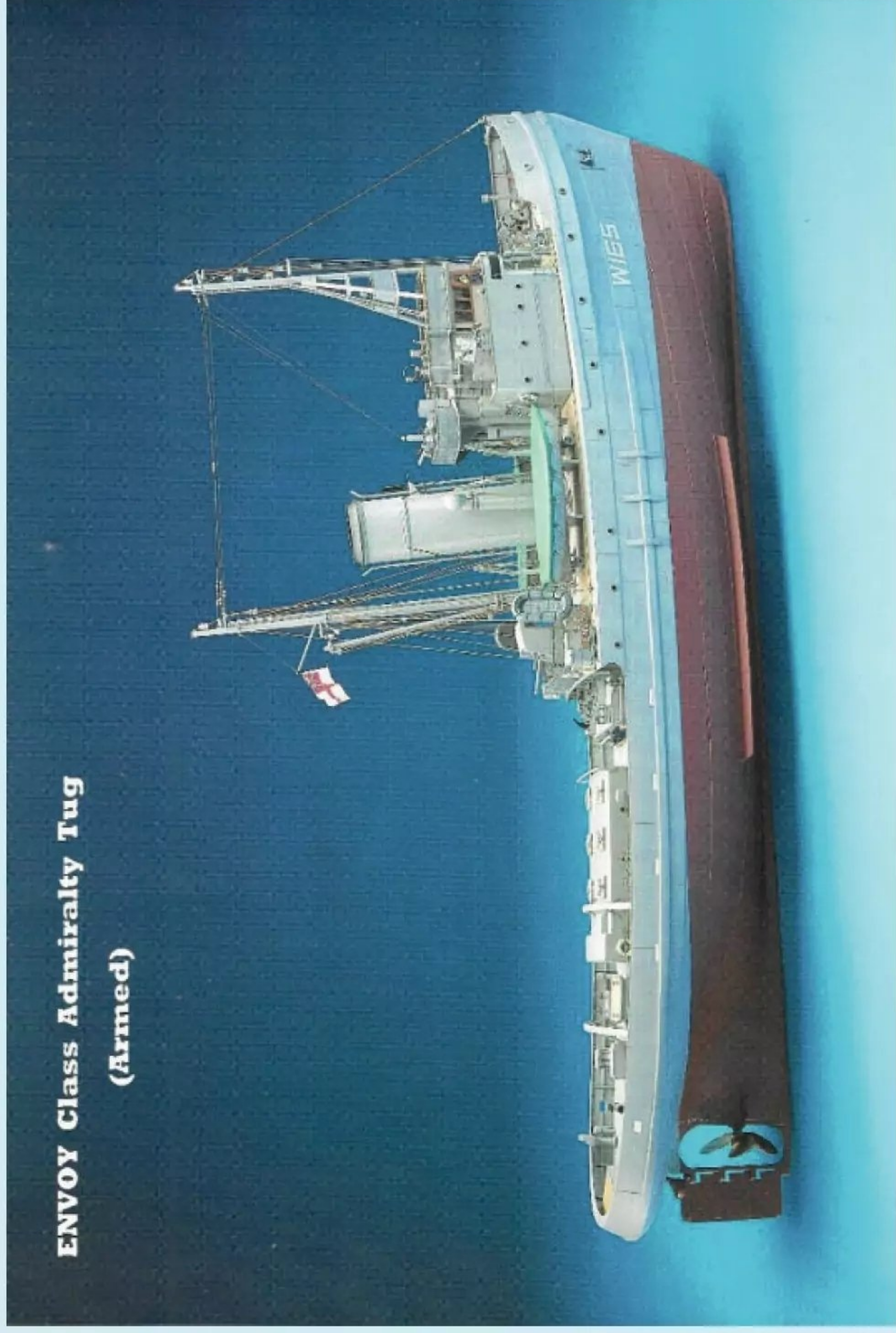


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ENVOY Class Admiralty Tug (Armed)



Scale: 1:48. Length: 1108mm. Beam 248mm. Displacement: 11.5kg.

This vessel was completed In 1944 for the Admiralty by Cochrane & Sons of Selby.

The vessel was used as fleet tugs during WWII and fitted with a 12-pounder deck gun, two Oerlikon guns and two Colt machine guns for defence when on escort or rescue duty.



The kit is to the usual high standards and includes building manual, GRP hull, other materials; CNC cut styrene decks and superstructure, full size plan, 800 etched brass and white metal fittings.



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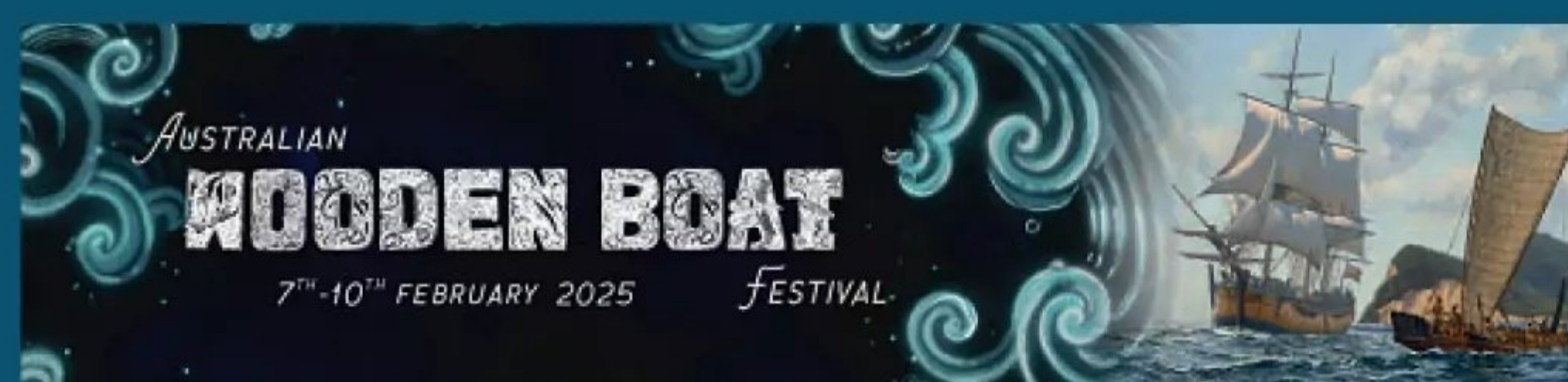
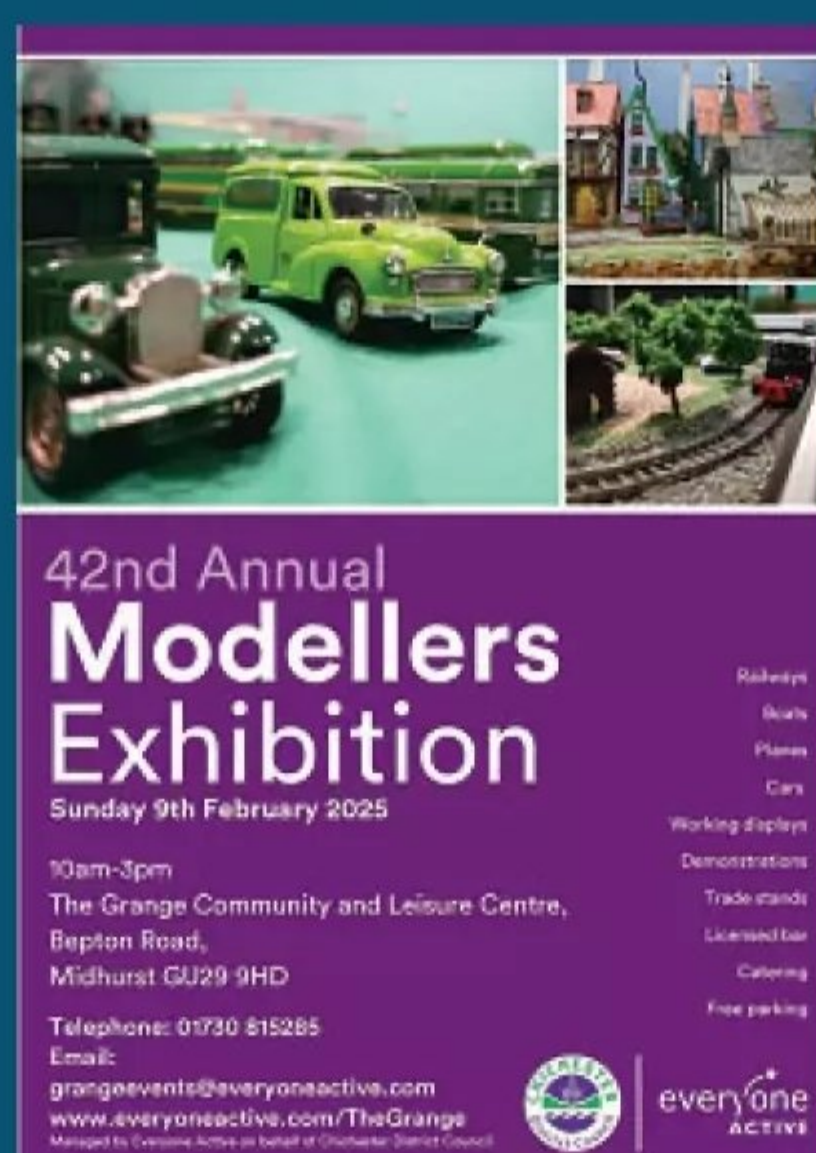
If you have a news story for these pages, please contact the Editor, Lindsey Amrani, via e-mail at editor@modelboats.co.uk

OUT AND ABOUT

The 2025 Midhurst Modellers Exhibition

This year's show has been scheduled for 10am to 4pm on Sunday, February 9, at the Grange Hurst Leisure Centre, Bepton Road, Midhurst, West Sussex GU29 9HD. The main hall will be devoted to model railways, while the other halls will embrace a much broader spectrum of modelling interests, including model boats. There will also be numerous associated trade stands to browse.

Admission will be charged at £6.50 for adults, with concessions. For more info call 01730 815285.



February 7-10 will see a large collection of wooden model boats, expertly crafted to scale, ranging from Navy ships to clinker dinghies and from sailboats to tall ships, displayed at the Waterside Pavillion near Constitution Dock at this year's Australian Wooden Boat Festival in Hobart, Tasmania.

Open daily from 10am to 5pm, AWBF is Tasmania's largest free event and the biggest celebration of full-sized wooden boats and maritime culture in the Southern Hemisphere.

For further details, visit <https://awbf2025.org.au/about-awbf/>



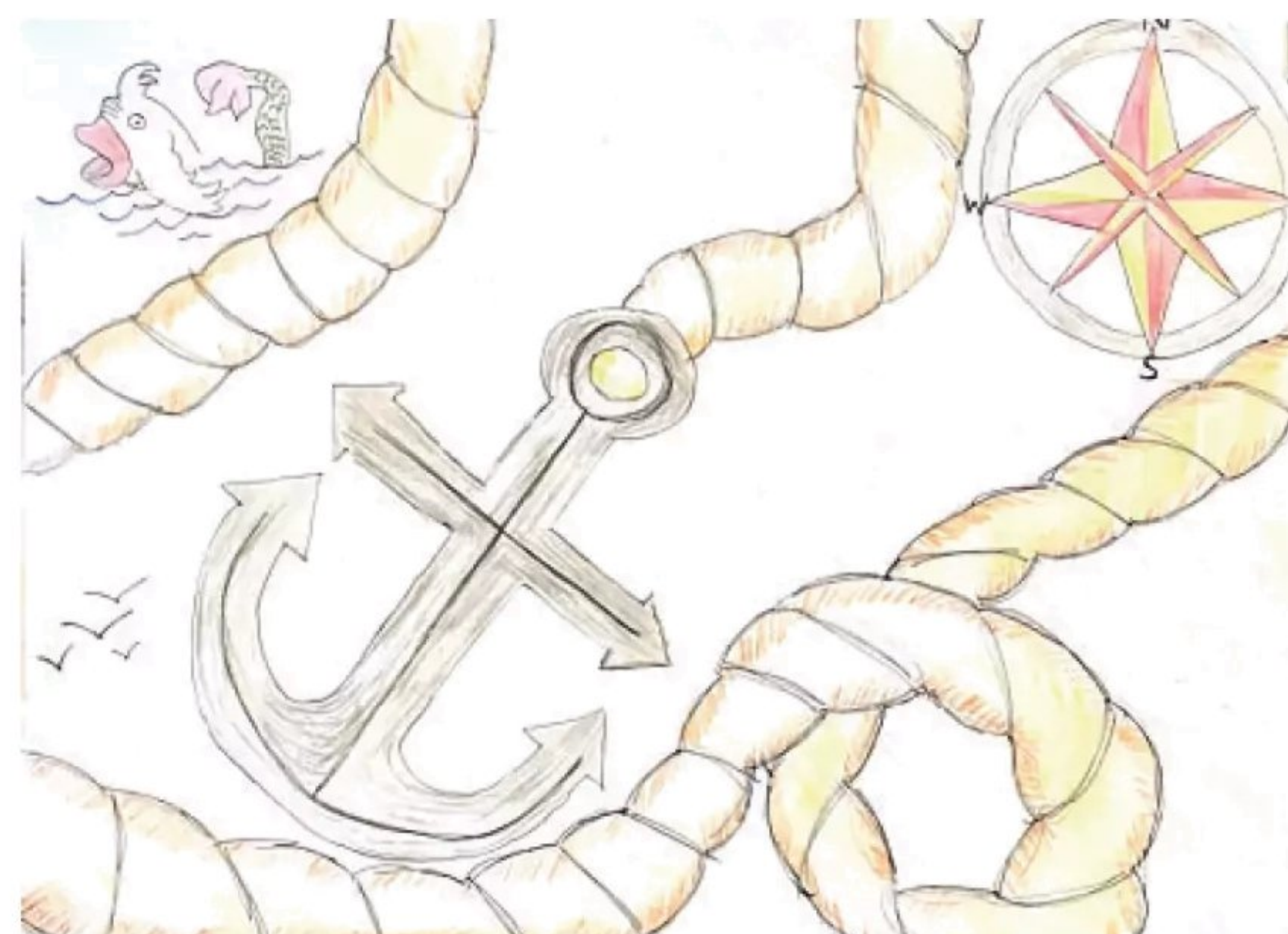
Just a few of the brilliant builds that have previously been put on display at the AWBF in Hobart, Tasmania.

will have their winning designs reproduced on flags that will actually be flown on the ship. These will be raised in a special ceremony onboard the *Golden Hinde* scheduled for Friday, January 31, 2025.

Congratulations girls! Who knows, perhaps we may also see your designs incorporated into some of the smaller scale versions of the *Golden Hinde* produced by readers of this magazine in the near future.



Lois's winning K2 category entry



Martha's winning K3 category entry.

Winners flagged up

The *Golden Hinde's* 2024 Flag Design Competition attracted entries in a whole variety of mediums from young artists across southeast London. These were divided into submissions

from those in Key Stage 2 (aged 7 to 11) and those in Key Stage 3 (age 11-14), and now, having each been awarded first place in their respective categories, Lois (age 10) and Martha (age 12)

Blackpool Show Report erratum

We would like to extend our sincerest apologies to Redcar Model Boat Club and its very talented members, whose stand and magnificent array of lifeboat models appeared on page 14 of our 2024 Blackpool Model Show Report (see the January 2024 edition of Model Boats). Due to a caption error, both the stand and the brilliant builds being exhibited were incorrectly attributed to the Model Lifeboats Enthusiasts Society. So sorry, chaps – hope you will accept this belated bravo!



Redcar MBC's splendid model lifeboats on display at the 2024 Blackpool Model Show.

BUY THE BOOK

Seaforth World Naval Review 2025

Written by a team of internationally renowned experts, this year's annual survey includes topics such as:

- * The challenges surrounding the delivery of new Royal Navy warships
- * Analysis of the naval lessons learnt from the Russo-Ukrainian war
- * Significant new ships
- * A summary of developments in the world's naval forces
- * The latest in naval aviation.
- * A reflection on trends in naval technology since the Cold War
- * The AN/SPY-6 radar

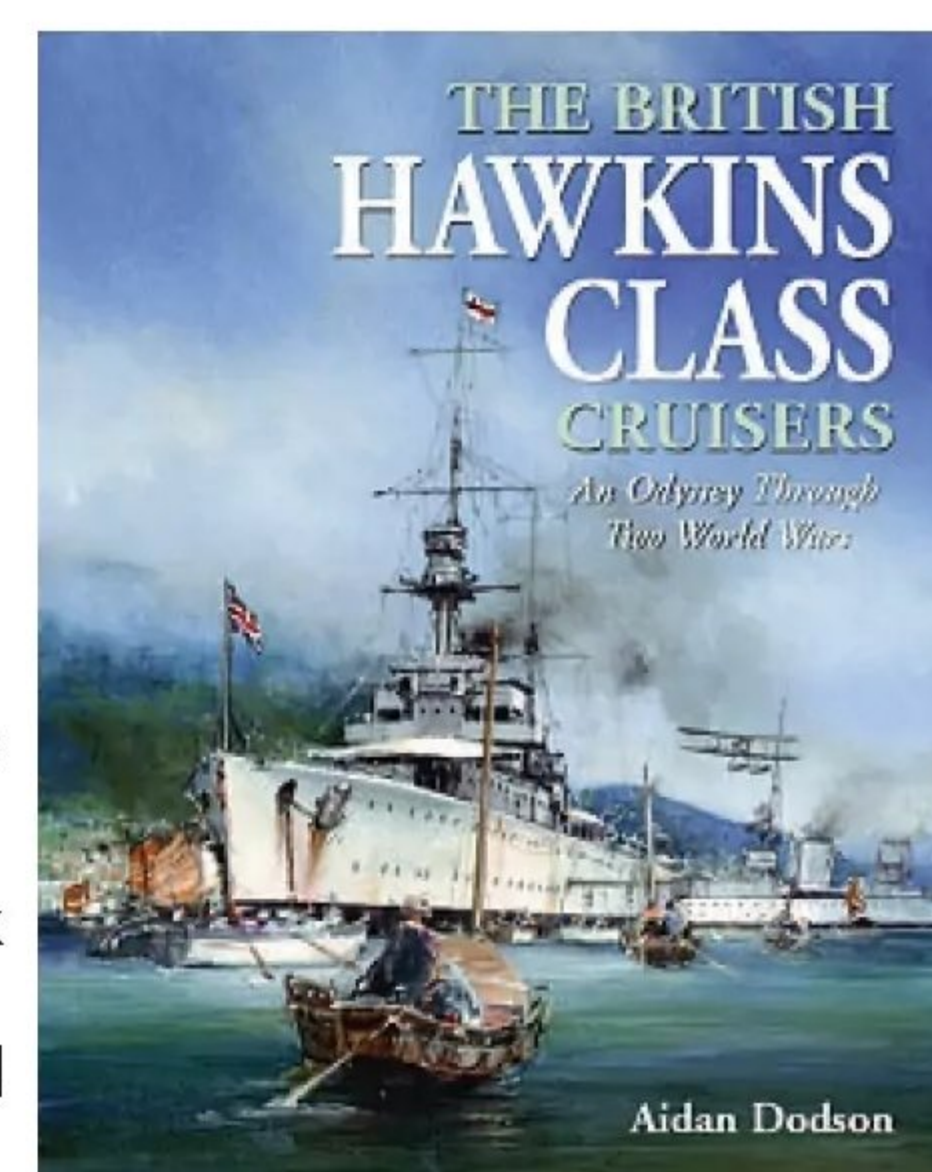
Published in hardback format and featuring over 200 colour and black and white photos, the annual is price at £35 and is now available from www.pen-and-sword.co.uk. It can also be ordered via your local bookstore when quoting ISBN 9781399 078887.



The British Hawkins Class Cruisers: An Odyssey Through Two World Wars

Extensively illustrated with photos and line drawings, Aidan Dodson's new book explains why and how this distinguished Royal Navy class served as an inspiration for a whole generation of big cruisers around the world.

Published in hardback format and carrying an RRP of £40, the title can be acquired via www.pen-and-sword.co.uk or ordered from your local bookstore when quoting ISBN 9781399 056120.

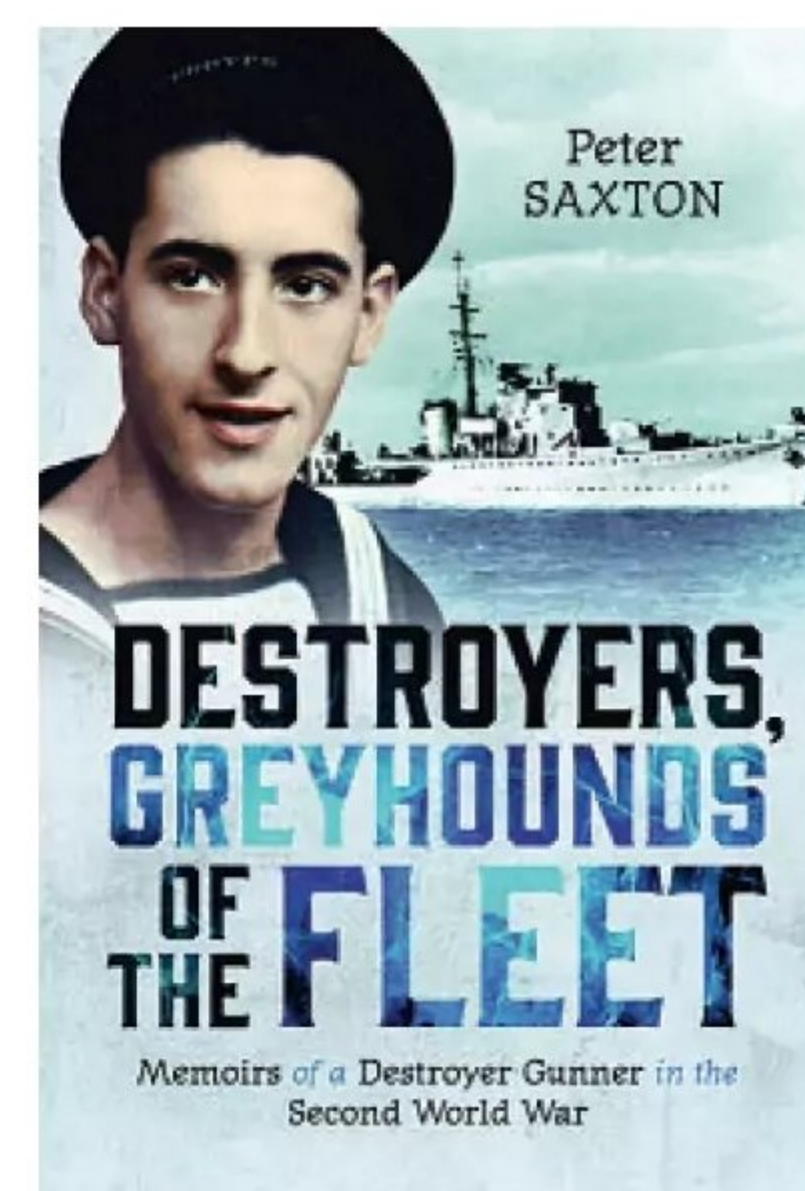


Destroyers, Greyhounds of the Fleet

In this new book, subtitled *Memoirs of a Naval Gunner in the Second World War*, author Peter Saxton covers:

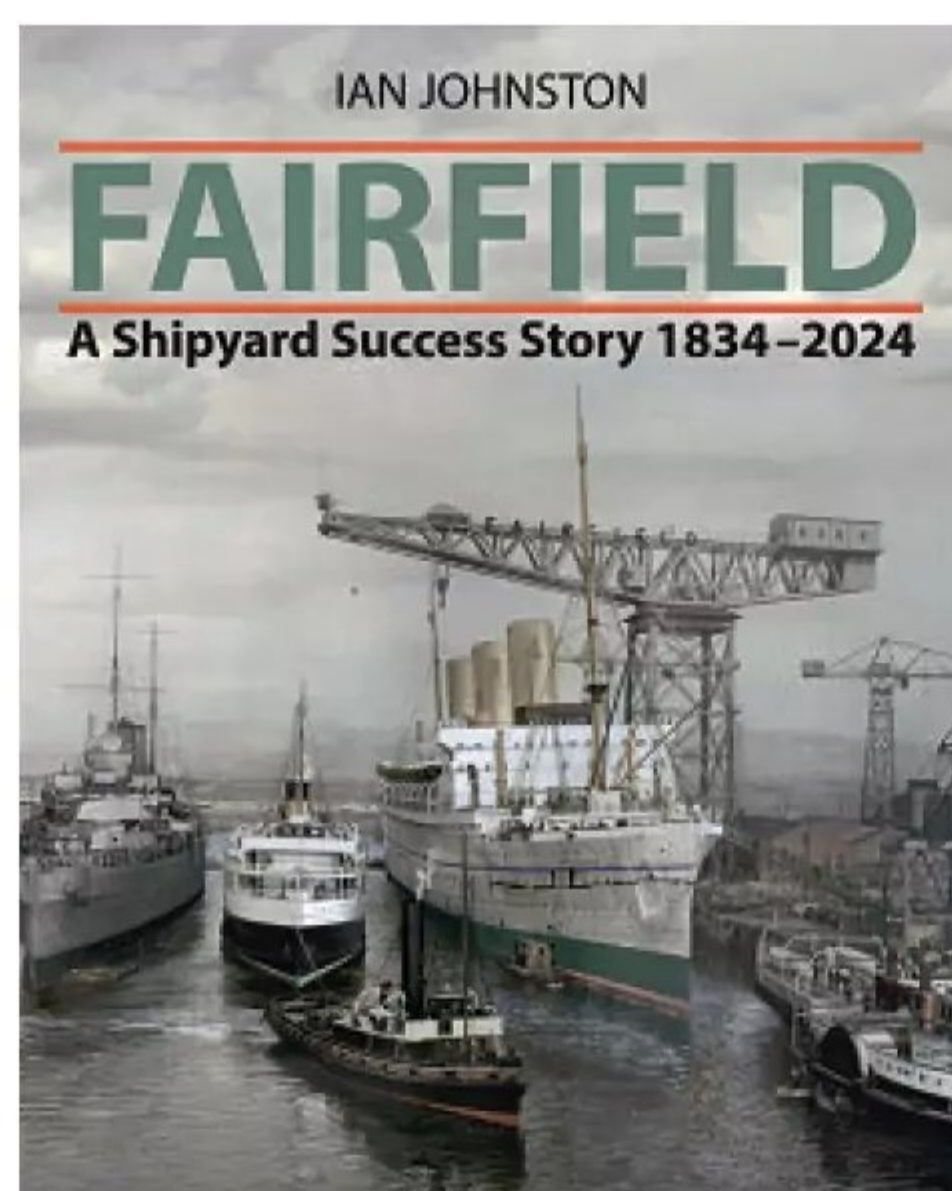
- *Service with the Royal Navy 1939-45
- *Hunt Class Destroyers, the 'Greyhounds of the Fleet'
- *The essential role these vessels served in the Axis war (North Sea, Mediterranean, Sicily and Italy)
- *The protection of convoys and capital ships against U-Boats and E-Boats
- *Details of gunner training, tactics and strategy
- *The role played by elite gunnery crews in 'action stations'
- * A personal, almost hour-to-hour, account of his service during these years.

Published in hardback format and carrying an RRP of £22, this title can be purchased from www.pen-and-sword.co.uk or ordered via your local bookstore when quoting ISBN 9781036 112295.



Fairfield, A Shipyard Success Story, 1834-2024

Based on a lifetime of research by the leading expert on Glasgow shipbuilders, Ian Johnston's new book documents the history of this, the last of the great Clydeside yards. Published in hardback format, and illustrated throughout, the book carries an RRP (Recommended Retail Price) of £40 and is available to purchase directly from www.pen-and-sword.co.uk. Alternatively, the title can be ordered via your local bookstore when quoting the ISBN 9781399 089661.





IPMS Scale Model World

Dave Wooley reports back from the 2024 show at the International Conference Centre, Telford

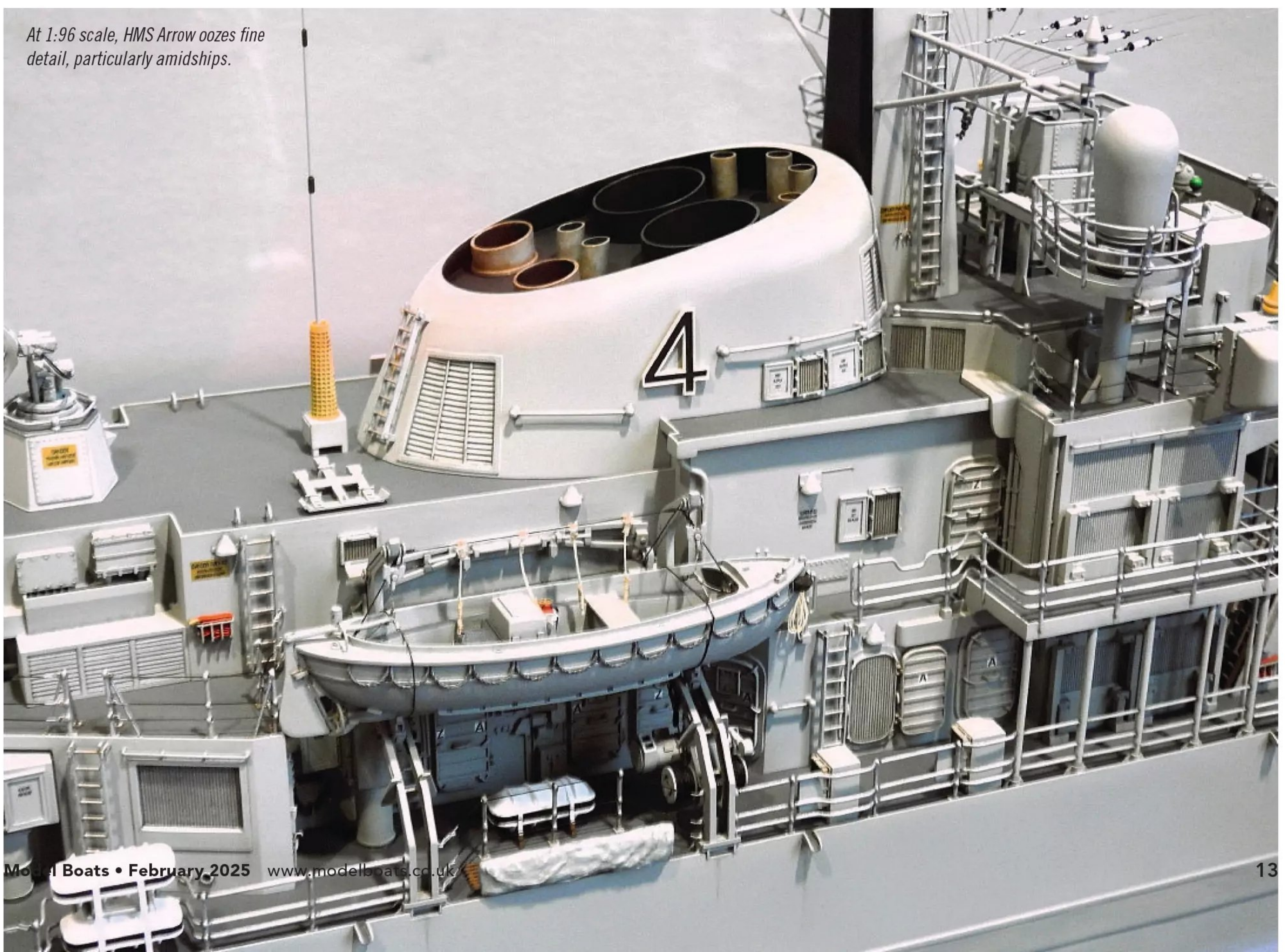
Accommodated in three large halls that make up the International Conference Centre located in the centre of Telford, Scale Model World's wide brief embraces military and non-military models of all types, displayed by clubs, societies and SIGs (Special Interest Groups) from all over the world – although, naturally, in the report I will be focusing on the marine side of things. Trade stands also form an integral part of the show, with vendors from the UK, Europe and the rest of the world showcasing and demonstrating their products. 2024 saw 124 UK clubs, 25 overseas clubs, 96 SIGs, 15 guest exhibitors and 136 vendors present.

A superbly crafted model of the Type 21 Frigate HMS Arrow.





At 1:96 scale, HMS Arrow oozes fine detail, particularly amidships.





This D-Day assembly scene. Displayed under the title of Departure for Normandy at Southampton Dock, skilfully combines figures, vessels and vehicles in a very convincing diorama.



Airbrush demonstrations are very much stock-in-trade at SMW.

Competition entries

In the past competition entries have been made up almost entirely of kit builds, but 2024 also saw plenty of semi-scratch and scratch-built models vying for awards, a prime example being the 1:96 scale Type 21 HMS Arrow by Geoffrey Taylor, which took the top slot in the Ship Model category.

There's not enough space here to list all the ship model entered, but many are included in the images here and I'll let the captions do the talking! Scales varied considerably, with those between 1:700 to 1:350 being the most prevalent. Notably, 1:200 is now also gaining popularity, with kits in this scale being particularly suitable for R/C conversion.

Club and SIGs stands

The club stands ably demonstrated their members wide variety of interests,



SMW attracts exhibitors from all over the world – in this case, from afar afield as Pakistan.



Spotted on the Just For Fun Modellers stand, a rubber boot with a periscope, humorously displayed under the title Das Boot.



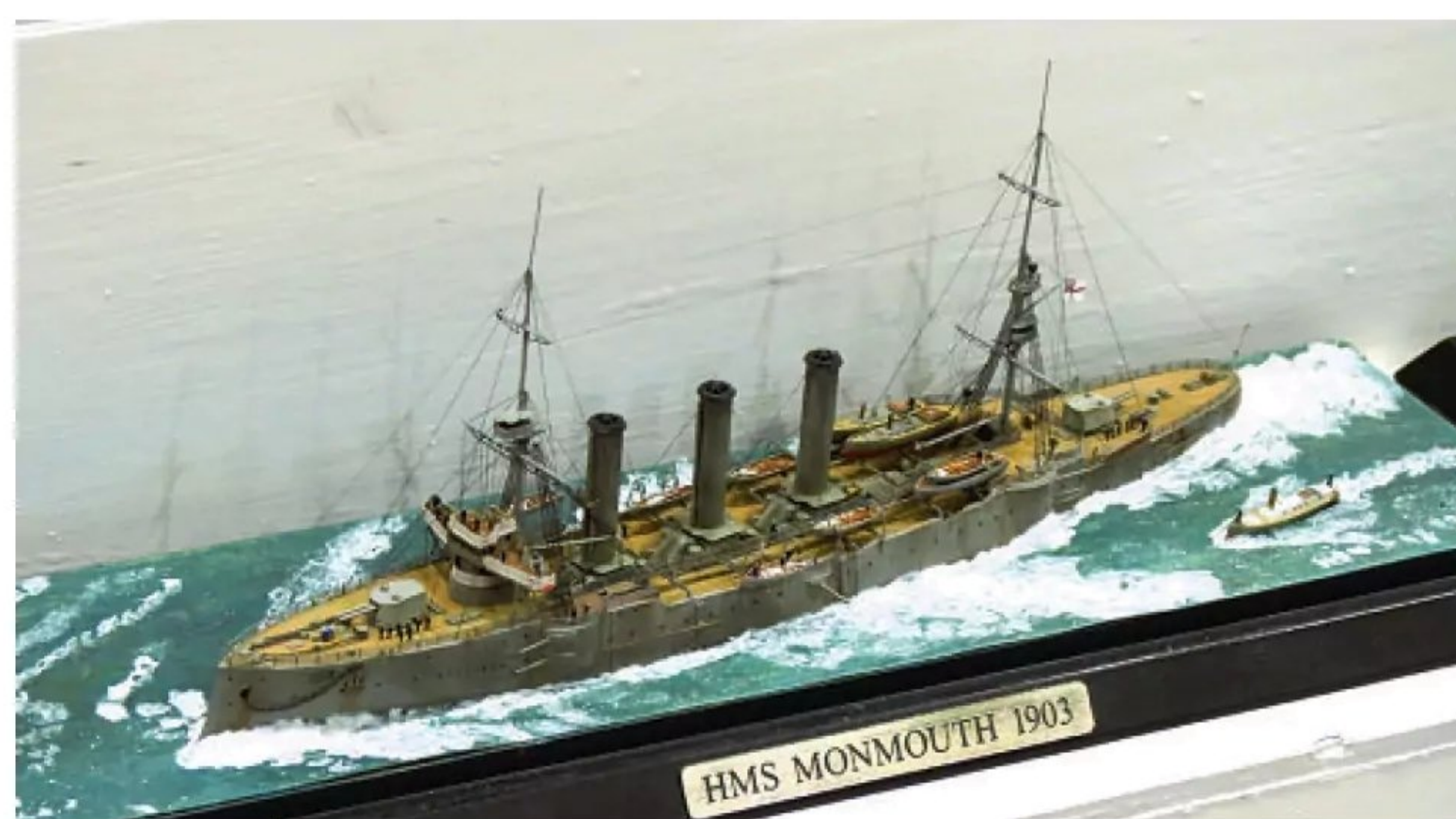
This 1:350 scale model of the Imperial Japanese Navy battleship Mikasa used a novel method for display, which doubled as a seascape.



The Mikasa's superb finish and attention to detail earned modeller Jeff Spencer a Gold Award.



Revell, a kit manufacturer well known to generations of modellers, presented its new kits for 2025 along with some of its particularly memorable ones.



When exploring the club stands there were gems aplenty, such as this 1:700 seascape model of the armoured cruiser HMS Monmouth. The 1:1 original was tragically sunk at the Battle of Coronel on November 1, 1914.



Converting model kits to enhance their appearance is very much part of SMW. Here a 50cm Revell kit of the Black Pearl, a vessel made famous in the film Pirates of the Caribbean, has been given a different perspective.



Peter Danks, a one-time regular contributor to these pages and an outstanding scratch builder of period vessels, was awarded a silver medal for this model of an 1815 Axeman.

including the quirky! The Just for Fun Modellers, for example, exhibited a rubber Welly adorned with periscope, humorously displayed under the title *Das Boot* in a nod to the epic World War II TV series of the same name (shown left).

Trade stands

The manufacturers and retailers that support our hobby are the life blood of events such as this, with trade stands providing both valuable revenue for the organisers and a vast marketplace for

the visitors. At this year's SMW all the big boys, such as Airfix, Revell, Trumpeter, Italeri, etc, were in attendance and visitors could browse a vast selection of kits and indeed shop for just about every model-associated product imaginable!



Imagination can achieve wonders and this Tuna with Bite elicited more than a smile or two.



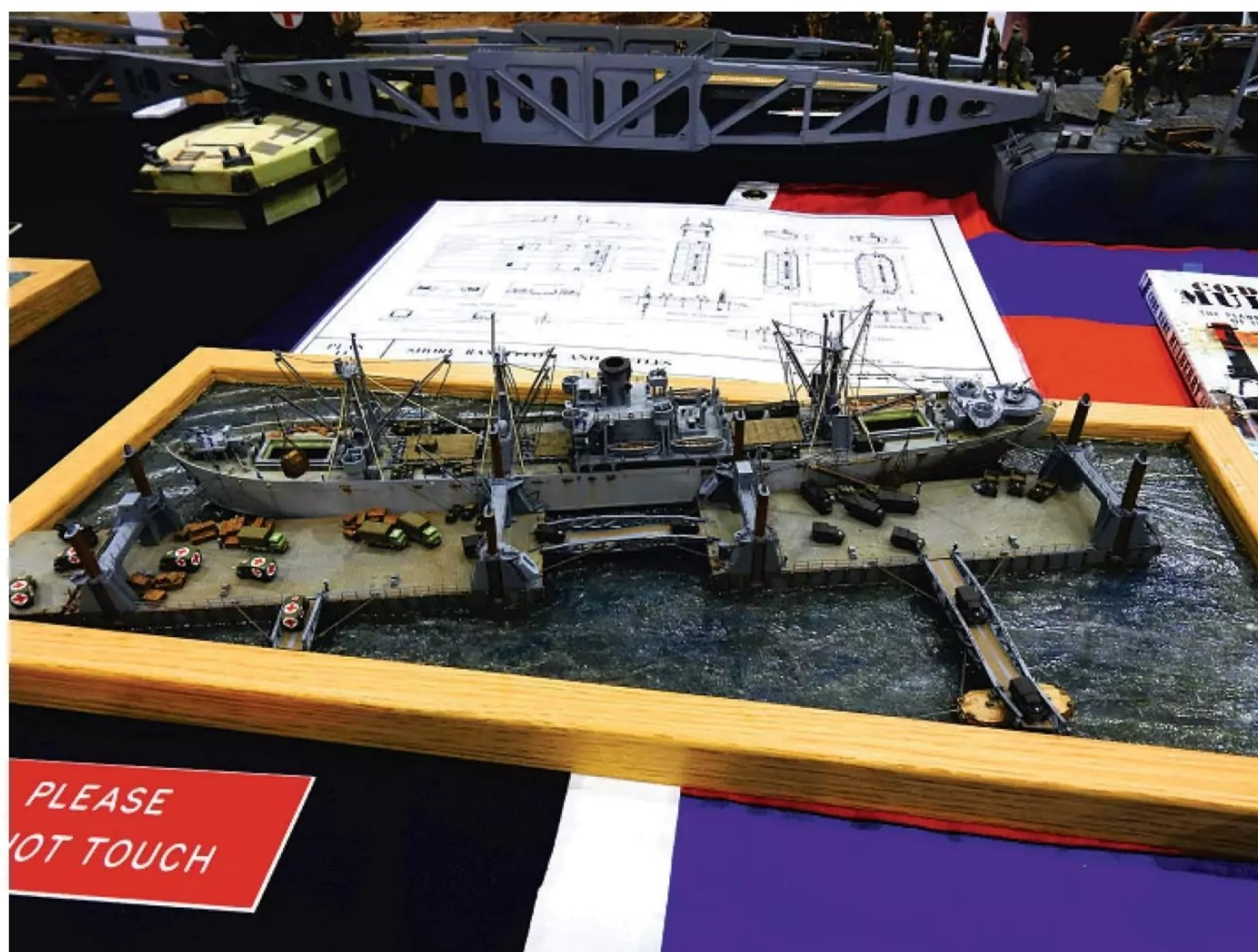
Special guest Barry Sharman exhibited a number of his very fine and detailed models, amongst which was this Fairmile D MTB 735.



Up until recently there were no kits of any type for the aircraft carrier HMS Queen Elizabeth, something that's now changing.



The latest release from Trumpeter is Titanic's sister ship Olympic, the parts for which have been re-jigged to conform with the structural difference between the two vessels.



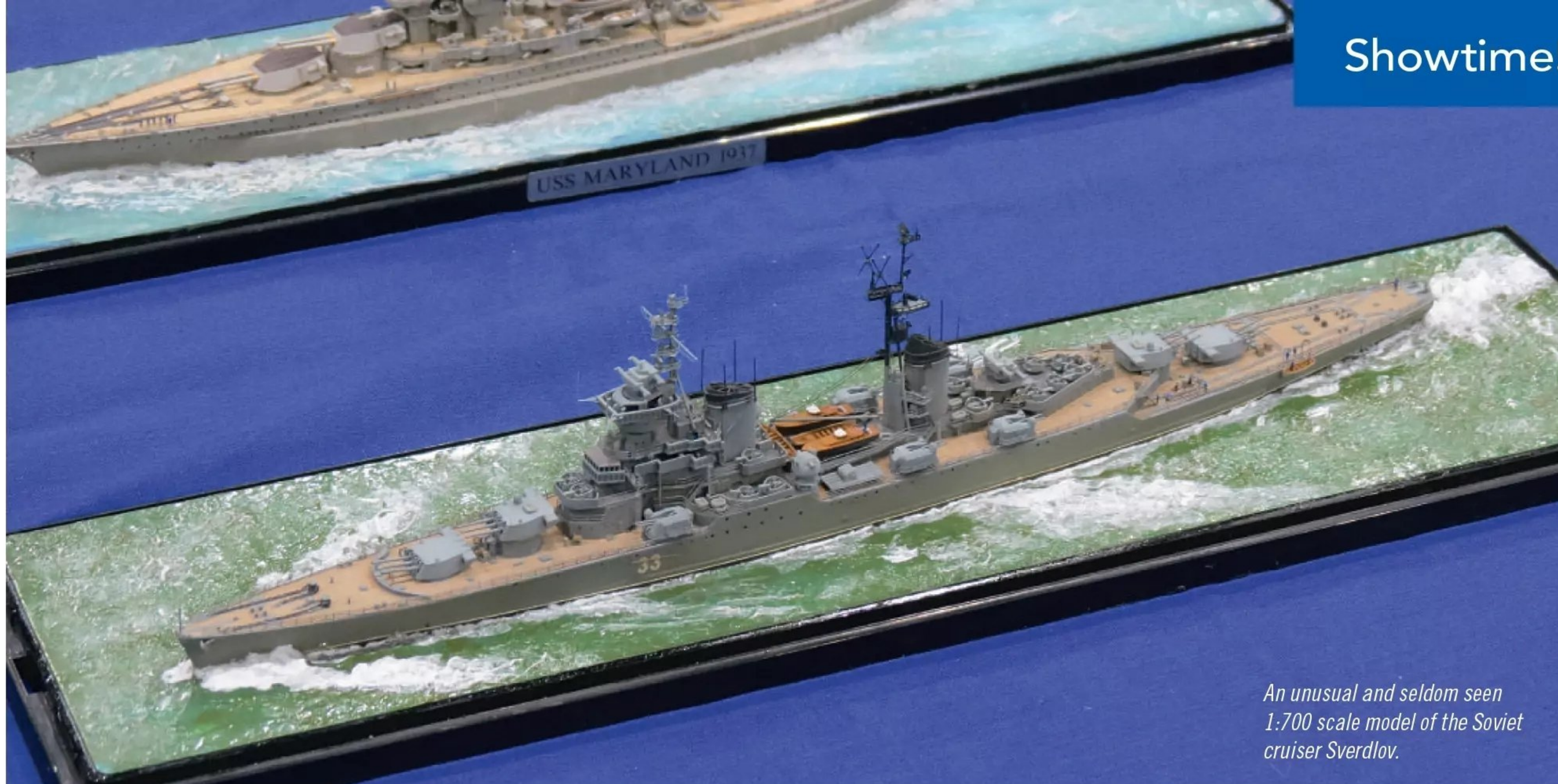
Mulberry harbour as part of a D-Day diorama, which proved very popular with visitors.



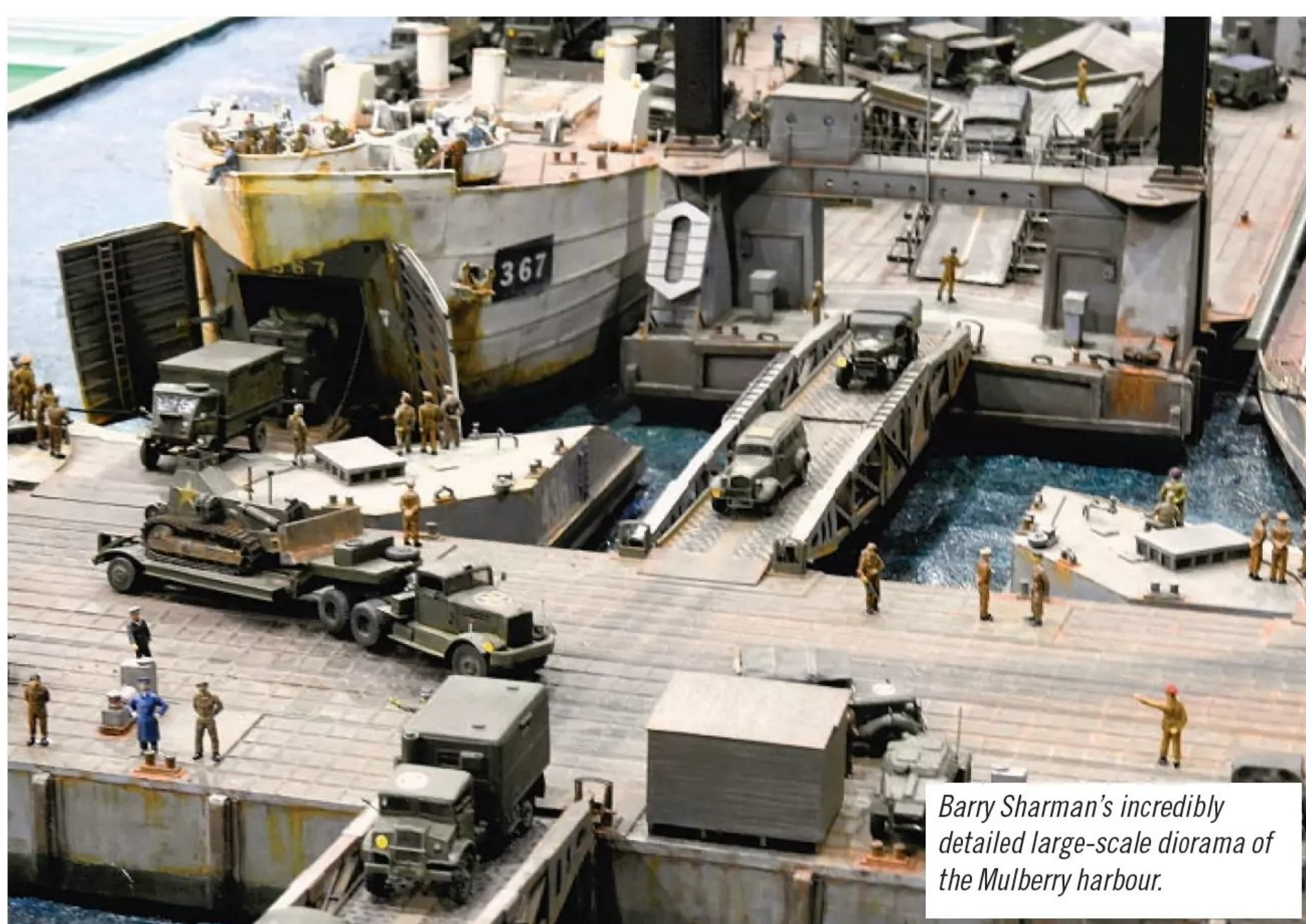
SMW is a showcase event for many of the big brand manufacturers.



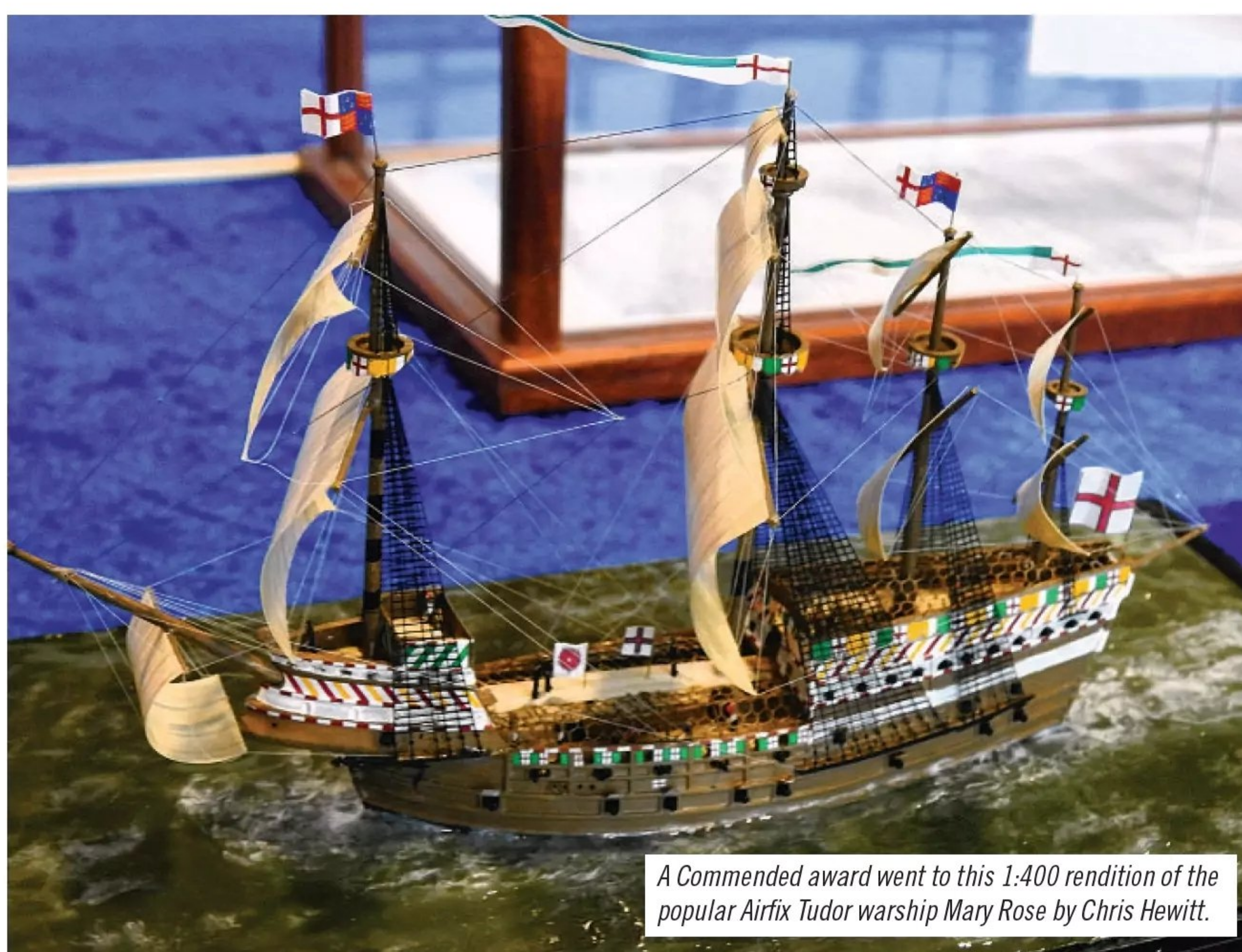
Model of submarines, while being less detailed than other vessels, have always had a good following at SMW. Here Stuart Horley was awarded a silver medal for his model of HMS Repulse.



An unusual and seldom seen 1:700 scale model of the Soviet cruiser Sverdlov.



Barry Sharman's incredibly detailed large-scale diorama of the Mulberry harbour.



A Commended award went to this 1:400 rendition of the popular Airfix Tudor warship Mary Rose by Chris Hewitt.



A club display within a club display, but slightly smaller!



This 1:200 scale Bismarck gained a well-deserved silver award for Steven Hewitt.

2025

Scale Model World Telford is now considered to be one of the world's greatest IPMS (International Plastic Modellers Society) shows. So, why not mark the dates for the 2025 show, November 8-9, on your calendar now – you won't be disappointed! ●

Acknowledgements

Our sincere thanks to the IPMS, who kindly made provisions for the photography of the competition entries.

THE XV PATRICK BLACKETT

Fraser Gray presents a very exciting potential new year project...

XV Patrick Blackett pictured sailing the River Thames inbound for HMS President, the Royal Navy's headquarters in the Lower Pool of London.

From a modelling perspective, sourcing sufficient information to keep up with the latest developments in military naval architecture is always a challenge. Hopefully, however, the shots I was able to take of the XV Patrick Blackett's recent visit to HMS President, the Royal Navy's London headquarters, will assist in drafting plans for the construction of a scale model.

The striking paint scheme of black with charcoal grey 'X' logo and pennant number would certainly make a very welcome departure from the usual 'battleship grey' finishes seen on so many of our military models, while the flourishing 3D printing market could serve as a source for the various sensors and deck furniture. There would also be the option to incorporate various ROVs (Remotely Operated Vehicles – used underwater for a range of military, commercial and scientific tasks) or the Royal Navy's new Peregrine Rotary Wing UAV (Unmanned Aerial Vehicle), all of which are operated from the aft deck, into the build. Information on the developments of military vessels and their auxiliaries is constantly updated, so further research on the web may reveal more.

Patrick Blackett, the vessel's namesake

Patrick Blackett was not only a decorated scientist but also a former

naval officer, who played a crucial role in integrating scientific methods into military strategy. His legacy is an apt inspiration for a vessel dedicated to innovation, embodying as it does his approach to problem-solving and continuous technological evolution. The XV Patrick Blackett is designed to push the boundaries of naval experimentation, a homage that Blackett himself would have undoubtedly admired.

A versatile maritime platform

Unlike traditional warships or auxiliary vessels, the XV Patrick Blackett has been purpose-built as a research and experimentation platform. It provides a flexible maritime stage for trialling new technologies, concepts and operational strategies, without impacting the main fleet's operational readiness.

Cutting-edge capabilities

The Patrick Blackett's primary role is as a testbed for pioneering technologies that could enhance the Navy's operational toolkit. A few of its standout capabilities and objectives include:

1. Unmanned Systems Trials

With the rise of drones and autonomous surface vessels in modern warfare, the XV Patrick Blackett serves as a launch and recovery platform for testing unmanned maritime vehicles. This includes both aerial drones and

surface drones, which can conduct reconnaissance, surveillance or mine countermeasure operations.

2. Electronic Warfare Testing

The ship's design incorporates specialised electronics to facilitate trials of cutting-edge radar and communication systems. By operating in controlled and real-world scenarios, these trials help fine-tune innovations which could offer a strategic advantage in detecting and neutralising threats.

3. Sustainability and Efficiency Initiatives

The vessel doubles as a research base for environmentally conscious



XV Patrick Blackett alongside HMS President. The black 'NavyPOD' on the aft deck was reported by the media to contain an experimental quantum compass. This navigation device has been developed to counter the actions of hostile states or agencies interfering with GPS by distorting or destroying the GPS satellite network.

naval advancements. Experimentation with alternative fuels, energy-saving propulsion systems, and waste-reduction technology forms a crucial part of the mission, aligning with broader efforts to reduce the Royal Navy's carbon footprint.

The Royal Navy has crafted this vessel as a collaborative space where defence contractors, academic researchers, and even tech startups, can join forces. By inviting external

The operational flexibility and forward-thinking purpose of the XV Patrick Blackett reflect the Royal Navy's commitment to maintaining technological superiority. Naval conflicts and operations today

Rear Admiral Simon Asquith, a proponent of expanding the Navy's technological capabilities, aptly summarised the vessel's importance: "The XV Patrick Blackett is not just a ship — it is a signal of our intent to adapt and innovate continuously. By investing in platforms like this, we give our sailors the tools they need to face tomorrow's challenges".

Looking forward, the XV Patrick Blackett's success will be measured by how seamlessly the experimental systems it tests can be integrated into active duty on Royal Navy ships, but it is also likely to serve as a blueprint for other navies interested in adopting similar models of continuous and agile development.

This vessel represents a bold step into a future, where scientific rigour meets strategic imperatives. It promises not just to safeguard national security but to push the boundaries of maritime knowledge, paying tribute to its namesake's legacy, the relentless pursuit of excellence and innovation.

XV Patrick Blackett, pennant number (X01), is a 42m (137ft 10in) experimental ship built by Damen Shipyards, Gorinchem, and is powered by four Caterpillar C32 ACERT diesel engines. Its top speed is unknown, although it's been observed to be 20 knots, while its range is believed to be in excess of 3,000 nautical miles. The ship's complement is 5 crew, with accommodation for up to 12. ●





TACKLING THE TAMAR

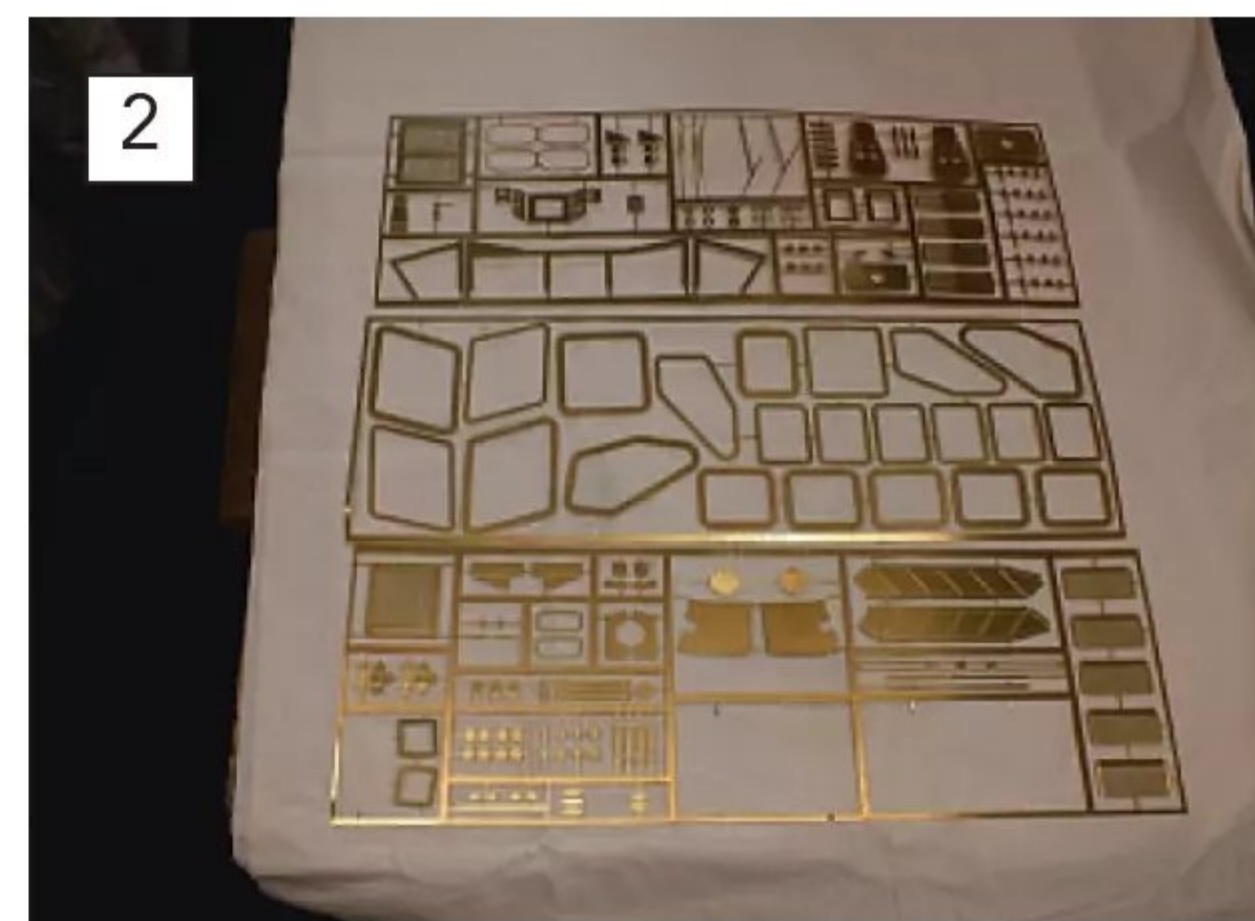
Brian Knight takes on a 1:16 challenge

If there is one constant in this world it's change, something the modelling world has certainly seen its fair share of! Many of you will remember Model Slipway kits. Over the years I built a number of these myself (including the Trent lifeboat), always impressed with the quality and the excellent customer service offered by the business's owners, Lawrie and (the late) Jackie White.

So, when recently looking for another RNLI lifeboat model to build, I was very pleased to learn that Adam from Mountfleet Models has obtained the licence to supply some of the kits from the old Model Slipway range. Consequently, after contacting Adam, I was able to purchase what was essentially a Model Slipway Tamar kit, reassured by the fact that, having also previously built a number of Mountfleet kits, I could expect the same level of customer service and post-sale support.



“When recently looking for another RNLI lifeboat model to build, I was very pleased to learn that Adam from Mountfleet Models has obtained the licence to supply some of the kits from the old Model Slipway range”



Lifting the lid on the contents

I have elected to show some of the kit's contents, just so that you can appreciate the detail and complexity of this kit, but I feel I should point one thing out to **other** prospective builders. This kit was produced back in 2008, when, obviously, technology was not as advanced as it now is, so some of the components will

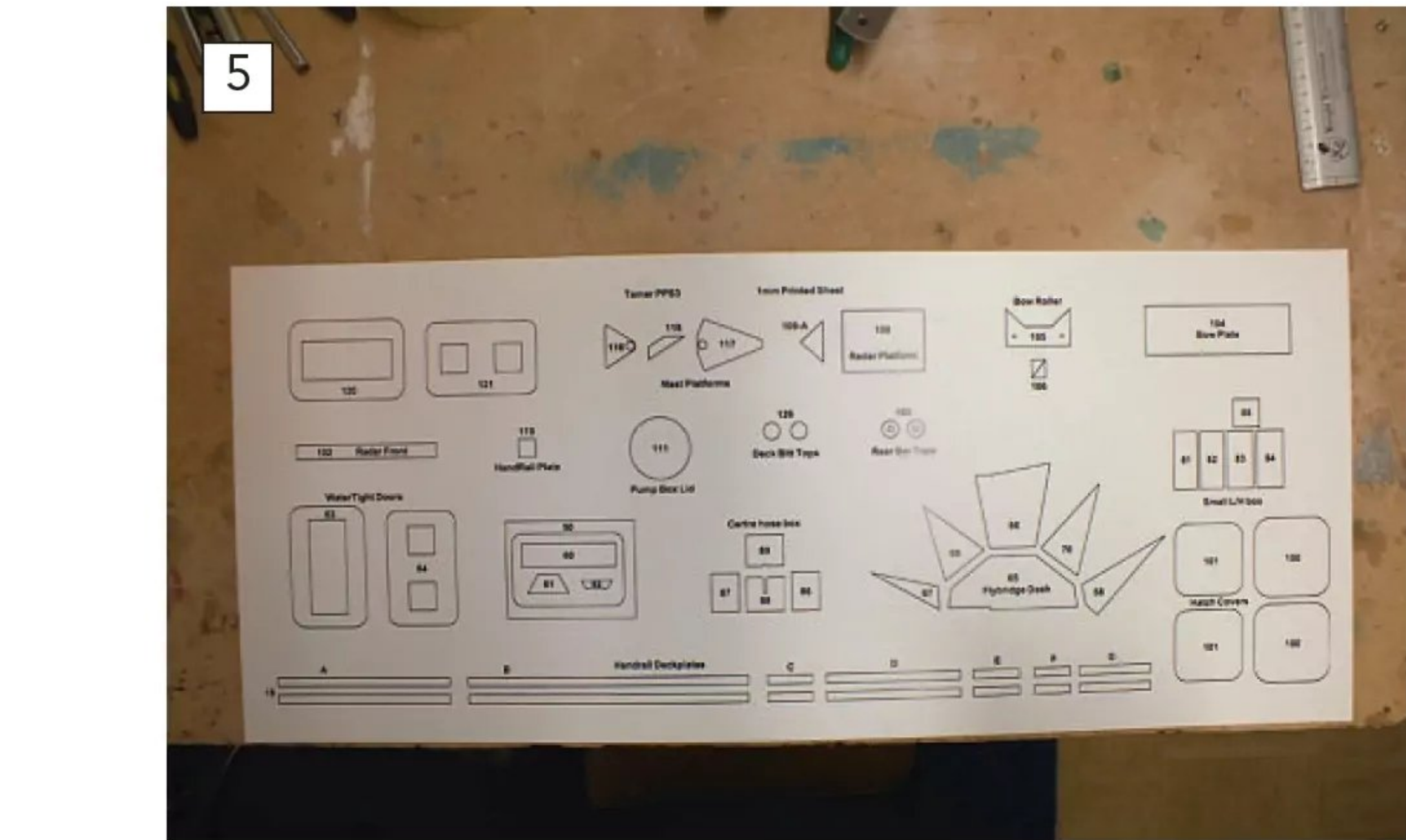
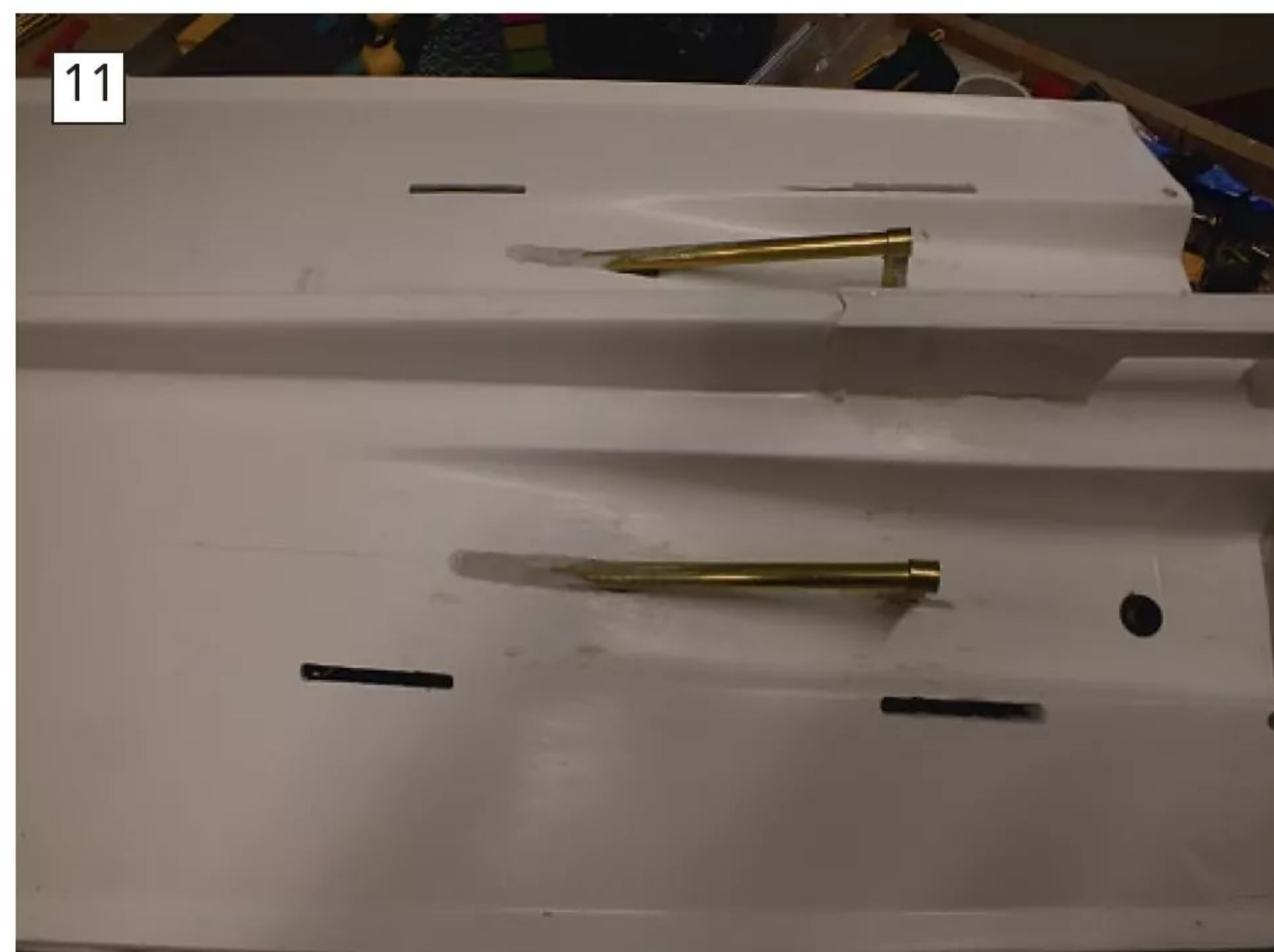
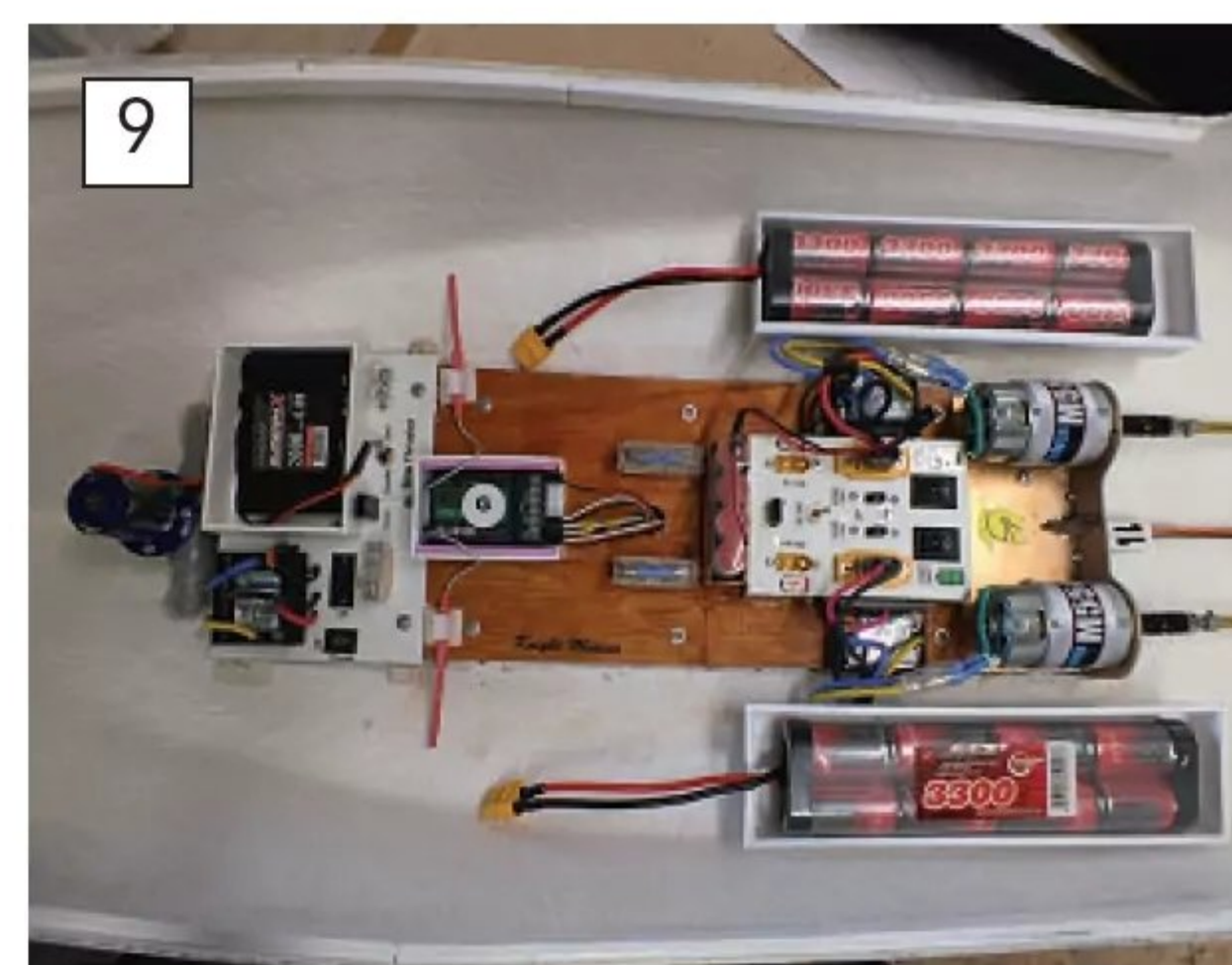
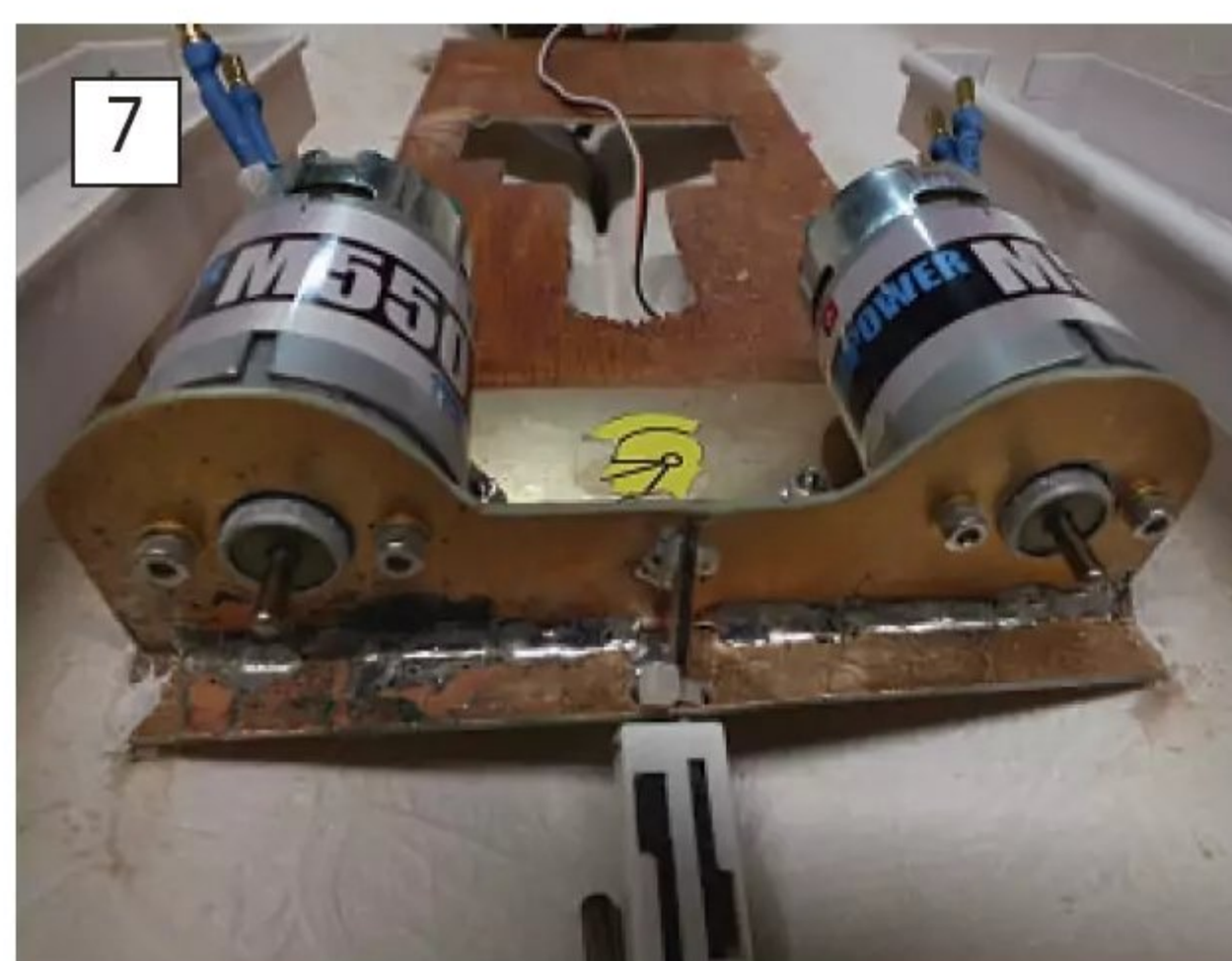


Photo 1 shows what to expect when you open the box, while in **Photos 2 and 3** you will see some of the brass etched and white metal parts (the latter supplied in individually numbered bags for reference purposes) – oh, and just to make things clear, I’ve already started to assemble some of the parts shown in **Photo 3**. Now, I’ve got say I’m not a fan of VFP (Vacuum Formed Plastic) parts, and there are plenty of these, but I do accept that for modellers VFP makes construction easy and for manufacturers it’s a very financially viable material, so I suppose I can live with it! Then, of course, you get all your plastic/metal rod and tubing, rubber fender strip, elastic cord, etc. While in the past laser cutting wasn’t common practice, an illustration of the six 1.5mm plastic sheets featuring parts that have now been partially cut by CNC machine is included (see **Photo 4**); the parts on the remaining three 1.5mm sheets (one of which is illustrated in

Launching into the build

I start all my builds in the same way. Firstly, I fit all the hardware, namely the shafts, shaft supports, motors and rudders. **Photo 6** shows the cut outs for the shaft and false keels. The false keels are there for launching, as the real Tamar is, of course, deployed via a slipway (a quick online search will call up video footage of both launches and recoveries). As motor alignment is of extreme importance, give plenty of consideration to your motor mounts. Every modeller will have his/her own preference when it comes to methodology here. Mine



(yet to be cleaned up) are shown in **Photos 7 and 8**) and, as you will see, I constructed them from two-sided plain copper-plated glass PC board (widely available online).

“As motor alignment is of extreme importance, give plenty of consideration to your motor mounts”

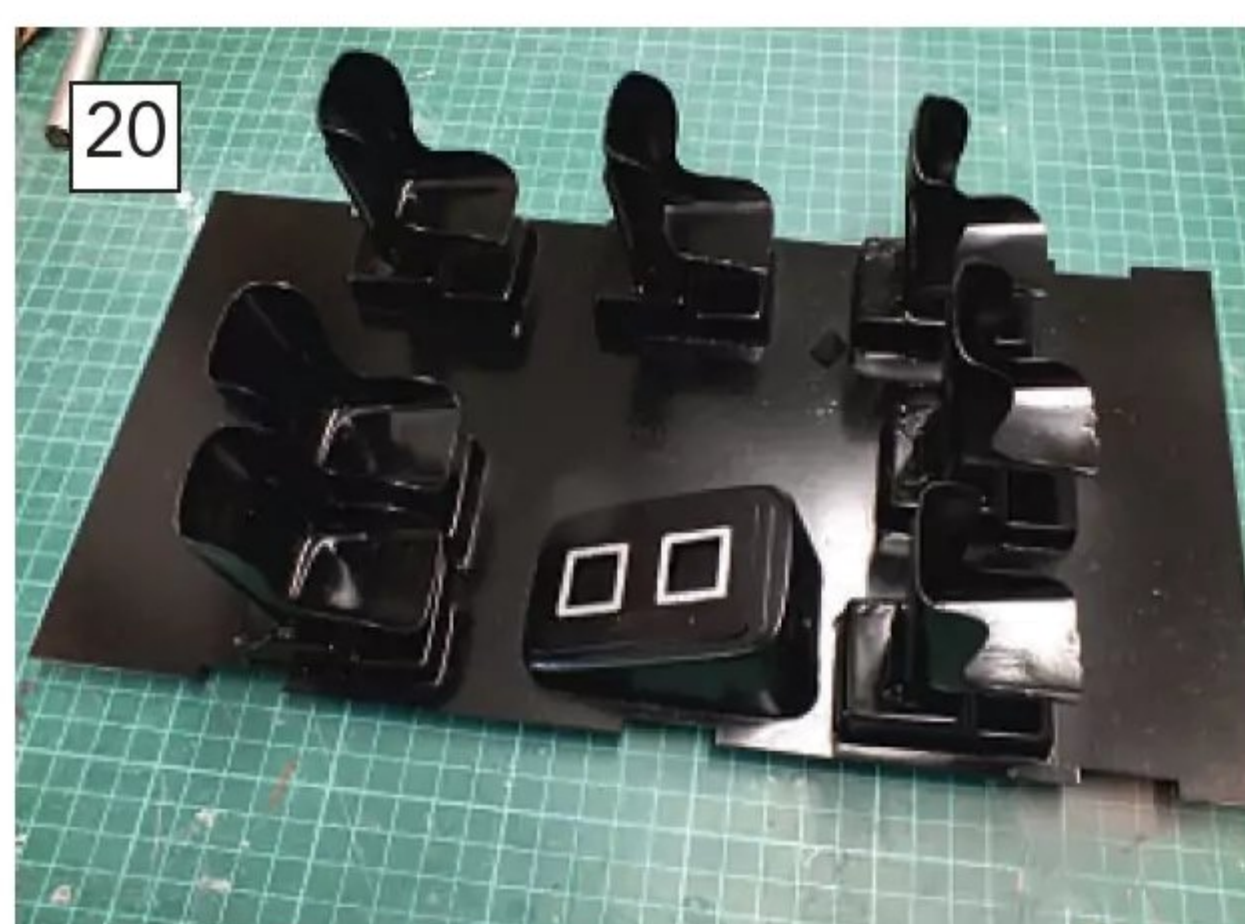
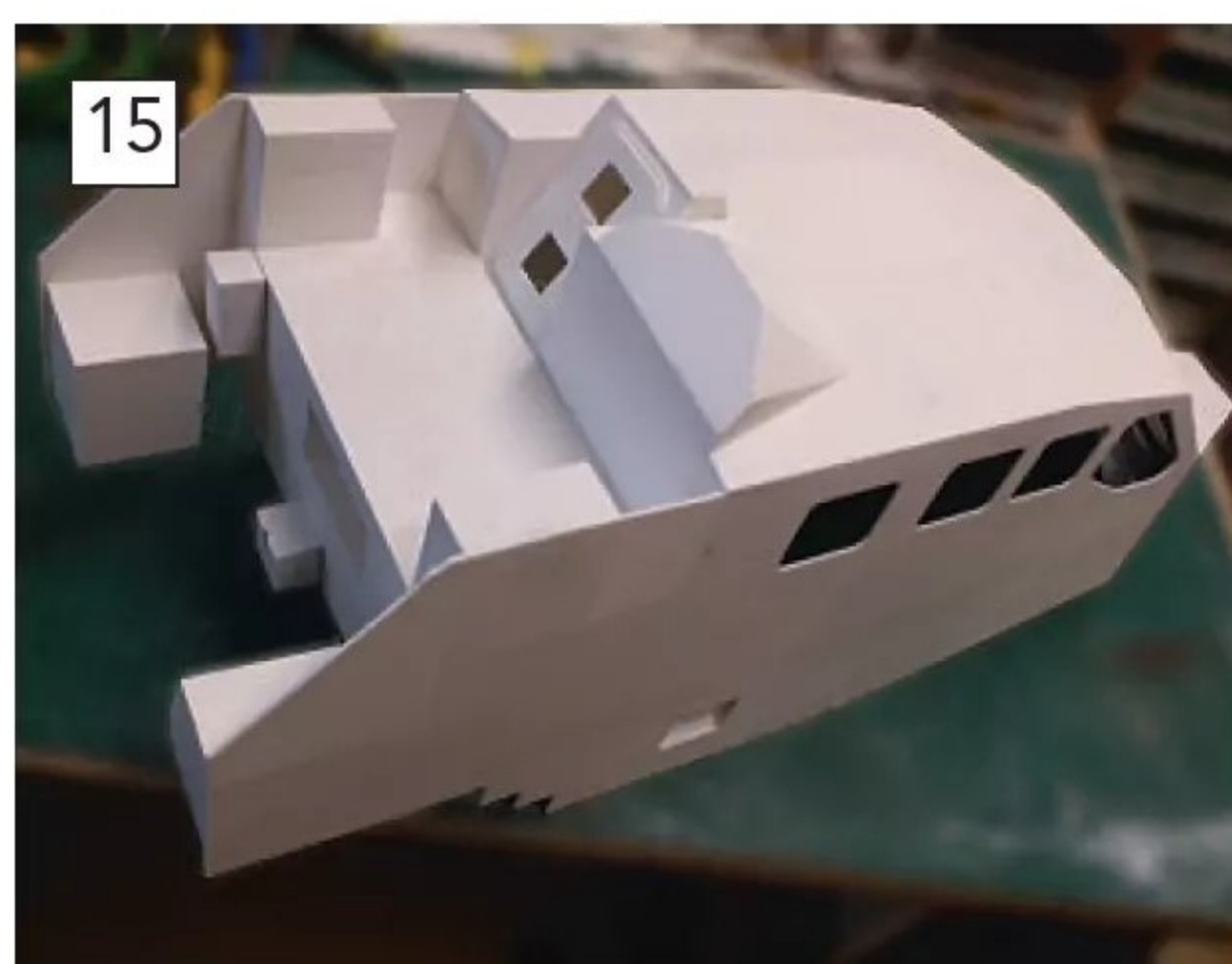
At this point I must confess I originally fitted two brushless motors paired with the supplied ESC, but after testing them I discovered that while individually they worked perfectly, there were problems with interference when operated together. When I tried them with my old 40mhz radio they worked fine, but as I

intended using my 2.4khz radio it made more sense to swap them out for good old brushed motor faithfuls. Consequently, I installed two high performance motors of this type, and they worked perfectly. Time would tell if they could produce enough power to get the model up to speed.

Electric schemes

My next job was to fit all the electrical and electronic equipment. Jumping ahead with this, the results are shown

in **Photo 9**. Some would say I've gone bonkers with the control panels, but there's a simple reason for this; firstly, when it comes to the operational aspects of my boats, I often forget why I did what in the past, so a visual reminder always helps; secondly, in the future somebody else will, hopefully, be operating this model, so it will make things easier for him/her too; and, last but not least, I like tidy wiring. The additional controls in the separate unit affixed to the front of the main panel take a 6-volt battery for the bow thruster; this is limited to a maximum of 7.5-volts because operating a bow thruster out of the water can damage the water lubricated seals. This limits



any testing of the same before transporting the model to the lake so, because checking everything before a sailing session is of paramount importance, I added two 6-volt lamps and a switch to select them for testing before switching to the thruster. That completes the inner workings. You'll notice in **Photo 10** that the electric panel has been screwed down to formers epoxied to the hull, thereby enabling any updates/repairs required at a later date.

The false keel, shaft support & deck

Once the deck was in situ, I was able to complete the false keels (not shown here), and shaft supports that I'd fitted at the same time as the shafts (see **Photo 11**) by first removing all the inner shafts and rudders and then sealing all the apertures ready for painting. I should point out that the deck needs some work before being fitted. Firstly, the centre needs cutting out (I removed this with a rotary cutter) and, secondly, a cut out for the aft hatch housing the 'Y' boat needs to be made. I constructed the



housing for this boat (see **Photo 12**) and installed it under the then secured with 30min cure epoxy deck.

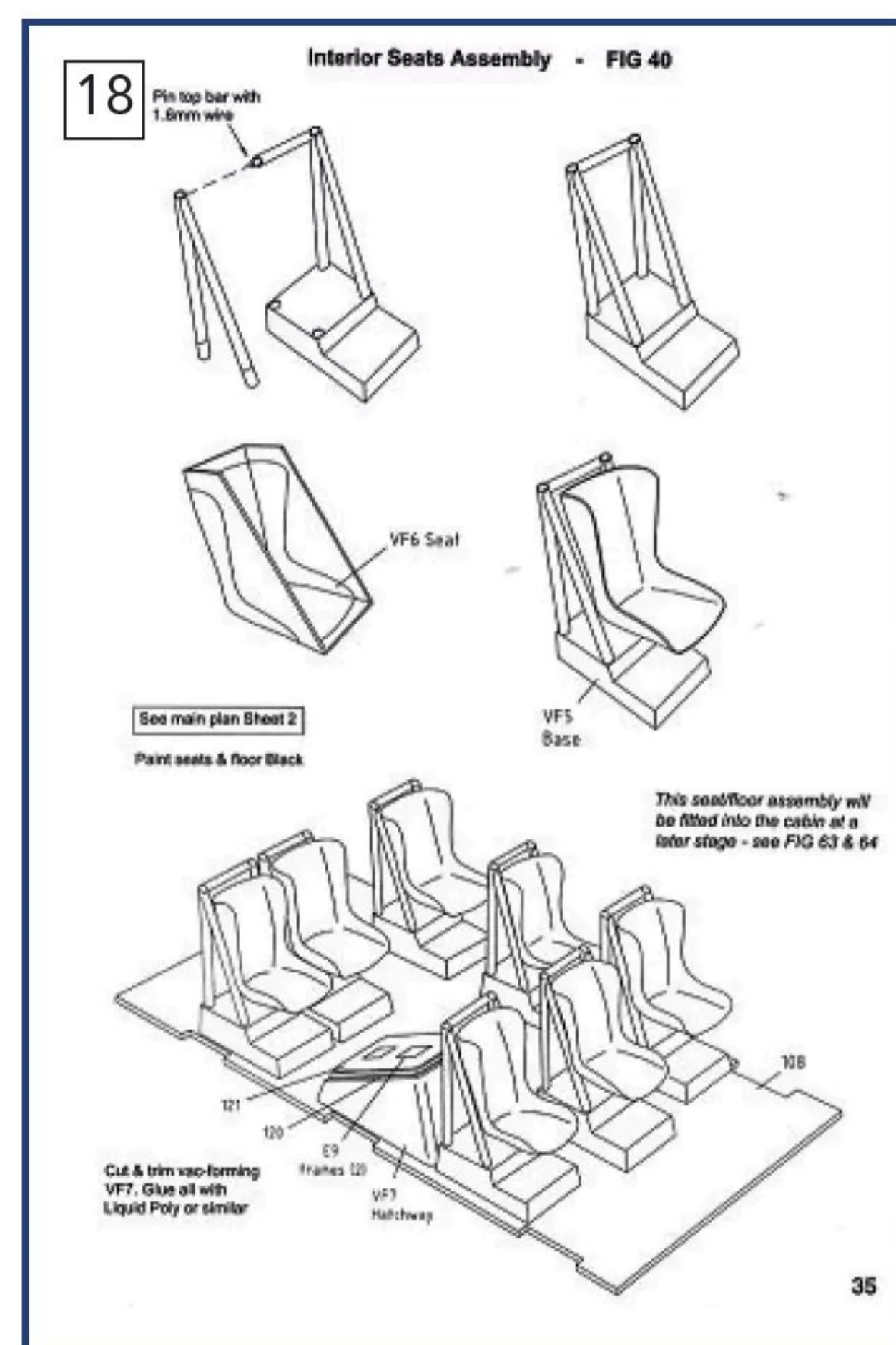
The deck is an acceptable fit, but it does need some filling; in my opinion, P38 from Halfords is still the best for this. **Photo 13** shows the deck as fitted, while **Photo 14** shows it after being filled and finished; in the same shot (**Photo 14**) the 'Y' boat housing minus its flooring can be seen. At this stage, I also took the opportunity to fit the handrail supports and footplates (more on which later).

"According to a fellow modeller, most, perhaps all, of the Tamar lifeboats were painted in this way"

Painting and decorating

While watching videos of the launching of the Bembridge Tamar RNLI lifeboat and subsequently studying photos of it on the water, I noticed the section below the waterline was white. According to a fellow modeller, most, perhaps all, of the Tamar lifeboats were painted in this way. Consequently, I ignored the scheme suggested in the kit instructions, instead applying white primer, following by gloss white spray (both sourced from Halfords) to the underside of the hull.

Unfortunately, the weather then turned, delaying any further spraying (which I prefer to do out in the open), so I instead made a start on the superstructure. This was quite



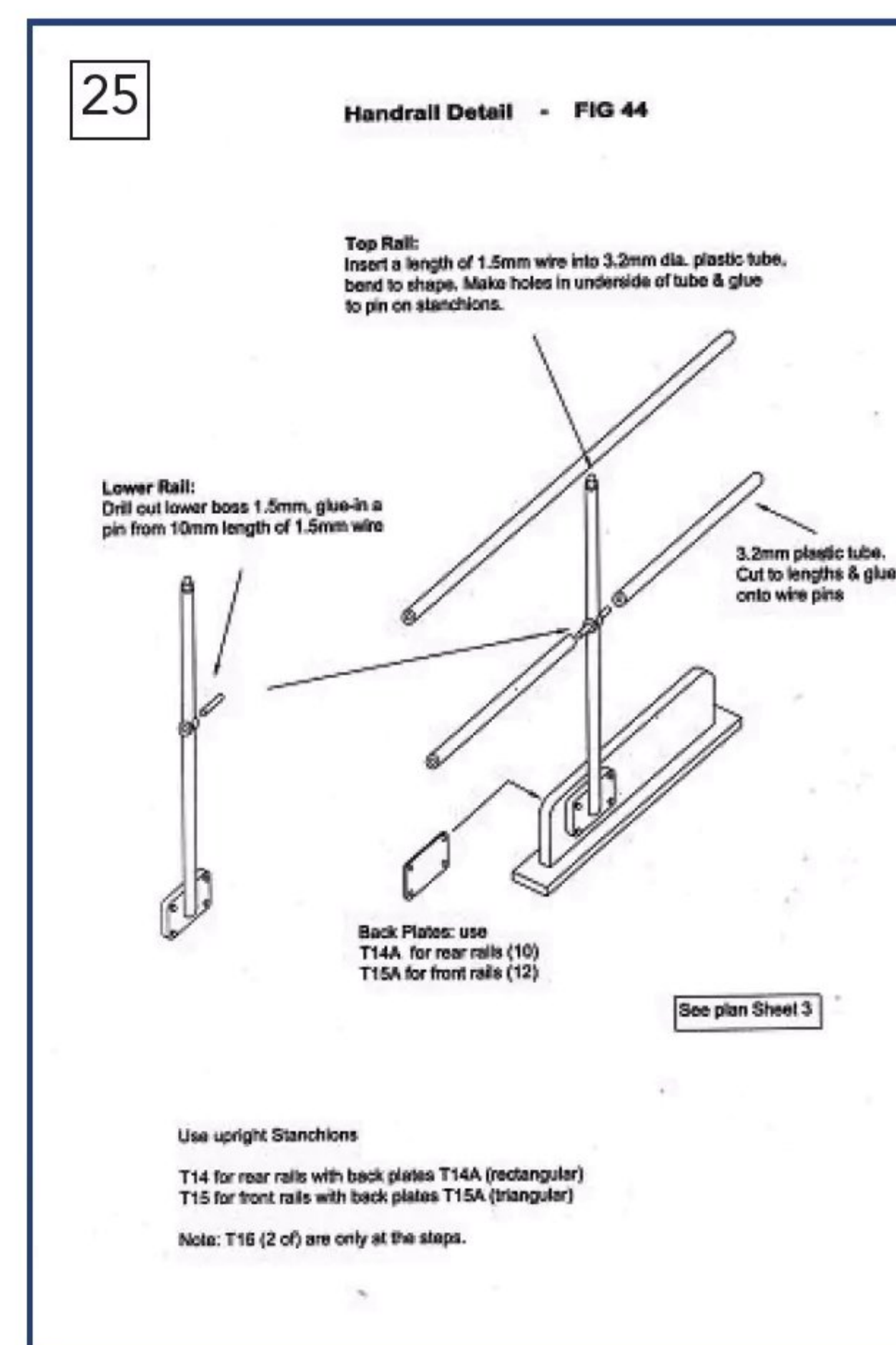
an exercise, bearing in mind all the plastic parts have to be cut out and there are over 120 required just to construct the basic structure (see **Photo 15**). The instructions recommend adding more support here, and I totally agree. As the sides and larger areas are formed from plastic only 1.5mm thick, I used the leftover strips of 6mm x 3mm plastic, along with extra strip from my own stock, both to stiffen any larger areas of the overall structure and to support any vulnerable joints.

Before going any further, I needed to spray paint the cabin in the mandatory orange, and I finally managed to squeeze this in, in between rain showers (see **Photo 16**).

I then set about some detailing, tackling the hinge point for the mast and the window assembly; **Photo 17** shows the latter in its separate parts – the clear Perspex has to be sandwiched between the inner and outer etched brass units after painting them silver.

"Here I decided to make some modifications..."

During this period, I also constructed the internal seating, but here I decided to make some modifications. In the instruction manual the seats are shown supported by 3.5mm plastic tubing (see **Photo 18**). As I wasn't convinced this would be secure enough, I instead came up with my own arrangement (see **Photo 19**), painting the entire unit black (see **Photo 20**) prior to installation in the cabin.



Thanks to a break in the weather, I was then able to turn back to spraying the hull blue, adding the scheme's thin bands of red and yellow and applying two coats of paint to the deck (see **Photo 21**). I chose to paint the deck by hand as this would allow for any touch ups required after detailing. The third coat and final coat would come later.

"I wanted the mast on my model to be foldable, so once again I deviated from the instructions"

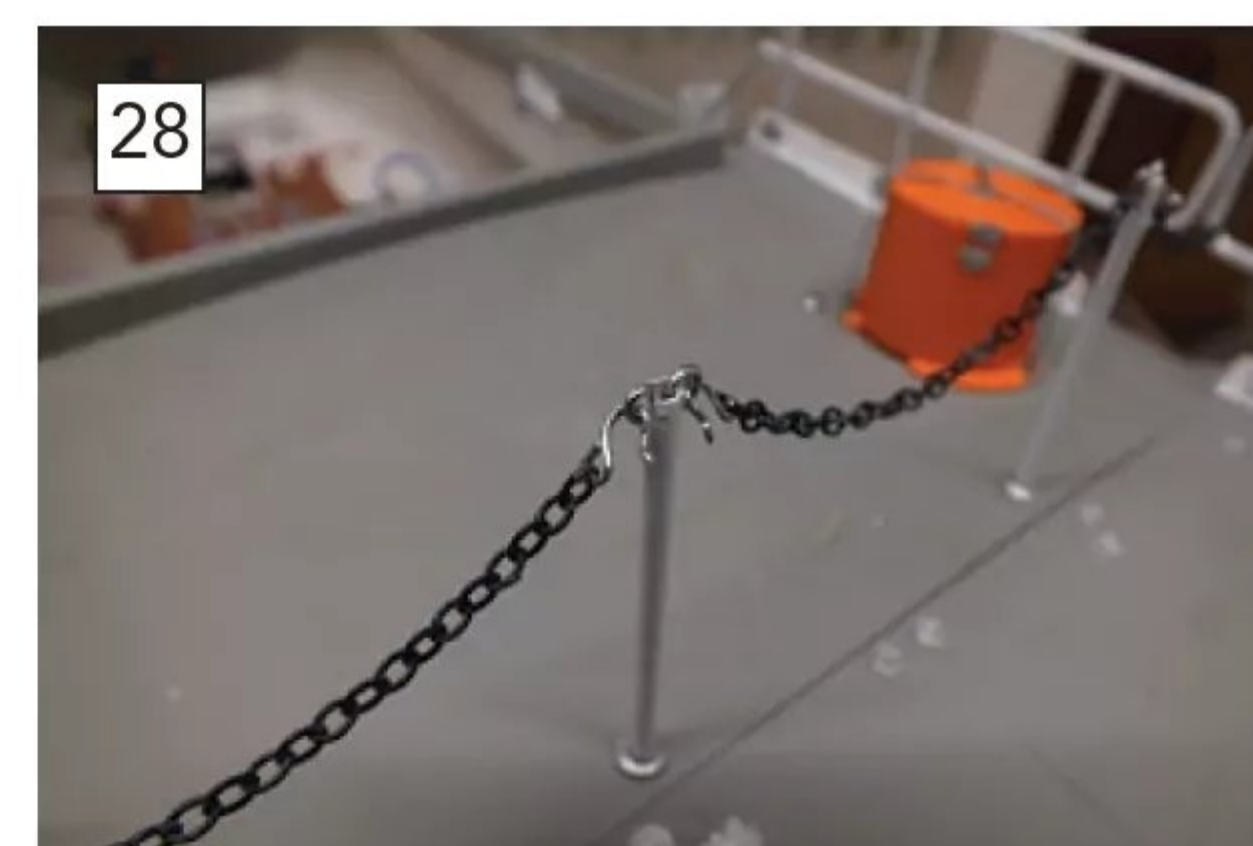
I wanted the mast on my model to be foldable, so once again I deviated from the instructions. Rather than fashioning it from the brass and plastic tubing supplied, I used brass alone for the basic construction (see **Photo 22**). I also topped my 2mm plastic rod aerials with small beads (a little anti-poke in the eye protection tip worth considering!). There appears to have been a little design glitch when it comes to the hinge of the mast. Here the kit supplies a buffer attachment to fit, which is supposed to support the mast when erected but in practice only forms a stop; consequently, I fashioned my own plastic holder (see **Photo 23**) before finishing the metal parts. My mast assembly as completed can be seen in **Photo 24**.

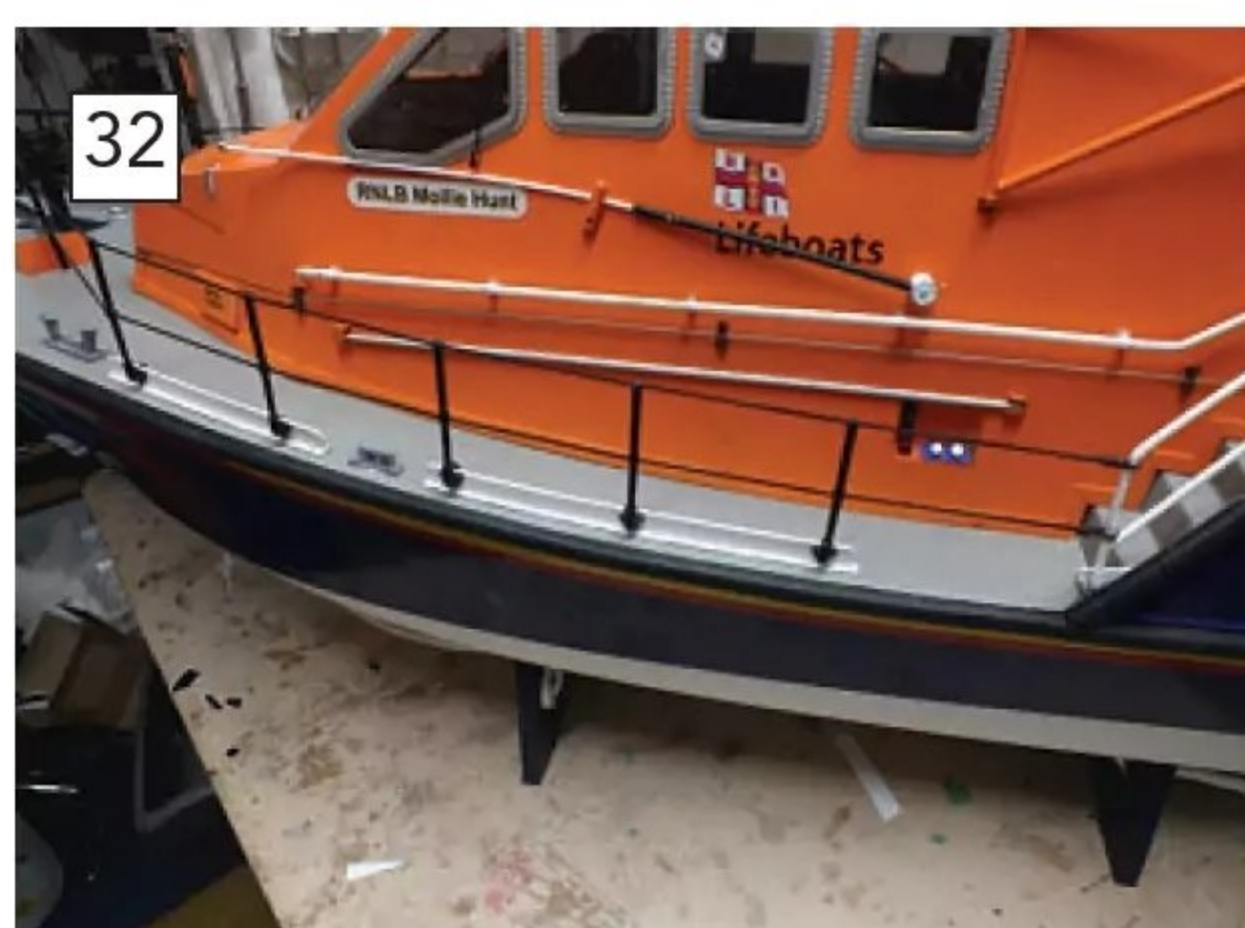
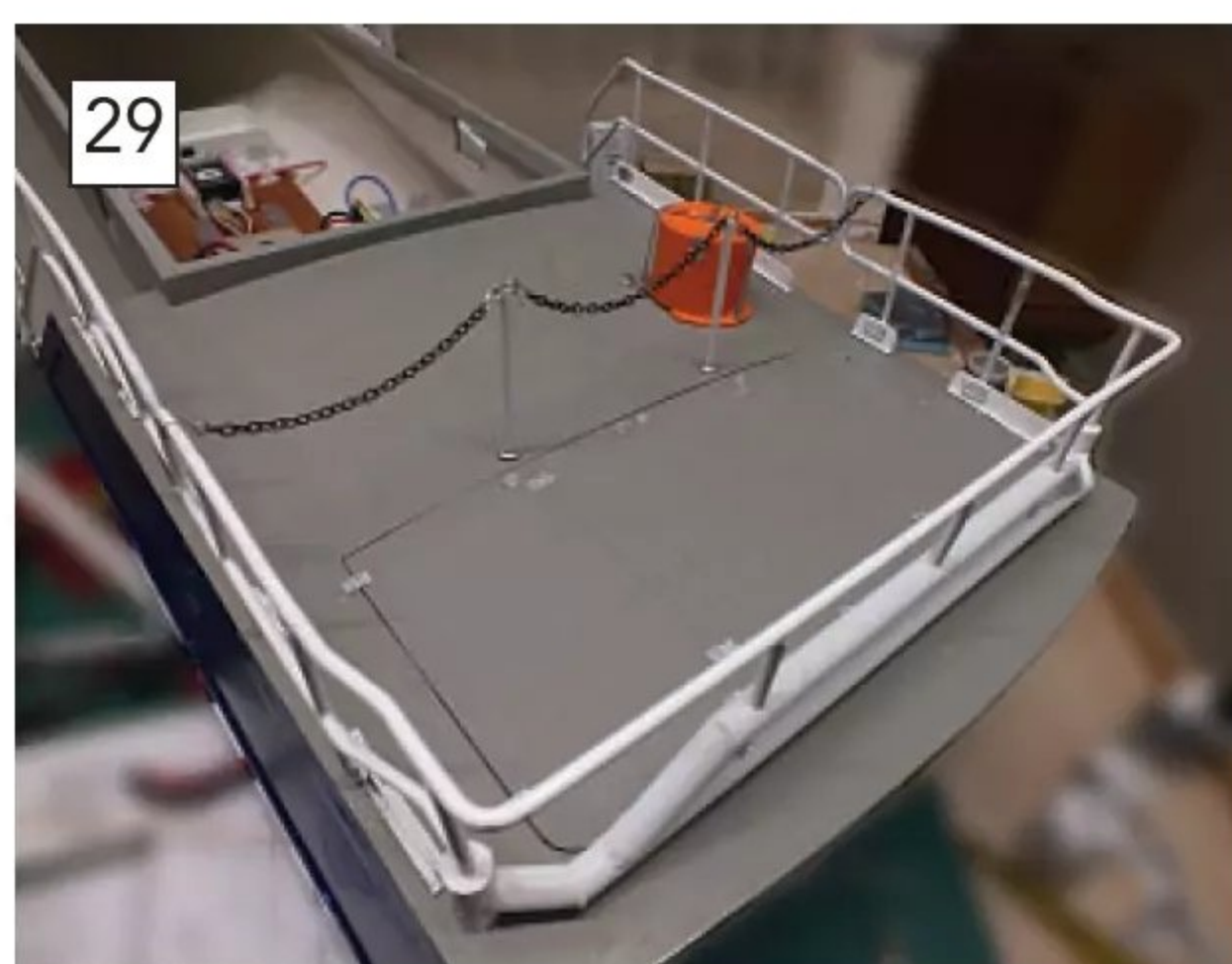
Right from the outset I'd been toying with the idea of making the 'Y' boat accessible via an operational stern (once again, there are lots of photos and descriptions

of this function on real lifeboats to be found on the internet). However, as the model club I'm a member of no longer exhibits/demonstrates at as many shows as it once did, I came to the conclusion that all the extra work involved, and the time by which this would extend the build, couldn't really be justified. I chose to omit working lights and radar (the norm on all my other models) for the same reason.

When it came to the remaining detail, there were fittings aplenty. These included the handrails, the construction of which proved quite a challenge (see **Photo 25**). When drilling out the white metal stanchions, 1.5mm left very little surface area for glue, so I epoxied the pins in using a 5-minute cure epoxy. This preserved the (already very minimal) structural strength of such thin white metal parts. **Photo 26** shows a section of railing after filling and priming, while **Photo 27** shows the stern railing completed. All the plastic joints had to be reinforced with 2.5mm brass wire, so, as this involved a considerable amount of time and patience, a welcome cup of tea was consumed before tackling the remaining railing.

The next solid rail needed even more consideration. To avoid undue kinking when bending the 3.5mm plastic pipe, 2.5mm rod needs to be inserted inside of it, but the problem I encountered here was that the wire supplied is steel and very stiff, so is far from ideal for tight bends. Consequently, I procured some 2.5mm aluminium rod, which made





things much easier. I then added the chain protection to the 'Y' boat hatch (see **Photo 28**) and completed the remainder of the stern's solid handrails (see **Photo 29**).

Photo 30 shows some of the bow detail completed, while **Photo 31** shows some more meat having been added to the cabin and some of the work on the stern. The black elastic cord supplied in the kit was used to simulate rope on the rails for the bow section. I could have used metal rod, as I did for the others, but I think the cord looks much neater (see **Photo 32**). However, because this 'rope' doesn't have the strength of a solid rail, it does leave the stanchions more vulnerable to damage, so I am conscious of the fact that extra care will be needed when handling the model.

The cabin had to be temporarily fitted so that the cut outs for the raised deck section could be accurately marked for correct alignment with the apertures in the cabin itself (these are shown after having been subsequently cut out in **Photo 33**, and prior to the interior fittings having been installed). The flexibility of the cabin sides means the two interior detail equipment boxes fit tightly inside. To further explain I have scanned the diagram from the manual (see **Photo 34**).

Fitting the various, and in some cases very small, detail elements to the cabin normally involves gluing. Whether using general glue, contact glue, epoxy, superglue or one of latest ultraviolet hardening glue, however,



this still means you are gluing to paint, which is fine for the lighter parts, but it can mean any heavier ones are susceptible to coming loose. Consequently, I used very some very small self-tapping screws (see **Photo 35** – purchased on Amazon and supplied with a small Phillips screwdriver), which as a model railway enthusiast I've also employed in the past for laying track on N gauge layouts. Because the smallest screws are only 0.8mm in diameter, they're not only perfect for fixing fine detail but are easily hidden.

One of the many things we acquire as modellers is a good set of tools. Most of us start with the basic knives, pliers and screwdrivers and then, as we progress, find ourselves adding many more. One of my favourite tools, and an item I use more than most others, is my Electric Handy Drill from Tamiya (see **Photo 36**. This comes requiring assembly (mine is shown built) and is used with a set of drill bits that range from 0.6mm to 2.2mm, again, both available on Amazon (see

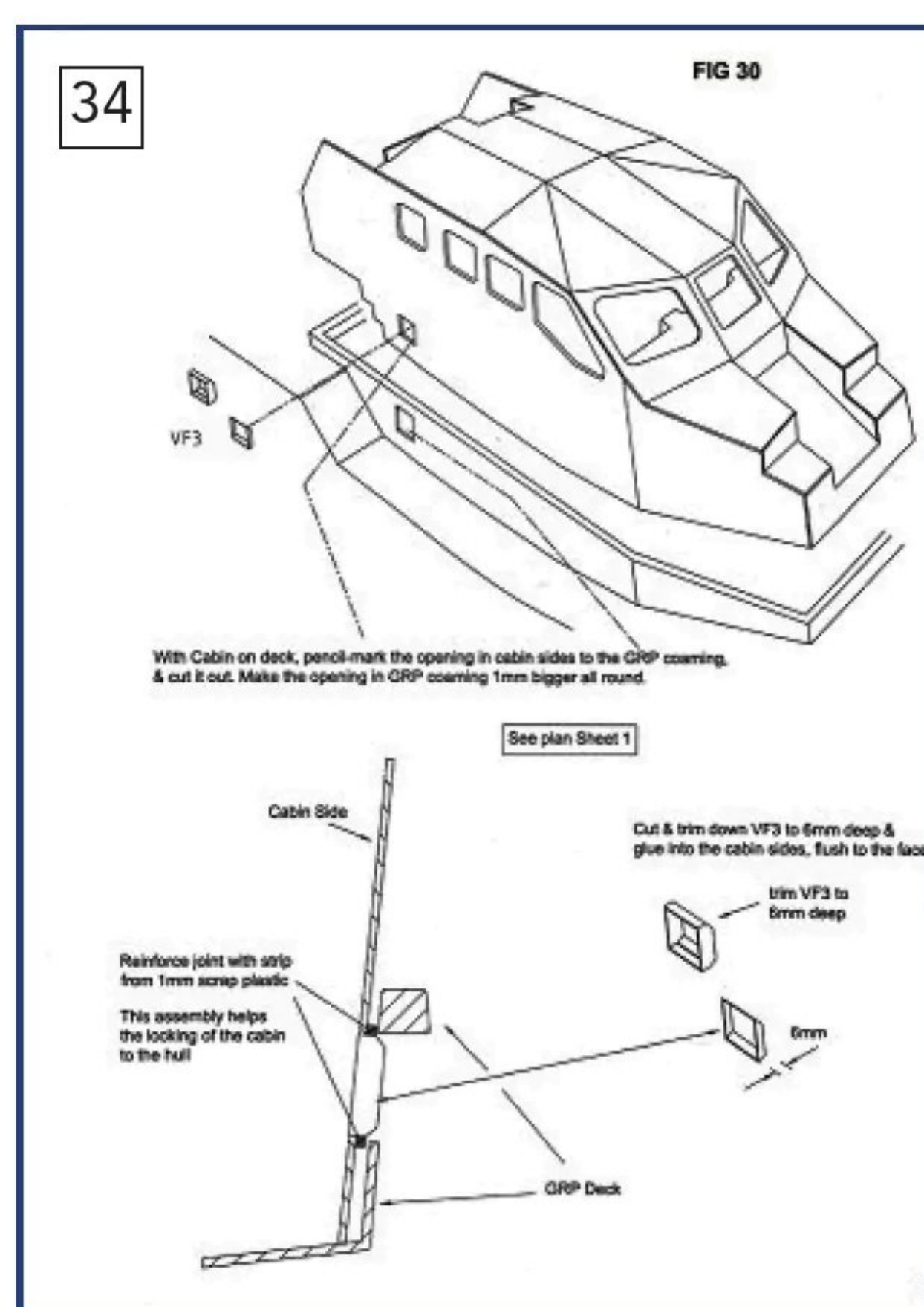




Photo 37). I honestly don't know how I ever managed without it! A very good example of the use of the small screws, and possibly even the drill, is the 'A' frame rescue davit, firstly shown built in **Photo 38** and then fitted in **Photo 39**. The davit is designed to hinge out, but fitting hinges with such a small surface area using glue only means they'll be prone to coming loose, hence the small and easily disguised screw I've fitted.

"I honestly don't know how I ever managed without it!"

I deviated slightly from the instructions for the handrail, shown in **Photo 40**, using 2.5mm brass rod supports inside the 3mm plastic tube, as the small white metal supports just glued to the side seemed to me too flimsy.

Likewise, while the life rings supplied in the kit as vacuum formed



42



43



plastic halves work fine, I think the 3D printed ones from Martin at Dockyard Models which I replaced them with (**Photo 41** – in which they still a little paint touch up). Dockyard Models

also supplied a number of 1:16 scale figures, which my long-suffering wife then kindly set about painting.

Still needing to be completed was the assembly of the 'Y' boat. **Photo**

42 shows the initial cut out, while **Photo 43** shows it finished, albeit with the prop still to be painted to effect a brass finish).

I know experience plays a large part in any build, but I now consider myself very lucky that I'm still capable of kit construction (even if my model boats do seem to get heavier to lift every day!), and this one in particular proved a welcome challenge in so many ways. As I stated at the beginning of this article, it's an old kit and I quickly discovered some parts had gone AWOL. Thankfully, Adam at Mountfleet Models kindly found replacements for the missing items and despatched them by return of post. He also asked to send him a list of discrepancies, which I have done, so I know the very minor problems I encountered will be sorted for future builders.

I also owe a debt of gratitude to my wife. I don't like putting a boat in the water without at least a helmsman, and it was here she came to the rescue. After over 60 years of marriage, although I have always appreciated my wife's skills in embroidery, etc, I had no idea she was proficient in painting figures, a skill I must admit I'm not that



good at. She did a magnificent job, as can be seen in **Photos 44 and 45**. I think it's so important to salute the brave souls who volunteer to go out in all weathers to save others, and RNLI lifeboats models, such as this one, representing an actual vessel based in Appledore, can also help promote RNLI fund raising at various shows, etc.

Tea and camaraderie

This kit proved very enjoyable to build, and resulted, even in I say so myself, in a very attractive model. I have in the past been asked if I ever get frustrated when things don't go quite right, or parts are missing or as less accurate than they should be/don't fit as well they could. Well, of course I do, on a regular basis, but then I remind myself it's all part of the challenge. It's never something that can't be fixed by downing tools and pondering the problem over a cup of tea (or

coffee, if you prefer) – works every time! I hope, therefore, that by giving an honest account of my experience and sharing the solutions to minor niggles I came up with may prove of assistance to others.

I especially hope to inspire the younger generation and perhaps persuade them that building a model like this is more satisfying and beneficial than hours spent glued to a cell phone! So, the following are my tips for beginners. Firstly, if you're able to join a model boating club, do so; the sheer magnitude of collective knowledge and experience you can tap into simply cannot be found in any literature available, especially if you are not reasonably proficient when it comes to the electrics. Putting my two pence worth in, rechargeable batteries can deliver an enormous amount of power, which need to be harnessed, so make sure you fit a fuse as close

to the battery as possible. Another common mistake is the power wiring being too small. I recently advised a member who was concerned his boat appeared to be running slowly; on checking the circuit I found 12 volts were being delivered at the battery, the under load on the motor was only getting 6.7 volts because of the volt drop in the cable. After fitting the recommended heavier silicone cable, he now has 11.2 volts, and it makes a huge difference.

Launch Day

A short window between showers finally allowed a proper test sail, and I am delighted to report that all went well, with sufficient power from the motors. She is a little bow heavy, something apparent both performance wise and visually, but I am confident that this will easily be sorted by moving the main batteries further aft. ●





So that you don't forget when your battery was last recharged, Glynn suggests getting into the practice of recording this on a label affixed to it.

LEAD ACID BATTERIES

How do you optimise the longevity of your lead acid batteries? **Glynn Guest** explains...

Lead-acid batteries have formed a convenient means of powering model boats for a century or more. The current 'gel' types avoid any problems with acid leakage and can become a virtually 'maintenance free' source of energy. This does, however, lead some people into problems, which a little understanding could have avoided.

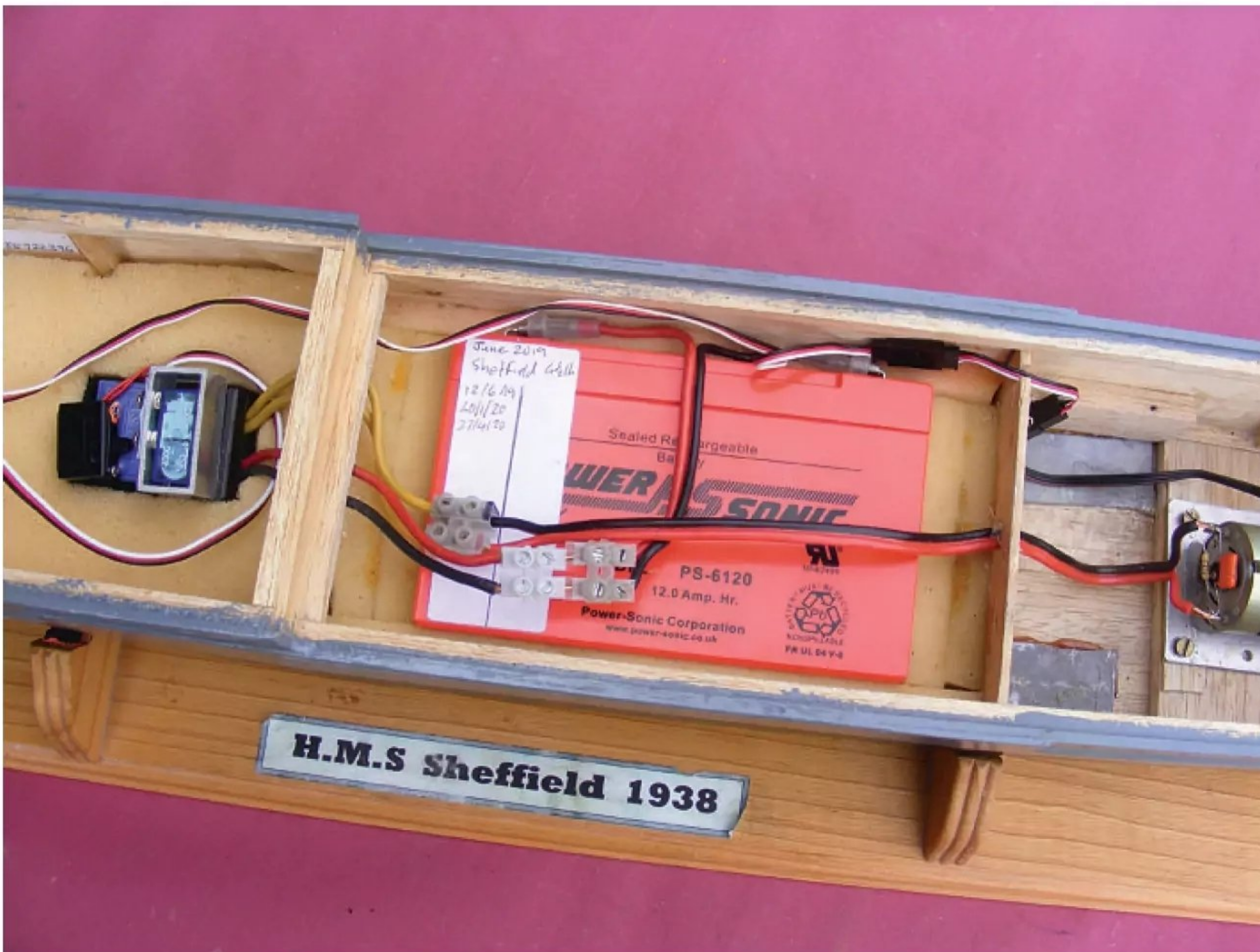
"The phrase 'maintenance free' does not mean you can ignore them until they're needed"

Firstly, the phrase 'maintenance free' does not mean you can ignore them until they're needed. Like most methods of energy storage, there is a small leakage of energy while the thing is sat there apparently doing nothing. Anyone who has left a car standing for a few months might have encountered this effect with a 'flat' battery!

The temperature at which a battery is stored is an important factor in the rate at which it self-discharges. It's a chemical reaction, so, not surprisingly, the hotter it is the faster it goes. There are guidelines for when you should

recharge a stored battery but as a 'rule of thumb' in the UK, you ought to give a battery a recharge about every six months. The only problem might be remembering when it was last recharged, so I have developed the habit of writing this down on a label stuck to the battery.

It's also a good idea to immediately recharge the battery after every sailing session. This ensures that it enters the next storage period with a full charge, which avoids it quickly becoming flat. When a battery has lost all its charge, chemical reactions can occur which, at best, reduce its ability to hold a full charge and, at



No more than 6 Amps is drawn from the 12 Ah battery used in Glynn's model of the cruiser HMS Sheffield, which is good for 1 hour at full speed.

worst, leave it good for nothing other than a weight with which to hold things down while building.

Likewise, I usually give my lead-acid batteries a 'top up' charge before taking them out for a sailing session (a little overcharging at the 10–12-hour rate will not damage good quality batteries). This will avoid you becoming one of the sad characters bleating "But I fully charged the batteries only last year..." when your model stops in the middle of the lake.

Capacity

A battery's capacity is usually quoted in 'Amp. Hours' (Ah). This is notionally the product of the current it can deliver and the duration it can sustain it. Thus, a 20Ah battery should be able to deliver:

2A x 10h – 5A x 4h – 10A x 2h, or any combination of current (A) multiplied by time (h) that comes out to 20Ah.

Alas, the universe is not so simple and the bigger the current, the less

efficient is the battery at supplying it. The battery's nominal capacity is usually quoted for the 10-hour rate of discharge and drawing a larger current will reduce its capacity. If you flatten the battery in an hour, you might get only around half the nominal capacity. Demanding greater currents make things worse and powered duration could be down to minutes, along with risk of battery damage.

"This sounds terrible but is worth thinking about before dashing off to buy more efficient (and expensive) battery packs and the associated chargers they need"

This sounds terrible but is worth thinking about before dashing off to buy more efficient (and expensive) battery packs and the associated chargers they need. With a scale type model based on displacement hull, some ballast will probably be needed for both stability and to get the damn thing to float on its waterline. In instances such as this, I am happy to use sealed lead-acid batteries. The only precaution taken is to check the full power current consumption is numerically no more than half the battery's nominal capacity; for example, no more than 6 Amps is drawn from the 12 Ah battery used in my model of the cruiser HMS Sheffield. This should give me at least an hour's sailing if I storm around the lake at full speed for the entire session. In reality, I'm very unlikely to operate my model in this manner, but it's worth pointing out that even a slight, possibly barely perceptible, reduction in speed can drastically reduce the current drawn and significantly increase duration. It also helps to have a good match between the model-motor-propeller combination and a smooth low friction driveline!

Horses for courses

Now, don't get me wrong, different types of batteries will serve better in other situations. The robust 'Nimh' packs are perfect when more performance is demanded, or space is limited. The lithium battery packs with their high power to weight potential offer higher performance still; but while these do get used in my helicopter and aeroplane models, they would be totally wasted in the bowels of a tug or tramp steamer! ●



It's worth giving some thought/doing some research into the best battery for your model.

"Grandad..."

When you have two budding young captains to please, sometimes you have to step outside your comfort zone. Nev Wade explains...



In 2022 my then five-year-old grandson had been watching YouTube. An American dad had built his son a radio-controlled model of *Titanic*, which looked like a shoebox with sharpened ends and had four funnels stuck on top. The next move had about it an air of inevitability, given that I am a model boat builder.

"Grandad... Will you build me a model of *Titanic*, please?". There is only one answer possible in such circumstances, and I duly gave it.

Now what? My first thought was that this model would need to

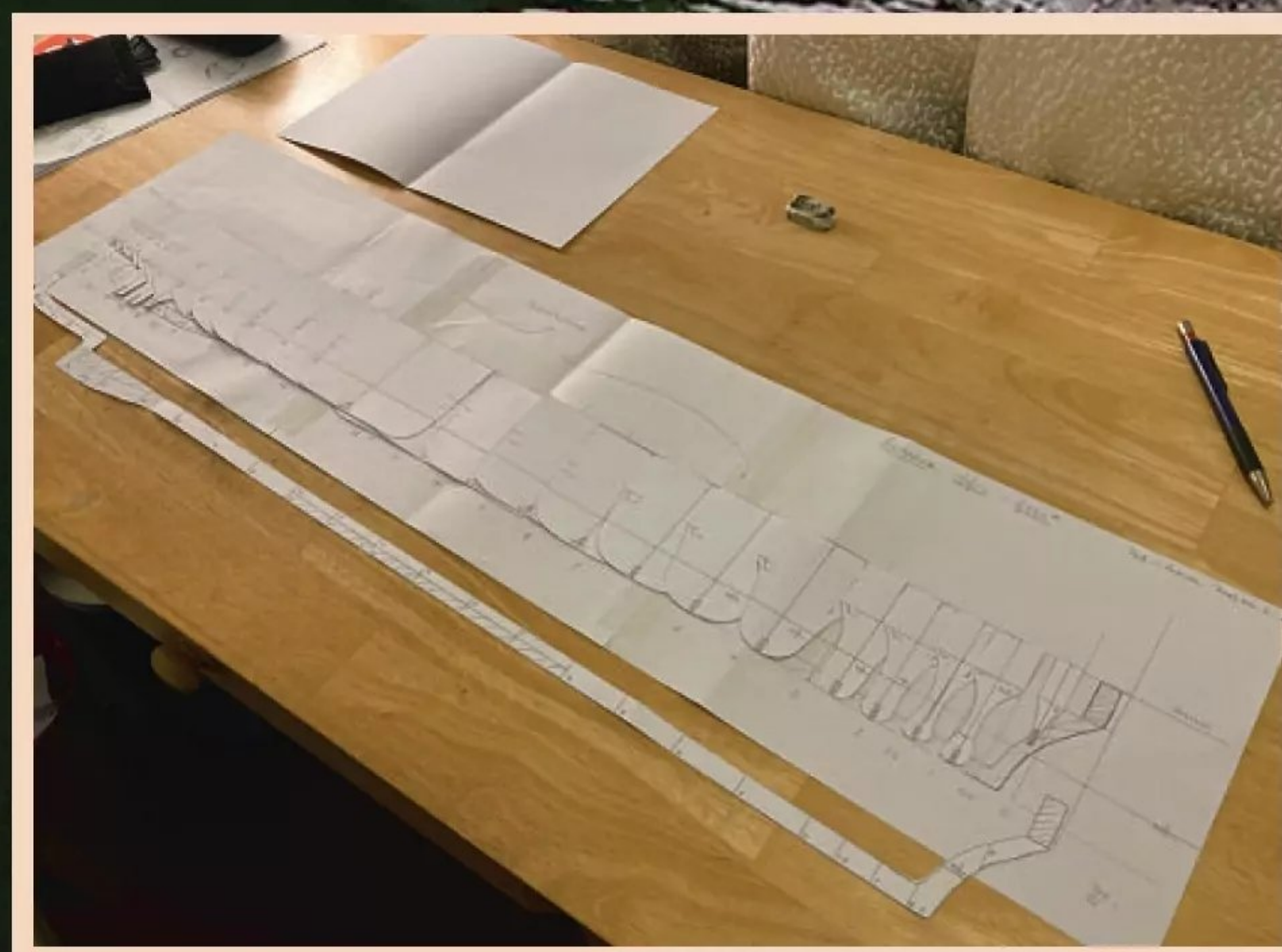
be of a size practical for a five-year-old and his parents. The next was that it probably wasn't worth going the whole hog and fully detailing its upper works. I therefore settled on a hull length, which thus determined a scale that I felt would be reasonable. The hull would be built in wood, plank-on-frame, and would be around 800mms long, at a scale of 1:335. The upper works I would ponder as I built this hull.

The practicalities

Finding a plan from which to work proved remarkably simple; there are

plenty of matching longitudinal and cross sections available to download from the Internet. I duly did that and used my printer to enlarge them to the correct size for my model. A word of warning here, if you do this, make sure that the cross-sections are the correct ones for the numbered positions on the side elevation that you use.

"Finding a plan from which to work proved remarkably simple"



Making a start: paper frames for Bismarck laid on top of the side elevation.



Like most of you, I have a stock of wood (and many other things) required for model boat building, so I used what I had to hand for this boat. I constructed ply-wood frames, put them upside down on a building board and then made a skin from thin plywood and 8 x 2 mm lime wood strip. I did wonder if 8 mm wide lime wood strip would be too wide at this small size, but it went on OK, so I pressed ahead, lining the interior with glass fibre tissue and resin for strength.



Titanic's frames on the building board.



Titanic's skin almost complete.



Titanic painted, and on her stand.

Stepping outside of my comfort zone

I build models of sailing ships, with no motors and propellers, so a powered model was unfamiliar territory for me. I therefore sought advice from fellow modellers at Killingworth Model Boat Club and followed their suggestions for motor, propeller, shaft and ESC.

"I build models of sailing ships, with no motors and propellers, so a powered model was unfamiliar territory for me"

The small size meant a single propeller, so I duly cut a recess in the stern to accept mine and then glued in the prop shaft tube. The slim hull presented a slightly tight fit for the electrics, but not an impossible one, and it all went in reasonably easily.

At this point I had to confront the issue of ballast, which had been on my mind from the start. This boat is very small and quite narrow, so I wanted to build in as much stability as I could. I felt that, besides being really difficult to fit into the hull in the right places, interior ballast would be too high up to give the amount of stability I thought I needed. Remember that this boat is for a five-year-old to use with his parents. So, I did what I do with



Titanic's hull off the building board. The sheerline has been cut to shape.



Preparing the keel for fitting to its bolts. The oversized rudder is apparent.

my sailing ships, I weighed the lead used to weigh down the model to the correct waterline and fashioned it into an external keel attached to the hull by two bolts. It isn't pretty, but you can't see it when the model is on the water; I also designed the stand so that you can't see it when *Titanic* is on display either.

Finishing the hull

Now I was back on familiar ground, but only for a while! I made 'false decks' out of thin ply, cut into them holes for the hatches, made coamings for them and then water-proofed the decks, before planking them with 8 X 2 mm lime wood strip and finalising the waterproofing with resin and varnish. I then made and fitted two masts out of brass tube, to complete the hull.

I now had to consider the issue of addressing the upper works of *Titanic*, which had bothered me from the start. Like most more or less modern liners, *Titanic* has the horrible slab sides required to enclose all the internal accommodation. I didn't want to embark on the mammoth task of building my own upper works, so I decided to use a plastic kit, of which there are many. Unfortunately, the nearest scale I could find was 1/400th, but I resolved to persevere with that.



All the electrics in. The pale oblong to the left of the hull is the external keel.

"I didn't want to embark on the mammoth task of building my own upper works, so I decided to use a plastic kit, of which there are many..."

The kit

Knowing that I couldn't give the model the authentic slab sides, due to the difference in scale between hull and kit, I settled on making a box, which would sit atop the deck and be removable from it. Onto this I built the relevant parts from the kit, to create a detailed super-structure. The result is, to my critical eye, a bit like 'a pea on a drum', in that it 'perches' on the hull rather than being a part of it, but I tried to remember my customer is well versed in *Titanic* detail and would demand as much of it as the kit certainly gives. Under the box and superstructure is the on/off switch, while the charging points are reached by lifting a further hatch cover set into the actual deck of the hull.

On the water

I took the hull, without the kit superstructure, to do a trial sail, before



Decks, hatches and the mainmast done.



The plastic kit has now been started, fitted to the top of the 'box' which connects it to the hull.



All finished, the difference in scale between hull and upper works are evident.



Titanic on the water.

committing to the kit. At 793 mm long, it is dwarfed by the big lake at Tynemouth. With no experience of motors, etc, I was full of trepidation about everything, from the danger of water ingress via the relatively unsecured hatches (by sailing ship model standards) to how well the boat would progress and how long a battery charge would last; the latter being of particular concern, as I didn't want to fail and end up comparing unfavourably with that American YouTube dad!

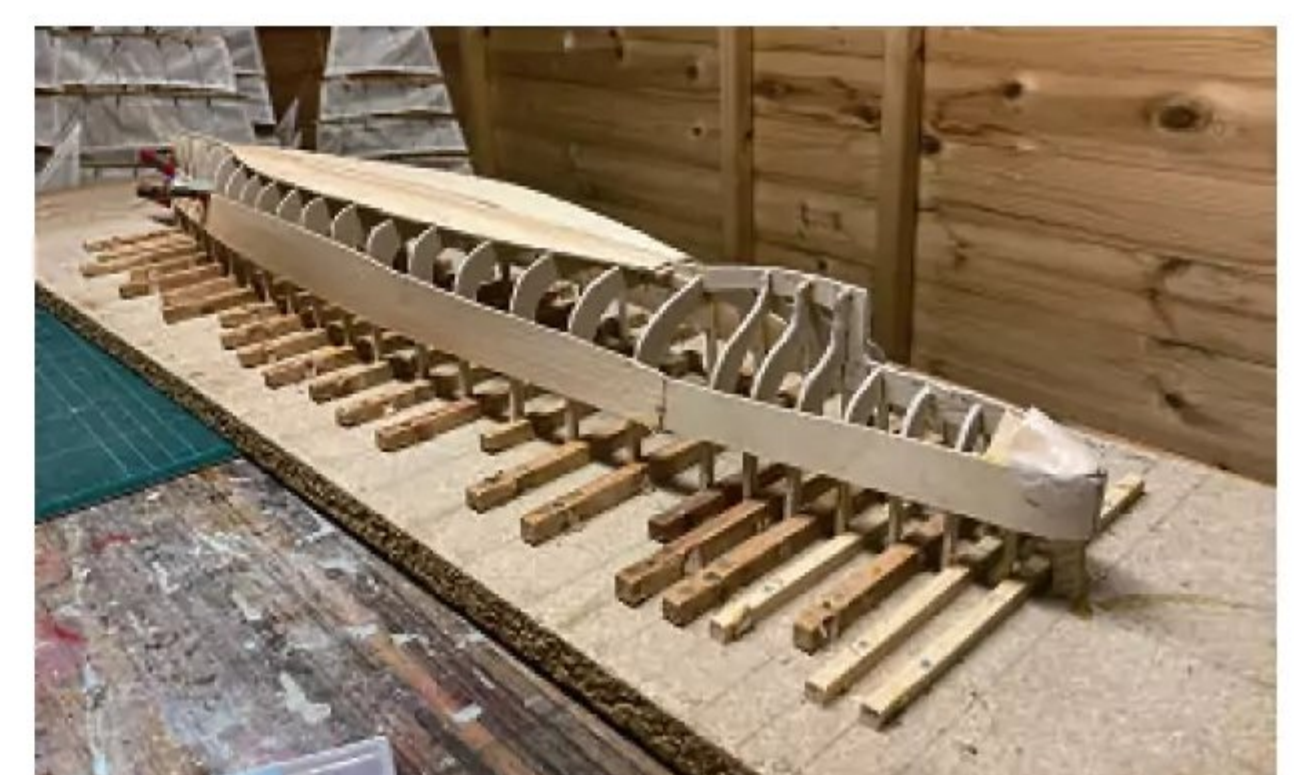
I needn't have worried so much. The model was stable, due to the external keel, progress was just fine, with good directional control from the (oversized) rudder. I had picked a very calm day for this trial as I was also very wary about wind and waves, so I had no problems on that score. Mission accomplished, I returned home, well pleased, to add the kit to the top.

Since then, the model has been sailed by her young captain. She has coped with some wind and waves, and her battery lasts well and keeps



Bismarck's frames on the building board.

going strong for more than half an hour, by which time her skipper has seen enough anyway. So, all in all, a real success.



With the skin being added, the extra 'bulge' Nev built into the keel, to accommodate the prop. shaft, can be seen.



The hull released, but yet to be to cut off the uprights used to connect it to the board during building.



The sheerline cut.



The fitting of 'false decks', made from thin ply, which will later be planked. The ESC is still outside the hull at this stage.

From liner to battleship

During an early sail, with six of us present, the five-year-old's mum approached me. His brother, then ten, had asked for a model *Bismarck*! Emboldened by the *Titanic* experience, I was more confident in the "yes" this time.

The same Internet search success ensued and I had the plans ready in no time, enabling me to embark on another plank-on-frame hull at 1:335th scale. It never ceases to amaze me how when you build a model ship you learn so much more about the real vessel. Whereas *Titanic* was very similar in hull shape, especially at the stern, to a sailing ship, *Bismarck* was just a huge raft, presumably built that way to serve as a stable gun platform.

Again, I had just one propeller; in fact, the running gear was the same as that used for *Titanic*. I did have to modify the keel near the stern to allow the prop shaft and propeller to come out of the hull forward of the type of rudder that was unique to this type of warship. The hull was completed by



Painted, with the prop sticking out from the 'bulge'.



The hatch cover and main deck.



The electrics fitted.



The hull almost ready for the plastic kit.



The keel fitted.

fitting decks made in such a way that I could set the 'box' (onto which I was going to build the superstructure) into the deck forward and aft of it within a recess, giving the correct flush deck the whole length of the vessel. I, again, fitted an external lead keel to float the model to the correct waterline and to give as much stability as possible. I felt this was particularly important here as the freeboard is tiny.

I had more luck with the plastic kit for this boat, using one at 1:350th scale, not too different to the model's 1:335. This fact, coupled with the ability to fit the upper works to a flush deck, meant that the scale difference is much less obvious than with *Titanic*. I engineered the on/off switch into the 'box' in such a way that the vessel can be switched on using a small screwdriver through a hole in the



The base of the plastic kit fitted.



Bismarck complete.



The stern, showing the rudder and prop arrangement.



Note how the kit can be lifted off almost complete, to allow access below.

plastic kit. The ‘box’ has to come off to reach the charging lead, however.

“Bismarck sails in just the same way as Titanic, with one important difference...”

Once more to the pond!
Bismarck sails in just the same way as Titanic, with one important difference. There is much less heel involved, due to the wide, shallow hull, the ideal gun platform.

“Wow, they’re so cool!”

The final verdict
Watching these scaled down boats sailed together is an unusual experience, especially as they are of such a similar size. The vessels they are based on could never have done so and, therefore, it feels somewhat surreal. The last time I was there when they sailed, with both boys enjoying their half hour or so, another family walked past. As they did so, I overheard one of the kids comment on the boats, and I quote, “Wow, they’re so cool!” What more could any model boat builder – or, indeed, grandad – want? ●



Just after their first joint sail, the kids’ boats.

Specifications

	Bismarck	Titanic
Length (mm)	748	793
Beam (mm)	107	83
Scale	1:335	1:335
Battery	7.2V	7.2V
ESC	Viper Marine 15	Viper Marine 15
Radio	Absima SR25, 2.4GHz	Absima SR25, 2.4GHz
Servo	HiTec HS81	HiTec HS81
Prop. shaft	6-inch/20mm, 3-blade	6-inch/20mm, 3-blade
Motor	MFA RE 360	MFA RE 360
Kits	1:350 Revell	1:400 Airfix
Keel weights (gram)	375	731

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TSS *St David* (III)

Barry Lalonde tells the tale of this finally, but very finely, finished ferry...

I think it's safe to say that many of us have unfinished models sitting on our shelves, sometimes for months, sometimes for years, and occasionally for decades. This, then, is a happy ending story of a model that once fell firmly into the latter category...

In 1975 I began what was, the largest and most ambitious project I had ever tackled, a model of the passenger ferry *St David*.

The *St David* was built in 1947 by Cammell Laird for the Fishguard and Rosslare Railways and Harbour Company. She and her sister ship, the *St Patrick*, were both in service during the 1960s. The *St David* spent most of her time on the Fishguard to Rosslare route (although in 1969 was transferred to the Holyhead to Dun Laoghaire route, before finally being scrapped in 1971), while the *St Patrick*

went from Weymouth to the Channel Islands. Nowadays, we all tend to take the roll-on, roll-off ferries for granted, but prior to their introduction cars had to be craned through the hatch in the rear deck on ferries like the *St David*. In 1964, however, the *St David* was converted to also enable vehicular access via side doors in her aft side.

The model boat plans that I purchased were of half size, so all



Good progress made at the start of Barry's build back in the mid '70s.

measurements had to be doubled up to give me a boat measuring 152 cm in length with a beam of 25cm. I elected to build this in the 'bread and butter' style, using tongued and grooved floorboards to get the width and inserting a flat piece of board in the mid-section. All went well and it wasn't long before I had arrived at the 70/80% finished stage, which included most of the deck fittings, lifeboats, davits, vents, doors, etc.

Life then intervened, and the pressure of other things, such as growing children, a house move and a career change, meant completing the

model had to be temporarily (or that's what I told myself) put on hold. So, after being shifted around the house to various different locations, it was eventually relegated to the garage. Shamefully, it wasn't until well into retirement that I finally made the time to pick up where I had left off – some four decades later!

Assessing the ravages of time

An initial re-inspection revealed that, despite having been covered up, the model had gathered an inordinate amount of dust, and, worse still, I



A gorgeous period poster advertising the Fishguard to Rosslare route poster, featuring the St David.



Uncovering the partially finished ferry after having been stored in the garage for almost 40 years.



Giving the ferry a good sand, in order to assess the condition of the hull.

noticed a number of the deck fittings were damaged or had gone astray.

Firstly, therefore, there was some serious cleaning up to be done. This led to the observation that some of the joints in the various layers of wood were looking, from the outside, somewhat questionable, so I opened up the seams and used epoxy in order to stabilise them and prevent any further deterioration.

Once I had repaired and painted the primed hull, I was then in a better position to assess whether the boat really could be salvaged, and the answer was yes.

“Before downing tools all those years ago, I’d float tested the hull and it had proved very unstable when loaded down to its waterline. My next task, therefore, was to try to address this issue...”

Flotation testing revisited

Now, before downing tools all those years ago, I’d float tested the hull and it had proved very unstable when loaded down to its waterline. My next

task, therefore, was to try to address this issue, and I decided the best bet would be to use large segments of 10mm thick lead to completely line the bottom of the hull’s interior.

Having done this, it did float more or less on its waterline and when tilted over would right itself, but slowly. The results were certainly better than those in the 70s, but still not at a point where I felt my ferry could be safely sailed on the lake.

Encouraged, though, by this somewhat more successful floatation test, I felt confident to carry on with the build.

Added extras

Naturally, over the decades that had come and gone, my modelling skills had improved considerably, so I knew I’d be capable of achieving a far better end result than once envisaged, and that I’d be able to include features not originally given any thought to, such as LED lighting, passengers and crew, and a sound system of some sort.

I used brass wire for the railings; these were built on top of a drawing of what was required and then soldered together.

The LED lighting proved a time-consuming exercise and was done in two parts. Above deck I installed 14 navigation and deck lights for the top deck walkways, which I fitted into the removable section of superstructure, while below deck I added 22 LEDs, all mounted on a removable light bar, to illuminate the interior of the vessel. Both sets were



The 22lb of lead segments Barry initially decided to line the bottom of the hull’s interior with.



Barry’s DIY floatation test tank, made up of house bricks and a sheet of plastic.



The decks of the St David brought alive with some thoughtfully positioned passenger and crew figures.

powered by their own 9-volt battery.

As for the audio effects, I decided not to use a sound module that was linked to the throttle, instead opting for a unit with a memory card that plays 30 minutes of the ships' engine, its horn, a safety briefing for boarding passengers and the telegraph ringing the changes in control on loop.

I had also wanted smoke coming out of the funnel, but my homemade smoke machine caught fire while testing, so I gave up on that idea!

With all these extras in place, I then painted the 22 passengers and eight crew figures and secured them in place.

Risk and reward

The project was now almost finished, but I still wasn't completely happy

with the stability of the vessel. I couldn't bear the idea of a gust of wind or a wave from a passing boat tipping her over too far, leaving her struggling to right herself, or indeed facing the very real danger of her sinking.

"The big worry, of course, was whether at this late stage it would actually be possible... But I decided to take the risk and went ahead"

After giving the matter some further thought, it occurred to me that removing the lead ballast I'd installed inside the hull and replacing it with a keel fitted underneath the boat

may be the answer. The big worry, of course, was whether at this late stage it would actually be possible to make holes in the bottom of the hull without causing substantial damage. But I decided to take the risk and went ahead, fitting two keel boxes into the hull and bracing them across the width of the interior. I then had to guesstimate the volume and weight of the 10mm lead from the bottom of the hull before using it underneath the boat in a compact form. Fortunately, my calculations were good, and not only did my model float almost on her designed waterline but she proved really stable too. The keel (measuring 50cm in length, 4cm in width and 7cm in height) was made from a 4mm alloy plate, with the lead bolted on each side, after which everything was



The light bar, and the bracing of the keel boxes.



A further flotation test for the St David, this time in a children's paddling pool.



Barry's ingenious DIY trolley, designed to make launching and retrieving the weighty ferry struggle free.

smoothed with car filler to ensure a reasonably streamlined shape.

Next came a further flotation test, this time in a children's swimming pool. Success! The boat now sat on her designed waterline and was very stable when tilted over.

Launching at lakeside

The wooden boat itself weighs 24 lbs, while the lead keel weighs 22 lbs, with a small trim weight forward and to starboard of 2 lbs. As this overall weight of 48 lb is far too heavy a load for me to lift in and out of the water without breaking some of the deck fittings, or my back, I've designed and made a small wooden trolley to do the job. The 22 lb lead keel simply needs to be placed into a channel cut into the trolley before the wooden model is lowered onto it, the keel then slides up inside of the boat and is secured in place with two locking pins. Fortunately, my local lake has a





Looking splendid, out on the water.

concrete slipway, so the boat can be launched simply by pushing the trolley into the water, after which, off she floats. Removing her from the water is also a breeze; the attached keel is just slid back into the channel on the trolley before the model is hauled out. This system is just so easy, with no arduous lifting required.

“This system is just so easy, with no arduous lifting required”

Finally, a ferry to be proud of

I could never have imagined when I first began work on this passenger ferry model all those decades ago how happy I would be with her. She really has exceeded all expectation.

Viewing her at eye level while out of the water, it's easy to imagine walking the upper decks or sitting on the seating admiring the view. On the lake, despite weighing close to 50lbs, she floats on her waterline, goes faster than the scale speed when required, is very manoeuvrable due to her larger than scale rudder, and is very stable. What more could I ask for? ●



All lit up for a spot of night sailing.

Shell Welder

Phil Button converts a car boot find part-built plastic coastal tanker into a super little 'sea-going' radio-controlled model

Some time ago, during a visit to my grandson Richard, I was presented with a part-built plastic kit model of a tanker that he'd picked up at a car boot sale. Richard is the grandson who challenged me to fit radio control equipment into a 1:108 scale, 231mm long, Revell plastic tugboat kit called *Lucky XI* (see 'Model Boats' of March 2014) and he was keen for me to 'work my magic' again here.

The kit, produced by Novo in the USSR, builds to a 1:130 scale model of the coastal tanker *Shell Welder*. **Photo 1** shows the lid of the cardboard box this kit came in, while **Photo 2** shows the original vessel on which the model is based.

Since this model was much larger than *Lucky XI*, at 400mm long, the potential for radio-control was obvious (and much easier than for the earlier model). **Photo 3** shows what was in the box as received, with the hull partly assembled (the instruction leaflet has been removed to show the plastic parts).

Basic hull structure

The partial assembly of the hull already had the forecastle, main deck assembly and superstructure base fitted, although this had been poorly done (perhaps fortunately, as it came apart very easily into its various parts!) and it had not been painted. The basic hull comprised two halves, joined along the keel line. That join did not look too secure, so I followed my by now well-trodden path of gluing styrene sheet bracing pieces inside the join (after removing the forecastle and main deck pieces) to help keep it all together (**Photo 4**).

The next job was to place the whole hull in a 'domestic test tank' (the kitchen sink,



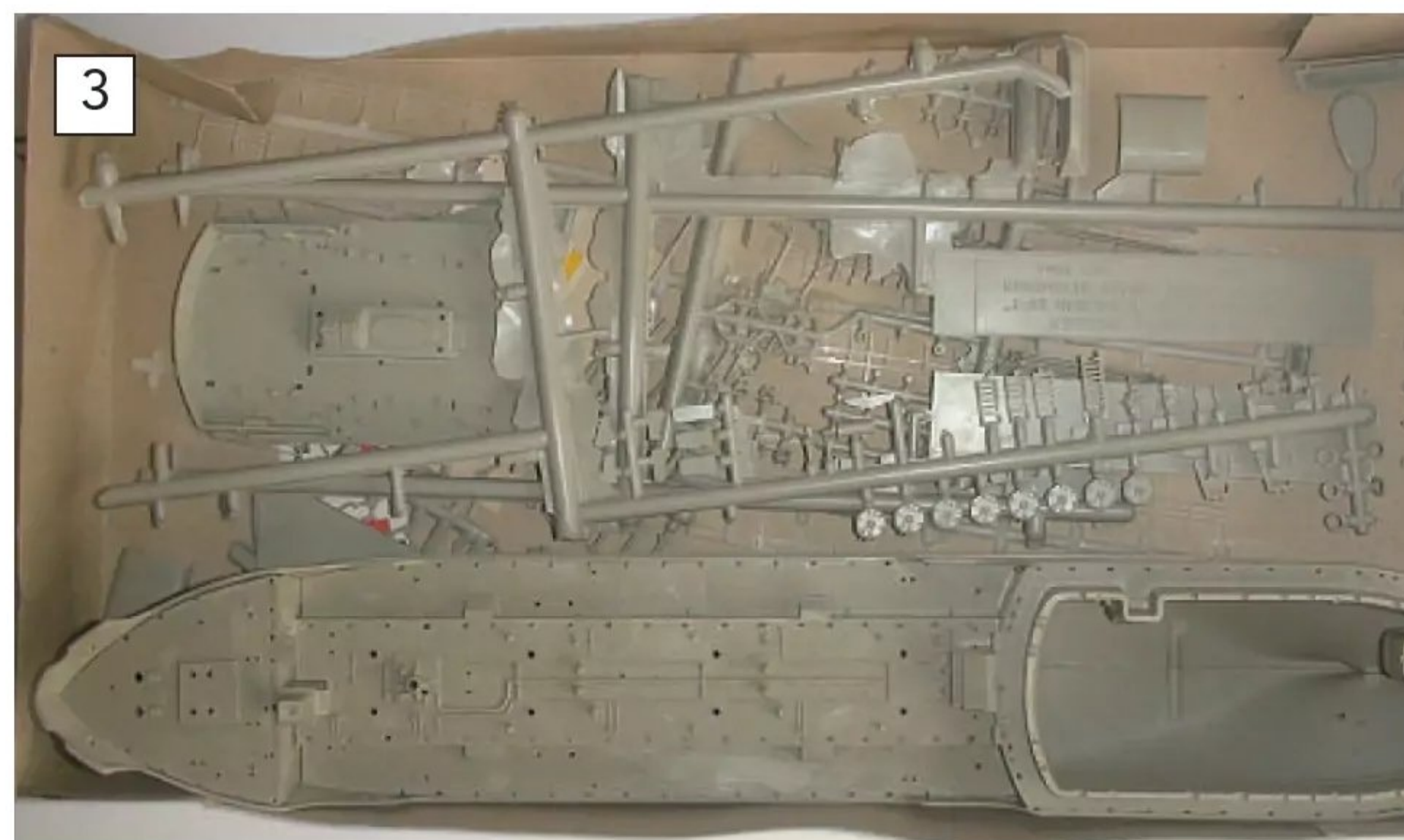
this time) and find out how much weight was required to get it down to somewhere near the correct waterline. This gave me a total of 350 grams.

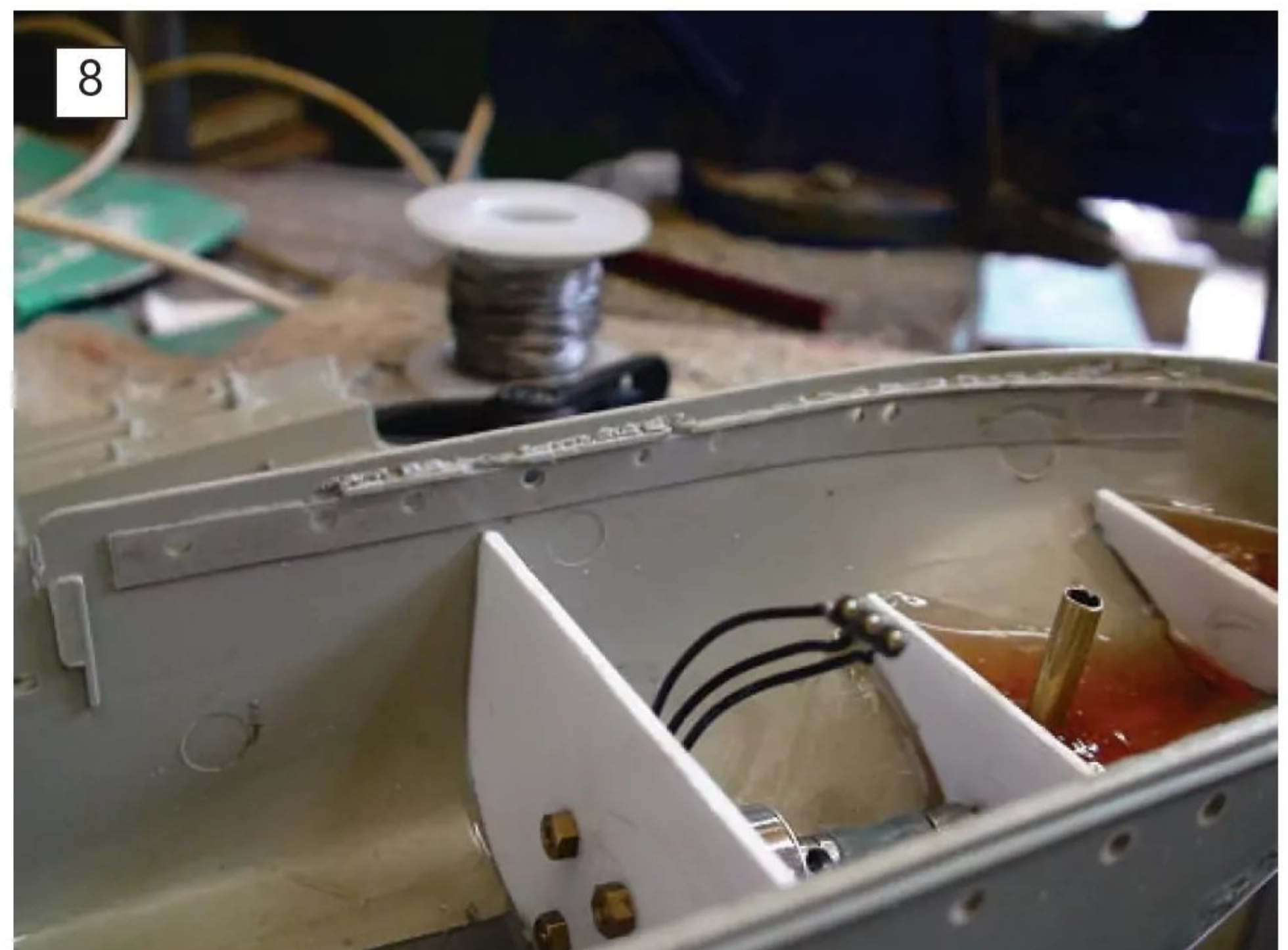
After weighing the various parts which had to go back on the model and allowing for the same power and radio control installation as *Lucky XI*, the ballasting calculations came out as below:

- Main deck: 30 grams
- Superstructure assembly: 30 grams
- Forecastle assembly: 5 grams
- Propeller and shaft assembly: 20 grams
- HXM 1400/2000 brushless motor: 5 grams
- 3-amp electronic speed controller: 1 gram
- 1000mAh 3.7V LiPo battery: 24 grams
- Orange 2.4GHz receiver (minus case): 5 grams
- Mini-micro rudder servo: 2 grams
- Total weight of fittings: 122 grams

“At 400mm long, the potential for radio-control was obvious”

This left an additional weight of 228 grams to be added to the hull. Since I had decided that the forecastle and main decks were eventually going to be glued permanently in place on the hull (helps to keep the water out!), the majority of the area forward would become inaccessible after fitting the deck, so any ballast would have to go in before they were fitted. **Photo 5** shows 160 grams of lead ballast fixed with polyester resin in the area which would later be covered by the deck, and an additional 40 grams of lead loosely fitted in the area which would eventually house the battery. (This picture also shows stages in the build





that will be covered later in this article). I don't remember why the 40 grams was only loosely fitted, but this proved fortunate later, after the sea trials!

The stand provided in the plastic kit was rather fragile so to help with refurbishment, I built a boat stand from scrap ply to support the hull during 'surgery' and also for safer transportation to and from the boating lake. **Photo 6** shows the hull on the (as yet) unpainted stand – green felt is glued to the top of the supports to protect the paintwork from damage.

As the decks were eventually going to be glued into the hull, the after superstructure opening would become the only available access to the interior. Superstructure on the model comprised two pieces, a base and a top. I built up a

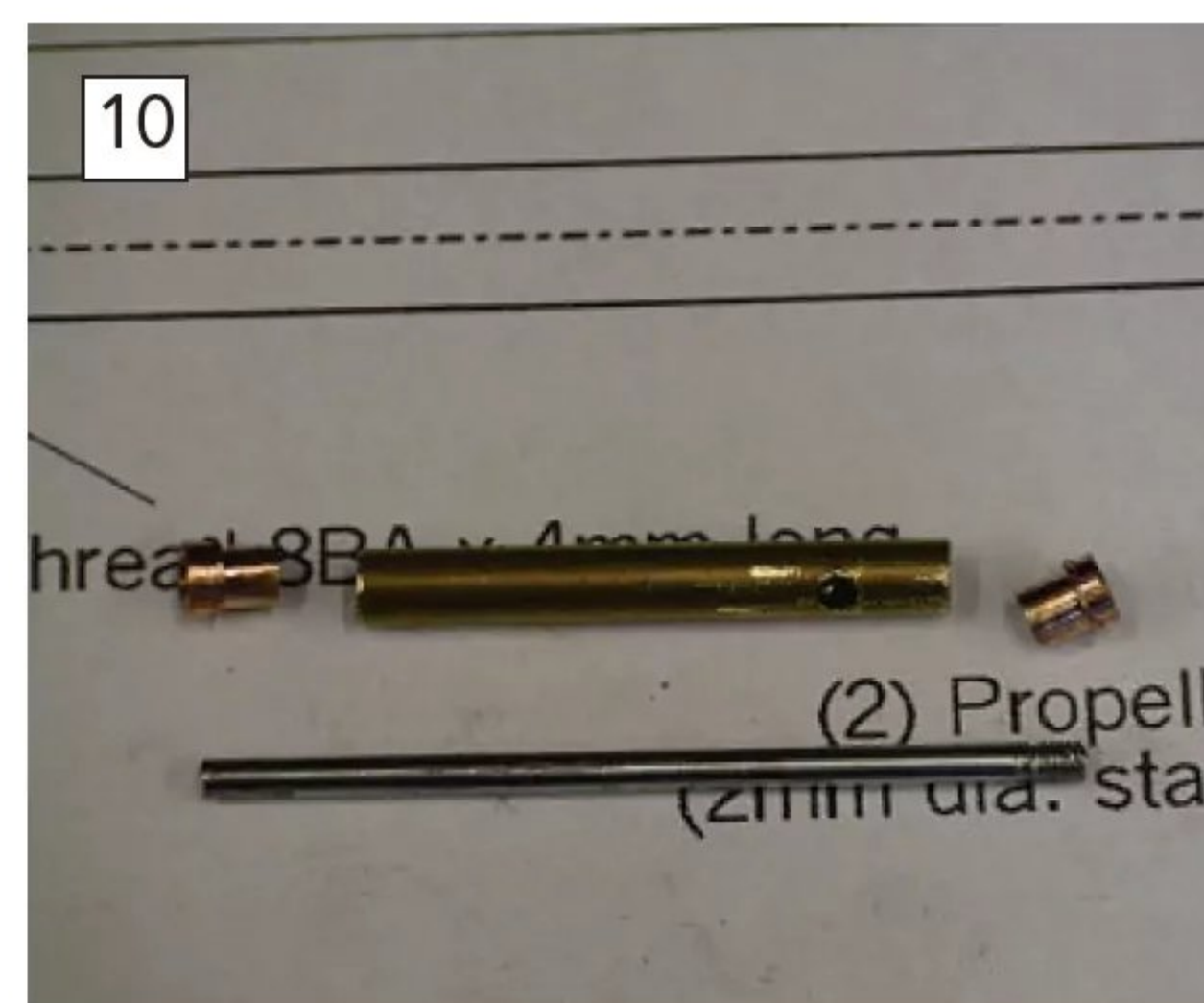
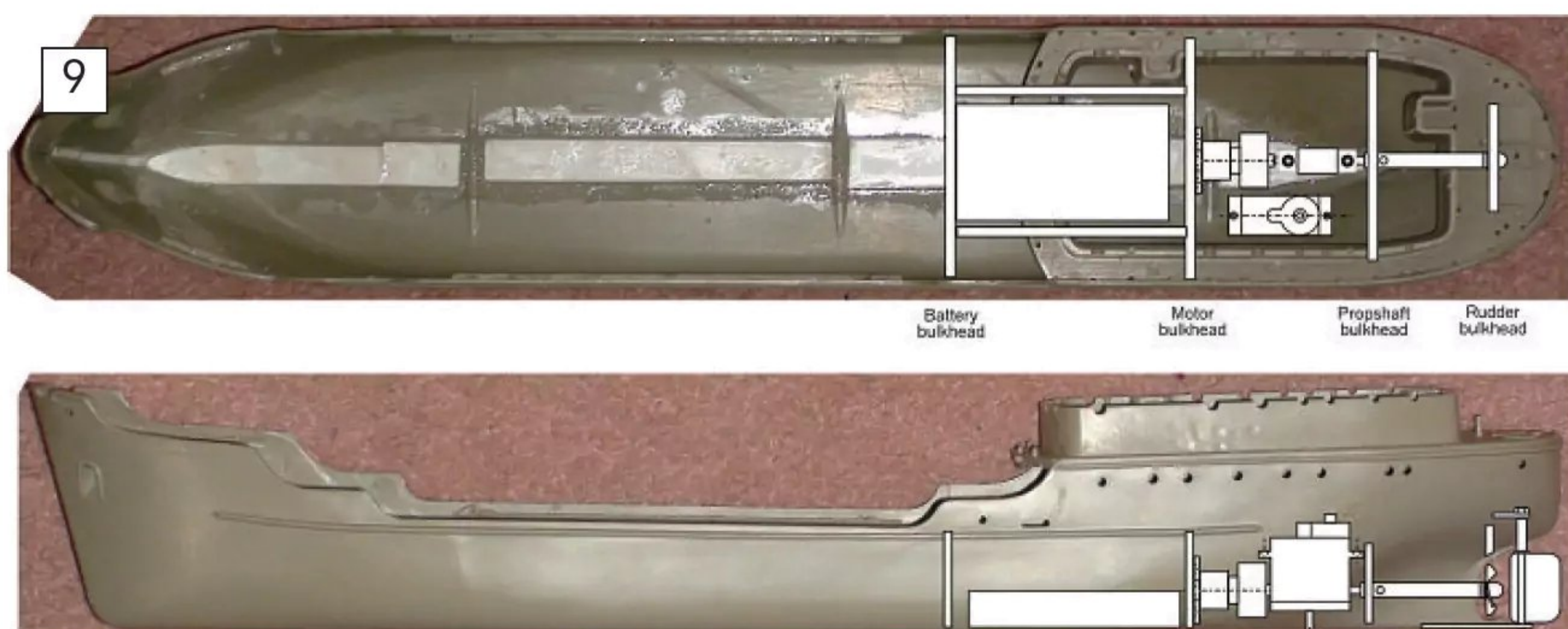
styrene coaming around the lower edge of the superstructure top to enable it to fit over the superstructure base (see **Photo 7**). The coaming was made from clear styrene as it would cover some of the portholes (note – the superstructure top is upside down in the picture).

There is also a row of portholes around the stern of the model below deck level and, since I didn't want water getting in through them either, a strip of clear styrene sheet was cut and fitted to the inside of the hull as a seal – **Photo 8** shows the starboard strip in place.

Before starting on any further fitting out, I took side view and plan view photographs of the hull and imported them into my Serif DrawPlus software in the PC. After scaling the pictures to model size, I could play

“I took side view and plan view photographs of the hull and imported them into my Serif DrawPlus software in the PC. After scaling the pictures to model size, I could play around in the computer with placement of all the items needed to complete a radio-controlled model”

around in the computer with placement of all the items needed to complete a radio-controlled model – propeller and shaft, bulkheads, rudder and fittings, rudder servo, radio receiver, electronic speed controller



and battery (see **Photo 9**). I find it easier to do this rather than trying to get things to fit in the actual model.

Fitting out

I already had a design in the PC for a propeller and propeller shaft (created for *Lucky XI*) and it needed no modification at all for this vessel. The propeller diameter was retained at 12mm, but I altered the design, in the light of experience with *Lucky XI*, to add an oiling tube above the oil hole in the propeller shaft tube, as it makes it much easier to get at. **Photo 10** shows the parts for the propeller shaft (made from 4mm OD brass tube with machined bronze bushes and having a 2mm diameter stainless steel shaft). **Photo 11** is the finished unit before fitting the oiling tube, and with a rule to give an idea of its size.

Since it would be in the way of both the working rudder and the propeller shaft, the moulded-in rudder on the hull was cut away to allow for the later fitting of a working unit.

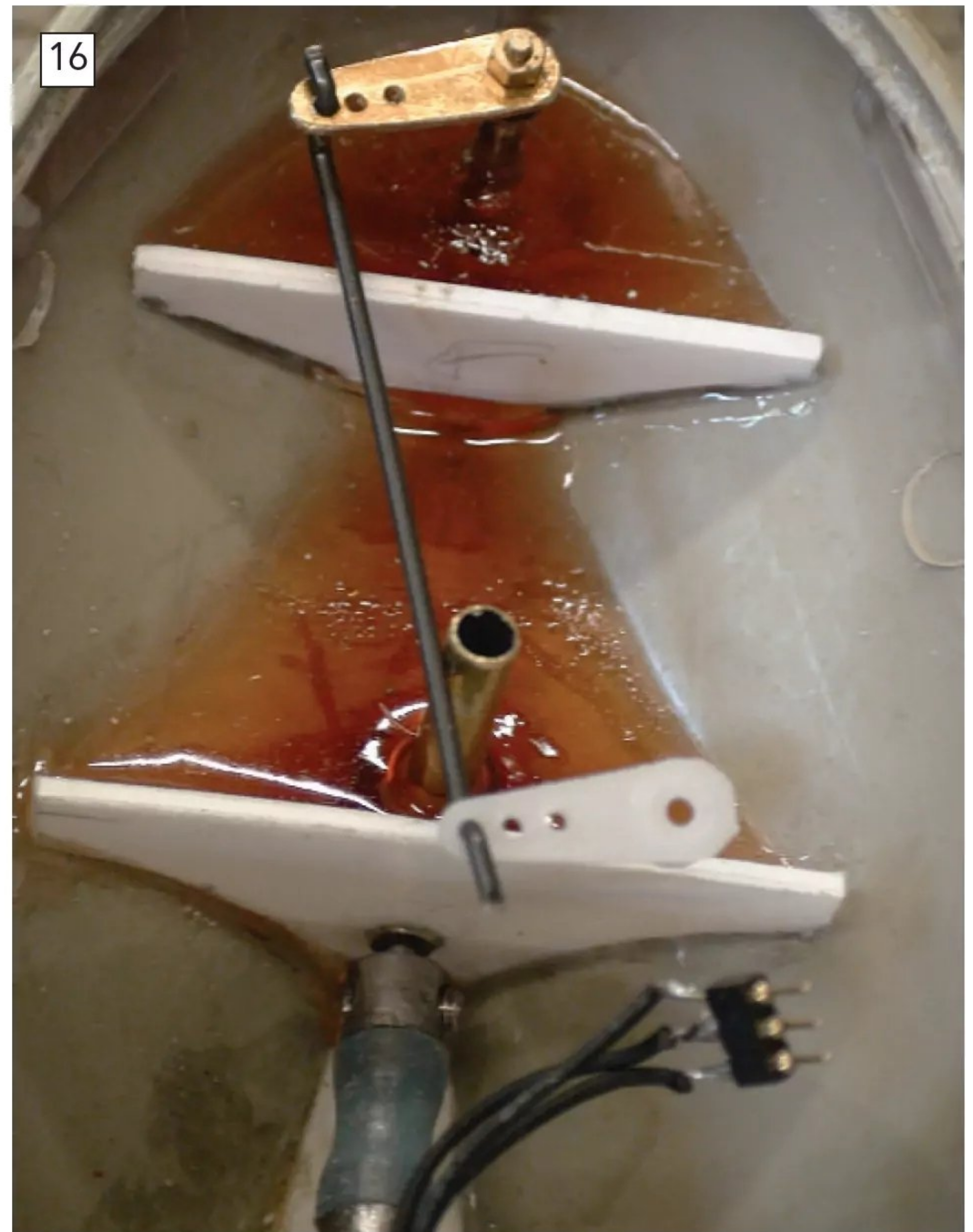
The next task was to carefully (very!) drill a hole through the stern to carry the 4mm diameter shaft tube. This was done by initially drilling a 2mm diameter pilot hole from the outside of the hull with the drill bit gripped in a hand-held pin vice, and then opening this hole out to finished diameter using a combination of drills and fine files. **Photo 12** shows the hole where it exits the hull. Unfortunately, during the drilling, the rather brittle styrene of the hull split, had to be glued back in place and would need filling later.

Once the propeller shaft assembly had been fitted through the hole in the hull, a styrene sheet bracket was cut, drilled, carefully lined up with the model centre line

and glued inside the hull to carry the inboard end of the shaft (see **Photo 13**). This picture also shows the shaft oiling tube.

My 'standard' practice when motorising small plastic models is to firmly fix the propeller shaft into the hull by casting a block of polyester resin around the tube to make one solid lump which then cannot move, hence the bulkhead that supports the shaft, and will stop the liquid resin from getting away before it sets.

By this point in the build, I had drilled the hull and was ready to fit the rudder tube. However, I found it was almost impossible to fit the rudder tube with the after superstructure base in place, so now this had to be carefully removed (again!). I also like to cast the rudder tube in a block of resin to add strength to the assembly (taking care that no resin sneaks down the tube while I am



not looking), so a piece of styrene sheet to stop the liquid resin running away was glued in place just in front of the tube. **Photo 14** shows both propeller shaft and rudder blocks of resin after casting.

The cast resin block around the propeller shaft also allows the pivot plate for the rudder bottom bearing to be screwed into the keel at a later stage in the build. Having a removable rudder means that I have a way of extracting the propeller should it ever become necessary.

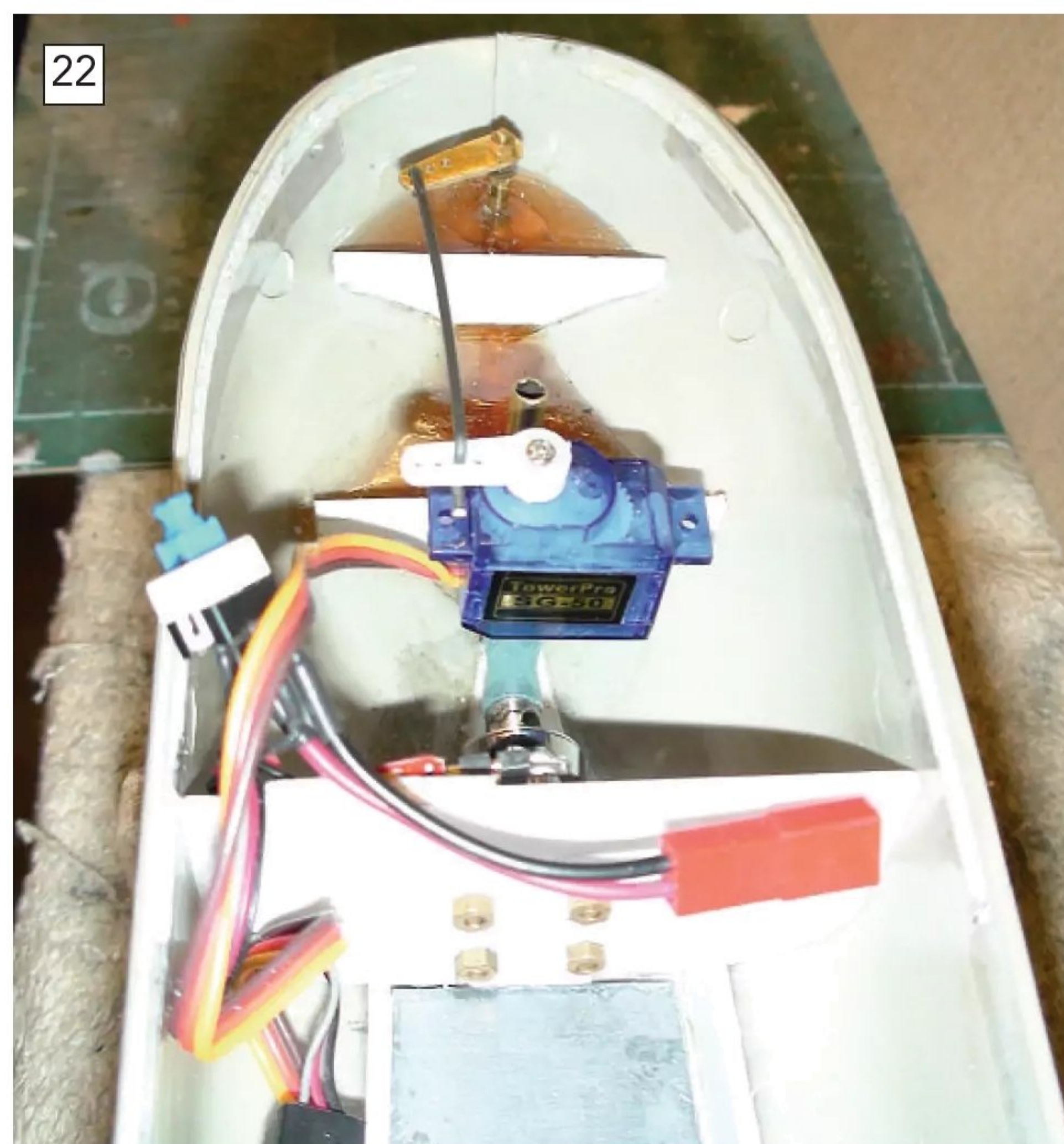
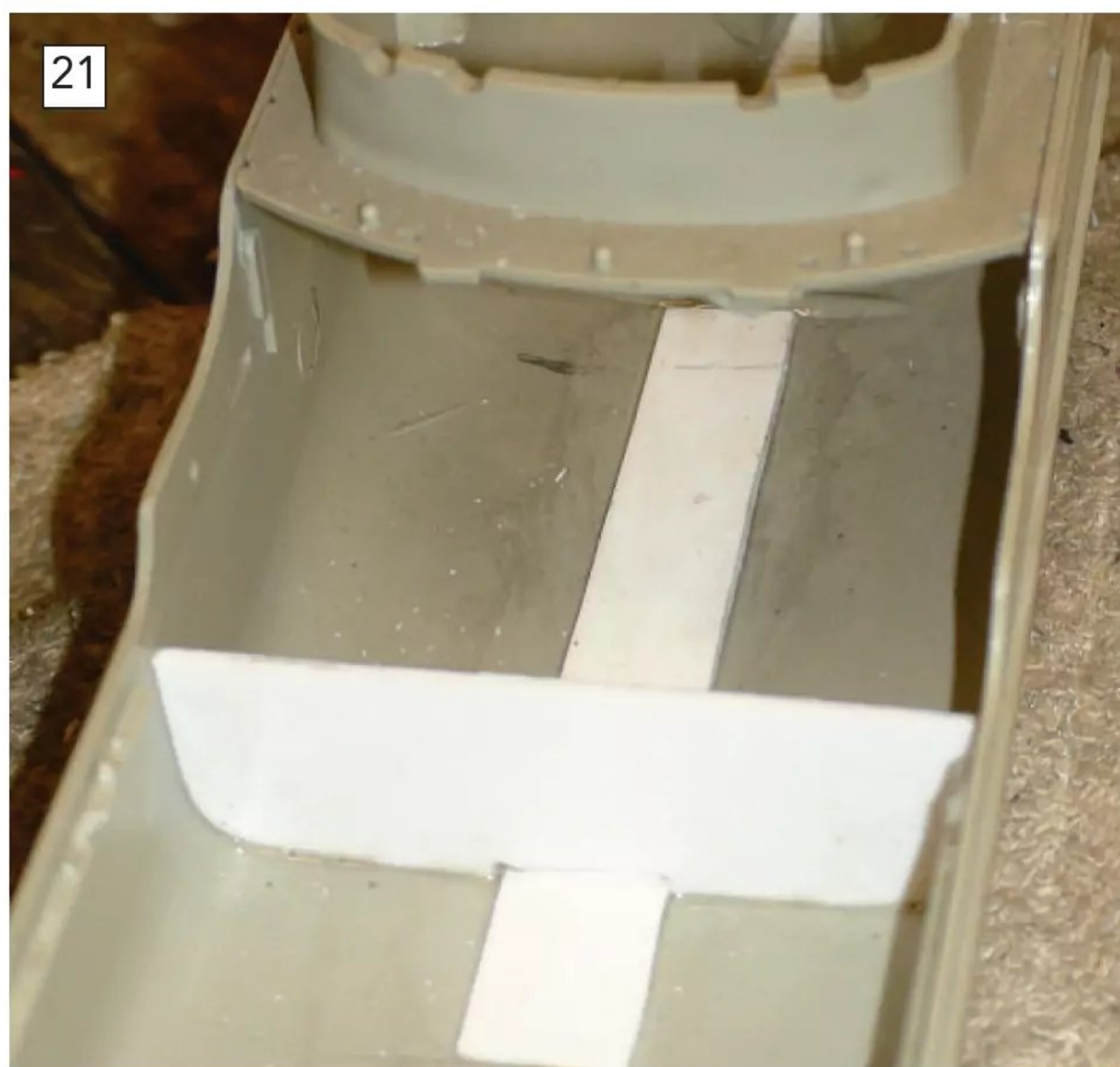
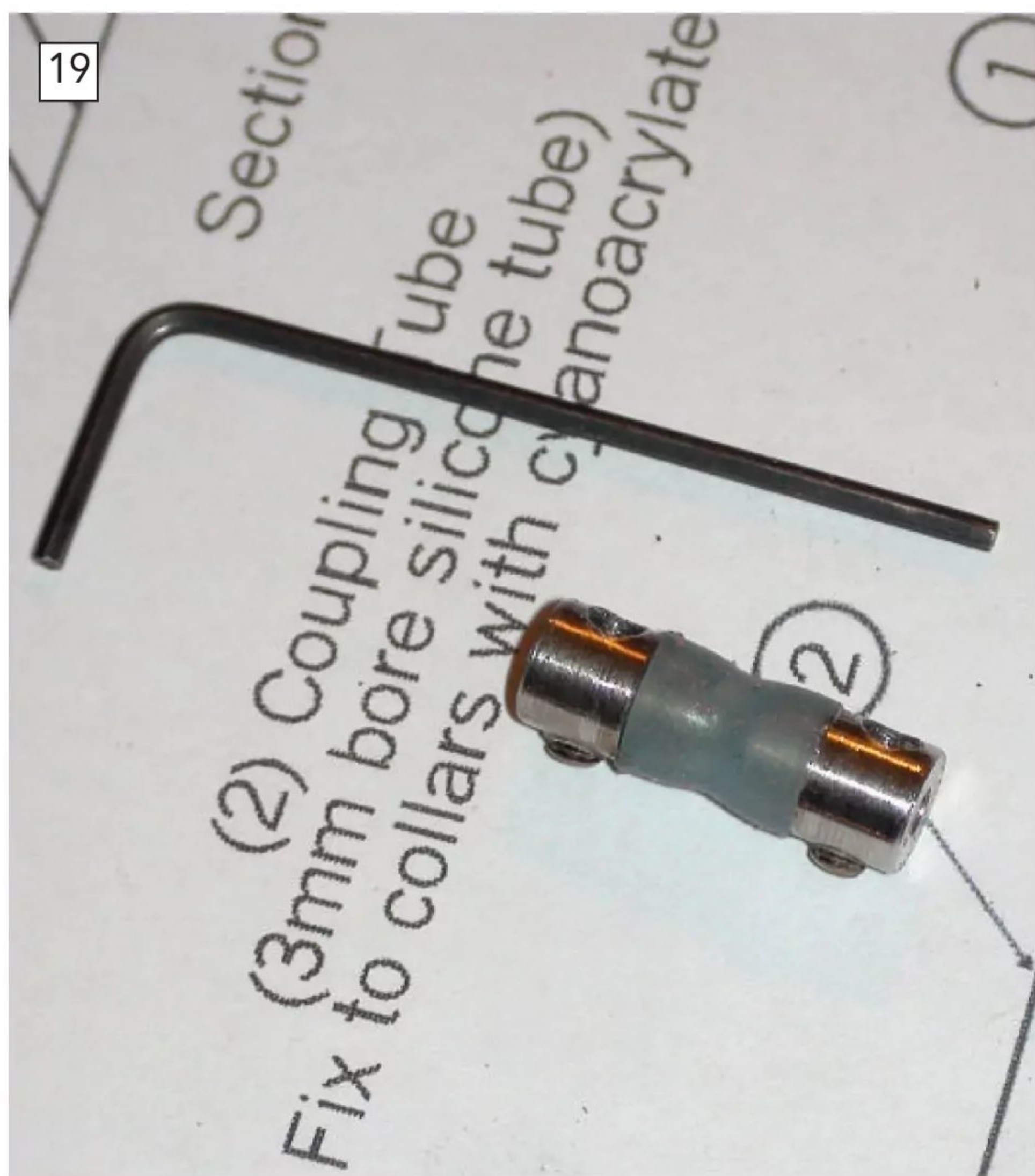
The metal pieces for the rudder had now been made up and assembled as shown in **Photo 15**. The rudder stock was installed into the rudder tube and secured at the top with a 10BA nut, and the rudder operating arm with its bent wire servo link fitted (**Photo 16**). The bottom of the rudder pivots in a small brass strip, fitted into the keel and held by two tiny (10BA) countersunk brass screws can be seen in **Photo 17**. This picture also shows the propeller in position and resin filling where yet more of the brittle plastic broke off.

Motor installation

The proposed brushless motor (intended for an aircraft, of course) was a bulkhead mounting Hobbyking HXM1400/2000 outrunner type, running at 2000rpm per volt, with its fixings at the rear. This motor is all of 14mm diameter and 20mm overall length and will run at around 7500rpm on the chosen 3.7volt battery. With an outrunner motor, the outside casing of the motor goes around with the propeller shaft (rather like the rotary engines used on early aeroplanes) and the windings are fixed to the boat. I thought that the best way to install it in the model was to use a styrene bulkhead to form the motor mount, tilted at a slight angle so as to align the motor with the propeller shaft.

Having cut a 1.5mm styrene sheet bulkhead as a close fit within the hull, I needed some way to mark the exact centre of the drive motor. After a bit of thought, the bulkhead was held firmly in place in the hull and a piece of 2mm steel rod fed in through the propeller shaft tube from the stern. With a dab of black paint on the end of the rod, it was pushed forward until it left a dot of paint on the bulkhead at the motor centre. The motor mounting holes in the bulkhead were then marked out and drilled and the motor bolted to the bulkhead, but the assembly was not installed in the hull just yet (see **Photo 18**).

To connect the brushless motor to the propeller shaft, I made up a simple flexible coupling having two steel bushes, each



locked to its shaft with a small grub screw. The two bushes were joined to each other with a short length of silicone tubing, held in place by cyanoacrylate glue. **Photo 19** is of the completed coupling and its Allen key. A small flat was filed on both motor and propeller shafts to avoid the coupling slipping.

At this point, the motor mounting bulkhead, complete with motor and a temporary solid coupling, was carefully fitted into the hull to make sure that everything lined up properly. This done, the temporary coupling was replaced with the flexible

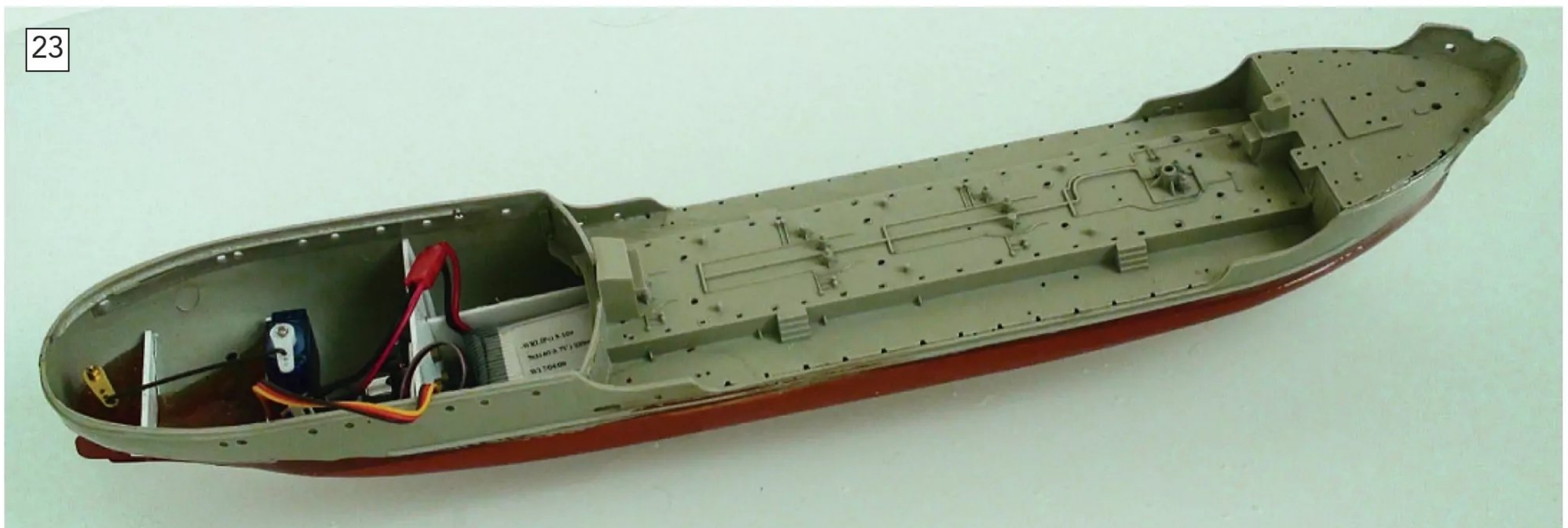
coupling and the bulkhead finally glued in position using liquid polystyrene glue (see **Photo 20**).

Battery compartment

An additional bulkhead (see **Photo 21**) was fitted forward of the motor bulkhead to prevent the battery from moving around too much – unbalance can be seriously hazardous to the health of a small model! Remember, the battery will be partly underneath the deck and not readily accessible once the deck is fitted and we do not want it disappearing out of reach! Before finally gluing the main deck

in place I wanted to be certain that I could get the battery in and out without too much difficulty, so it was tried in place with the deck loosely fitted. The battery was a lot narrower than the hull so two side pieces of 1.5mm styrene sheet were cut out and glued between the forward bulkhead and the motor mount at the right distance apart to keep the battery from moving sideways too much. With the deck held in place, it proved impossible to

“This test gave me the push that I needed to get on with the build”



get the battery either in or out! After cutting away part of the after end of the main deck, the battery could be put in place and removed with ease (see **Photo 20** once again).

A mini-micro rudder servo had now arrived in the post, so where to fit it? In the end it was fixed to the forward face of the propeller shaft resin block using double-sided foam adhesive tape and connected to the rudder operating link (see **Photo 22**).

As usual (at least, for me!), impatience struck and I needed to see whether the progress so far was likely to work on the water; otherwise, all my efforts would have been in vain. So, the model was taken to the bathroom with the decks in place (but not yet glued in), with a very temporary installation

of receiver, speed controller and LiPo battery, and placed in the water. She floated at around the right place (see **Photo 23**) and appeared to be very stable when tilted to either side and released (but not too far as the freeboard was very limited!). Then came the next test, using power and control from the transmitter – throttle control worked smoothly, and the steering seemed to work as far as could be tested in the confines of the bath. However, at full throttle, the boat shot off and collided with the end of the bath with a resounding clunk before I could grab it (no astern with this speed controller), boding well for exciting future outings on the lake.

This test gave me the push that I needed to get on with the build, so before finally

gluing the forecastle and main deck pieces to the hull, the whole of the forward 'hold' was filled with polystyrene foam to provide some additional buoyancy, and to give less space for any water ingress to cause trouble (see **Photo 24**). Now the main well deck assembly could be finally glued to the hull using liquid polystyrene cement and the forecastle fitted.

At this point, I decided that the time had come to do some painting (at least, of the bigger bits). The bottom of the hull was painted in red oxide (see **Photo 25**). Then, after masking off with Tamiya masking tape at the waterline, the areas above the waterline were painted black and the deck assemblies painted red oxide (see **Photo 26**). After



further masking, the bulwarks fore and aft were painted white (see **Photo 27**).

The electronic speed controller for the brushless motor was fixed to the motor bulkhead using foam double-sided tape and the receiver dropped into the 'well' to starboard beside the battery compartment (to offset the rudder servo slightly to port). After the superstructure base was fitted to the hull, the battery on/off switch was glued to the superstructure to complete the radio control fitting out (see **Photo 28**).

Detailing

With the basic hull structure complete, fitted with its radio control and running gear and tested, I could look at detailing (at least, as far as I intended to go with it). With this kit, the polystyrene from which it was moulded seemed to be very brittle (several parts cracked or broke during the build and had to be repaired with liquid plastic cement) so



I did not expect fine detail to last long. More often than not, small details on my working models get knocked off anyway, as I am somewhat ham-fisted, so I minimise what I fit!

Having already completed the painting of the bottom of the hull, I continued with painting the upperworks in the colours more or less as shown on the box art, with a white superstructure and the wooden decks represented by light brown paint.

Many of the small parts that were provided in the original plastic kit were still present in the box, so I could simply paint and fit them. Basically, the various detail fittings were installed in accordance with the kit instructions and drawings, so I will not go into

detail about them. Some of the small parts were painted before gluing to the model, as that is often so much easier than trying to paint them after fitting. However, I found the painting and fitting of a multitude of tiny plastic parts to be a frustrating and tedious process! As to trying to paint small areas of the model where I wasn't able to mask (and with my none-too-steady hands), it's probably best to draw a veil of silence over that!

I had read a review of this kit online and I would echo the comments of the reviewer, in that the kit cannot be built 'straight out of the box' as many of the parts need modification to make them fit – definitely not a beginner's model.





Photo 29 shows *Shell Welder* completed and on her stand (those of you that look closely at the later pictures will notice that the sea trials took place before the model was completed).

First sea trials

I was going to the lake at Sheringham to try out a couple of much larger boats (one after a rebuild and the other after some power system changes), so I thought that I would take *Shell Welder* along for sea trials.

The weather was bright, warm and calm (what, in mid-October!) so no weather-related problems were expected, although one of the bigger boats was run first and she created a swell on the lake that would definitely not be healthy for such a small craft. Once the 'monster' waves subsided, *Shell Welder* was placed in the water after having switched her on and checked for correct operation of the radio-control. She floated very low in the water at the stern – it seems my 'guesstimate' of the total weight of superstructure was a little off! However, she looked good (**Photo 30**) and motored around the lake at a near enough scale speed, answering the helm very well and with a good tight turning circle.

After some time on the water, the model was recovered and checked for water ingress. As you will see from **Photo 30**, the handrails had not yet been fitted at the time of sea trials and so a small quantity of water had managed to enter through the rail fixing holes (but not enough to cause concern).

On returning home, I removed the loosely fitted 40 grams of ballast from under the battery space and the model now floats with a much less alarming freeboard (or, rather, lack of freeboard!).

During a later visit to the Alvaston Pirates Model Boat Club in Derby, I took my new model with me to show her off. However, it seems I had omitted to fully charge the

battery, and the model went out of reach before it died! After a heart-stopping half an hour of the poor ship wallowing around beam on to the wind and waves (not good for any size of ship, but particularly not for a tiny one!) she drifted to the side of the lake and could be rescued - lesson learnt!

A growing fleet

Thanks to 'plastic magic', I now have a growing fleet of small, easy to handle models that always seem to fascinate children, as they can't believe that such small boats can work (see **Photos 31 and 32**). Obviously, there is also the 'cute' factor to take into account!



"I had read a review of this kit online and I would echo the comments of the reviewer..."

Since these plastic kits are intended for static display only, converting them for radio-control requires much thought 'up front' as to what needs to be installed and how best to achieve the required end result. They can, however, give a great deal of satisfaction when it all comes together and works.

My fleet now comprises:

- *Lucky XI*: 1:108 scale, 231mm long, harbour tug
- Barges: three waterline model barges fitted with polystyrene foam 'coal' (to be towed by *Lucky XI*)
- *Kandahar*: 1:142 scale, 373mm long, trawler
- *Shell Welder*: 1:130 scale, 400mm long, tanker

To cap it all, I have just bought two further Revell plastic kits (this time somewhat larger) - a 1:400 scale, 670mm long model of the RMS *Titanic* and a 1:72 scale 640mm long model of the German Lifeboat *Hermann Marwede*; so, watch this space! ●



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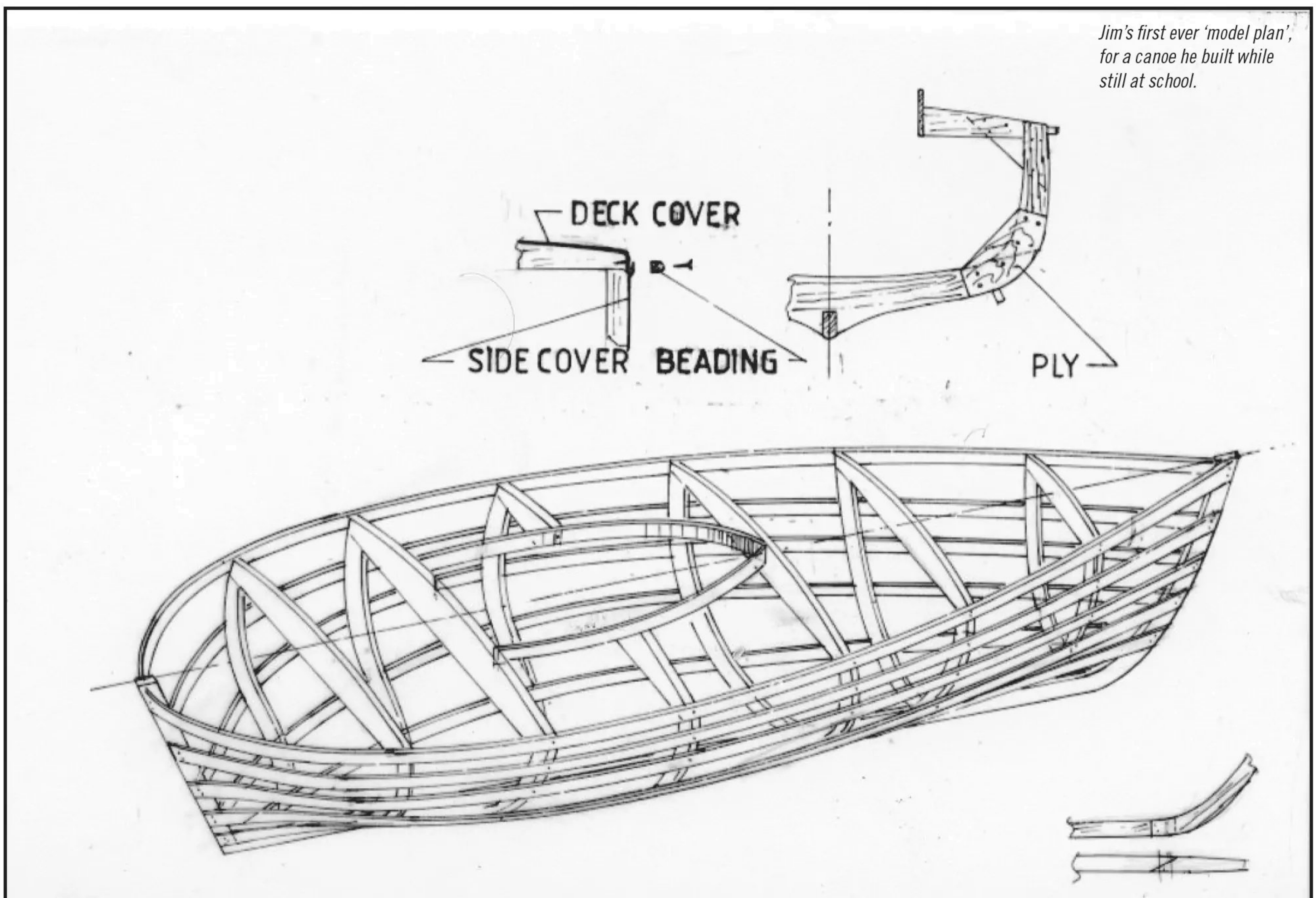
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Jim's first ever 'model plan', for a canoe he built while still at school.

A story to draw inspiration from

Model plan designer **Jim Pottinger** provides a fascinating insight into the *modus operandi* he's developed over the past five decades...

Having drawn model plans for numerous types of vessels over the last 50 odd years, this article has been written in the hope of encouraging any budding young designers out there interested in taking up the baton!

If you're wondering why and how I got started, the truth is my life-long passion for all things boat, ship and maritime related was perhaps inevitable. I was born into a family of fishermen and grew up in a fishing village on Shetland – an environment which encouraged an early familiarity with handling boats under oars, sail and power.

A complete change of scenery however awaited, in the form of a marine engineering apprenticeship with a shipbuilding and engineering company in Greenock on the Clyde, well known for its long history in the construction of a wide variety of merchant and naval surface craft and submarines.

This was followed by sea service in the Merchant Navy as an Engineer Officer. On coming ashore my career followed a path through the engine drawing offices of the afore-mentioned shipbuilders and other engineering companies. I then progressed to various more

senior positions in a company which manufactured a wide range of marine equipment, these roles involving travel to customers and shipyards in the UK, Europe, Scandinavia and the Far East.

The general uncertainty and impending rundown of the UK shipbuilding and engineering industry saw a timely move to manager in an American-owned offshore company in Aberdeen, which manufactured oil field equipment for the offshore industry in the mid 1970s. Foreign travel again beckoned, and as well as visits to the USA, I took on expatriate contracts in Norway and the Netherlands. Finally



The canoe afloat!

returning to the UK, I re-joined my previous employer, a long-established company with varied worldwide interests who had set up an offshore service company initially to serve the North Seas, which saw me relocated in the Northeast, where I continued to serve until retirement.

Getting back to where it all began for me though, my interest in drawing, sketching, painting, and indeed creating plans, initially began while I was still at school. Intent on building my own canoe, I first drew the frame shapes for this. Construction involved hand sawing the thin laths for the framework from 2-inch thick planks and covering the framework with material I had obtained from the local bakers (normally sewn up into flour bags), water tightness being achieved by liberally coating both sides with paint and linseed oil! As you will see from the old photo here, I successfully got her afloat, and the rest, as they say, is history.

A global catalogue of builds

The ensuing years have seen me amass a somewhat embarrassingly large collection of shipping books, drawings, photos, marine and technical magazines and journals, and various

other reference materials, all of which have been a source of inspiration for model plan designs. Over the decades these have been featured three UK model magazines and must now amass to around 600 sets.

I think the plan for the Admiralty Auxiliary fleet tender *Brodick* was the first I drew for *Model Boats* – this appearing in the October 1968 issue, when Vic Smeed was the editor – my association with the magazine then having continued for many years with the encouragement and co-operation of the succeeding editors.

The next may have been the small stern trawler *Universal Star*, which appeared in the November 1970 issue, although possibly my plan for the Ceylon tug *Nandimitra* was published in between this and *Brodick*.

On digging around in the loft, I have found my early efforts now look comparatively basic compared to the hopefully more comprehensive, detailed and complex content of my current efforts. Mirrored by the increasingly high standard of work we see from modellers today, this perhaps presents the eternal 'chicken and egg' scenario, and the question of who spurred who on. Either way, it has surely been of benefit to all concerned.

“One of the most satisfying results has been all the photos of models built from my plans that I’ve been sent, hailing from as far apart as the UK, USA, Europe, Chile, Australia, New Zealand, etc”

I have to say one of the most satisfying results has been all the photos of models built from my plans that I’ve been sent, hailing from as far apart as the UK, USA, Europe, Chile, Australia, New Zealand, etc. These demonstrate various different levels of skill, but all have been built to the best of their respective modeller’s ability. Not all model makers, of course, come from a nautical background or have recourse to the prototypes; something I always have to be conscious when considering the amount of detail included in my plans, and yet this unfamiliarity clearly hasn’t prevented the construction of some extremely realistic models.

Info sourcing

Where possible, my model plans have been generated from originals. Of course, many shipyards, have



In no particular order, here's just a small selection of models built by enthusiasts from Jim's plans: 1 – MSC Archer; 2 – Ballyloran; 3 – Flying Dolphin; 4 – Frederick Spashett; 5 – Heide Moran; 6 – Ngan Chau; 7 – Shemarah II; 8 – Grand Banks; 9 – Mathura.

been either reluctant or unwilling to provide copies of lines drawings but, fortunately, in some rare instances, I've been able to obtain builders' original plans to use as basis, and my requests for copies of line drawings, photographs and information have been met with interest and co-operation. However, now, following the drastic and almost total diminution of the UK shipbuilding industry, sources such as these have all but disappeared. Certain plans are held in the collections of museums and other public bodies, although sadly some custodians regard such artefacts as something to be kept under lock and key and only released at a substantial cost. Others, however, must be applauded; it was only thanks to the then Keeper of the Aberdeen Maritime Museum and his helpers doing a moonlight flit ahead of the next day demolishing squad that a large quantity of shipbuilders' plans and data belonging to John Lewis, A. Hall and Hall Russell was saved for posterity.

An alternative to builders' originals had been the small general arrangement drawings published in several of the marine technical trade journals; another source regrettably now gone.

As a result, possibly the majority of my plans have been generated from small reproductions, sometimes no larger than 4-inches long. In cases such as this, with no lines drawings to refer to, I've had to rely solely on many years of experience and observation in order to complete some of my model plans, particularly when trying to capture the hull lines and shapes underwater with some degree of accuracy.

As an aside, some years ago, on showing my model plan for a local pilot boat to one of the shipyard managers, the reaction was swift but certainly not as expected; he basically accused me of having obtained the original plans by subterfuge! Eventually, however, he accepted my explanation, and I suppose at least his initial and unjustified outrage in some way affirmed the accuracy of my plans!

“Some years ago, on showing my model plan for a local pilot boat to one of the shipyard managers, the reaction was swift but certainly not as expected...”

Shipbuilders' general arrangement drawings will show hull profile and plan views of the different deck levels; these feature varying degrees of detail, depending on the individual shipbuilder's own accepted practice. They do not, however, show end views of deckhouses or other aspects of the superstructure, so experience in interpreting these plans and an understanding of common shipbuilding fabrication practice is helpful in determining such outlines for model purposes.

Shipyard draughtsmen also draw the shape of all the numerous bulkheads at various frame numbers, detailing cut outs, stiffening, etc. These frame numbers are shown along the baseline in the profile view and, if by good fortune any of these drawings are available, they can be used to draw the shape of the model plan station at this point on the plan, even if its position doesn't coincide with model plan station number it will provide the hull shape at this point along the base line.

Firstly, the scale of the model has to be established. For example, the current MB free plan limits the overall scale length to just over 700mm, so a scale to effect a suitable reduction of the prototype's overall length needs to be set, usually in a multiple of tenths, i.e., 1-10; 1-20; 1-30, etc, and the original used as basis for model plan has to be reduced or enlarged accordingly to meet the model scale length using simple mathematics. One method is by means of proportional dividers, but a quicker way is to use any local printing or copying shop.

The process

I start by drawing the outboard profile and plan deck view for the vessel in question, and then divide the waterline length by ten stations, adding half spacings at the bow and stern where the curves are most pronounced, and striking lines across the profile and plan view at these intervals.

At this stage I divide the plan view lengthwise, with three or four lines equally spaced out from the centre line. These are termed buttock lines. Similarly, the profile view is divided above and below the waterline by equal spacings, thus known as the waterlines, the number determined by the depth of the original vessel. The actual the number of the buttock lines and waterlines to be drawn depends a lot on the shape of the prototype. For

a hull with some fairly drastic changes of shape and curvature, it's advisable to include a fair number of closer spaced section lines.

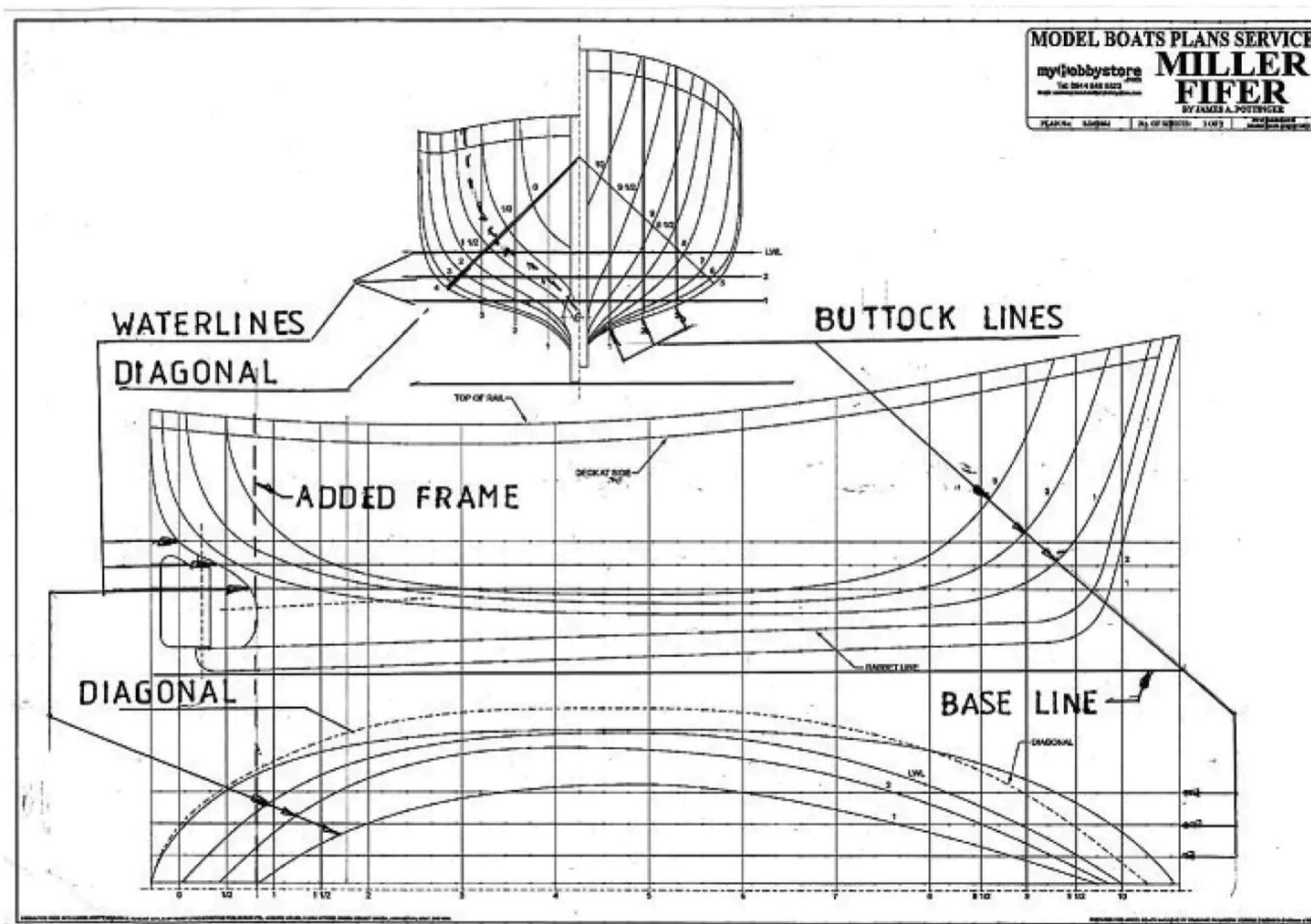
The next stage is to construct basically a grid to generate the body plan, which will show the shapes of the hull at the various sections along the hull length. This is done by drawing a grid of the above vertical buttock and horizontal waterlines, spaced about the centre line and waterline respectively.

I always recommend also drawing at least one diagonal line; the starting point can be anywhere on the centre line, but usually above the waterline and at downward angle that more or less projects a line to pass through the turn of the bilge. The shape of this diagonal can then be drawn on the plan view and is thus generated is by measuring the distances from a point where the diagonal cuts each hull section to where it meets the centre line. These dimensions are used to generate a curved line on the plan view, usually on the opposite side of the centre line from the buttock lines, etc. The mismatch of body plan curves, buttock lines and waterlines sometimes revealed when plotting this curve can be surprising.

“The mismatch of body plan curves, buttock lines and waterlines sometimes revealed when plotting this curve can be surprising”

Next, I draw the shape of the hull at station 10, i.e., where it terminates at the waterline of the bow. The width at deck level determines the beam and the shape of the section depends on the amount of outward flare on the ship at this point; it can either be concave with a knuckle, or sharp change of shape, or outwardly rounded, as seen on many yachts, etc. Again, this has to be guessed, drawing on experience and observation. Similarly, section 0 at the astern can be then drawn, and the curve on the plan view representing the waterline tentatively drawn, again, taking the design of the prototype into consideration.

If the prototype is a fairly large vessel there will of course be a long straight length amidships parallel to the centre line. Fast vessels will often have hollow waterlines extending for a good length aft from the stem,



A typical layout of a lines and body plan, showing the relationship between diagonals, waterlines and buttock lines.

whereas such vessels as bulk carriers and tugs will have a more rounded and blunt entry. However, save for extreme examples, it is common to try and balance the shape of the curves in the two ends as far as possible; this ensures that in practice the volumes in the ends of the ship are in such harmony as to avoid any excessive trim to either bow or stern.

Next to be drawn is the section amidships, or at the point of greatest beam, using the depth of hull and freeboard from the profile plan, deck width and waterline width at this section. Large ships have more or less a rectangular box shape with a flat bottom and relatively small radius

at the bilge. Others have a small rise of floor, that is the height from the hull's baseline to the start of the bilge curve; again, the bottom will be a straight line from centre line to turn of the bilge. It is only when we are considering smaller vessels such as tugs, some coasters, fishing boats, etc (excluding hard chine hulls), that more curvature is seen on the bottom, and the blending in of a relatively large radius at the bilge, sometimes also with a reverse curve near the keel.

With amidships, the sections at 0 and 10 drawn give three points to use as an indication of shape for the buttock lines and waterlines.

From then on it is a case of

tentatively drawing in the shape of the hull at each station line, all the while frequently cross referencing with the buttock, waterlines and diagonal to ensure that they all match up, with fair curves devoid of pronounced humps, hollows or distortions.

Given that my experience in actual model building has not been extensive, I hesitate to offer any advice when it comes to construction methods/ techniques; most model makers have their own tried and tested preferences. Given that the majority of modellers seem to favour working models, though, I am conscious of the fact that this requires some easy means of access to the interior, so I usually indicate a suggested area of lift-off where the split, either at deck or top of a deckhouse, will hopefully not be too obvious.

Tools of the trade

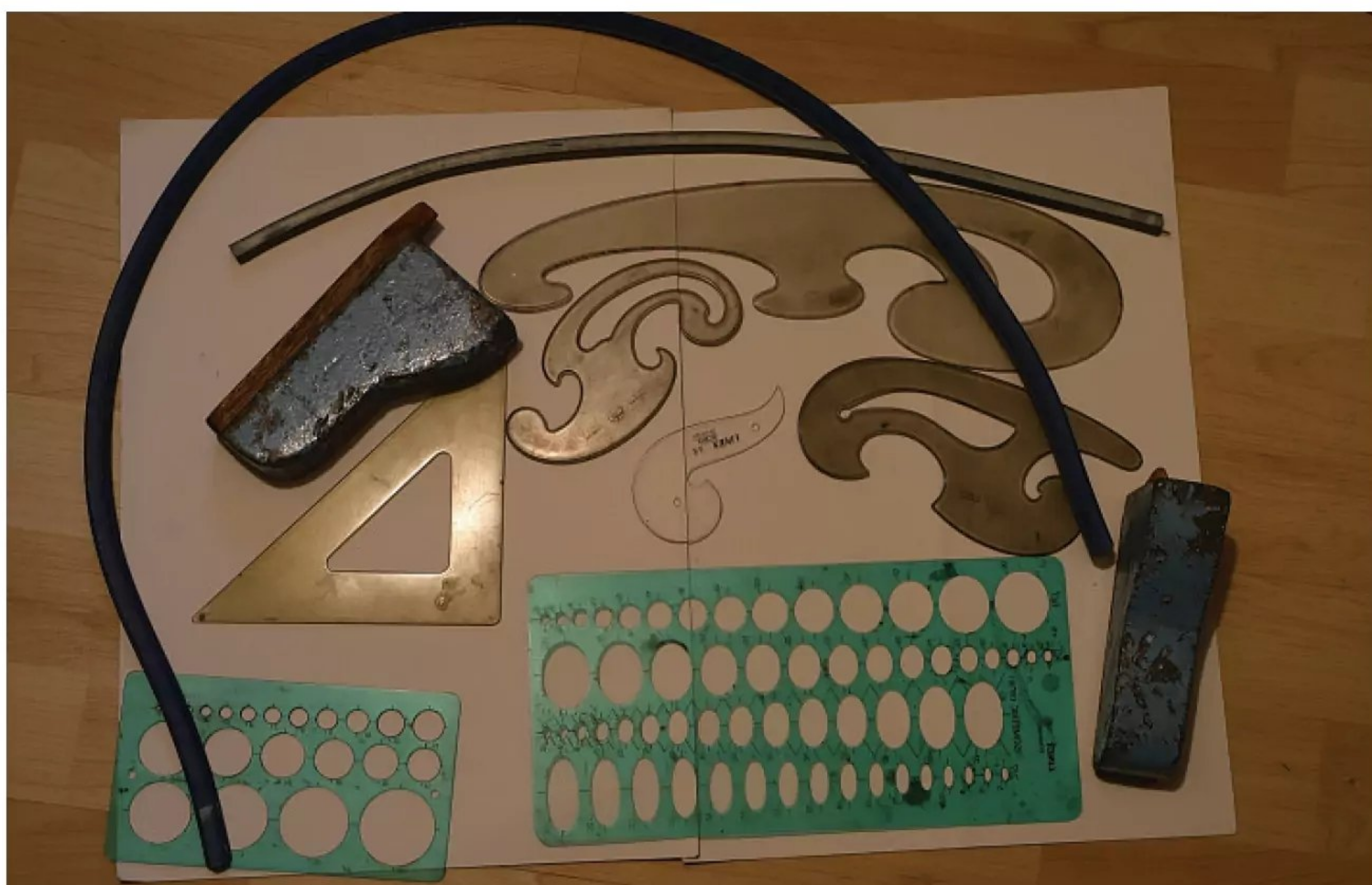
My plan for the *Miller Fifer*, shown here, illustrates all the requisite construction lines mentioned earlier. I use a variety of plastic templates with differing curves, circles and elliptical cut-outs, and two long, flexible, plastic-covered metal strips which are held in the required position by a number of specially shaped heavy lead weights, to draw the various shapes and curves. To a certain extent, the final shape depends on what is a fair curve without any kinks, and in fact will resist any abnormal divergence from such a curve.

“My first plans were laid down and drawn on the bedroom floor!”

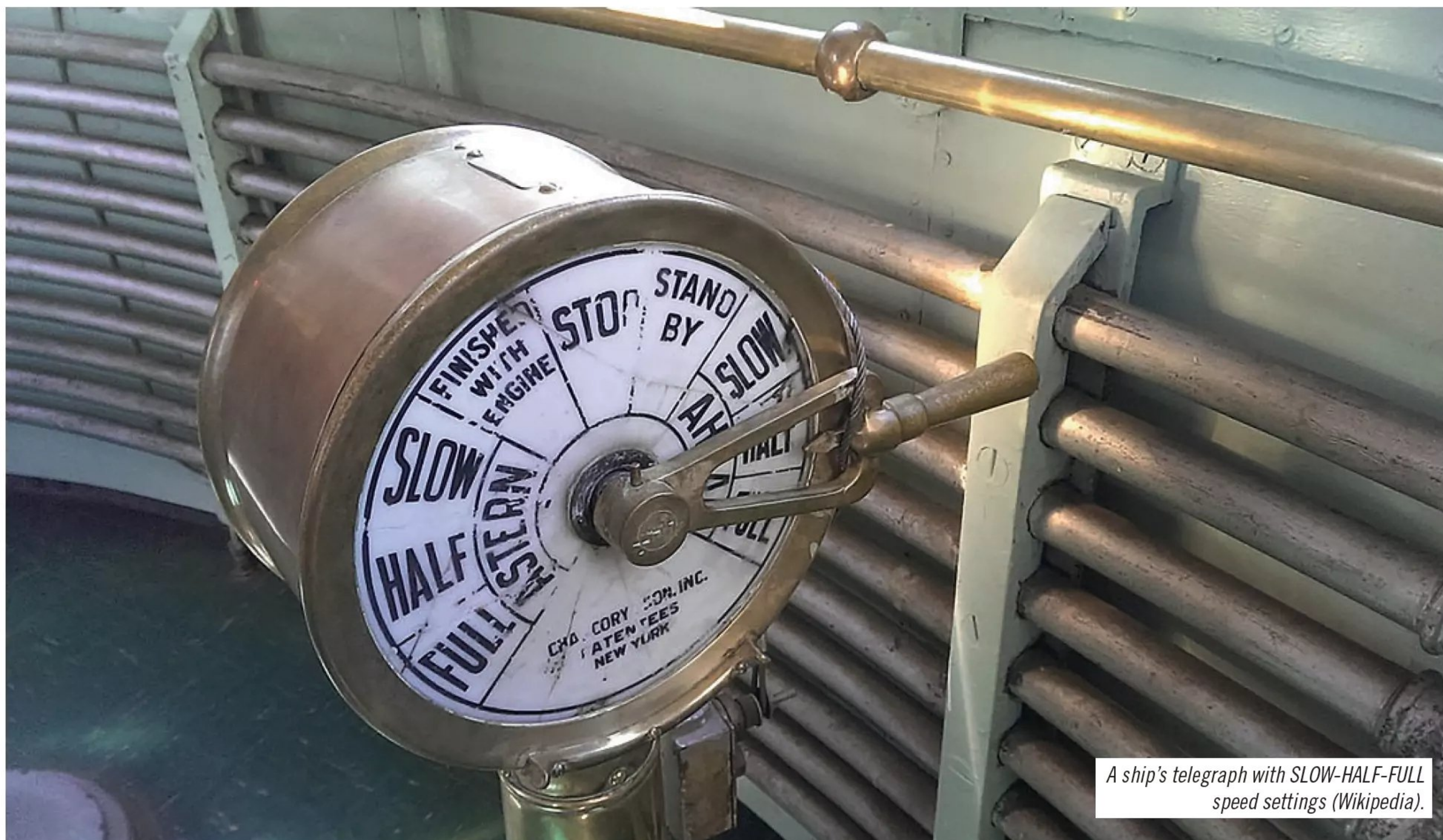
Drawing your own model plans doesn't necessitate any kind of expensive outlay in terms of equipment. You will find simple things such things as spring bow compasses and proportional dividers very useful. My practice is to first rough out a lot of the detail in pencil, and then ink in using Rotring ink pens with re-loadable ink cartridges. I work in a separate office at home and have a drawing board mounted on a base, allowing the height and angle to be adjusted, which is obviously a great boon, but my first plans were laid down and drawn on the bedroom floor!

Over to you...

Everyone has to start somewhere, so if you've ever considered drawing up a plan of your own, give it a try. You may surprise yourself! ●



Some simple drawing aids, including set square, curves and templates.



A ship's telegraph with SLOW-HALF-FULL speed settings (Wikipedia).

QUICK, SLOW DOWN!

John Parker takes a retrospective look at speed control

Soon after radio-control began to be applied to model boats, the need for some form of speed control arose. True, for early electric powered models, the call was usually for more rather than less speed, but realistic operation still called for slow speed manoeuvring or performing a slow speed pass for admiring on-lookers. What follows is a quick historical survey of the various types of speed control employed in electrically powered model boats. Special thanks are due to R. Verden for providing many of the items pictured.

Switching control

The simplest way of controlling a motor is by applying a different voltage to it, and this is easily done by tapping the supply battery via a rotary switch. The fairly obvious limitation here is that the cells are not being discharged equally; the low speed cell(s) will become flat while the other cells still have some charge.

The way to overcome this limitation is by series-parallel

“The stepped nature of this form of speed control may be seen as a limitation, but wait up...”

switching of the batteries, a method that has long been used in full-size submarines. Say the model is fitted with four 6-volt, 4 ampere-hour batteries, then, with a suitable switching arrangement – such as shown in Diagram 1, these can be connected so as to supply 24 volts at 4 ampere-hours (full speed – short duration), 12 volts at 8 ampere-hours (medium speed – medium duration), or 6 volts at 16 ampere hours (slow speed – maximum duration), with all the batteries being discharged equally and no losses.

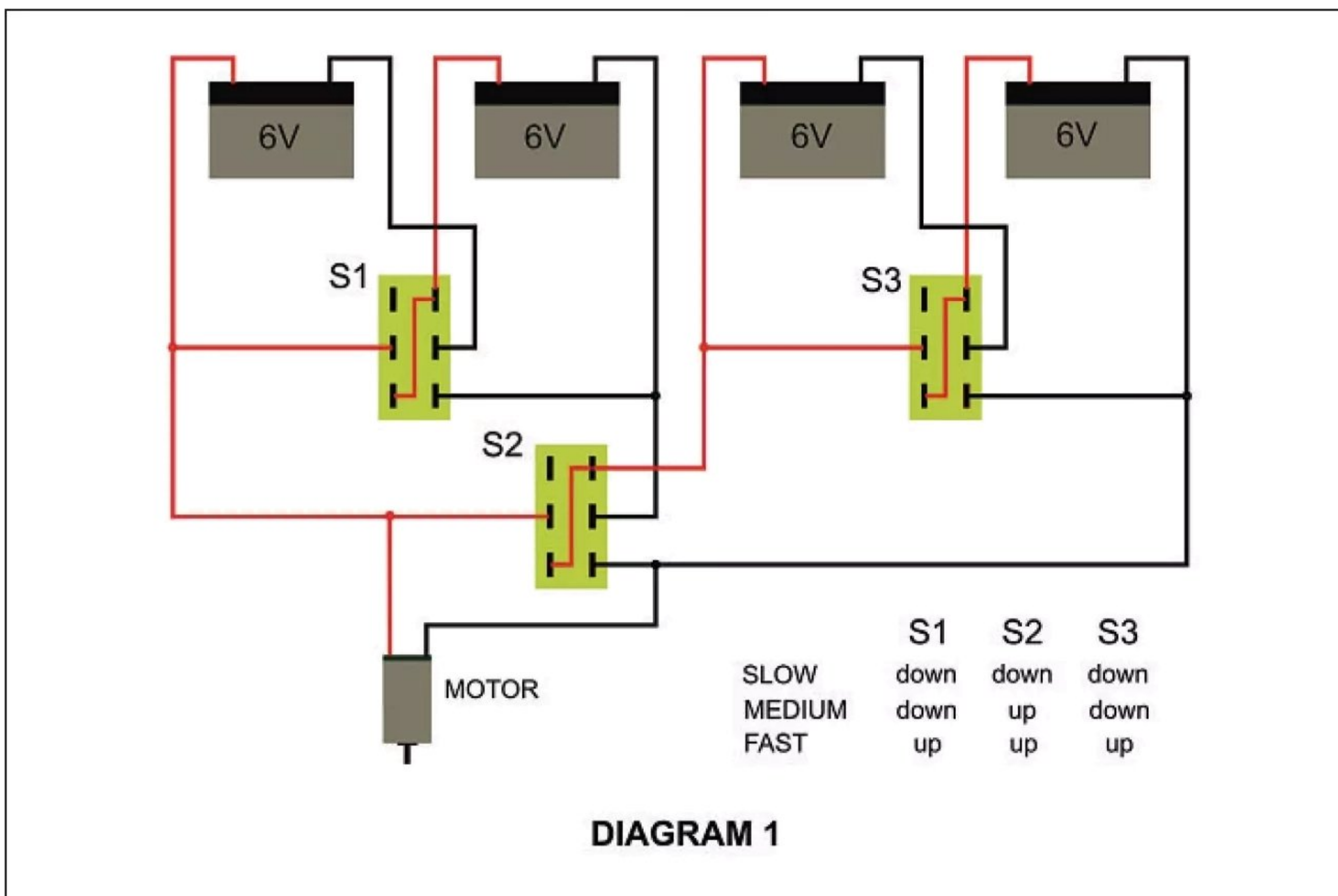
The stepped nature of this form of speed control may be seen as a limitation, but wait up... A real ship's telegraph will typically be marked SLOW - HALF - FULL, so this is actually realistic. Important provisos if you ever care to experiment with this form of speed control is that the switches used must be a 'break before

make' type and not a 'make before break' type, otherwise you will be momentarily shorting your battery out when changing speed and working out the connections for a radio-controlled rotary switch gets quite complicated.

Resistive control

Resistive control effectively throws away some of the battery's power in the form of heat to achieve a slower motor speed. It may be stepped, making use of fixed resistors, or continuously variable, making use of a variable resistor or rheostat. It is a less efficient sort of speed control, but it's simple, low cost and reliable. Commercial forms of resistive speed control, designed to either mount onto a servo or be connected via a simple linkage, were for a long time the standard form of speed control prior to the advent of electronic speed controllers.

The stepped resistive speed controller typically consists of a small circuit board on which a rotary wiper arm, intended to be connected to the



Speed control by series/parallel switching of batteries.

throttle servo, moves over a series of stout contacts. A fixed tapped resistor is wired to these contacts, either directly or via wires that allow it to be mounted remotely. From the centre, the wiper selects off, then one or two intermediate speeds and finally full speed, with the same settings available in reverse when the wiper is moved the other way.

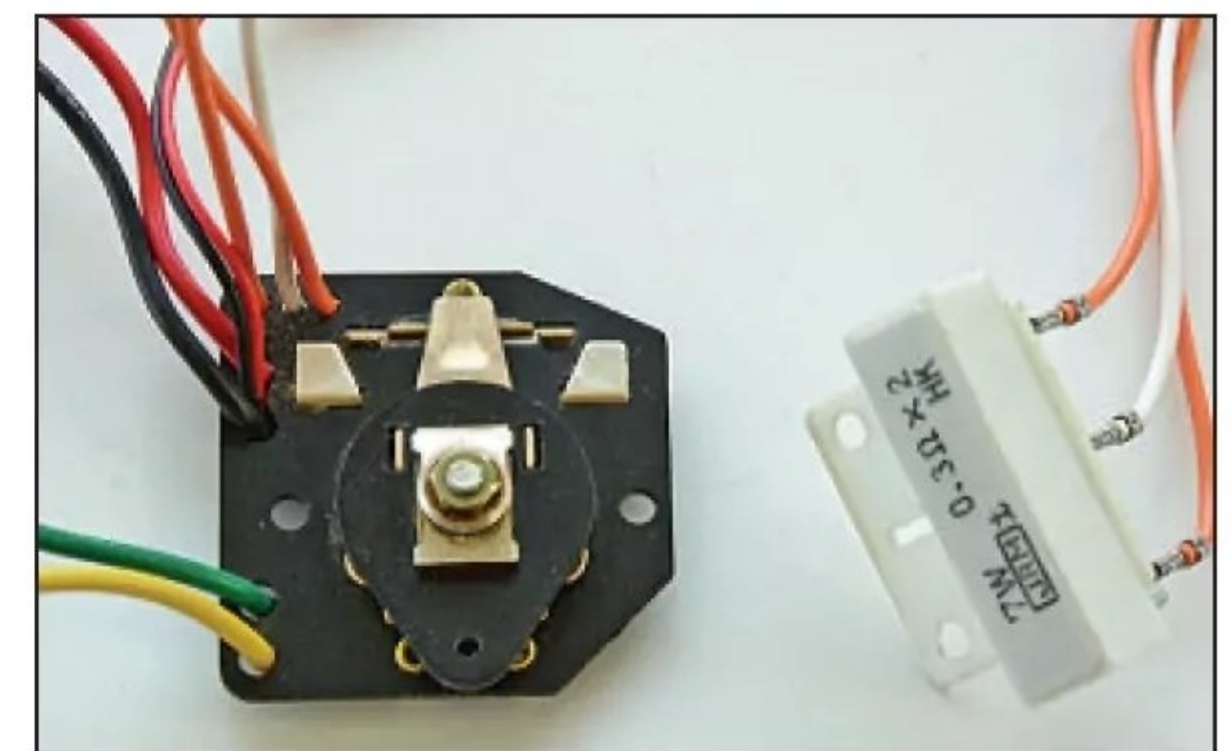
A continuously variable or stepless speed controller functions similarly, but has the wiper moving across a coil wound with resistance wire, thereby varying the amount of resistance in the circuit and smoothly changing the speed of the motor. Like the stepped type, these usually provided reverse when the wiper is moved in the opposite direction from the central position on the rheostat.

The Bob's Models Varispeed Motor Control Board (Bob's Board) was

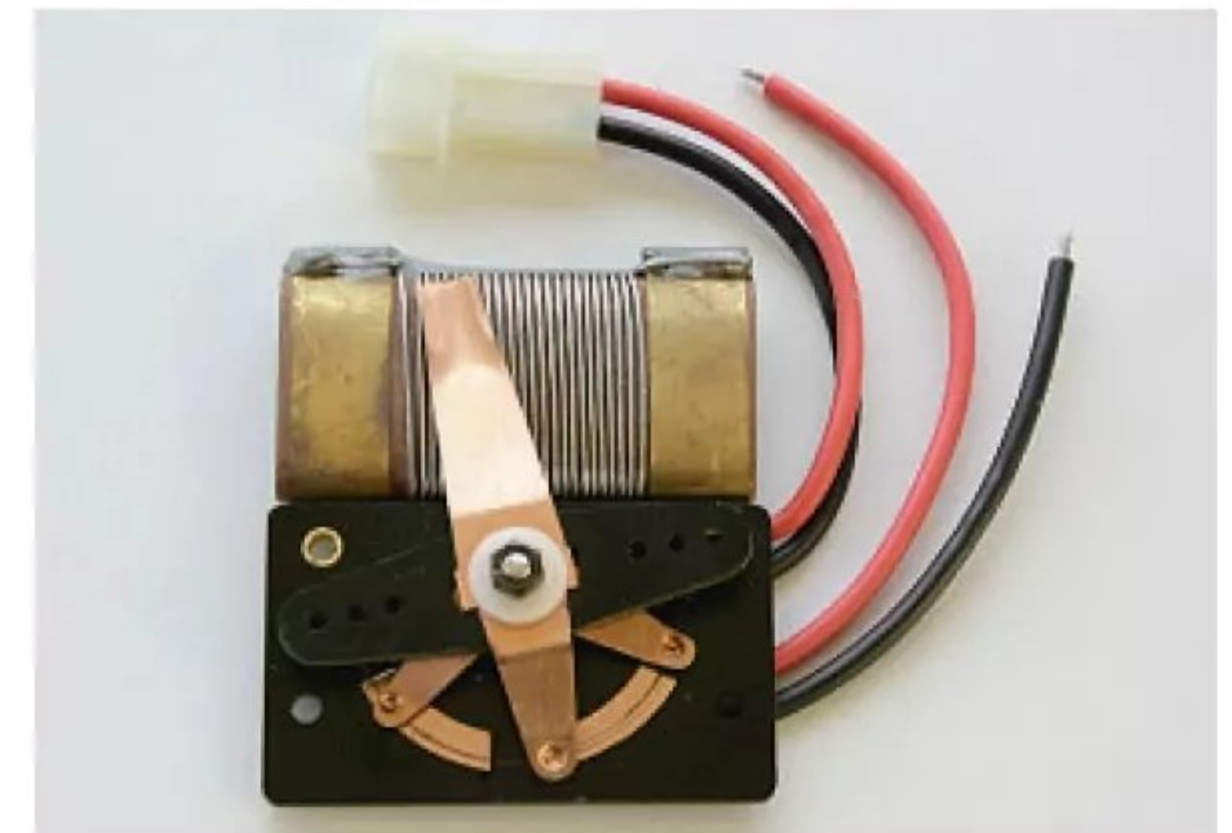
"It is a less efficient sort of speed control, but it's simple, low cost and reliable"

a special form of resistive speed controller popular in the '90s. Intended for mounting directly onto a servo, the board component had a thin layer of woven glass fused to it, followed by a foil of resistive material, which was etched into a pattern of wiper contacts and resistance tracks. A double arm wiper swept across the board in the usual way.

Common to all resistive speed controllers is the need to match them to the power demands of the motor, both so as to achieve worthwhile speed reduction and not to exceed the limits of the controller. Many a boat modeller found, to his dismay, that a speed controller intended for racing cars (notorious for their



A typical stepped speed controller and its resistor.



A typical rheostat type speed controller.

insatiable demand for amps) did not work at all well in his scale model boat, which drew far less current, with the result that the intermediate speed settings were hardly different to the full speed setting. The solution was to change to a higher value of resistance.

The amount of heat produced by a resistive speed controller is greatest at low speed and could, in extreme cases, endanger the boat if thought is not given to mounting it in a ventilated space.

Electronic speed controllers

Starting in the 1960s, electronic speed controllers began to be developed that sought to put an end to the moving contacts that were prone to burning out and the power wastage of resistive/



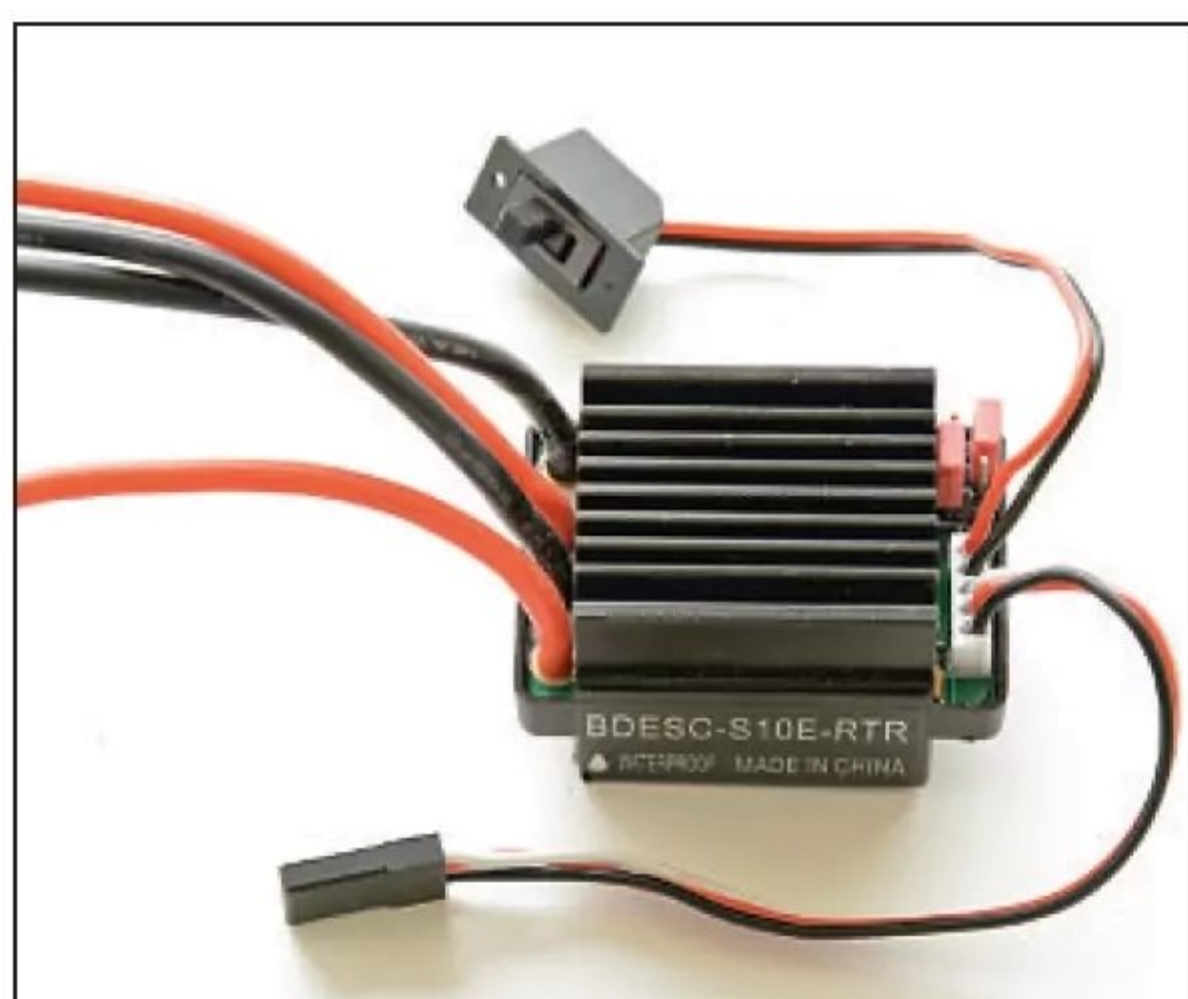
A 'Bob's Board' speed controller kit.



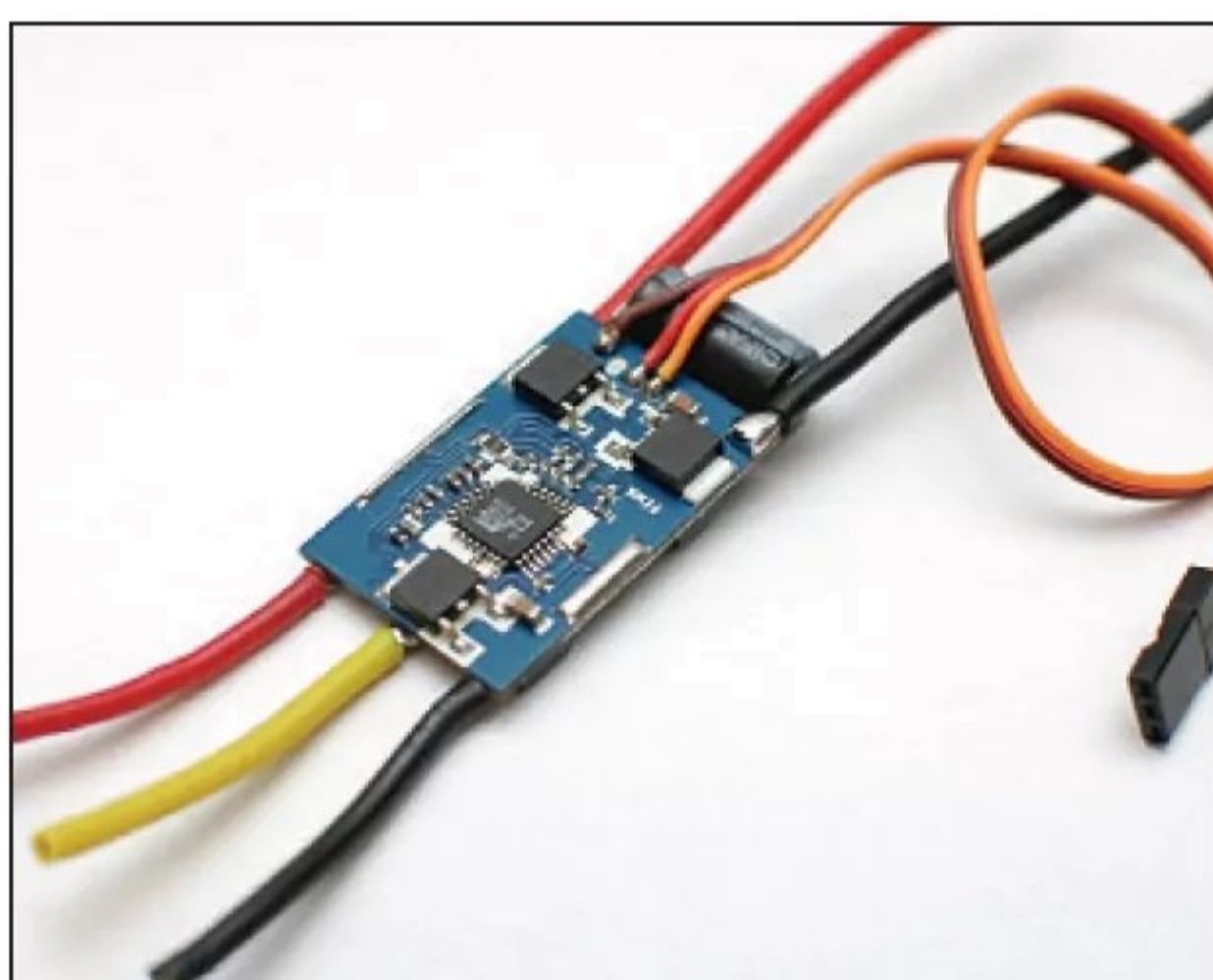
An early Ripmax-Futaba electronic speed controller from the 1980s.



An early Mtroniks electronic speed controller.



A typical sealed waterproof electronic speed controller, programmable via jumper links.



The circuit board of a typical 35A brushless speed controller (Wikipedia).



A modern water-cooled brushless speed controller.

mechanical speed controllers, while providing smooth proportional speed control without the need for a servo. It was still early days for the semiconductor industry, and development tended to be paced by the availability of suitable components that could handle the required power.

Early power transistors, for example, could be readily configured to control a motor from idle through to the medium-high speed ranges, but then faced a problem because the unavoidable internal voltage drop they suffered from meant that the motor could never reach full speed. Various methods were employed to try and

“Of course, electronic speed controllers have their disadvantages too...”

circumvent this limitation. Typically a hybrid approach was taken, with the electronics taking the motor to the highest speed they could and then switching in a relay to bypass the speed controller and apply full voltage to the motor. This reintroduced the problem of contacts that could burn out.

The answer finally came with the development of the power MOSFET (Metal Oxide Semiconductor Field Effect Transistor). These could handle high currents and only incurred a small voltage drop when passing full power. This was combined with pulse width modulation, which instead of varying the voltage supplied to the motor supplies it with pulses of full voltage at a rate which determines its speed (and causes the motor windings to whine). MOSFETs revolutionised electronic speed controls from the 1990s on. Up to a rating of about 20amps, a speed controller might use a single discrete MOSFET on its circuit board, with some form of simple heat sink, such as an early Electronize unit. Higher power units use circuits with networks of MOSFETs working in parallel and can have ratings that are in the hundreds of amps range. Be aware though that the figure quoted will often be the peak, short term rating, and the continuous rating will be half this or less.

Along with electronic speed control came the possibility of incorporating a voltage regulator or BEC (Battery Eliminator Circuit) that did away with the need for a separate battery for the receiver. With programmable digital circuitry it became possible to change set many parameters, such as the battery cut-off voltage, acceleration rate, reversing mode and so on. Finally, modern speed controllers, in a special form incorporating electronic commutation, have made possible the widespread introduction of brushless motors, which are totally dependent on the operation of a brushless speed controller for their operation.

These advances have not come cheaply, but prices have been gradually coming down over the past few years. Of course, electronic speed controllers have their disadvantages too, such as their violent objection to being connected with reverse polarity, usually resulting in smoke emission from the case, with no way of getting it back in! All progress comes at a price. ●



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Richard Simpson schools on the Rules...

Despite being one of the most revisited subjects in the Boiler Room series of articles, current rules are still frequently discussed both at pondside and within correspondence published in this magazine. Having checked back through my index earlier, while we looked at 'Steam Test Preparation' in the June '21 edition and 'The Boiler Inspector' in the January '22 edition, we haven't returned to the rule books themselves since the rules were last changed in 2018, when I did a full review in the December '18 and January '19 editions. So, as there still appears to be some uncertainty amongst steam enthusiasts as regards what is actually required by the rules, what follows is a brief refresher. For those of you who know the rules inside out or who remember the last articles I can only apologise for the repetition!

The background to the Rules

Before January 1, 2006, all relevant organizations involved with model boat steam plants, such as insurance companies, clubs, local councils, and even the HSE (Health and Safety Executive), had their own set of rules for the use of model pressure vessels.

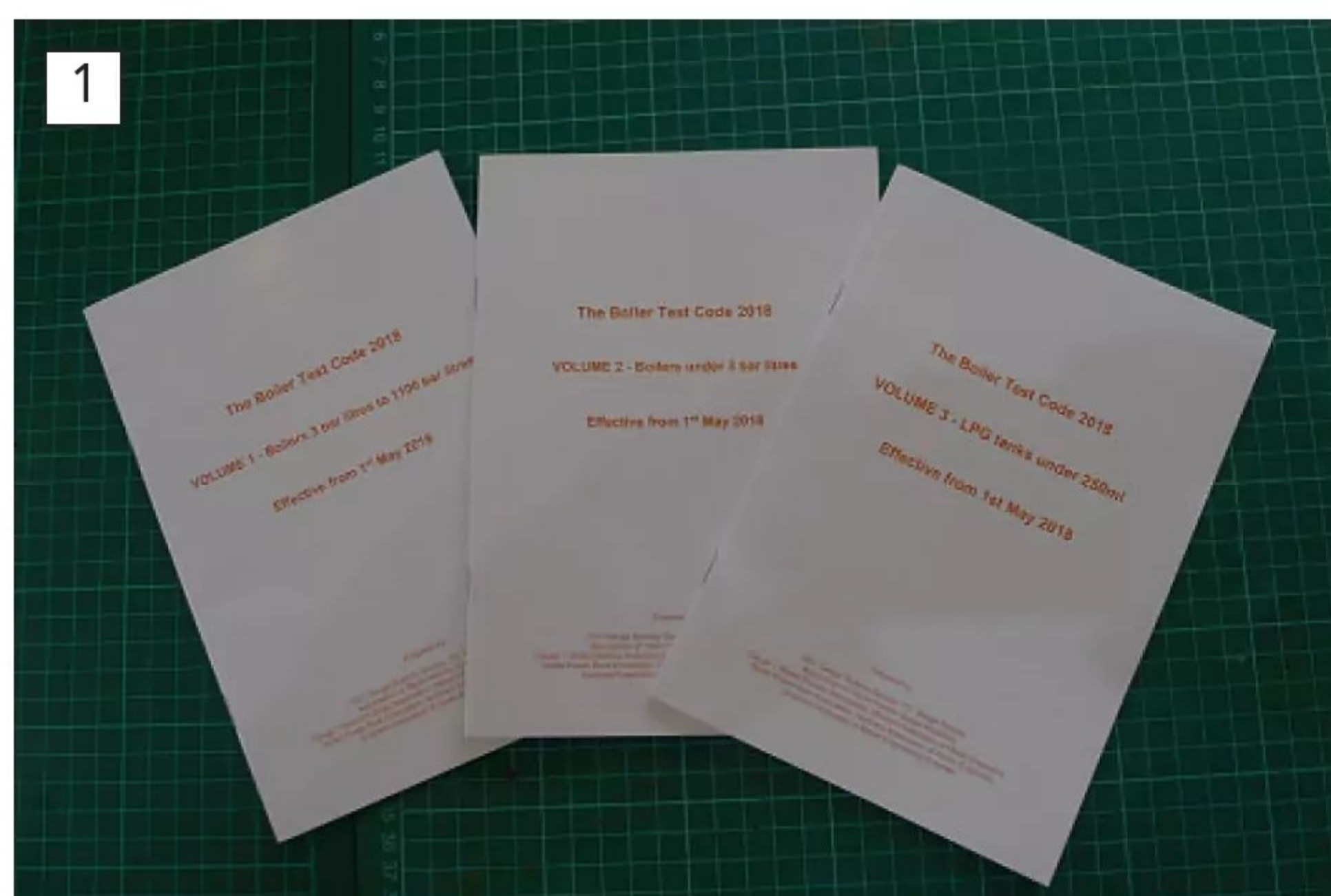
This made for an understandable level of confusion and resulted in many modellers and organisations either ignoring or maybe not understanding what was in place. Consequently, these organisations got their heads together and put together a set of rules which came into effect on January 1, 2006, written up as what became known as The Boiler Test Code 2006, or, more colloquially, 'The Red Book', simply because it had a red cover. These rules were accepted by the HSE, most of the big insurance providers and most modeling organisations, resulting in a significantly simpler set of rules to follow and enforce. The MPBA (Model Power Boat Association) decided at that time to maintain its own set of rules and did not sign up to 'The Red Book'.

These regulations set out requirements for two different but clearly defined tests for boilers: 1) The Hydraulic Pressure Test and 2) The Steam Test. The rules also introduced a defining line between two categories of boiler, called the bar-litre rule, with different requirements for boilers above and below this limit. The limit was set at 1.5 bar-litres, which basically

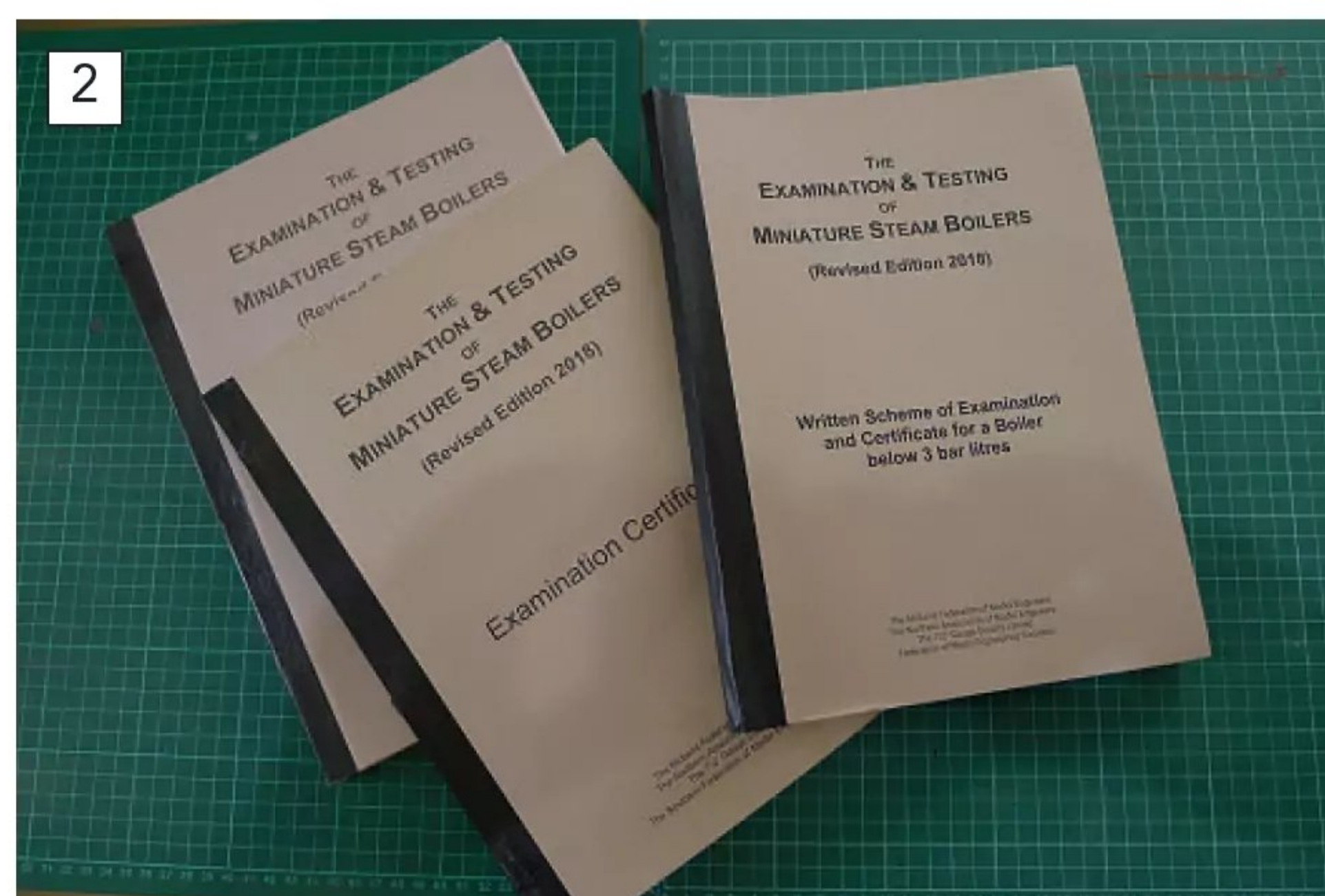
meant that the majority of model boat boilers were required to have repeated hydraulic pressure testing every four years. Not surprisingly, this generated quite a bit of negative feedback, with many steam-powered model boat enthusiasts choosing either to ignore the requirements or to give up the hobby.

Consequently, in 2007 there was a reassessment of the requirements, and the bar-litre rule was relevelled to 3.0 bar-litres. About 80%-90% of model boat boilers fell below this level, meaning they were exempt from the repeat hydraulic pressure testing regulations. They still, however, required a steam test to be performed every 12 months, usually conducted at an event or show by a club's nominated boiler tester.

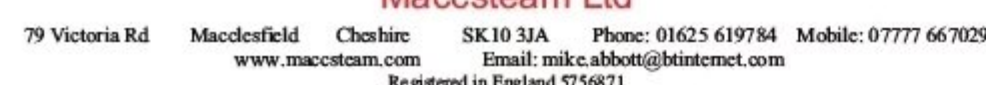
There have been intermediary editions of the rules, Blue and Green, but the current Boiler Test Code, known as 'The Orange Book', came into effect on May 1, 2018. This explains the set of rules we must now comply with and the certification we must have in order for our models to be covered by club insurance when being operated in public spaces. Consequently, if you intend using your



The Boiler Test Code 2018, The Orange Book, now comes in three volumes: Volume 1 – Boilers 3 bar-litres to 1100 bar-litres, Volume 2 – Boilers Below 3 bar-litres and Volume 3 – LPG Tanks Under 250ml.



The certificates issued under the Boiler Test Code form a part of the Code and include certificates for the Written Schemes of Examination, Hydraulic Test Certificates and Steam Test Certificates.



5





Most boiler manufacturers will produce a range of boilers that include those both above and below the 3 bar-litre limit, such as the current range from Maccsteam.



Typical examples of boilers below the 3 bar-litre limit: the 3 1/2" vertical boiler from Pendle, a very typical boiler for many models of the 3-4-foot-long size, and the 2" horizontal boiler from Miniature Steam Models.

its total internal capacity with water and then pour that water out into a measuring jug, its volume (in litres) can be multiplied by the working pressure (in bar) to give you a bar-litre figure.

For those who only work in 'old money', 1 bar is equal to 14.7 (generally accepted as 15 psi). So, a 30psi working pressure boiler is a 2-bar boiler and a 45psi working pressure boiler is a 3-bar boiler.

As an example, a boiler of 500ml capacity with a working pressure of 4 bar is a 0.5×4.0 , or 2.0 bar-litre, boiler. This is below the limit of 3 bar-litres and so the boiler is covered by Volume 2 of the current code.

As another example, a 600ml capacity boiler with a working pressure of 3 bar is a 0.6×3.0 , or 1.8



Boilers from Mamod, Wileco and this one from Tony Green Steam, fitted to a Krick Anna model, will all be covered by Volume 2 of the Boiler Test Code.

bar-litre, boiler – again, covered by Volume 2 of the code.

To help visualise how this looks, most manufacturers start their ranges with boilers below 3 bar-litres, as per the Maccsteam series shown in **Photo 6**. Typical boilers below 3 bar-litres would be the Pendle 3 1/2" vertical boiler and Miniature Steam 2" horizontal boiler (see **Photo 7**) or any of the low-pressure small boilers such as the Mamod, Wileco and Tony Green Steam boilers (see **Photo 8**). Typical boilers above 3 bar-litres would be the large Stuart Turner 504 boiler and larger Cheddar 5" horizontal boiler (see **Photo 9**).

Once you've determined the bar-litre number of the boiler it's then easy enough to decide which volume of the Boiler Test Code applies. Most will be covered by Volume 2, but for larger boilers you may need to refer to Volume 1.

There will be modellers with boilers above 3 bar-litres who'd prefer to avoid Volume 1 of the Boiler Test Code compliance, particularly the repeat hydraulic pressure testing requirements. I am sometimes asked how this can be achieved. Basically, this means getting the bar-litre number below 3 bar-litres. Obviously, there are two things to consider. The first is that the internal volume of the boiler isn't going to change, unless you want to get into structurally modifying a perfectly good boiler. The second is the working pressure. While calculations from dimensions will give an ultimate pressure, and factoring in safety will give an appropriate working pressure, the plant can be operated

at a lower working pressure if we so choose. The determining factor will be what we require of the engine to achieve the performance we want from the boat. It's not uncommon to come across a boiler with a working pressure in excess of what the engine needs. If you want your Puffer to fly around the pond with a water-skiing figure on the back, doing a scale speed of 60 knots, then be my guest, but in some cases a



Examples of boilers above the 3 bar-litre limit: a 5" Cheddar boiler, produced to power two Puffin engines for a twin shaft model such as a tug, and the large Stuart Turner 504 boiler.



10

A typical larger than 3 bar-litres boiler in a large-scale tug. This will require removal for its four yearly hydraulic pressure tests, so the design of the plant must be done in such a way as to allow this.

more appropriate speed might be all you need to reclassify the boiler.

“There will be modellers with boilers above 3 bar-litres who’d like to avoid Volume 1 of the Boiler Test Code compliance, particularly the repeat hydraulic pressure testing requirements. I am sometimes asked how this can be achieved...”

If this is something that could be an option for you, then have a chat with your boiler inspector; he/she will be able

to advise on how to go about lowering the working pressure of your plant. It shouldn’t be much more complicated than moving the position of the red line on the pressure gauge face and resetting the safety valve to match the lower working pressure. Subsequent steam tests may determine that a smaller nozzle in the gas burner will help prevent waste through the safety valve as well, but that’s for later discussions.

Summing up the Rules

What follows is a basic overview of three Volumes that make up the current Boiler Test Code.

- Volume 1 - Boilers 3 bar litres to 1100 bar litres

Volume 1, being for larger boilers, up to a possible 1100 bar litres, is a more in-depth volume and includes one or two aspects not included for smaller boilers. The main, and probably most impactful, difference, is that these boilers require repeat hydraulic pressure testing at 1.5 times working pressure every four years, after the initial test at twice working pressure.

As well as this, boilers above 3 bar-litres also require an annual steam test, and I should point out, also require testing after any modifications have been made or repairs carried out (see **Photo 10**).

- Volume 2 - Boilers Under 3 bar litres

Volume 2 is the one that around 80% to 90% of model boaters will be dealing with. A lot of the text is similar in nature to Volume 1, although some of the requirements are not quite as stringent. The biggest difference is that boilers below 3 bar-litres only require an initial hydraulic pressure test at twice working pressure, which then remains valid for the lifespan of the boiler, provided no modifications or repairs are made to it. As well as this initial hydraulic pressure test there is the annual steam test, which also needs to be repeated following any repairs or modifications to the boiler (see **Photo 11**).

Volume 2 now includes a couple of new classifications, these relating to the small boiler types from manufacturers such as Mamod, Wilesco and Tony Green. These LO and LS category boilers, both of which are classed as low-pressure boilers, have



11

A very typical model boat with a pretty common boiler, a 3” vertical Miniature steam. This requires an initial hydraulic pressure test (which is good for life as long as no modifications or repairs are done) and then annual steaming tests.



Small boilers are now classified as either LS or LO boilers. LO boilers have a steam outlet that is always open, but LS boilers can be shut off, as is the case with this Tony Green boiler with a steam isolating valve fitted.

a working pressure of less than 2 bar. Again, the book should be studied to fully understand what these new categories mean, and which tests need to be carried out, but the bottom line is that all model boilers require testing according to the Boiler Test Code, despite advice to the contrary given by some clubs. A good example is the Tony Green Steam Boiler shown here, which was originally a LO type boiler but, by the addition of a steam stop valve, has been converted to a LS boiler (see **Photo 12**).



Volume 3 now covers the requirements for LPG tanks under 250ml. Most manufactured tanks with an initial pressure test certificate will not require further hydraulic pressure tests. They do require a safety check every five years though, so disposable tanks might be the easiest option.

- Volume 3 – LPG Tanks Under 250ml
Volume 3 is a new volume covering the use of gas tanks to power boiler burners (so is not applicable if you use liquid or solid fuels). While it lays out testing procedures for gas tanks, it also specifies the conditions under which testing is not required, which most modellers will be relieved to hear is frequently the case – although obviously close attention needs to be paid so the subject is fully understood. Basically, though, commercially built tanks with manufacturer's original certification

do not require further hydraulic pressure testing.

Worth mentioning is that anyone wishing to manufacture their own gas tank will probably struggle to find a club or an inspector who has a test rig capable of achieving the required 400 psi test pressure, so may have to approach one of the model engineering or model railway clubs around the country. Consequently, things will be significantly easier if you use either a commercially built gas tank or disposable ones (see **Photo 13**).

Rules for good reason

I've been carrying out model boiler steam tests for years and have come to realise that there'll always be some resistance to legislation. I've never really understood why, but it's there!

The fact is that the Boiler Test Code is not just a set of instructions; it's been written to help steam modellers run their models both safely and effectively, and it contains a wealth of useful and interesting information. For instance, it explains how to prepare your boiler for testing and what the inspector is going to be looking for during a test, knowledge that will make the whole process much quicker and easier for all concerned. It also points you in the direction of resources such as boiler inspectors and modelling societies, all of whom are willing to offer help and advice about building and operating models safely and efficiently (see **Photo 14**). ●



We all want the same thing: safe, reliable and convenient operation of our model steamboats. The Boiler Test Code provides a framework to help us achieve that, along with back up and resources all designed to further assist. All you have to do is take advantage of it!

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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

MS Oldenburg

Some time ago (MB May 2024) you were good enough to print a couple of pictures of my model of the RMV *Scillonian III*, which sails between Penzance and the Scilly Isles down here in the South West. In my accompanying letter I mentioned that the model created quite a lot of interest at shows and exhibitions in and around Bideford in North Devon, where of course she was originally built at the Appledore Shipyard. Given that our club holds a number of displays each year to raise funds for the RNLI, it got me thinking about what my next model might be, and how it could create the same level of interest as the *Scillonian*.

The obvious answer was the MS *Oldenburg*, which often sails out of Bideford in the summer months, running day trips to the Island of Lundy. Being very much a local boat, it would be instantly recognisable to everyone attending our displays, and so I thought this would be an excellent addition to the fleet.

Doing a bit of searching on the internet and consulting with a few fellow modellers across the country I discovered that Ray Wood was developing a plan for Model Boats for the very same *Oldenburg*. What a stroke of luck! Now, I have met Ray a couple of times in the past and so made contact with him through a mutual friend at the Chantry Model Boat Club in Bluewater Kent.

Ray had his plan published in the magazine in the January 2025 issue, which landed on my doorstep just before Christmas. This has prompted me to send you a few pictures of my version, which I hope you may be



Perfect partners: the Oldenburg alongside Peter's model of the Scillonian III.

able to publish at some point in the future. Now, I would love to be able to tell you that I had locked myself away in the workshop all over the Christmas break and built the model in super-fast time! This would not be strictly correct!

I actually contacted Ray about 12 months ago when he was in the early stages of developing his model. He was good enough to send me an early version of his hand drawn plan, from which I have built my model. Hopefully from the pictures, your readers should be able to see that even an average modeller like me can produce a very nice model from Ray's plan. Now that the plan has been published, I am hoping to see many more MS *Oldenburgs* in the future, particularly down here in Devon.

I finished my model just in time for our club's latest display just before Christmas. I think she looks pretty good sitting next to my *Scillonian III* – both models being to the same scale of 1:48.

And yes, the *Oldenburg* did create just as much interest as I had hoped.

Finally, can I thank Ray for his kindness in sharing his early plan with me. He is one of the most prolific modellers I have ever met, and his generosity is just another example of what makes our great hobby so friendly and rewarding.

**PETER PARKES
KENWITH CASTLE MBC
BIDEFORD, DEVON**

I actually clicked on the images attached to your email before I'd read your letter, Peter, so I nearly choked on my coffee – I mean, I know some of you build fast, but... Anyway, glad you clarified, and, wow, you've done a fantastic job!

Ray is always an absolute joy to work with, and, not surprisingly, Oldenburg seems to have gone down a storm (if that isn't too a inappropriate turn of phrase when talking boats, models or otherwise!). Ed.



Peter Parkes' build of MS Oldenburg from Ray Wood's excellent plan.



Two Wings

While browsing in my local hospice shop, I was startled to see what appeared to be two large vintage yachts. On taking a closer look, I was amazed to find they were indeed genuinely vintage, most likely originating from the 1920s/30s – and, astonishingly, not only were they both in good condition (apart from their paintwork, that is), but they were accompanied by five masts and six suits of sails! Being big and heavy, I knew they would take some lifting into my car, but how could I resist this opportunity to add to/fill gaps in my 'timeline' collection!

Once home I gave them a thorough inspection and found the hulls were, apart from a few small indentations, sound and ready for rubbing down and repainting.

The two boats were totally different. One was single masted, exactly 4ft long and weighed 25lb! Named *Redwing*, this came with six 'stepped' size lead rudders, so no linked sails/steering. It is today rare to find a boat with such a full set of weighted rudders, but during the 1930s it would have been typical of many boats sailed at the Ramsey Model Yacht Club. After some hard work rubbing down and repainting, using a red I'd colour-matched with the original, I managed to achieve a relatively good finish to the hull.

The deck was in good shape and required only a couple of coats of varnish, while the script featuring the boat's name took just a little 'touching up' to make it look as good as new.

When it came to the masts and sails, the first job was to sort out the relevant ones for each of the boats. There appeared to be three masts and five suits for *Redwing* and two masts and two suits for the second boat. They were all in good condition, although the rigging needed replacing and the masts rubbing down and re-varnishing.



Fleetwing, the 1920s' schooner-rigged A class yacht restored by Brian King.

After handwashing the sails, they almost looked new. There was no rot at all!

The second boat was considerably larger, measuring 62 inches in length weighing a hefty 35lbs – a much bigger beast to handle on the workbench!

Named *Fleetwing* (in cast lettering curved round the stern). The

hull was in similar condition to *Redwing*, so received much the same treatment. Although twin-masted, I first test-sailed *Fleetwing* with a single Bermuda rig! But, just as with *Redwing*, the accompanying mast and sails required little work in order to achieve a great result. *Fleetwing*, I discovered, not only had an adjustable slim rudder but also a larger lead one which can be fitted over it and retained by means of a safety cord to the deck. A most unusual combination to me!

Having installed radio-control to the rudder on my now schooner-rigged *Fleetwing*, she sails and responds to the slim original rudder very well, but I also have the option of using the bigger over-fitting lead rudder in stronger winds. The R/C is for the rudder only, with the servo encapsulated in the replacement hatch cover, so all I have to do is change hatches to return the model to its original free running state.

But, while I was quite happy with the masts and sails for *Redwing*, which I am sure are the originals, I couldn't say the same for *Fleetwing*. I was pretty sure they were not the originals, despite the mast diameters being the correct size. Going by pictures and plans of similar boats,



Representing a class of yacht raced exclusively on the Mooragh Lake on Ramsey on the Isle of Wight, Brian's thoughtfully restored 1930s' model of Redwing.

the foremast didn't appear to be tall enough, and there was provision for a bowsprit on the hull, so the foresail clearly wasn't correct. The 'mainsail' didn't match either. So, I rather suspect these were borrowed from another boat as a temporary measure. Consequently, I decided to redesign the sailing plan and fit a new foremast with gaff rig, and, although still lacking a proper bowsprit and 'flying jib' (not sure of its proper name), what I know have is something that looks more like the plans I have found for similar model yachts of that era.

I have yet to carry out a test-sail for *Redwing* but hope to do so in the very near future. As she has no radio-control, this will, considering the breadth of the lake, require the assistance of a mate – and I will definitely have to 'lock' her weighted rudder for trials before attempting to use it 'in anger'!

**BRIAN KING
EMAIL**

Love how sympathetically you've restored these beauties while also adding a few of your own innovative little tweaks, Brian. Fabulous! Ed.



The R/C steering newly installed by Brian for the rudder. The servo for this is incorporated in a replacement hatch, while the battery and RX are attached underneath. The model, however, can easily be returned to former operation simply by swapping back to the retained original hatch.



The 'adjustable' rudder steering on Fleetwing, as per original.

CSS Alabama

Having enjoyed David Bray's three-part article on his model of HMS *Warrior* [see the June, July & August 2024 issues of *Model Boats*], I thought you might like to see some photos of my own scratch-built model of her little sister, the CSS *Alabama* – a ship built for the Confederate Navy as a commerce raider by John Lairds of Birkenhead and commissioned in 1862, two years after *Warrior*.

A hull plan for the *Alabama*, produced by Hobby Ltd, was one of several model plans given to me by my father some 45 years ago. Of particular appeal, this was safely tucked away in a drawer, earmarked as a potential future project. Later, when my father passed away, I inherited his entire fleet of models, all of which were in need of some tender loving care. I therefore embarked on a voyage of cleaning,

repairing and casing each and every one of them – with the exception of a shop-bought sailing frigate. This simply didn't fit in with the rest of my models, so I began to wonder whether I should sell it or perhaps simply donate it to a charity shop, but for sentimental reasons (this had been gifted to father) I was loathe to do so. And then the *Alabama* drawing came to mind...

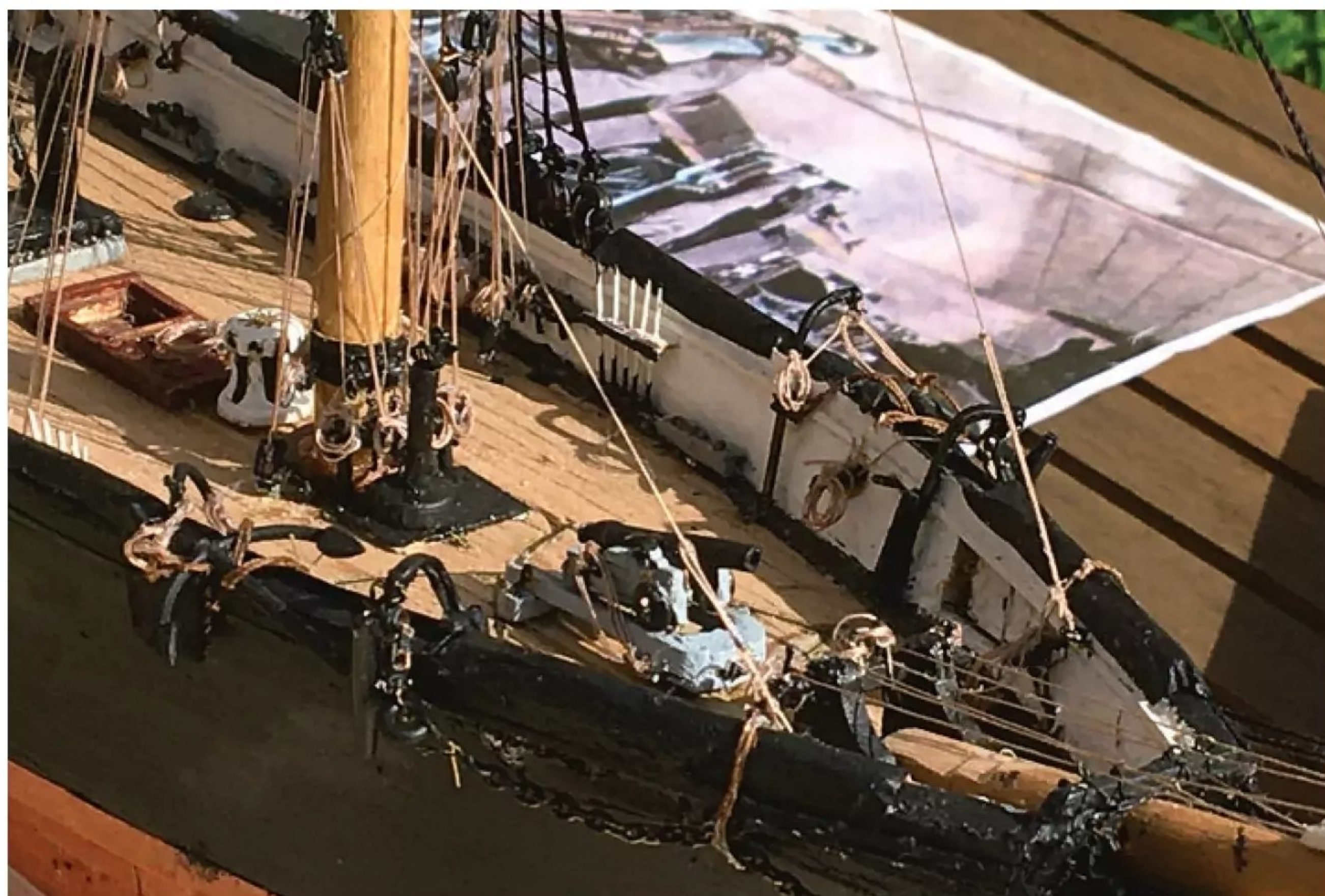
The raised forecastle was the first to go; the beam was correct, but the length was too short. However, I was able to extend the upper deck by adding a false stern quarter (as per the real ship). To obtain the correct underwater length, I built in a working dropping propellor and frame. Many hours were spent cutting gun ports, planking decks, fitting central gun carriage rails, and imitation copper plating the hull. Next, all the deck fittings were made, the ship's boats

completed, and the mast and yards tapered to size. Each of the yards on this model had been formed from 4mm diameter dowel, with an eye screw at the end for rigging. There was just one snag: while the sails and masts were included in the Hobby plan, the rigging wasn't. Could I rely on my experience of sailing modern tall ships or a brief visit to *Warrior* to rig *Alabama*? At the beginning of the Covid lockdown however, armed only with this knowledge, I decided to commence rigging the model. At this point I wasn't sure whether *Alabama* had chain topsail sail sheets (this is hard to detect on the *Warrior*, unless you ask the right person or if you're lucky enough to go aloft), but fortunately a loaned book put me right.

Alabama has now taken pride of place in my fleet.

**REGINALD HILL
EMAIL**

I think your dad would've been delighted by how creative you got here – and what a result! I was almost as amazed by that bottle of wine you have in shot. It wasn't until I zoomed in on the digital image to admire some of the finer details of the build that I noticed the wording on label. As I am pretty sure it isn't going to be discernible on page, I should perhaps point out to fellow readers, who may be wondering if this bottle had been kept to hand purely for medicinal purposes should all that intricate work on the rigging have become too stressful, is that it is, in fact, there for a much more appropriate reason. What you are looking at chaps, if you can tear your eyes away from the model just for a moment, is a fine South African red that goes by the name of, what else, The Alabama! Cheers, then, Reginald, for sharing! Ed.



Reginald Hill's splendid model of the CSS Alabama, HMS Warrior's little sister.

U-Bootee

Please pass on my sincere thanks to Glynn Guest for his accurate plans and clear building instructions for *U-Bootee* (featured in the September 2022 issue of *Model Boats*). I launched my replica for the first time yesterday and really enjoyed sailing it, both on and under the water of an Ottawa-area swimming pool (unfortunately, I was so preoccupied with preparations for this inaugural launch that I forgot to take my camera with me, so I am instead sending you a couple of photos taken in my workshop). There's still a lot for me to learn about handling this model smoothly. However, the number of surfacings equalled the number of dives, so I look forward to the next outings!

ADRIAN CAMFIELD
RIDEAU NAUTICAL MODELERS, OTTAWA, CANADA

I know Glynn will be delighted to see you have dived right in and put his plan to good use, Adrian. Great work, and not only do I wish you a happy new year but also many happy returns! Ed.



Now successfully in operation, the neat little sub built by Adrian Camfield from Glynn Guest's plan and clear instructions for U-Bootee, as featured in the Sept 2022 issue of Model Boats.



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**

CAN YOU HELP? Amati 1:35 Scale J Class Endeavour Yacht

I am seeking a company or individual to undertake construction of the above model and would be extremely grateful for any referrals or recommendations you may be able to assist with.

Thank you in advance for your valued help.

ANDY GLEN
EMAIL

While I am loathe to single one out, there are a number of companies that advertise bespoke model boat building services online, and sometimes within the pages of this magazine, Andy. As I am sure you are aware, the time and skills such projects involve usually come at quite a premium, so it will very much be a case of shopping around and finding the right fit. Naturally, however, I will happily pass on any personal recommendations your fellow readers may care to share.

That said, the kit for this gorgeous model is described as being aimed at the 'Advanced Beginner', so it should, in theory, be a fairly straightforward build for most of the more experienced modellers who subscribe to this mag. If, therefore, you feel comfortable about negotiating some sort of private arrangement, I will likewise happily pass on the details of anyone reading who feels confident about, and is interested in, taking on the task for you. Ed.

CAN YOU HELP? Tricky Turbinia

On seeing the illustrations in John Parker's fascinating article about *Stiletto* in your November issue, I was immediately put in mind of *Turbinia*, Charles Parsons' vessel built as a testbed for his revolutionary steam turbine nine years later.

Having myself used plans by Charles Sells to build a model of *Turbinia* a few years ago, John's cautionary comments about stability rang true! The slender hull with its U-shaped cross-section and lack of any form of keel or other stabilising feature made for 'interesting' test outings on a local pond, especially when applying full rudder. Achieving a low centre of gravity was challenged by the triple prop shaft arrangement combined with the narrow beam, which together make it difficult to site the battery as low as one would like.

Although I have some minor modifications in mind to address this, any suggestions from your readers would most be welcome!

CHRIS GILL
EMAIL

Really hoping for a good response/some helpful suggestions here, Chris, as I for one would love to see some on the water action shots of Turbinia once you've got these teething problems worked out. Ed



Charles Algernon Parsons' steam turbine-powered Turbinia at speed, photographed in 1897/1898.

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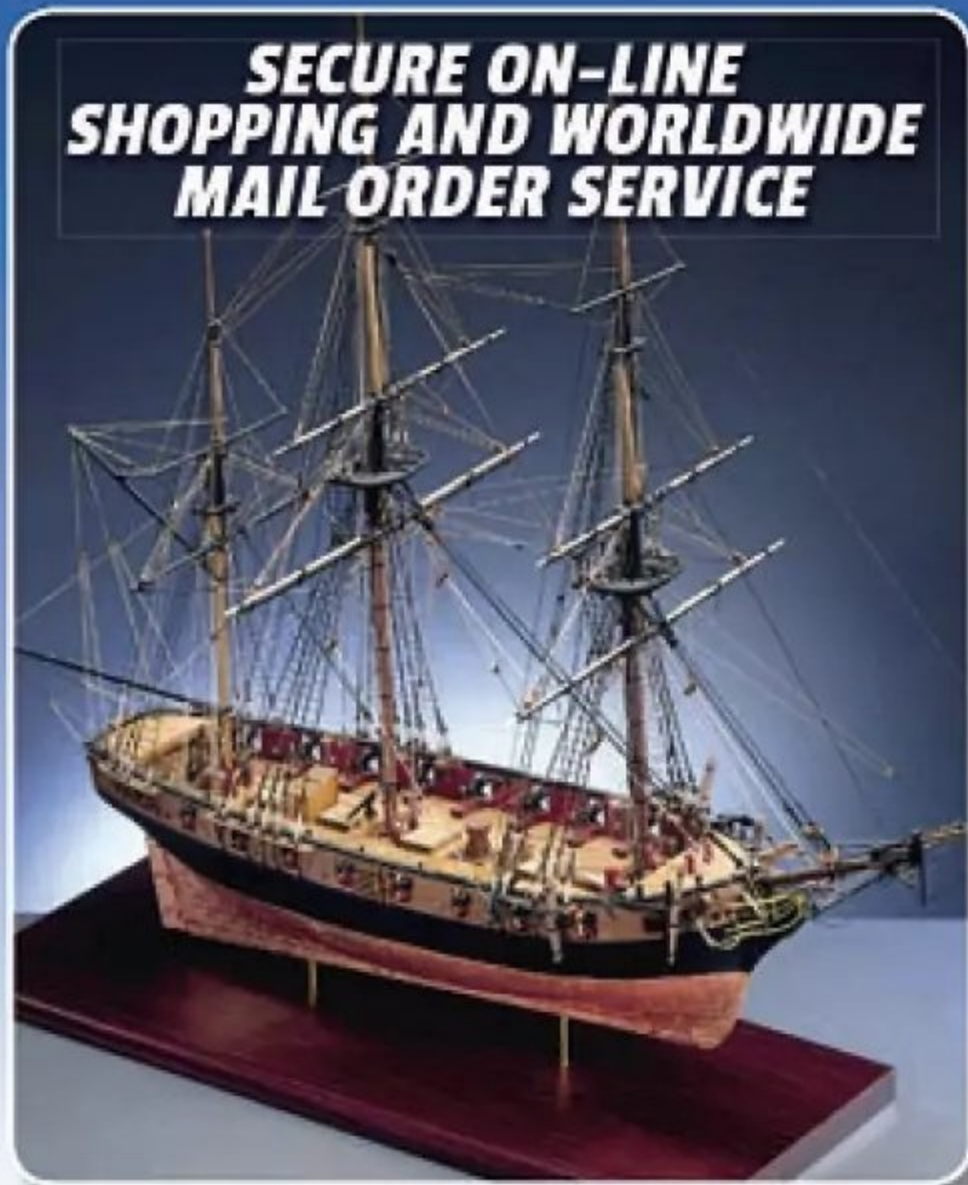
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Modelcraft Hand Drill & Chuck (6.4mm) PDR1962	21.84
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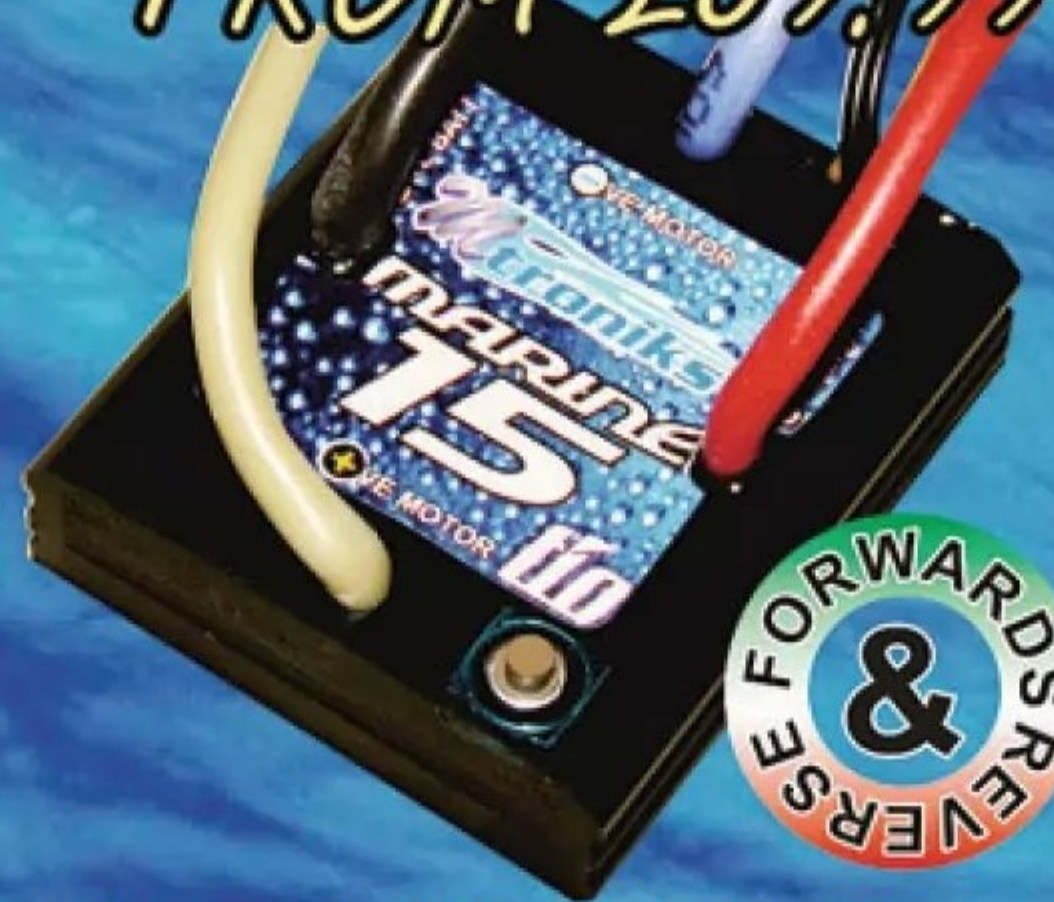
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