



588 AFRICAN QUEEN Scale 1:12 L. 74cm W. 21cm H. 43cm Poly hull (in factory stock)

Despite its modest size and apparance, the African Queen is one of the vessels which has become most vividly engraved on the minds of many people throughout the world. The African Queen achived its fame as one of the main characters in a film of the same name. The movie also featured Katharine Hepburn and Humphrey Bogart, who in the filmed version of C.S. Forrester's work, play a British missionary and an alcoholic engineer living in Tanzania during World War 1. While sailing on one of the many jungle rivers, the couple become involved in a number of emotional incidents ending, of course, in romance. As the movie closes, the couple - totally exhausted and in a perilous storm - are driven into Lake Victoria, where the African Queen hits the German Warship 'Königin Luise', causing it to explode and sink. The ship used for the on location shooting in Uganda was built in about 1910. After a stormy life, the boat was brought to Florida, where its present owner, Mr. Jim Hendrich, uses the renovated ship as a pleasure craft.

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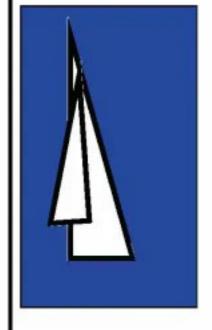
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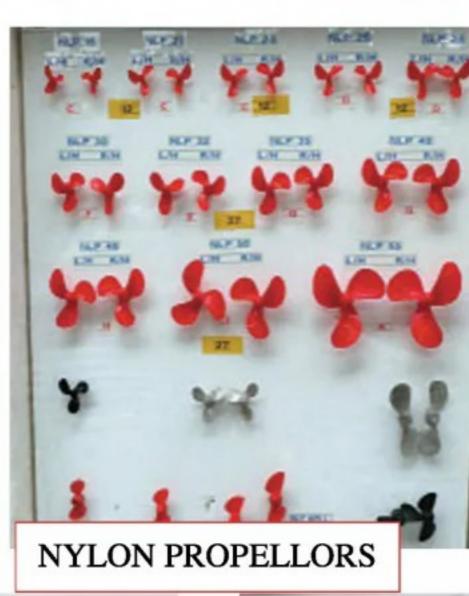
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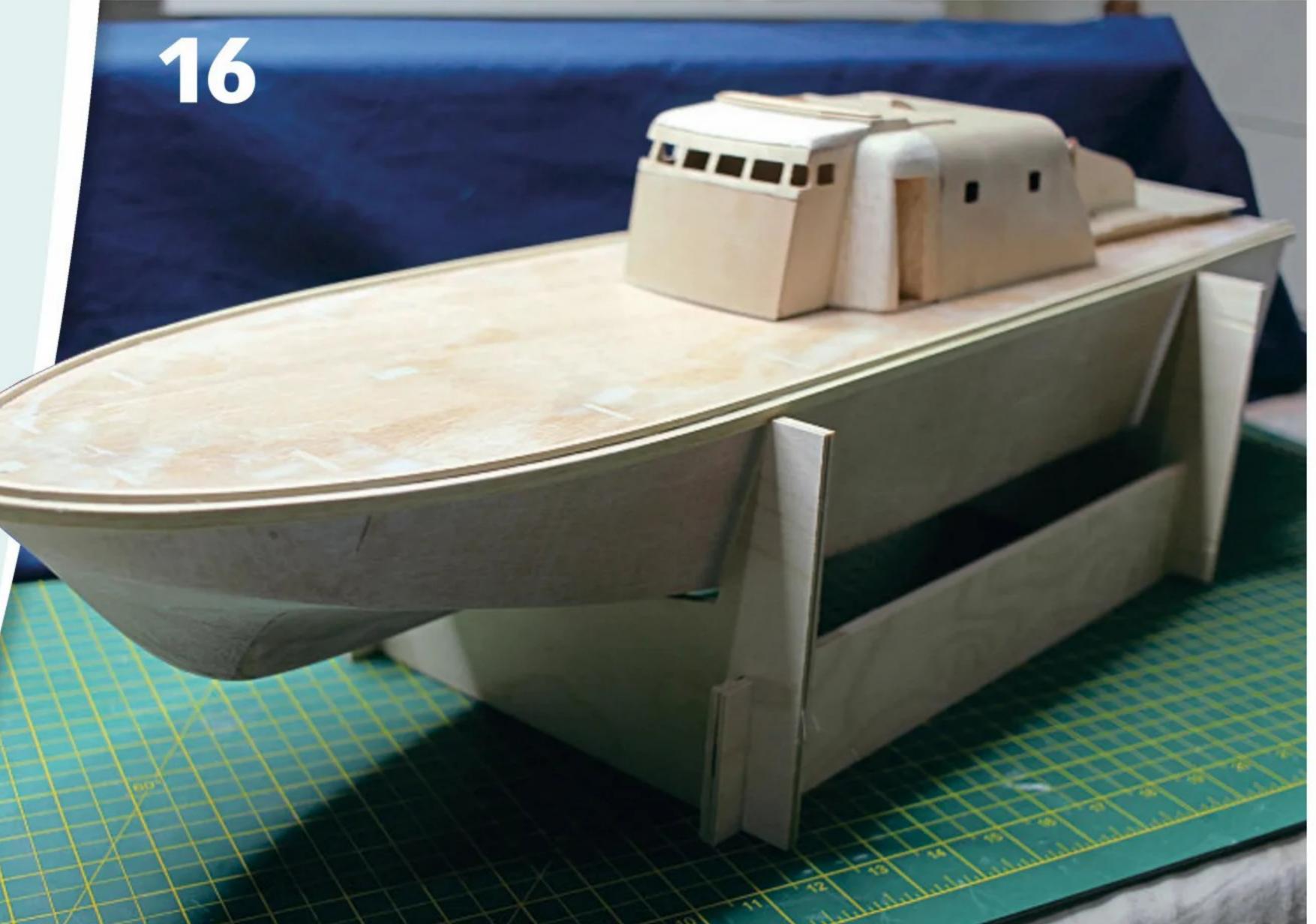
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WELCOME TO THE APRIL 2024 ISSUE OF MODEL BOATS...

Ithough I've been an editor for the past two decades, having only been taken onboard as skipper of this title a few years ago (well, four years this summer to be precise time really does fly when you're having fun!) my learning curve in regards all things model boat related continues and every day is a school day. For example, this month Nick Brown's review of SLEC's KD Perkasa has taught me that 'perkasa' translates from Malay into English as 'mighty' (language wise, I've picked up a few greetings in Japanese from Kerry Jang's Land of the Rising Sun feature as well), and, thanks to Ashley Needham, I now know that when it comes to Hawaiian canoes there's a distinct difference between a *Wa'a Kaukahi* and a Wa'a Kaulua (the former having a single hull and outrigger and the latter being a double hulled canoe). The ever-informative John Parker has also furthered my education with his fascinating account of Fletcher class destroyers and how successful they proved in the Pacific during World War II. Plus, in my favourite section of the mag to put together (Your Models/ Your Letters) so many of you have once again come up trumps with your mystery solving responses to previously published queries from fellow readers, which I certainly wouldn't have been able to answer with any authority.

As you'll probably have gathered by now, I'm a bit of trivia geek, but within all the inspirational build features on the pages ahead there is, of course, a wealth of practical advice on modelling methods and techniques, accompanied by some helpful tips and tricks, to dip into.

Before signing off, may I just remind you that the next issue, which goes on sale from Friday, April 19, will, along with lots of other great content, include a free pull-out plan (see page 74), so if you're not already a subscriber (in which case, it really is worth checking out the latest money saving deals on pages 38-39) don't forget to pick up your copy.

In the meantime, sit back, relax, and enjoy your read,

Lindsey



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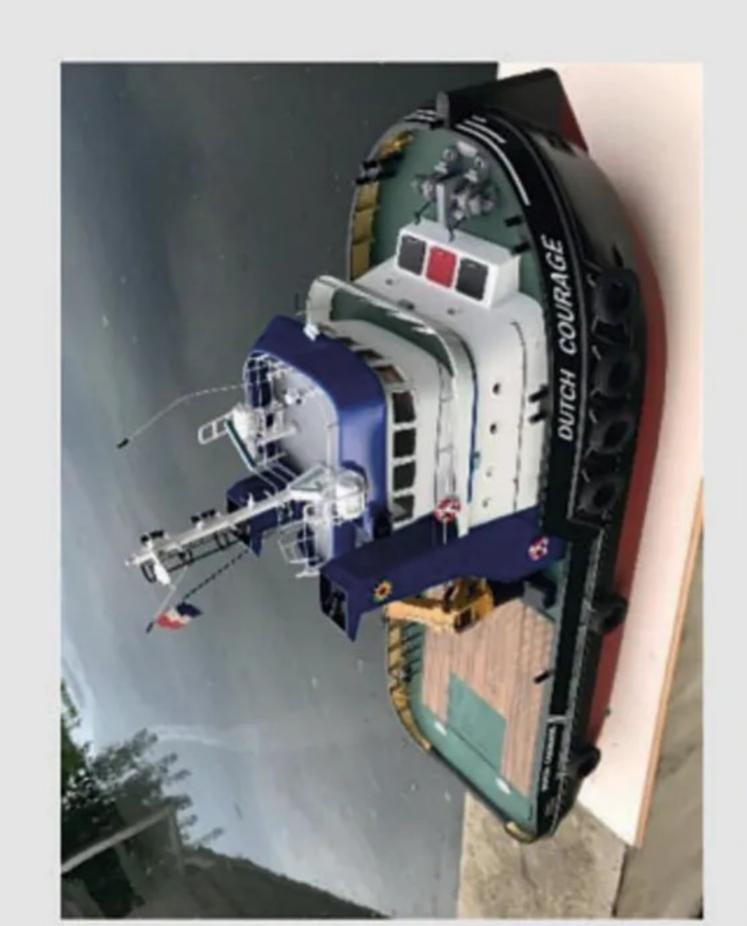


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Best of British

We are delighted to announce that *Best* of *British*, the nation's favourite nostalgia magazine, has joined the stable of titles at Mortons Media Group. The magazine, which covers every aspect of life from the 1930s through to present day, becomes the 25th regular title in Mortons' portfolio of publications.

Recent articles on a nautical theme have included a celebration of 60 years of Radio Caroline and a look back on 100 years of the Shipping Forecast Regular, while regular content includes: 'Treasures in the Attic' (a look at recently uncovered antiques and collectables), 'Postcard from...' (which casts a spotlight on a British town or city to visit or stay in) and 'Window on the Past' (a compilation of archive images and memories from The Francis Frith Collection), along with a lively six-page postbag section, where readers are able to share their stories in the 'Yesterday Remembered' memoir section.

Mortons' Publishing Director, Dan Savage, explains: "We are delighted to welcome Best of British magazine into the Mortons Media Group family. Best of British has a rich legacy, and we are committed to building on that foundation, delivering engaging content to readers and creating new opportunities for advertisers. The magazine is known for its popular articles on classic entertainment, transport and food and drink, as well as the



Editor, Lindsey Amrani, via e-mail at editor@modelboats.co.uk

Nostalgia abounds in Morton Media Group' newly acquired title Best of British.

great British countryside. Under Mortons' stewardship, the magazine will continue to deliver this great content".

The title's editor, Simon Stabler, adds: "The acquisition by Mortons Media is an exciting chapter for Best of British. We believe that this partnership will strengthen the magazine's position within the market and ensure its continued growth. We are

confident that Mortons Media Group is the ideal custodian for this beloved publication."

The first issue of *Best of British* published by Mortons Media Group will be cover dated March and on sale from February 29, 2024. This will be available to pick up from all good newsagent, but some great money-saving subscription deals can also be found at https://classicmagazines.co.uk.

New kit for the San Felipe

OcCre has launched a new 1:86 scale kit for the 18th-century warship the San Felipe (also sometimes referred to as El Real, or Real Felipe –in homage to Felipe V, the first Bourbon king of Spain). This Spanish threedeck first-rate warship (the highest rank), built in 1716 at the Catalan shipyard of Sant Feliu de Guixols following the proportions of Antonio Gaztañeta and armed with 108 cannons, entered naval service in 1717 and quickly became one of the most famous and emblematic vessels of the day. She was, with no expense spared, double planked, both internally and externally, this providing great hull strength. Her hull covering was crafted from oak wood and her planks, known as hiladas or trancas, were 8 meters long and 25 centimetres thick. Oak, elm and pine featured extensively throughout her construction,

necessitating, it's thought likely, the felling of over 4,000 trees (explaining why historians consider shipbuilding as one of the primary causes of Spanish deforestation).

Resulting in a replica measuring 850mm in length, 630mm in height and 320mm in width, OcCre's plank-on-frame kit also boasts the use of high-quality materials and castings and consists of over 3,800 individual parts. You may, however, need to raid the treasure chest for this one, as the kit is priced at an eye-watering £404.95, and the recommended tool kit, paints, glues and stand all need to be purchased separately.

For further details, or to place an order, visit UK distributor Hobbies' website: the following link will take you straight to the page for this model: https://www.hobbies.co.uk/occre-1-86-scale-san-felipe-model-kit



OUT AND ABOUT



Sailing with the Dolphins

The small, friendly, Kent-based Dolphin Model Boat Club, who meet at Orpington Pond (sandwiched between the trees alongside the A224 – program your SatNav to BR5 3RX), would like to extend an open invitation to anyone interested in attending one or more of its sailing sessions. There will be a £2 charge (per boat) for any non-club members, and the club has asked us to point out that no IC or petrol boats can be accommodated. Off road parking is available for the duration of these sailing sessions (gates are only opened for meets), although please note there are no onsite facilities. There are, however, toilets in the nearby Priory Gardens and at The White Swan pub.

Sailing sessions for 2024 are scheduled for:

- Sunday, April 7 free sailing from 10:00
- Saturday, April 20 night free sailing from 19:00
- Sunday April 28 free sailing from 10:00
- Sunday, May 19 free sailing from 10:00
- Sunday, June 9 free sailing from 10:00
- Sunday, June 30 free sailing from 10:00
- Sunday July 21 free sailing from 10:00
- Sunday, August 11 free sailing from 10:00
- Sunday, September 1 free sailing from 10:00
 Saturday, September 14 night free sailing from 19:00
- Sunday, September 22 free sailing from 10:00
- Sunday, October 13 free sailing from 10:00

For further details visit https://www. dolphinmodelboatclub.com/ or email the club at dolphinmodelboatclub@live.co.uk

Ship Models: A History of Shipping in Miniature

Scottish

Maritime

Museum

A new exhibition exploring the history of ship models over the centuries, and the evolution of ship building design, at the Scottish Maritime Museum on Irvine Harbourside is to run through until Sunday,

May 26, 2024. Open daily from 10am to 5pm, admission to this exhibition is included in the usual museum entrance fee (£9 for adults, with concessions – for more info, or to book tickets, visit https://www. scottishmaritimemuseum.org/irvinemuseum/). Free parking is available in the museum courtyard on Harbour Road and in the adjacent public car park. Alternatively, if travelling by public transport, the museum is a five minutes' walk from Irvine Railway Station, while various bus services have convenient stops nearby (operators and route numbers can be found on the museum's website).

The exhibition demonstrates how models underline the enormous cultural significance of the vessels used, from ancient times right through to present-day, for travel, trade and warfare, and indeed how, as well as having been built as decorative representations and toys, models have played an important role as design aids in the construction of both commercial and naval ships. Also

examined is the evolution of amateur model making as a hobby, and the beautiful and highly-skilled art of crafting ships in bottles.

Eva Bukowska, Exhibitions and Events Officer at the Scottish Maritime Museum, explains: "We are delighted to open our latest exhibition – 'Ship Models – A History of Shipping in Miniature'. Ship models, which were made of materials ranging from brass, lead, copper, glass, pearl and, more rarely, gold leaf, are an essential and exciting tool for understanding and celebrating technological advancements in shipbuilding. Ship models also provide us with an interesting insight into cultures around the world, making this an exhibition which visitors of all interests will enjoy".

SOCIETY

HEYWOOD

The Great Cornish Model Show

This year's Great Cornish celebration of model making talent, organised by the Helston & Falmouth Model Railway Club, will take place at the Pool Academy, Church Rd, Pool, TR15 3PZ, over the weekend of April 13/14. Doors will open from 10am to 4pm, with admission charged at £7 for adults (with concessions).

As well as model boats and ships, 15 working model railway layouts, transport models of all descriptions (both radiocontrolled and static) in a whole variety of scales, and miniature room sets and dolls houses will be exhibited. There will also be building and modelling technique

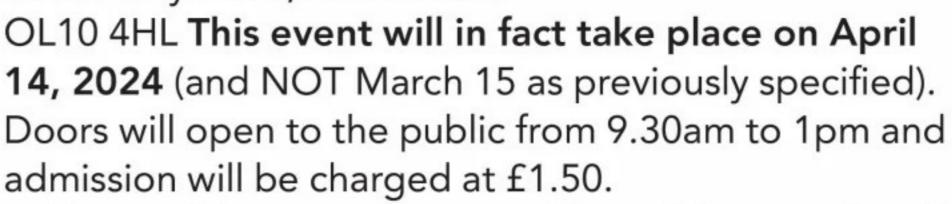
demonstrations, along with various trade stands to browse. The venue boasts free parking, easy access, and refreshments will be available all day.

For further details, visit https://www.hfmrc.uk



Date erratum

PLEASE NOTE that in last month's issue we regretfully published the wrong date for the Mutual Model Boat Society' Grand Modellers Bring and Buy sale at the Crimble Croft Community Centre (wheelchair friendly), Aspinal Street Heywood, Manchester



Those wishing to reserve a table at this event should contact Colin Travis on 07905 028298.



Midhurst Modellers' Show 2024

Colin Bishop reports back...

he last time I covered this popular annual event, now in its 41st year, was in 2019, and a lot has happened since then. I was, therefore, delighted to find a virtually full car park when I arrived shortly after opening time at The Grange Leisure Centre (located in Bepton Road, Midhurst, West Sussex) on Sunday, February 11.

The show's multi-modelling format was, I'd estimate, made up of around 40% boats, 40% trains and 20% military models/diecast toys/Meccano/etc, along, of course, with various trade stands – something for everyone really, which is clearly starting to be recognised as the way forward. As well as boosting attendance figures for the organisers, visitors have so much more to take in, and here the £5 entry fee (for adults, with reductions for concessions and children) offered excellent value for money.

While essentially a regional show, there were no less than eleven model boat clubs exhibiting, drawn from Sussex, Hampshire, Surrey and, in the case of the Victoria Model Steamboat Club, Hackney, London. There was, therefore, much to be seen and admired. With space tight in this issue, I can present you with no more than snapshot of the bigger picture! Bearing in mind there aren't many shows at this time of year, though, hopefully this will inspire more of you within striking distance of Midhurst to check out next year's event.



A cloud of sails on Basingstoke MBC stand dominated the powered models.



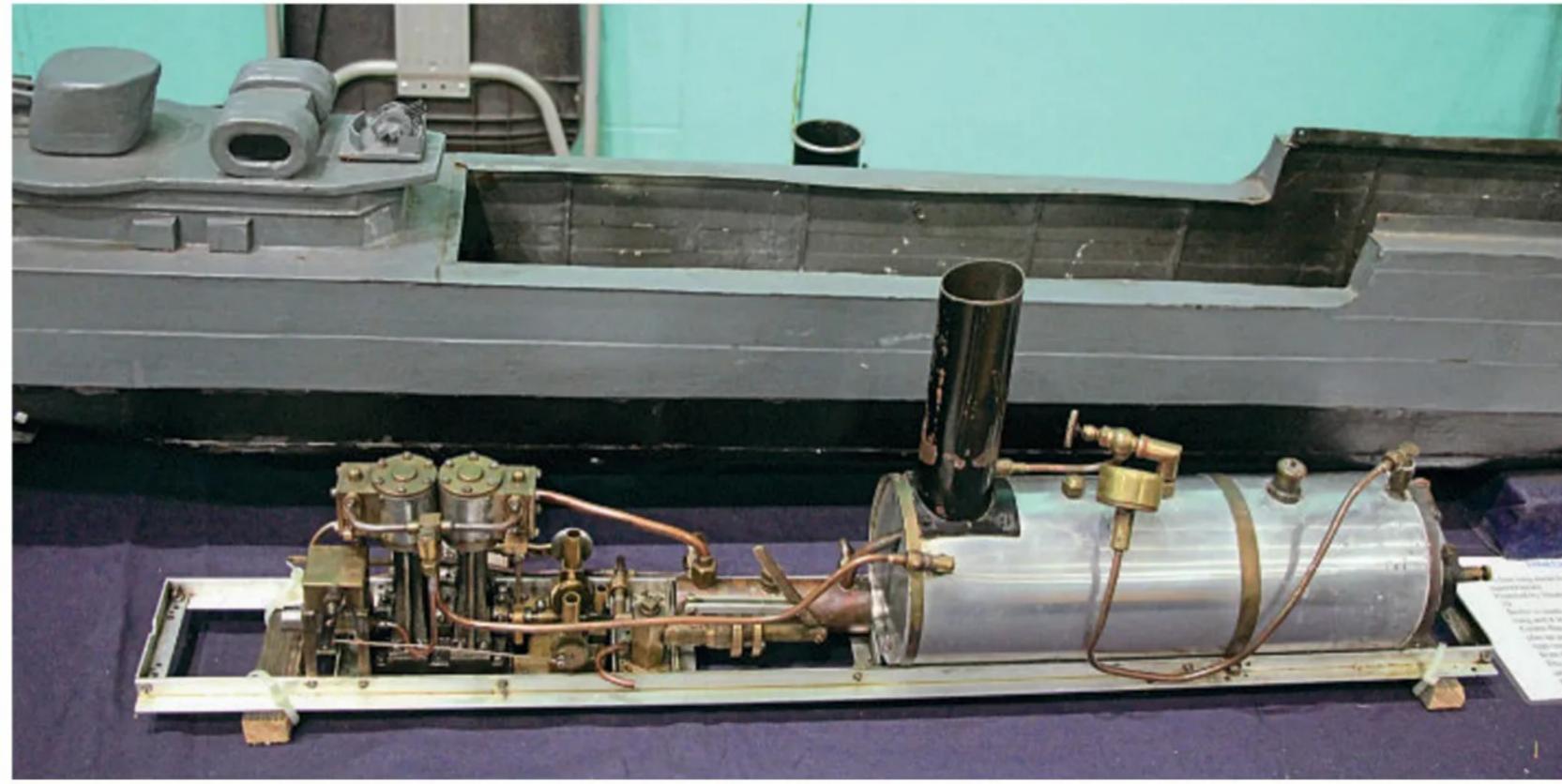
An exquisite 1:24 scale example of a popular subject, Bluebird of Chelsea, bult by Richard Norman of the Springbok Club.



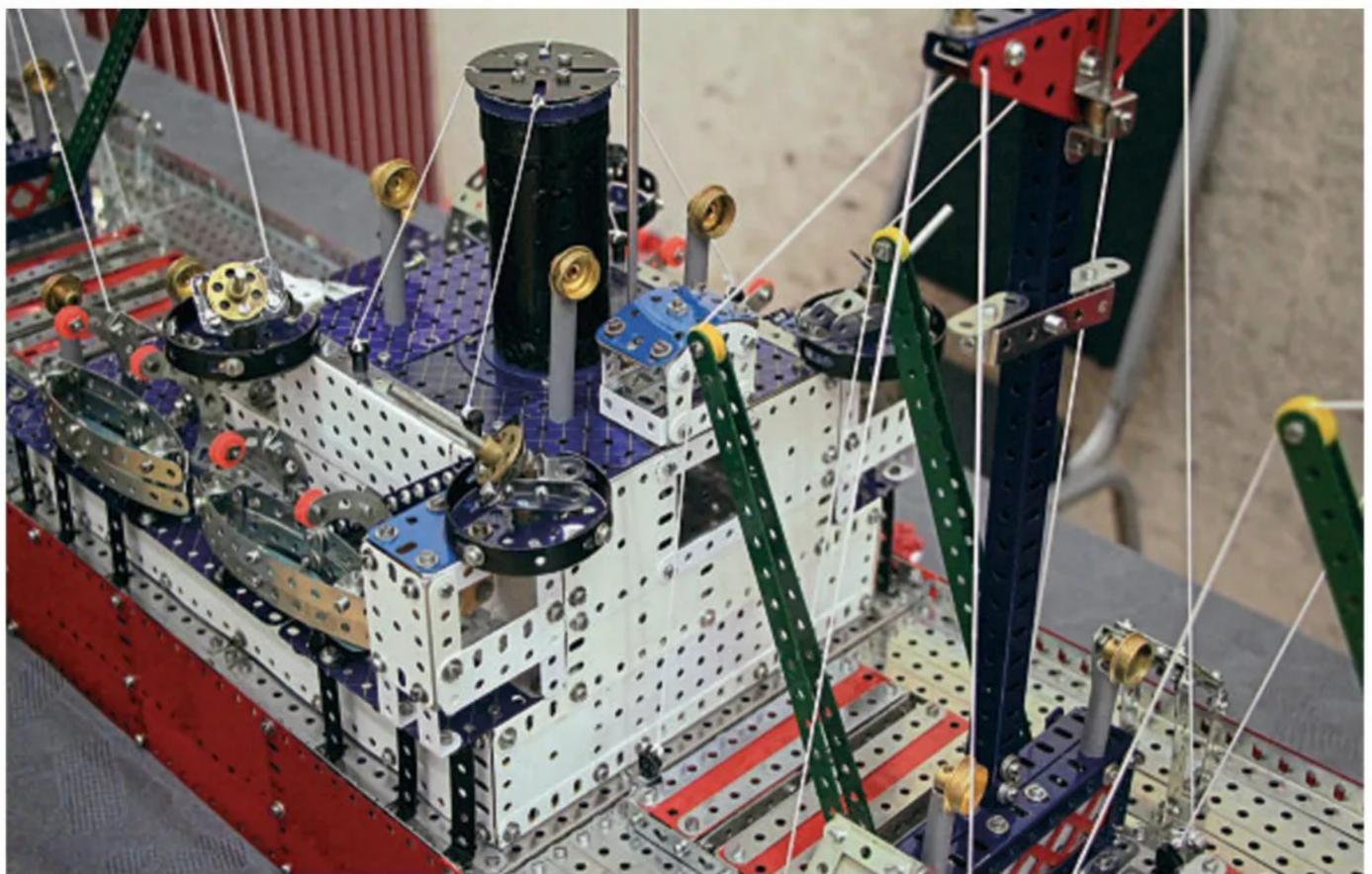
Left: A smart line up of power boats from the Eastleigh Club.

Right: A heavyweight example of the preserved Norwegian sailing cutter Colin Archer on the Schooner R/C Group stand. This is a popular modelling subject and available as a kit at smaller scales.





A two-cylinder steam plant removed from its destroyer model was one of several classic exhibits on the Victoria Model Steamboat Club stand.



Close up detail of an impressive World War II Liberty Ship built from Meccano by Colin Bull. This, he explained to me, took him ten months to complete.



A superb example of the offshore patrol vessel HMS Clyde featured on the Portsmouth & District MPBC stand.



Richard Norman of the Springbok Club answers questions from one of the visitors. As well as Bluebird of Chelsea, his superb paddle tug Reliant can be seen in the foreground.

"While essentially a regional show, there were no less than eleven model boat clubs exhibiting"





This attractive Bristol Trawler on the Eastleigh Club stand is the result of a comprehensive restoration project.

Right: The variety of models on the Phoenix Club and other stands demonstrated the scope of our hobby.

Left: The Phoenix Club had an unusual diorama of HMS Victory featuring some typical naval humour.











will start with an admission. I've never actually been a fan of the Perkasa as a model! I've always found the kits available for this 96ft Malaysian Fast Patrol Boat build into scaled down models that are either too bulky or very crude in detail. So, when the editor asked me if I could do a build review of SLEC's new kit for the KD Perkasa I had mixed feelings. This kit, however, was to completely change my views on the Perkasa, and throughout this review I will explain why.

Oh, and by the way, should any of you be wondering about the headline for this feature, Perkasa in Malay means 'mighty'.

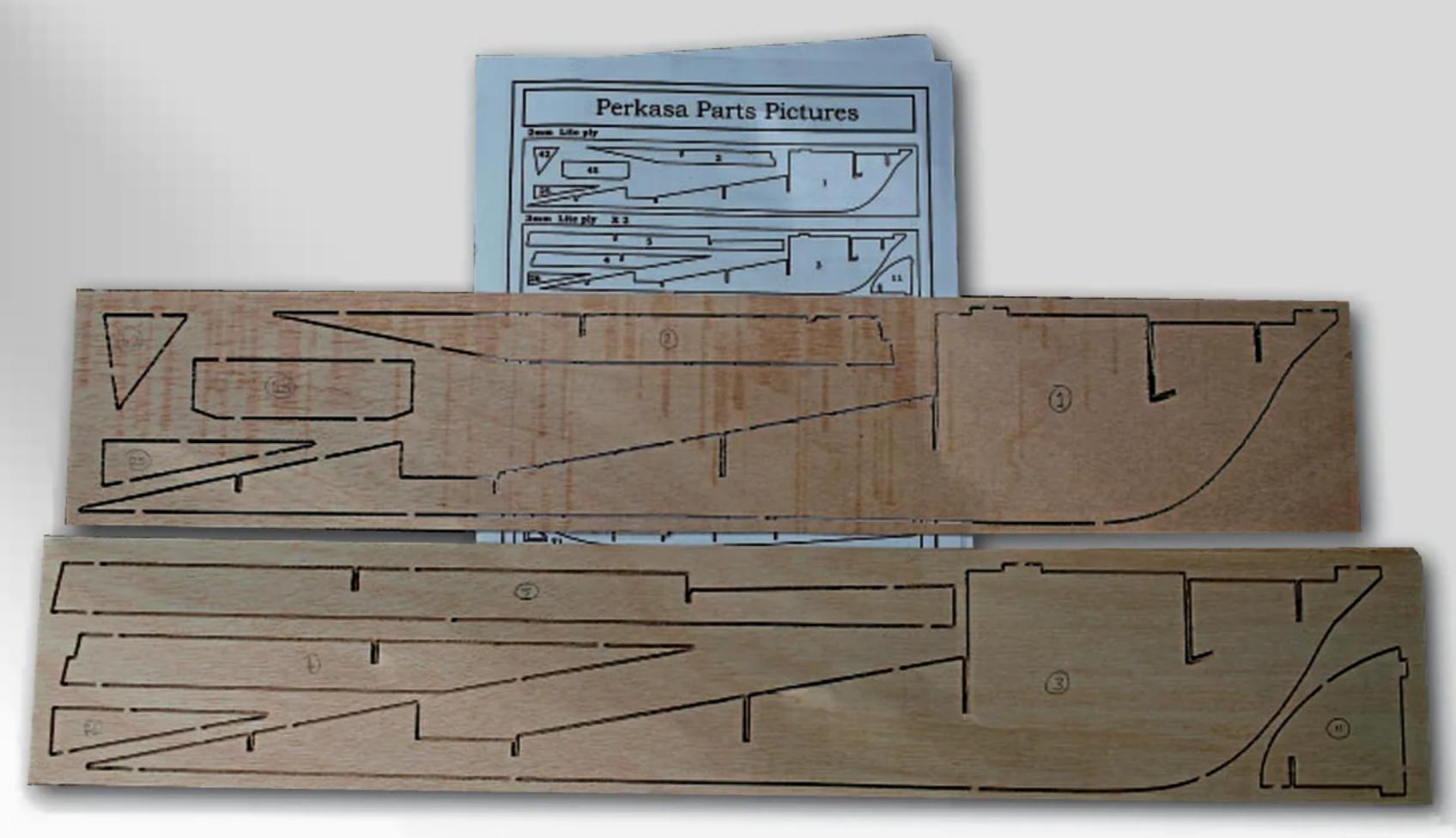
As mentioned in my preliminary assessment last month, this was last kit to be designed and built by the late Dave Milbourn. Having now completed the build, if you're tempted to have a go at it yourself, hopefully what follows will give you a better idea of what to expect, and you will be able to pick up a few hints and tips from own personal account of the experience.

Perkasa prep

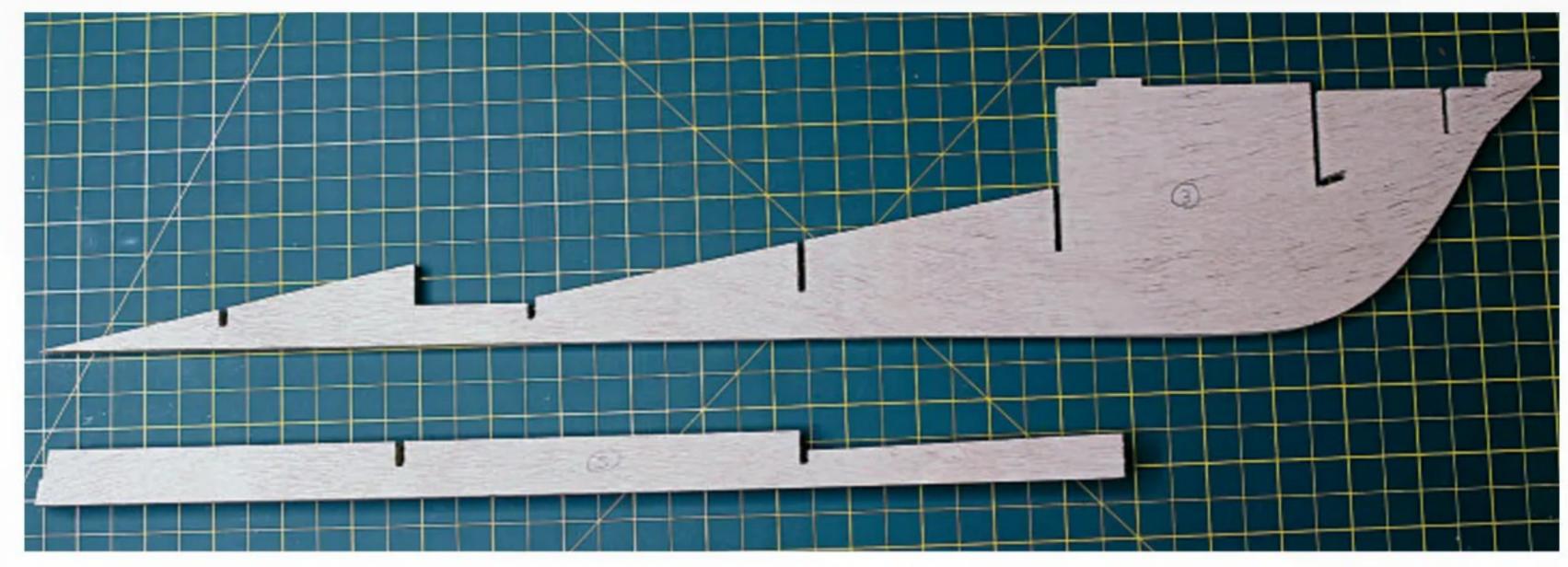
The SLEC KD Perkasa is a very well-designed wooden CNC cut kit, with some extremely well thought out features to aid the modeller. Before getting started, however, I would recommend you read the kit instructions thoroughly, several times, and decide whether you're going to follow the advice regarding the finishing of the hull. Having done this, I suggest you identify each of the parts on the CNC cut plywood sheets, using the guide in the instructions, and label them with a pencil.

Tackling the hull

Assembly starts with the keel, which is made up of many layers of plywood. This may initially look very oversized and strange, but there is logic to it. Firstly, it creates the rigid backbone of the model and is extremely robust. Secondly, it has to support the 8mm diameter propeller shaft tube and rudder post, which is important as there will be a lot of power going through this hull. Once the



The CNC cut plywood is fantastically neat and tidy, I labelled the parts using the kit instructions which can be seen in pencil.



The basic keel parts- it comes in two halves to allow the prop shaft to sit snugly between them.

two keel halves are joined, the start of the laying of frames can begin. The keel neatly pushes into the deck piece, and you can carefully slide each frame into place. A word of warning, here: resist the urge to simply push the frames and other parts out from the sheets as this will damage the parts and potentially create more work for you. Instead, use a sharp hobby knife to cut the support nubs and a sanding stick or file to remove any excess. Better safe than sorry, and I found it took a matter of just seconds to tidy up each piece.

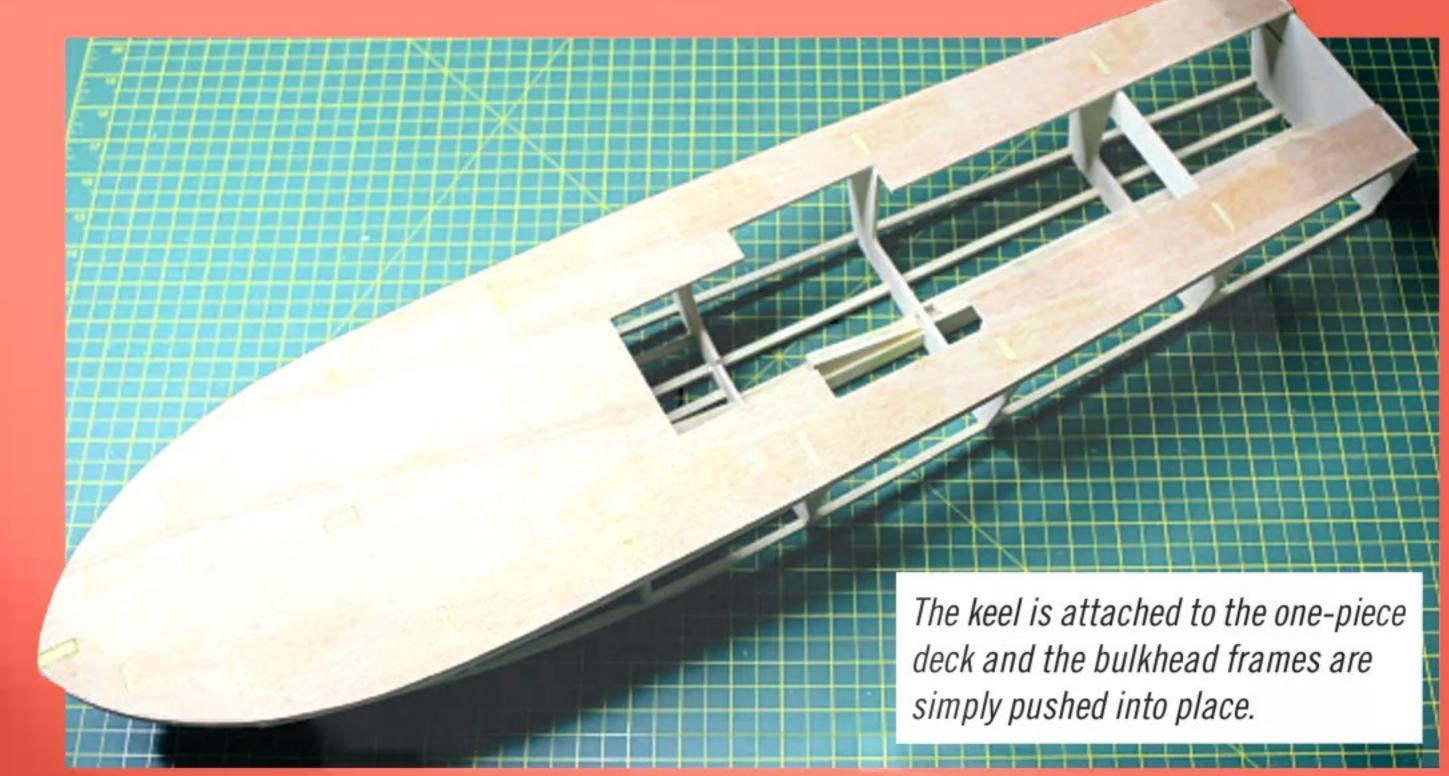
The basic shape of the hull is created using beams of wood strip, which act as the skin support. These fit snugly into each frame.

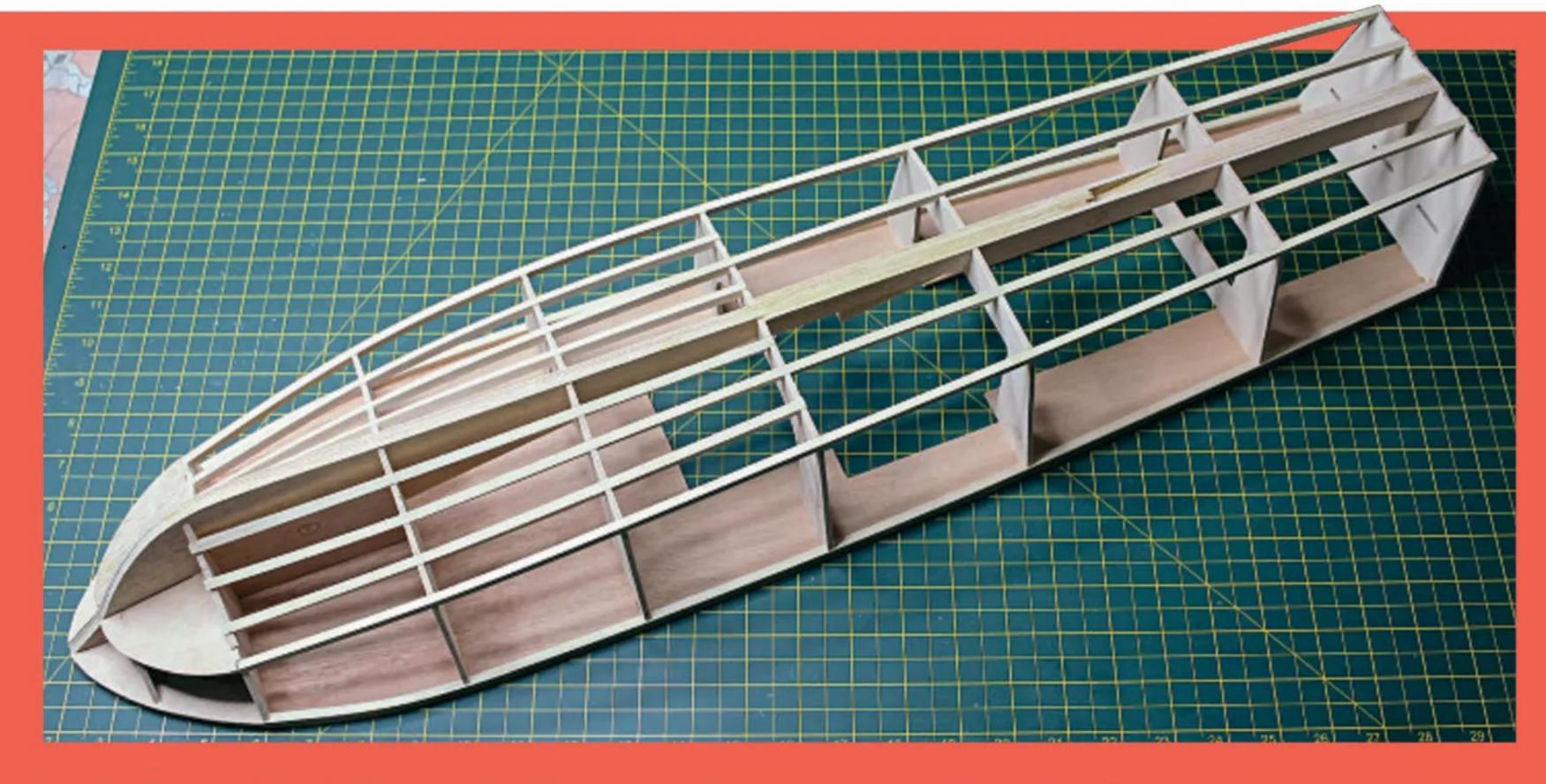
Once the glue used to affix them had dried, I

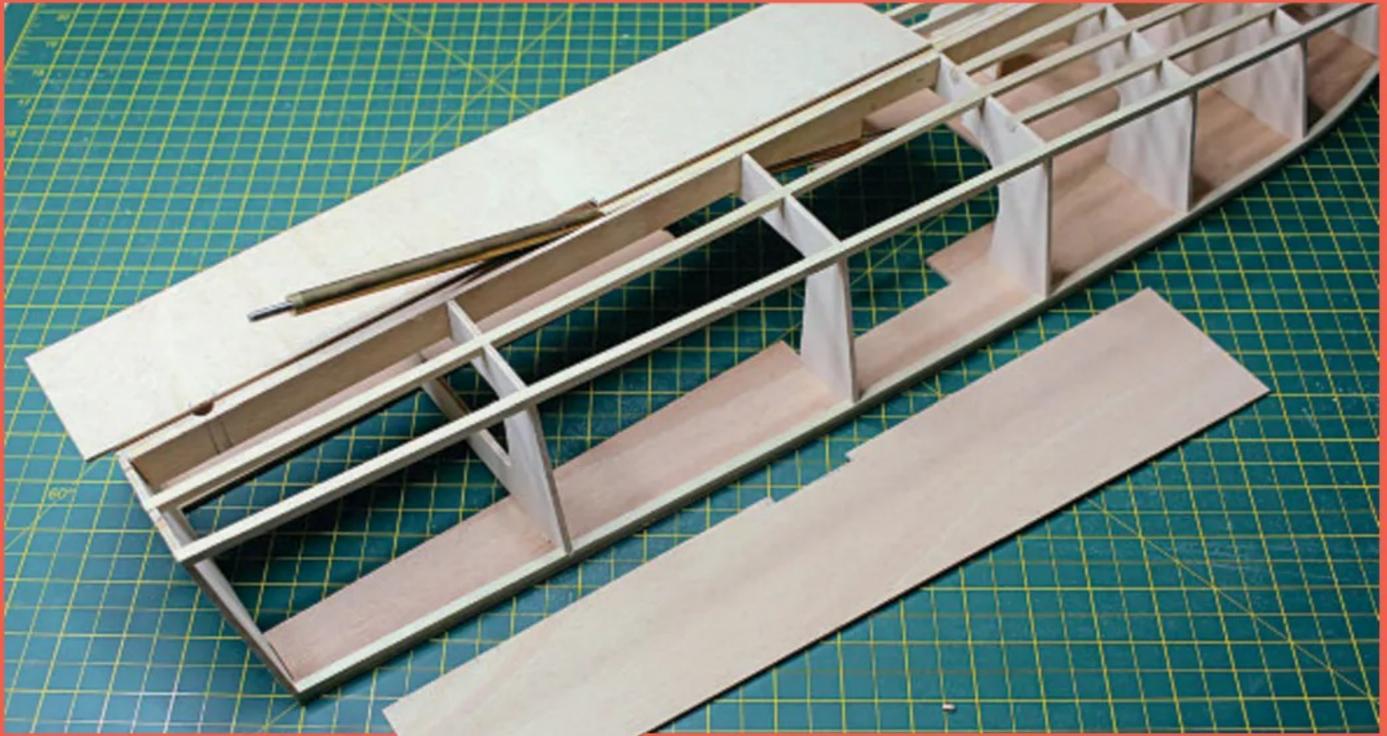
"This kit was to completely change my views on the Perkasa"

removed the hull skin from the plywood sheet and used a thick gel-type superglue to attach everything to the lower hull frames. This allowed me to lay down the wide softwood strip in double diagonal lengths in a similar way to the original vessel. Try to keep the two sides identical in layout when laying the diagonal pieces, as not only does this look better but it will create the same shape on each side. The bow piece is added next and is made up from two pieces of balsa block. I recommend carving the basic shape before attaching it to the bow cut-out; this will save









Above and right: The hull beams are fitted, and the iconic shape of a fast motorboat is starting to form.

Left: The hull underside skin is ready to be fitted prior to my favourite bit!



time and allow you to sand to shape more efficiently. I used my half round Perma-Grit file to remove the excess material and it took me three attempts to create the shape I was hoping for. Just work in stages, stopping to assess the shape at regular intervals. Once blended into the bow, I attached the bow upper piece using the superglue and it associated activator to get to grab quicker. The hull sides were quickly added, before everything was filed to shape.

Mindful of the fact that I would be writing a build review, I decided to follow the manufacturer's recommended hull finishing method, which involves applying a layer of fibreglass cloth. I purchased the extras required (some sanding sealer, finishing resin and some 1oz lightweight fibreglass cloth) directly from SLEC and they arrived extremely quickly. After filling any holes, wood grain and joins with P38 car filler, then sanded flat and smooth, I painted on a layer of Deluxe Sand'n'Seal, allowed it to dry and then sanded until I was happy with the finish. The kit instructions recommend applying a layer of Eze-Kote Finishing Resin prior to fitting the fibreglass cloth, which I applied with a wide paintbrush. I'd pre-cut the cloth into the rough shapes required so that once the initial layer of finishing resin was touch dry

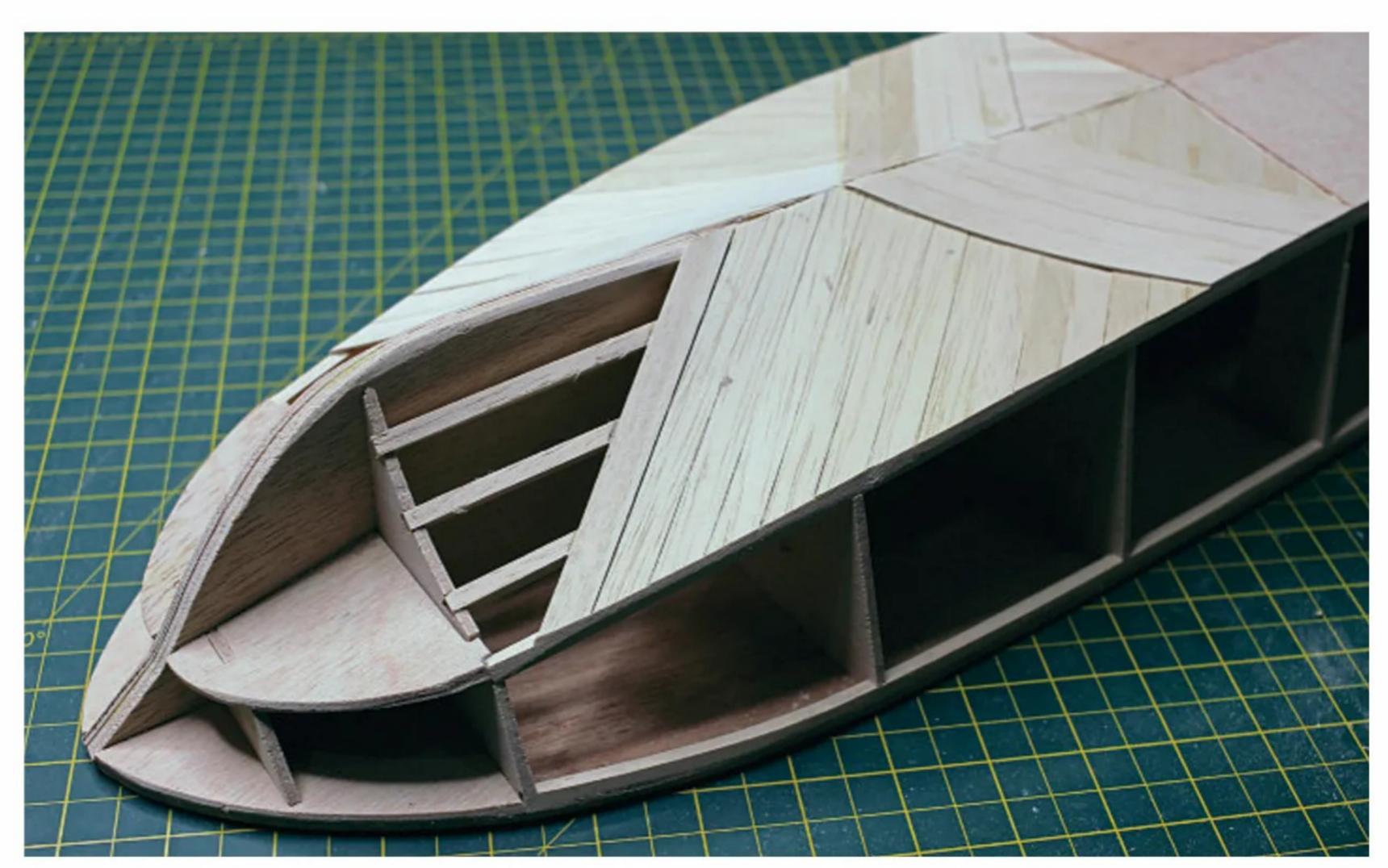
"This may initially look very oversized and strange, but there is logic to it..."

"While I had never attempted anything like this before, surprisingly, the entire process took me less than an hour from start to finish to complete"

I could lay it on and it would stay in position. A second layer of finishing resin was then applied to the cloth, working from the middle pushing outwards to ensure no bubbles were caught beneath the cloth. While I had never attempted anything like this before, surprisingly, the entire process took me less than an hour from start to finish to complete.

By the following morning I had a tough yet lightweight hull, all ready for a light sand in preparation for the painting phase.

Before applying any paint, however, I first completed the hull details, such as the upper rubbing strip and deck spurn-rail. I also added the superstructure coaming to seal the deck.



The softwood strip is laid down in a double diagonal pattern as per the original vessel.



With the hull sides added it was time to create the beautiful, curved bow area using the balsa block.



And now the completed bow. Doesn't look like anything special but that's the point! The entire hull has been coated in a layer of lightweight fibreglass cloth.

Painting the Perkasa's hull

This done, I used Halford's grey acrylic primer in a spray can as my initial layer of paint. This pale matt grey always sees any imperfections jump out and reveal themselves. Fortunately, in this instance, there were very few, and with a couple of swipes with some wet and dry paper I swiftly dealt with them. Now happy to proceed with adding colour, I sprayed the deck first with Humbrol Matt 30 Dark Green (which is a close colour match for 1960s' warship decks) and, once dry, then masked off the entire deck inside the spurn-rail. The hull sides were painted with Humbrol Matt 27 Sea Grey, also available in a spray can, making application both fast and efficient. The next task was to mask the waterline – and there is something I should probably point out here: you may find the straight waterline you've created looks odd when viewed from underneath, as it curves strangely around the bow area, but trust your pencil lines, it will work out! I used Humbrol 73 Dark Wine for the antifouling red colour. Satisfied all was at it should be, I sealed the whole paint job in clear lacquer and let it all cure for a full 24 hours.



The hull details have been added; she is ready for paint.

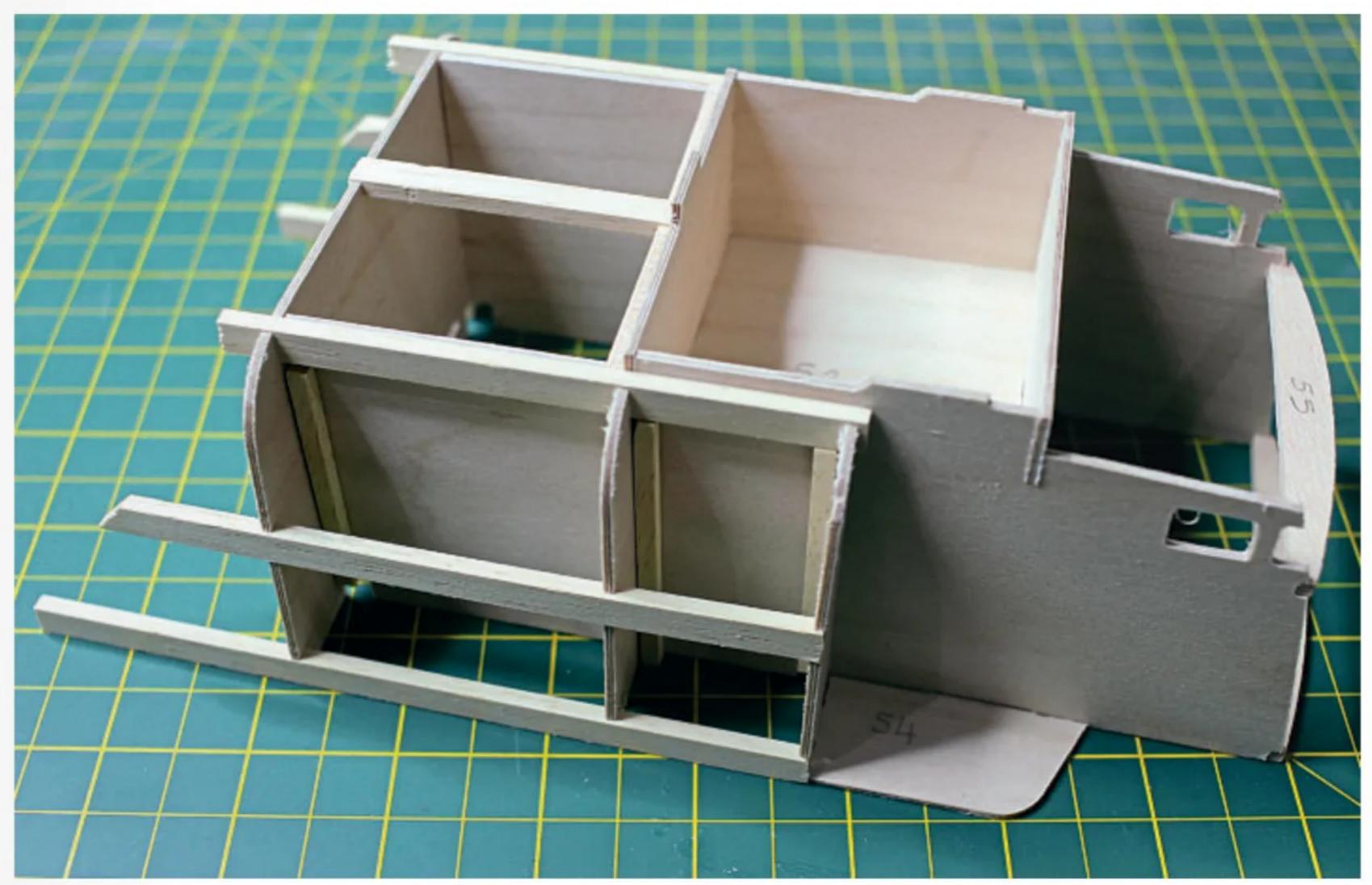
Constructing the basic superstructure and sub-kits

The superstructure is built up from a bulkhead and beam network, but I strongly recommend not gluing anything together until you've trial fitted it onto the deck coaming uprights.

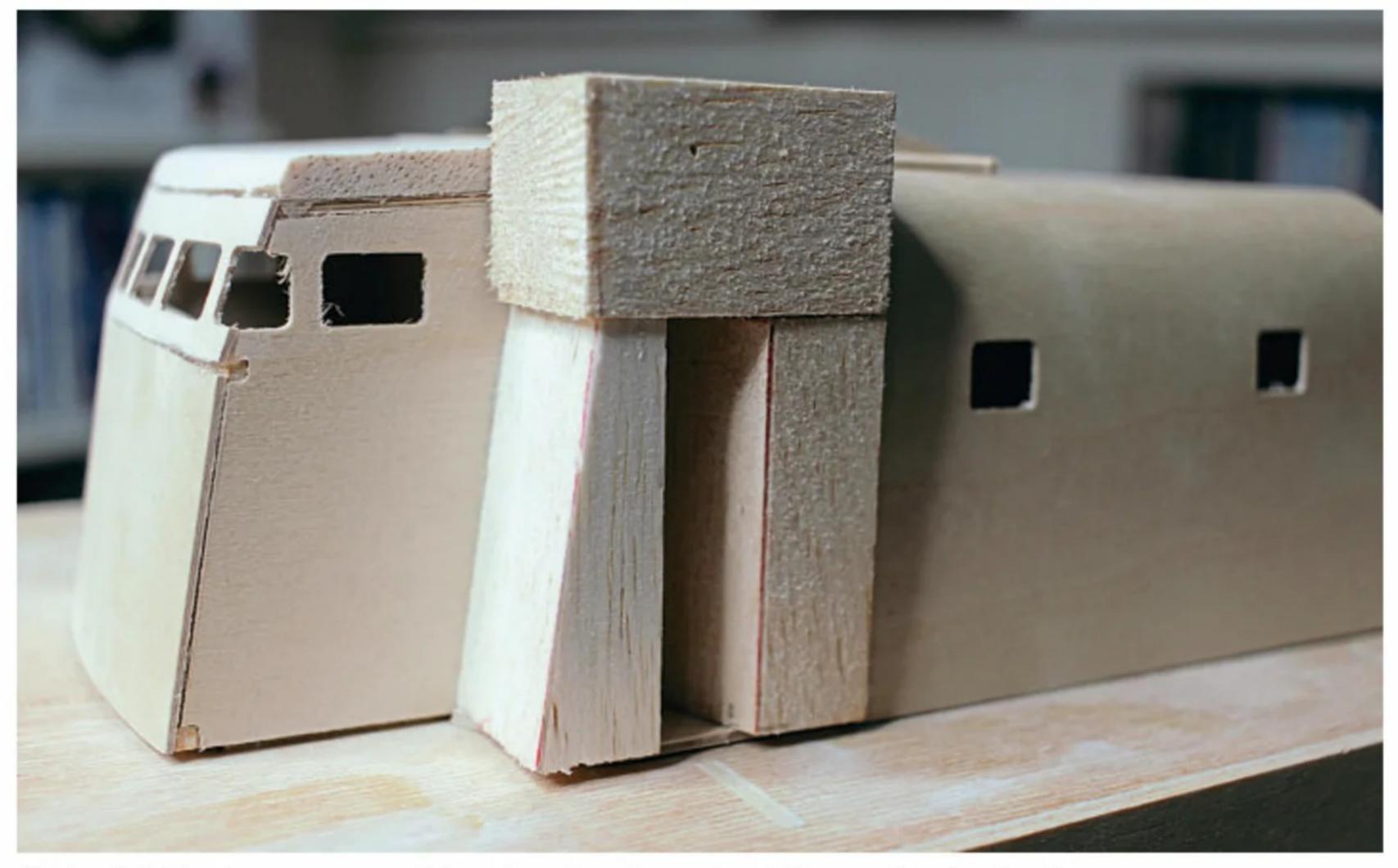
Once satisfied with the fitment and everything appeared to be aligned, I tacked each corner with some thin viscosity superglue, then worked around the internals of the superstructure until every surface had been glued. I then cut out the superstructure sides. A word of warning here: take care when manipulating them. I managed to snap a small section off, but fortunately was able to recover and reattach it using thick superglue. Following the kit instructions, the superstructure sides were glued on top first, allowing the glue to fully set before moving on. I decided to use the thick superglue on one side at a time, pulling it down in stages, bending it around the curved section of the forward superstructure using superglue and an accelerator to instantly grab it in place as I went along. This worked better than I'd expected, and I was able to complete the basic structure in just one evening.

One of the most iconic features of a Perkasa is the curved superstructure door access area below the bridge area. It's worth noting that this is perhaps the only part of the build that I feel could be better

"This worked better than I'd expected, and I was able to complete the basic structure in just one evening"



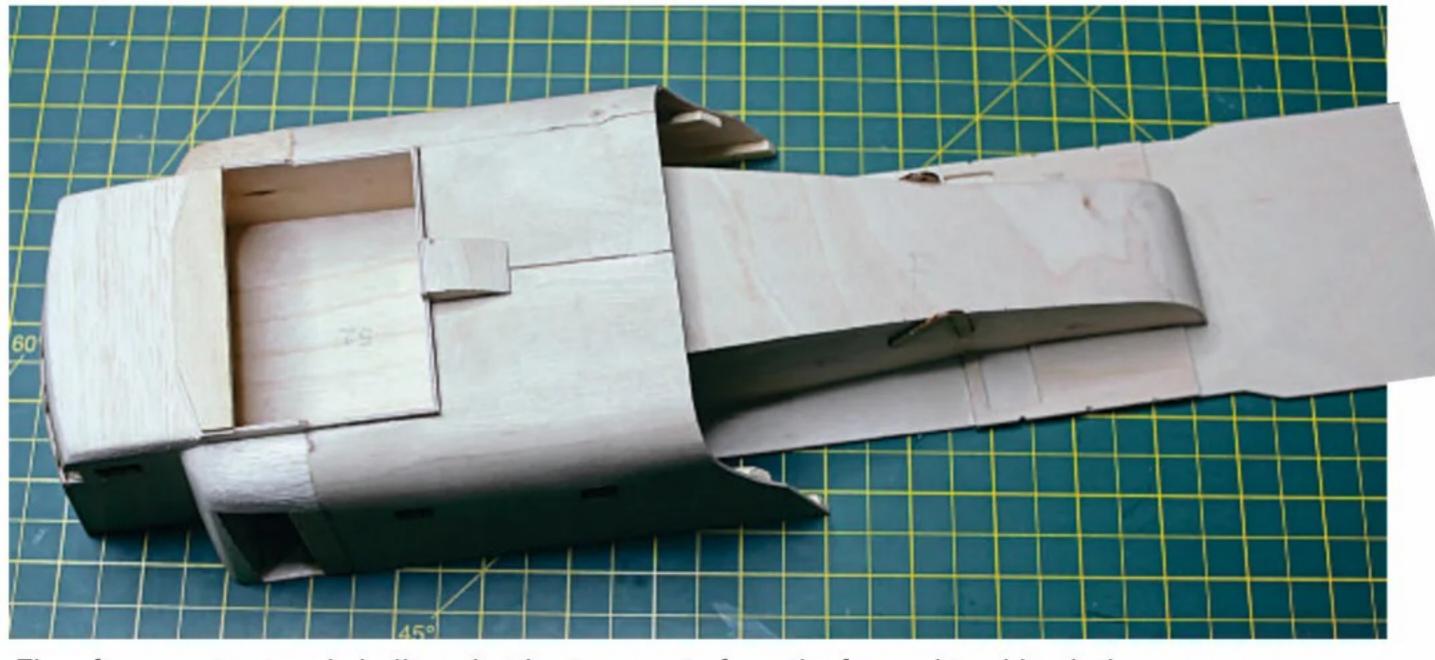
The superstructure has been started using a frame and beam structure, this was not glued together yet.



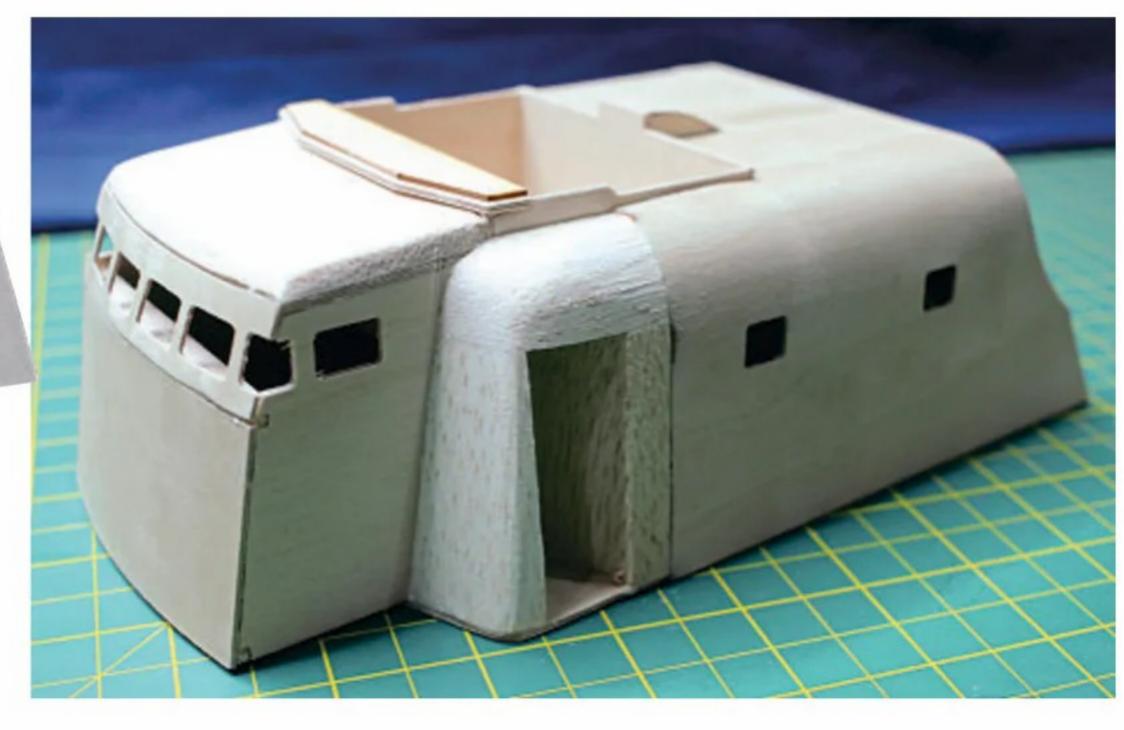
The iconic bridge door access area, this perhaps the only area I would have preferred a plan diagram.



Above and below: The forward superstructure competed but minus its fittings.



The aft superstructure is built up but kept separate from the forward to aid painting.



explained by the manufacturer; a diagram would probably be easier to follow than the written instructions and pictures provided; that said, I was still able to understand what was required of me. Cutting the shapes from the balsa blocks supplied and gluing them to the superstructure, I followed the instructions, filing them to the final shape that is so representative of this class of attack boat. The conning position top is also a balsa block which needs to be sanded to shape. The aft section of the superstructure is made in a similar way to the forward superstructure but doesn't require any balsa blocks or major cutting. I chose to keep the two structures apart, despite the instructions indicating they should be attached to each other. I did this to make painting everything easier. I then began a process I would go follow for all subsequent parts: I used filler as and where required before brushing on sanding sealer, followed by a couple of layers of finishing resin. The primer, paint and lacquer were applied as per the hull. I kept all the fittings to one side while doing this, as, once again, doing this made painting less fiddly.

In total the kit includes 35 bags of fittings, varying from individual 3D-printed items to full-blown plywood CNC cut kits for guns and torpedo launchers.

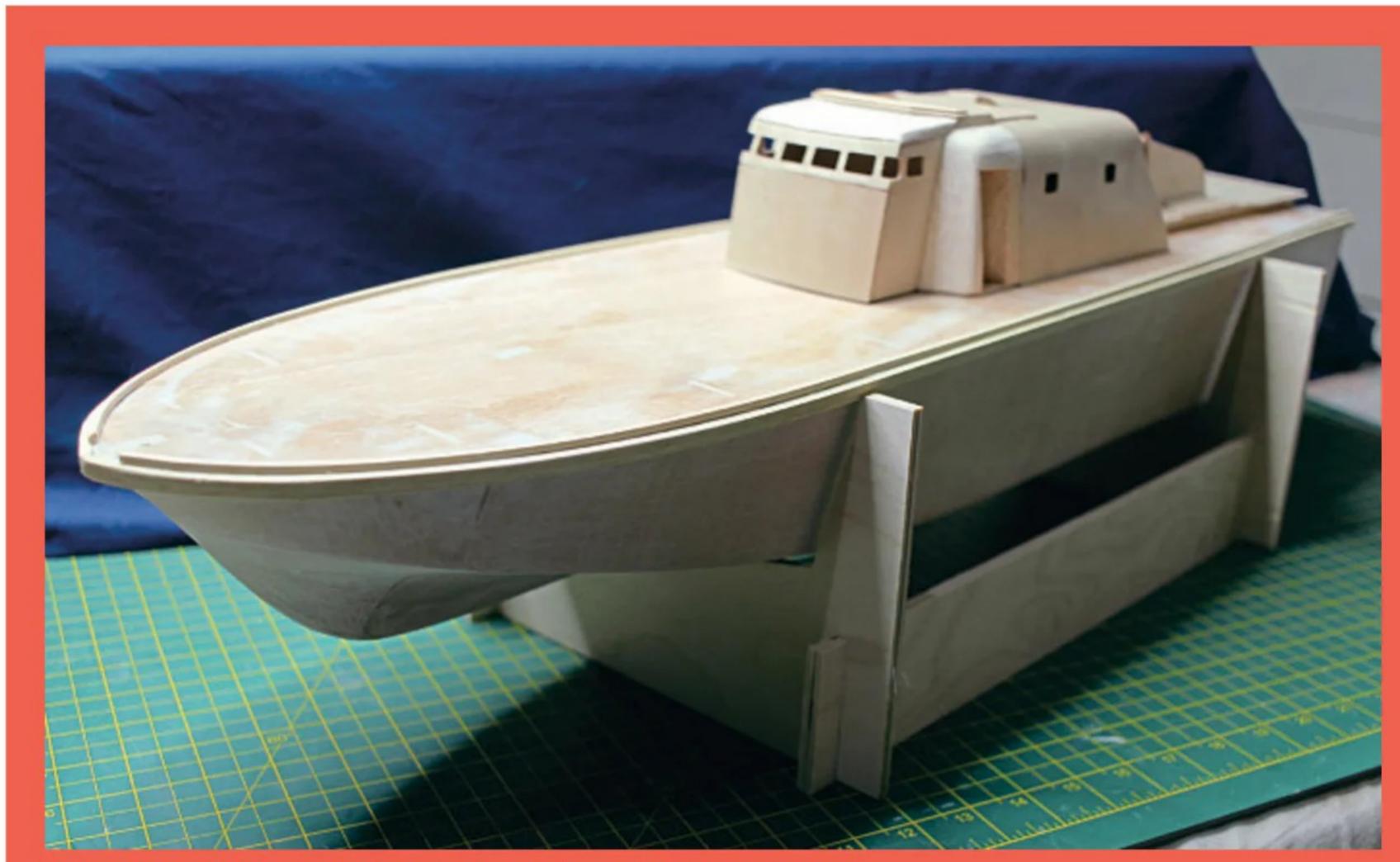
A helpful feature throughout the fitting construction phase is that every vac-form item has a wooden support that is inserted

first and can be used as a guide as to how much excess must be removed when sanding.

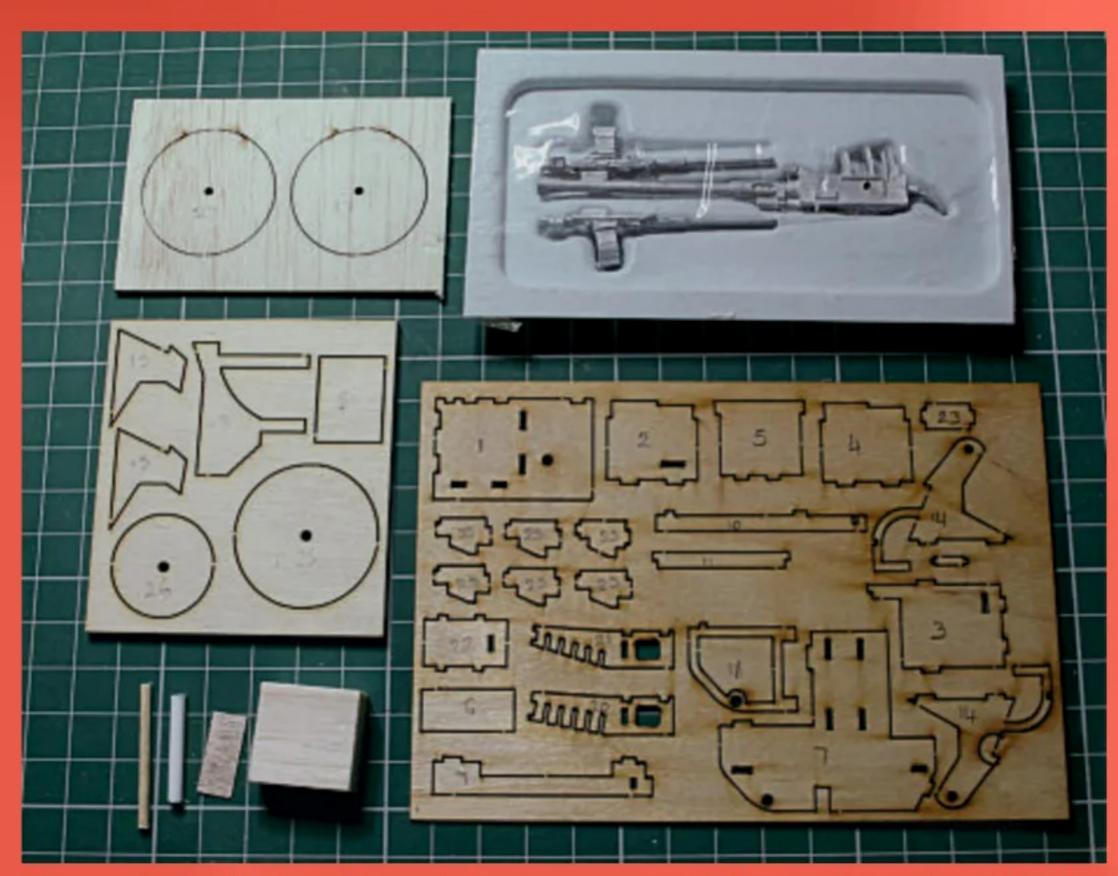
The vac-formed torpedoes are cast in two halves, so need to be glued together, while the torpedo davits come pre-bent to the correct curve and just require their support arms to be soldered on.

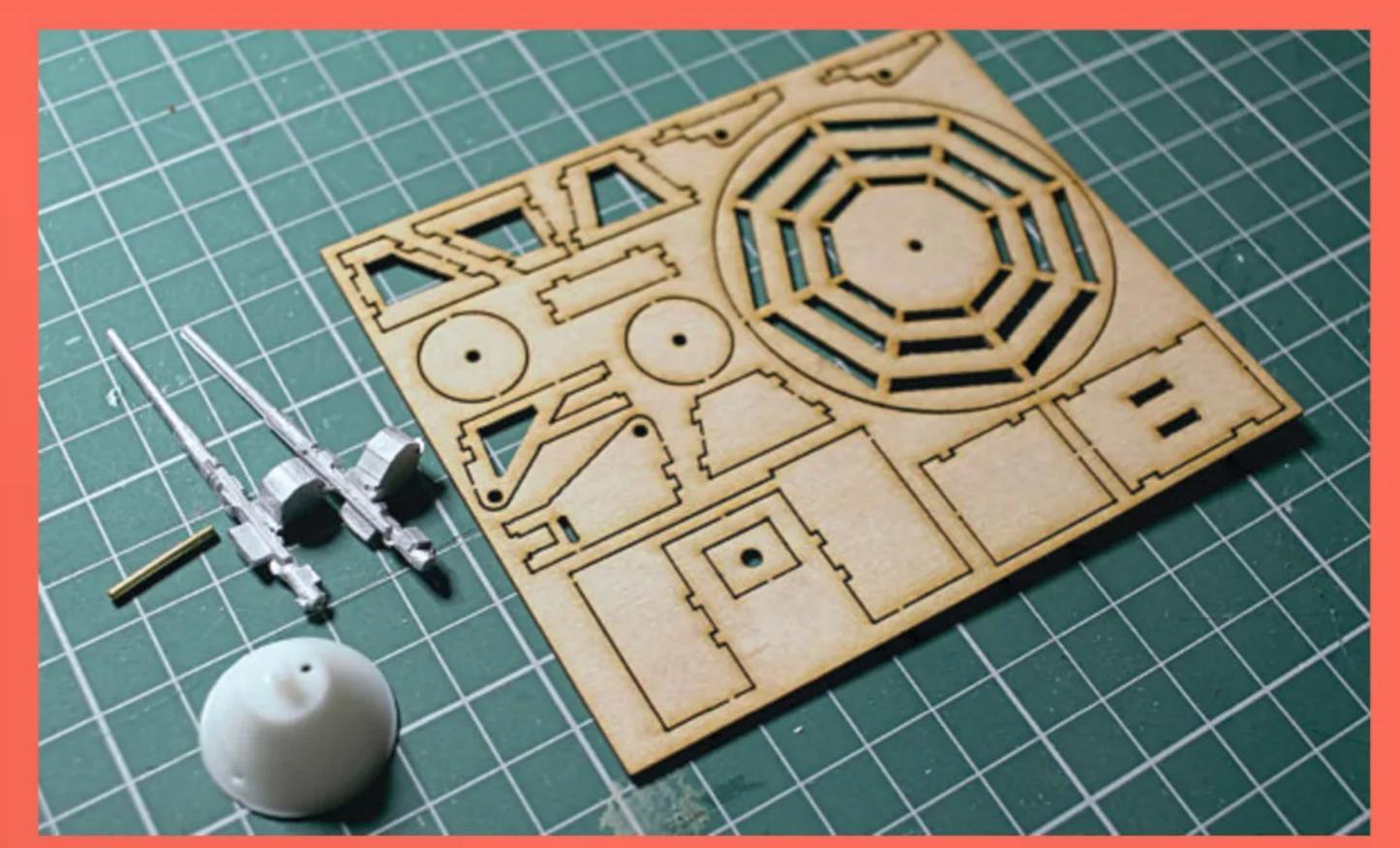
Also vac-formed are the three different types of hatches, and the bridge forward and aft consoles bulkheads, all of which require painting before positioning on the model to save a complicated masking job.

Some of the more interesting sub-kits include the guns, the exhaust/main-mast, and the radar mast.



The basic model in its natural wood colour sitting on its very sturdy stand.





The gun kits with the white metal guns are some of the cherries on top of the icing for this kit.

Constructing and fitting the Bofors and Oerlikons can be done remarkably quickly. Once the wood has been sealed and painted, they look very convincing. The barrels are white metal fittings and require a very minor tidy-up with a file to remove their mould lines. The instructions do include a detailed drawings section showing how you can make

The cleverly designed jig for the main mast/exhaust system.

the armaments even more intricate. For the purposes of this review, though, I decided to stick to the basic components supplied.

Plywood CNC cut parts for a multitude of ammo boxes and other box structures to scatter across the model are also provided. These, like the guns, look impressively realistic once assembled and finished.

The only anomaly I noticed in terms of parts described versus what's actually supplied concerns the grenade launchers. The instructions specify these are white metal parts, but they are in fact 3D-printed items. This, however, is no bad thing, as 3D-printed items weigh less and incorporate more detail than white metal castings.

SLEC's radar mast is, when compared to its counterparts in older Perkasa kits, extremely delicate looking, and yet, at the same time, sufficiently robust.

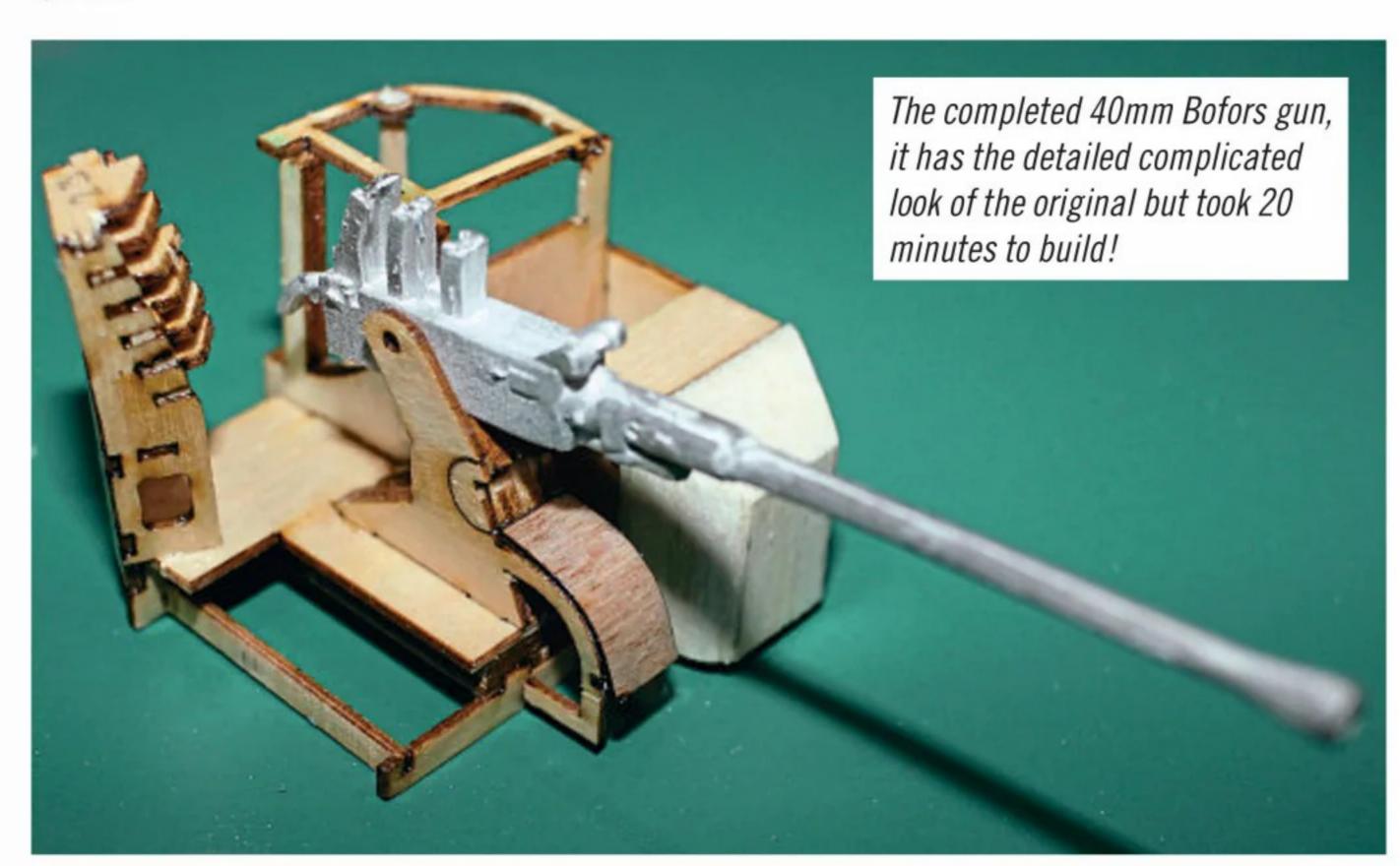
The mainmast/exhaust structure can make or break a Perkasa model, as it's a feature that can look terrible if not well designed, constructed and aligned. With this kit, however, the clever Mr Milbourn has made getting the mainmast wrong almost impossible. A simple cutting jig is made with CNC cut plywood and the dowel wood is held in position with elastic bands to clamp it tightly. As long as you follow the instructions properly, the parts can then

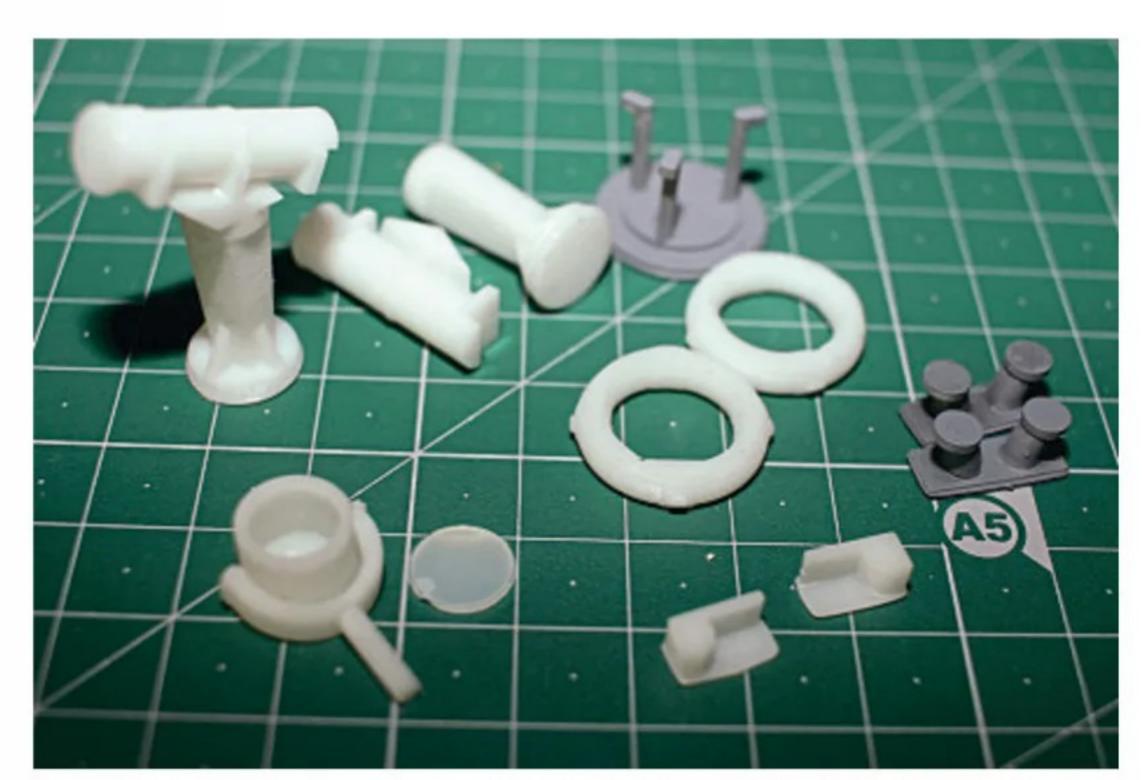
be added quickly and at the correct angle, thereby achieving perfect symmetry. There are several 3D-printed parts that make up the connections between the legs, and a beautifully rendered mast top. As the mainmast on the real vessel is metal, I suggest using a black primer (following the usual sanding sealer, resin finisher, etc, of course), as this will serve as the perfect undercoat for the mainmast's final metallic chrome spray finish. The mast top can then simply be represented with a bit of white paint.

The jack staff on the bow is also soldered from wire rod, with a single 3D printed ring.

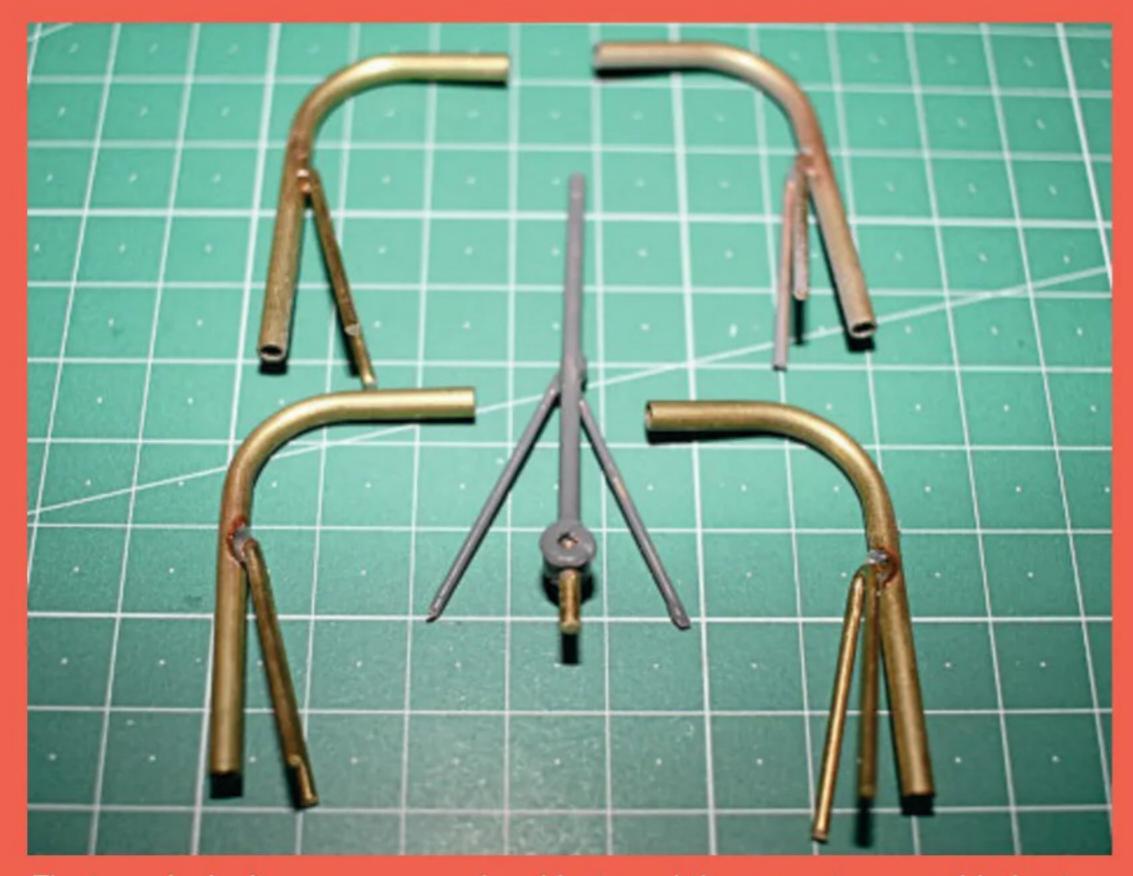
Yet another fittings kit makes up the turned brass handrails. The stanchions can simply be marked out on the model by referencing the plan and glued into place after the holes for them have been drilled out. The wire then needs to pushed through and pulled taught. I left these in their natural brass colour to add a bit of brightness to my model.

After fitting all the parts, I applied a light coat of varnish to blend everything together in one satin sheen before the 'glass work' was attached to the bridge and superstructure. I used a bloomless superglue manufactured by Deluxe Materials for this job, as it prevents any fogging to the 'glass' – something that can be caused by the fumes from less specialist adhesives.

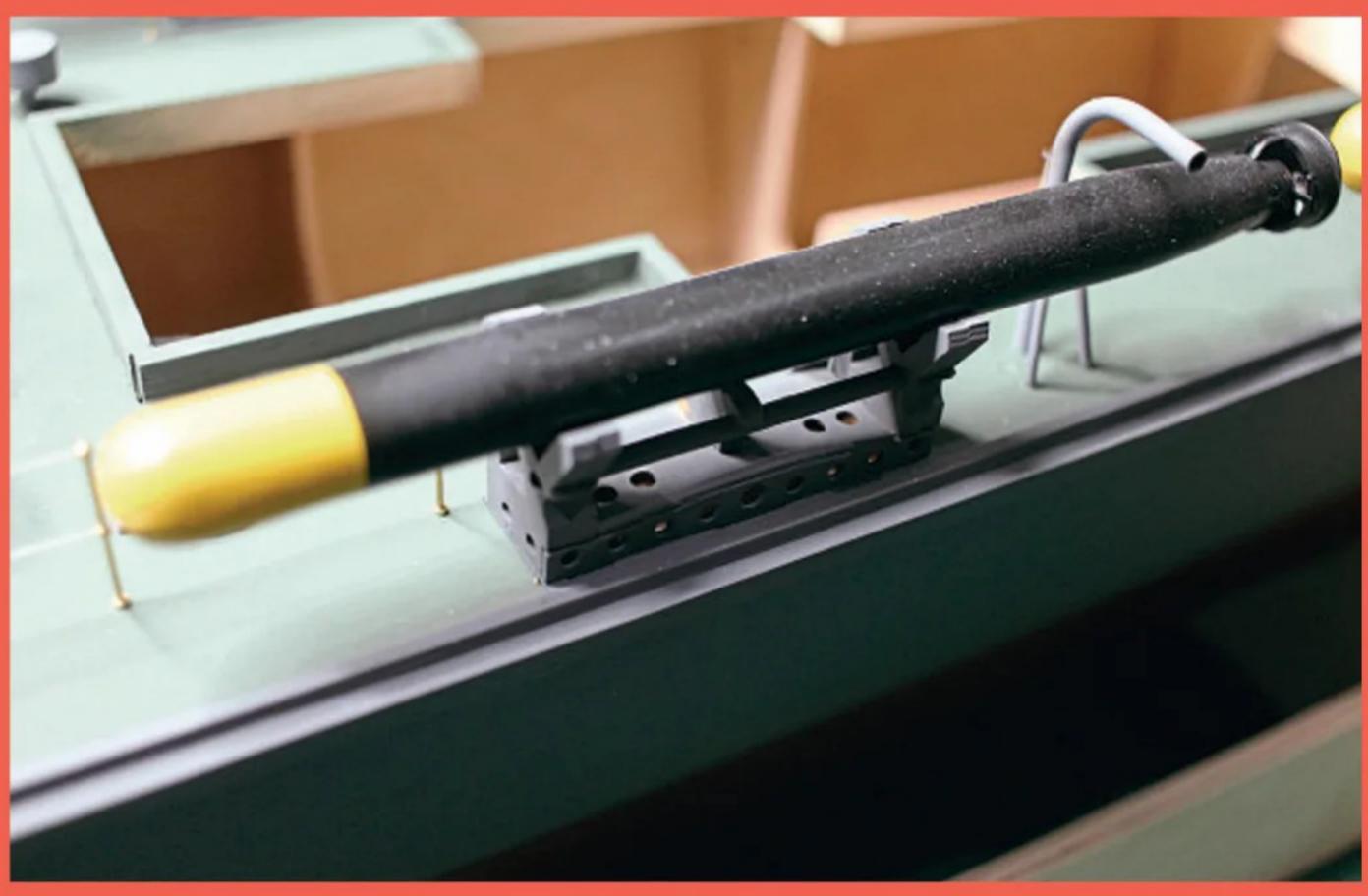




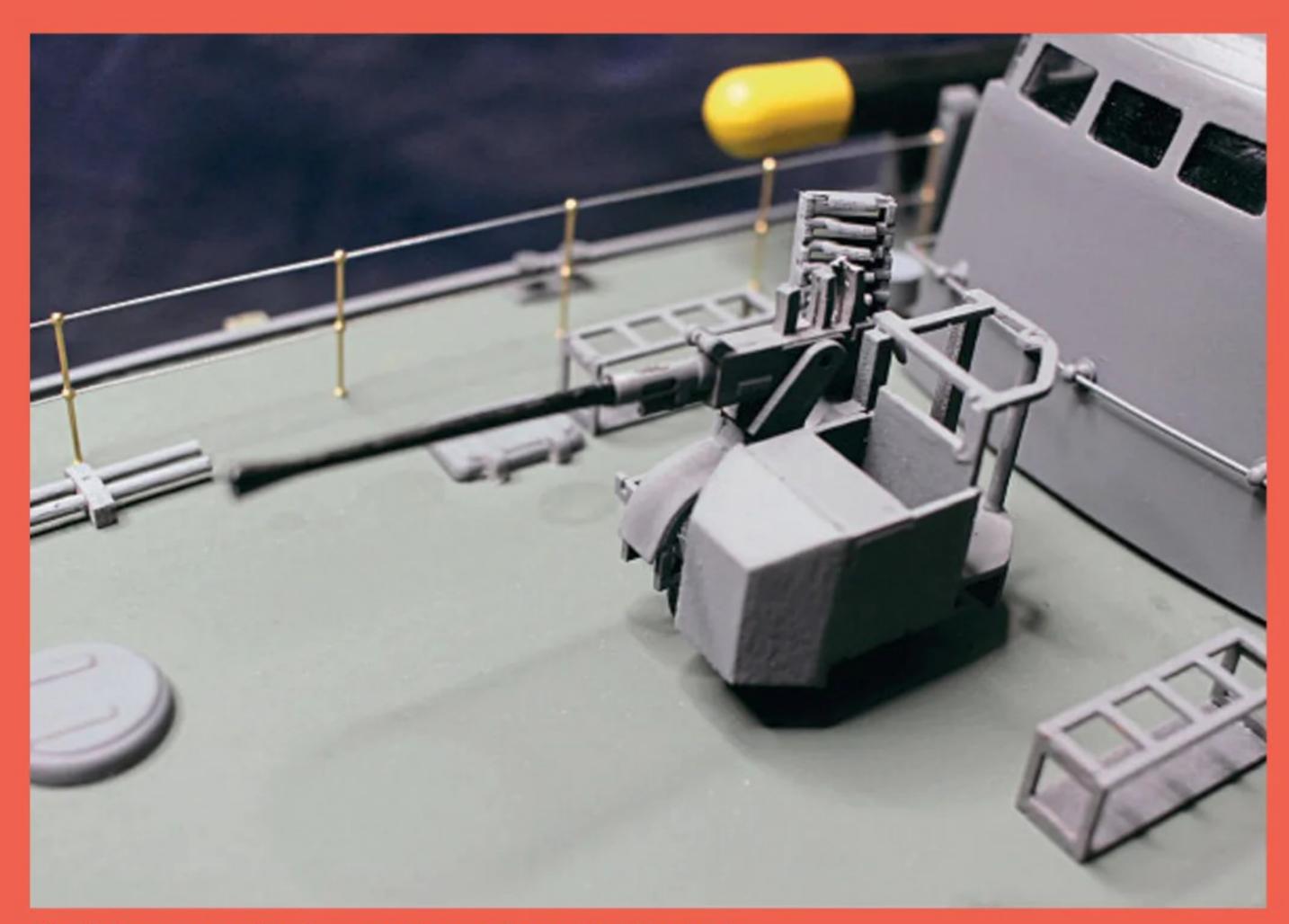
Some of the 3D printed parts provided in the kit which include the grenade launchers, life rings and searchlight.



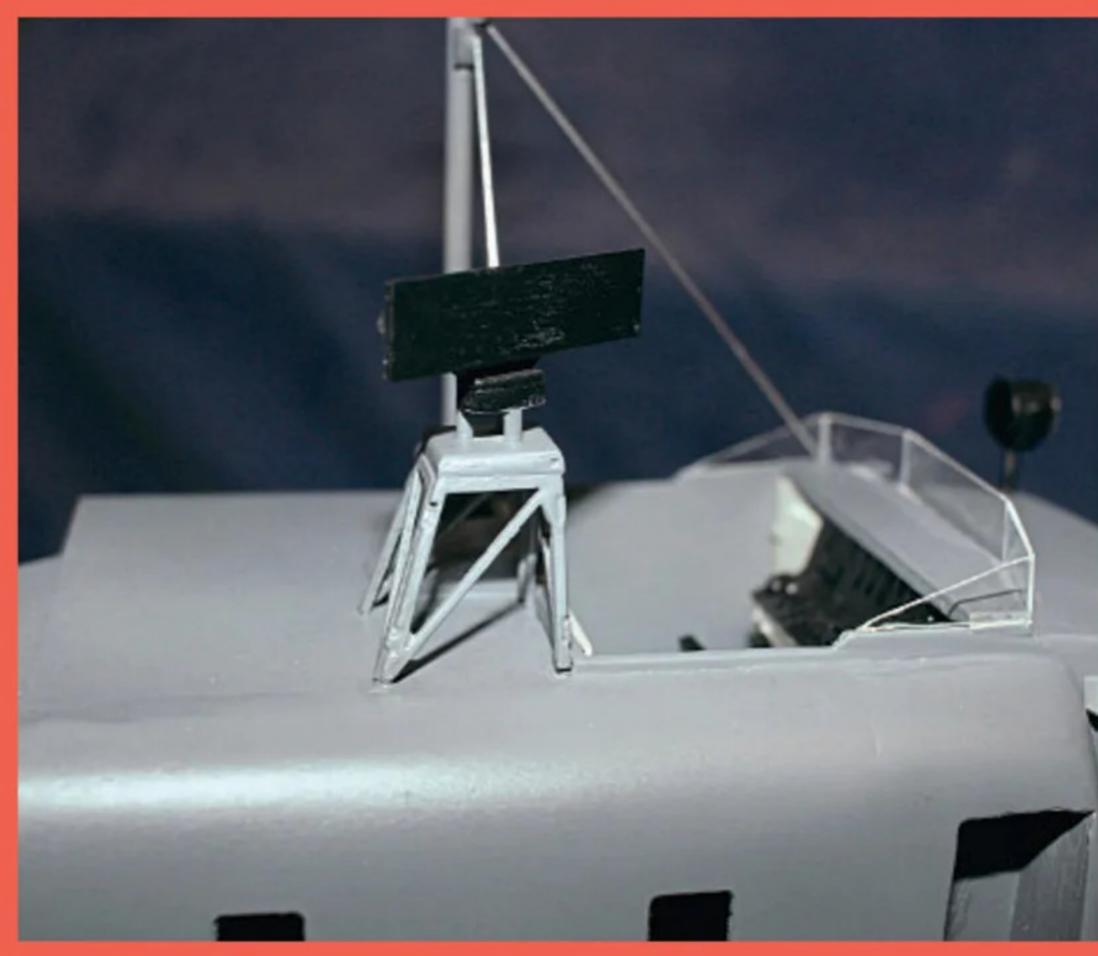
The torpedo davits are pre-curved and just need the support arms soldering to them. The jackstaff can be seen between them.



The completed torpedo and its launcher, they are very sturdy and look the part.

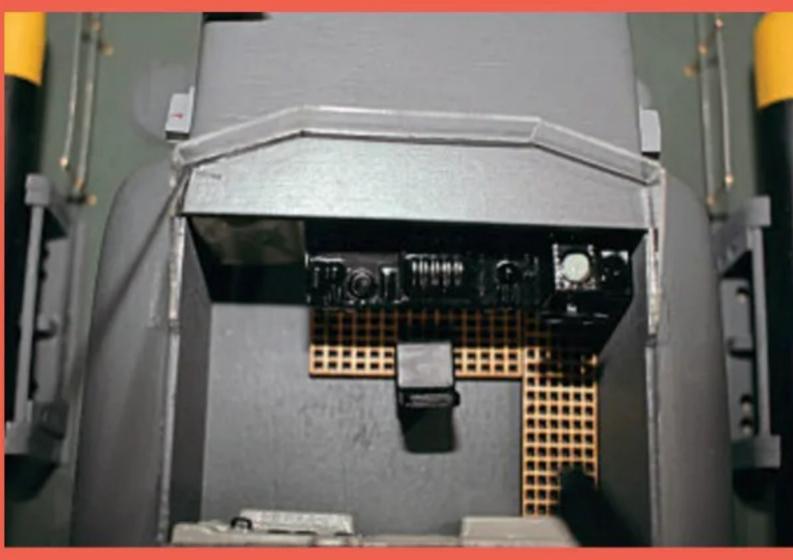


The Bofors gun painted up and in position on the foredeck.

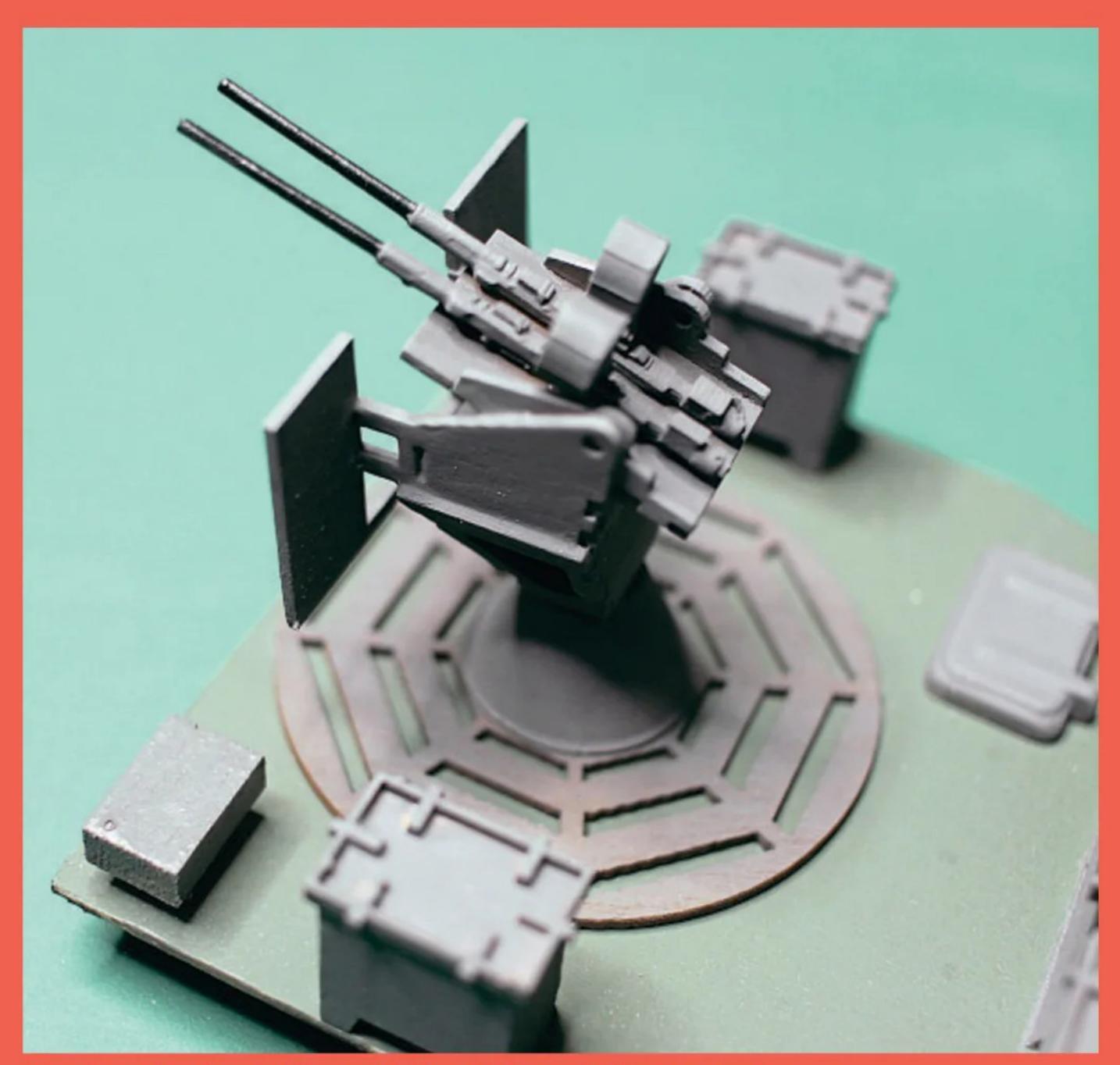


The delicate looking but robust radar and its mast.; so simple in design but was enjoyable to build.





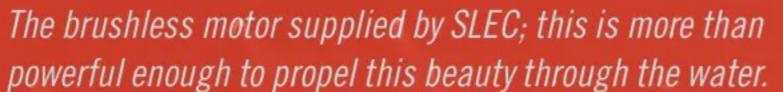
Above and left:
The open
bridge is
suitably
detailed with
the vac-form
console
bulkheads, the
floor gratings
are a nice
touch.

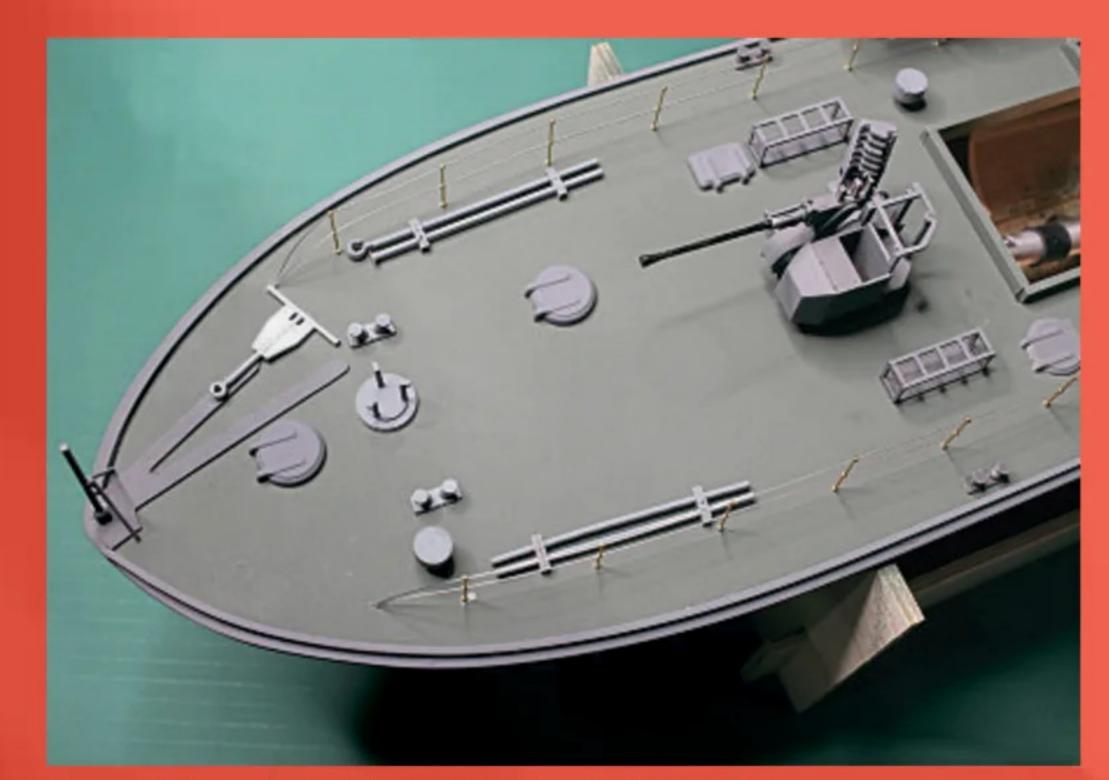


The bite at the aft end of the model; the twin 20mm Oerlikon cannons.

KD Perkasa kit review







Completed sections of the model ready for it maiden run.

Fitting the motor and running gear

To enable me to provide a full review of this model, SLEC kindly supplied me with a suitable brushless motor, which I installed using a mount that I bought at the same time as the sanding sealer and finishing resin mentioned earlier. This was the mount recommended for a 540 motor and it attached directly to the brushless version with no problems. The coupling was another SLEC provided item and, once again, it lined up with the shaft and motor with no issues. The ESC supplied was a 60amp brushless version which required a card and a downloaded program to set up. To test the set up, I used my reliable Turnigy radio and found everything worked just as expected, with the rudder moving via a standard Futaba servo and SLEC attachments. The battery I used was bigger than the battery box provided in the kit, so I removed one end to allow the extra 10mm of the battery to hang over the edge. Because it's a snug fit, the battery stays in place even without the end piece. All LiPo associated risks should, of course, be noted when charging and storing one of these batteries.

Time to test her out

When it came to testing the Perkasa out on the water, I discovered some ballast was needed in the stern section to bring her to her waterline and achieve a slightly bow high

look. However, while the build had been completed in about two to three weeks over the Christmas holidays, the weather in the first couple of weeks of January was terrible. So much so that when I put my favourite yacht on the lake, she was almost written off, so, I decided I couldn't risk giving the Perkasa her first run until conditions improved. Then, when she did finally make her debut, with a wingman ready and waiting to take some action shots, she promptly stopped as she made her first turn. Her prop shaft had seized. This turned out to be my fault, as, embarrassingly, I'd failed to suitably lubricate it. As a result, it was getting on for almost a month since I'd completed build and, with an editorial deadline looming, I still had no photos for this feature, so I took the model to work...

Luckily, I work with a mate who also builds models of various types, and, after explaining my predicament to him, his wife, Amanda (also a stunning modeller in her own right), kindly volunteered to take some pictures of the Perkasa for me; we just had to find some water. Eventually, after driving around for some time, late in the afternoon we came upon suitable test site in Albrighton village near Wolverhampton.

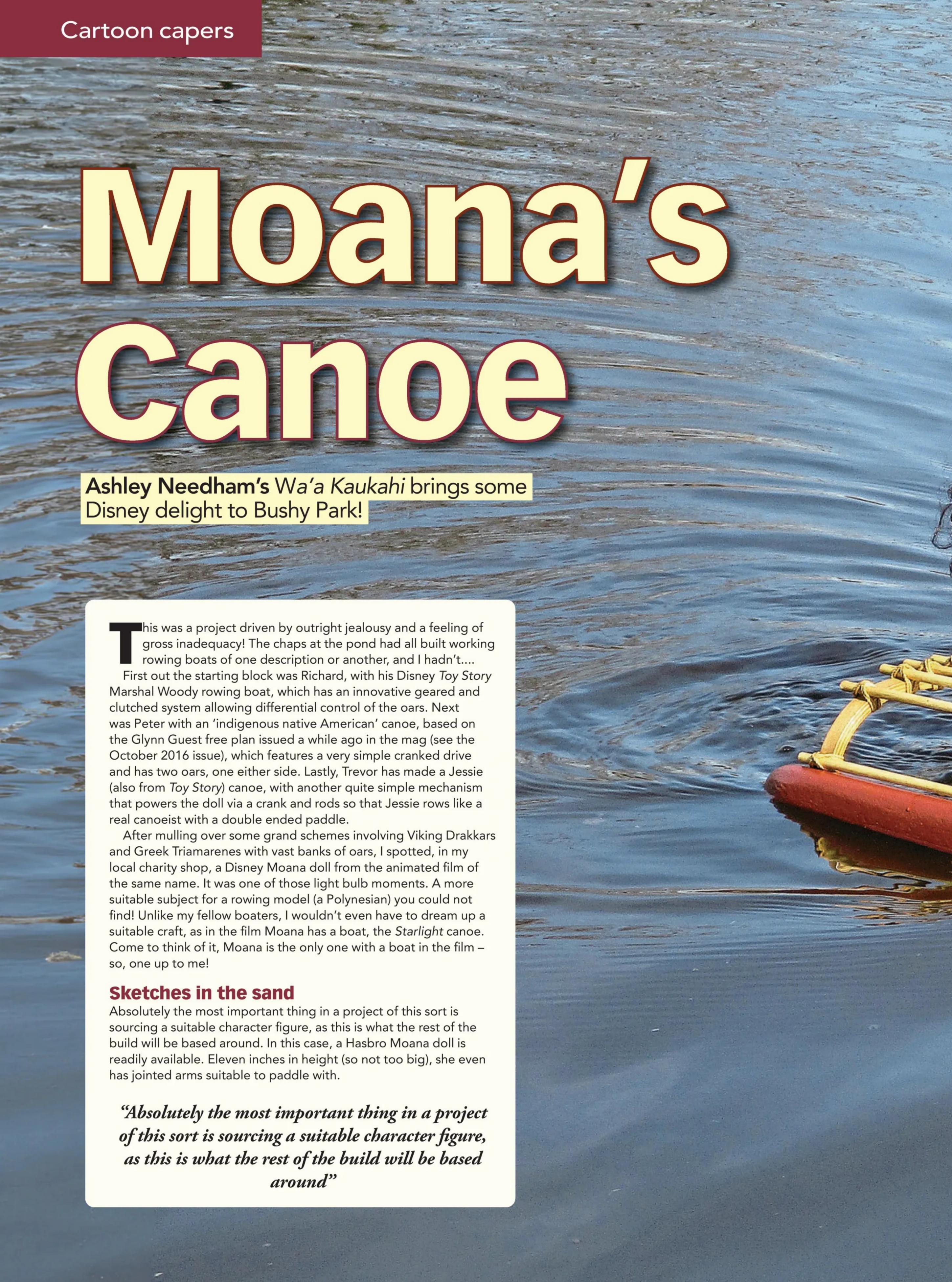
I am so grateful to Amanda for her help and will leave you with her fantastic photos. Before doing so, however, I would also like to thank SLEC Manufacturing for allowing me to review this kit and totally winning me over!



PHOTOGRAPHS COURTESY OF...

Sincerest thanks to photographer Amanda Jones for all the fantastic 'on water' images she shot for this article, along with the one that appears on this month's front cover.





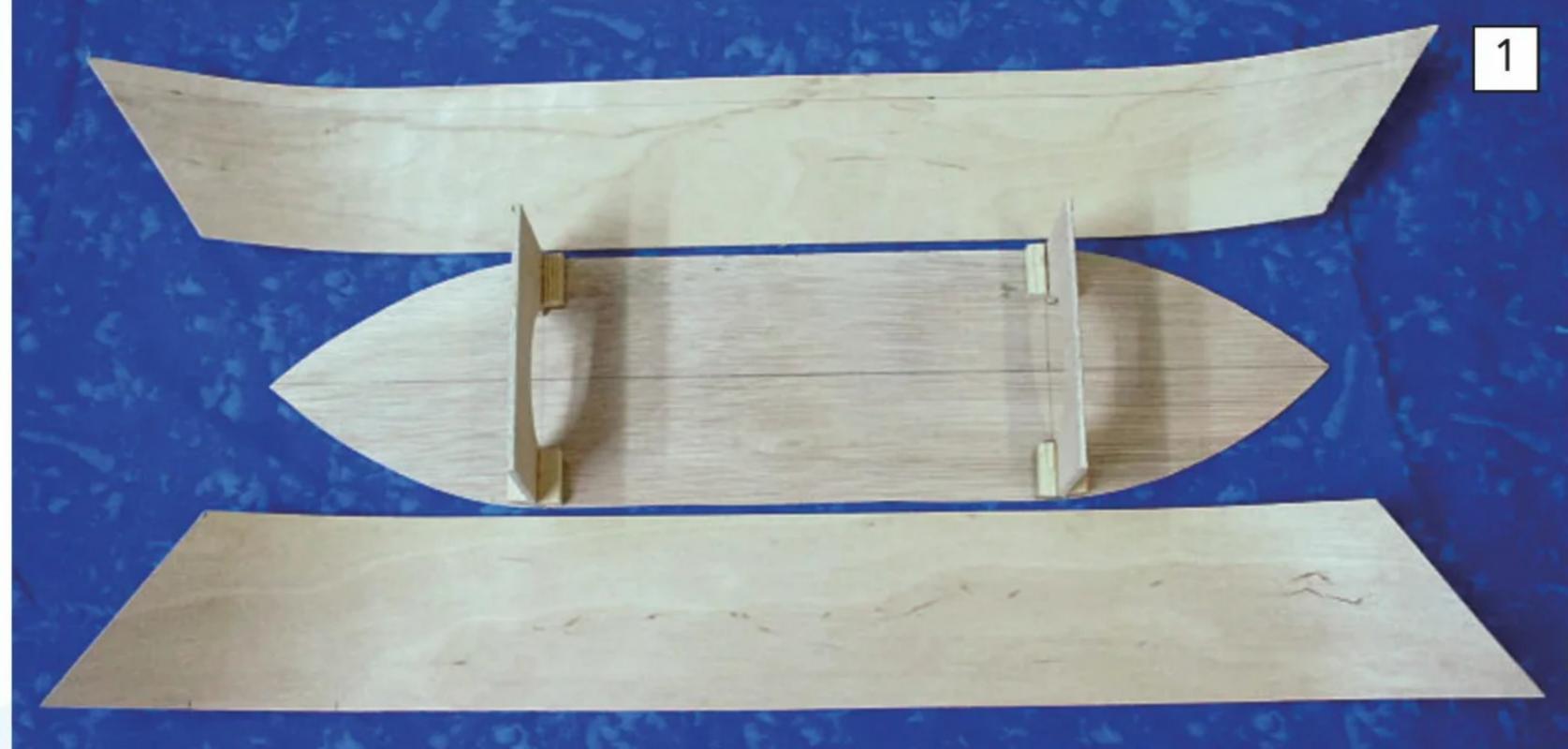




Next came the appropriation of the original 2016 rowboat plans, to gain intelligence on the technical requirements of the setup, and the procurement of some good images of the large plastic toy boat produced for Moana. My model would be based on this toy rather than the one seen on screen in the film. Why? Well, the company had already simplified and worked out the proportions for this toy, which took away a lot of the guess work when trying to convert a cartoon image into reality. This would serve simply as a guide, as I could see that certain details would have to be altered, all of which will be revealed later! This was to be an 'organic' build, so the only sketch I made was of the side view of the main hull, just to get the shape and some vital measurements. I had a good idea of how to go about the rest, so decided I would make things up as I went along.

Bamboo, palm leaves and vines

Traditional materials for projects such as this would be used: plywood in my case, of course! Having purchased my Moana doll, I sat her (laying sideways down) on a piece of paper and, allowing room for 'the gear' (i.e., a battery and motor/gear unit) made a side view sketch. A plan view wasn't drawn up. The width, to be in proportion, needed to be about three Moanas wide and the



symmetrical ends simply needed to curve in a bit. This curve was drawn freehand on a bit of card, and once folded in half and cut out (so the sides were even) was transferred to the ply base. This was to be a simple build, with a flat bottom and curved one-piece sides.

To start with then, I cut a base from 4mm ply and added two bulkheads. I made the centre canoe section with straight and vertical sides, as this is the easiest way to build it (see **Photo 1**). The base was laid on a length of 1.5mm ply and one end was marked before the whole thing was rolled around edgeways to see exactly how long

the base was; 50mm either end was allowed for the pointy bow. Two strips of 1.5mm ply 80mm wide were cut for the sides, and the ends trimmed diagonally.

Wrestling then commenced! Despite using a heat gun to pre-bend the ends, it was still a bit of a job to wrap them around the bow after first having glued the centre section to the base and bulkheads. Superglue was my friend here, as once the hull was in an arm-lock it could be dripped onto the joints to hold everything in place before I added various strips and blocks of wood to ensure the whole thing wouldn't spring apart (see **Photo 2**).



"Wrestling then commenced!"

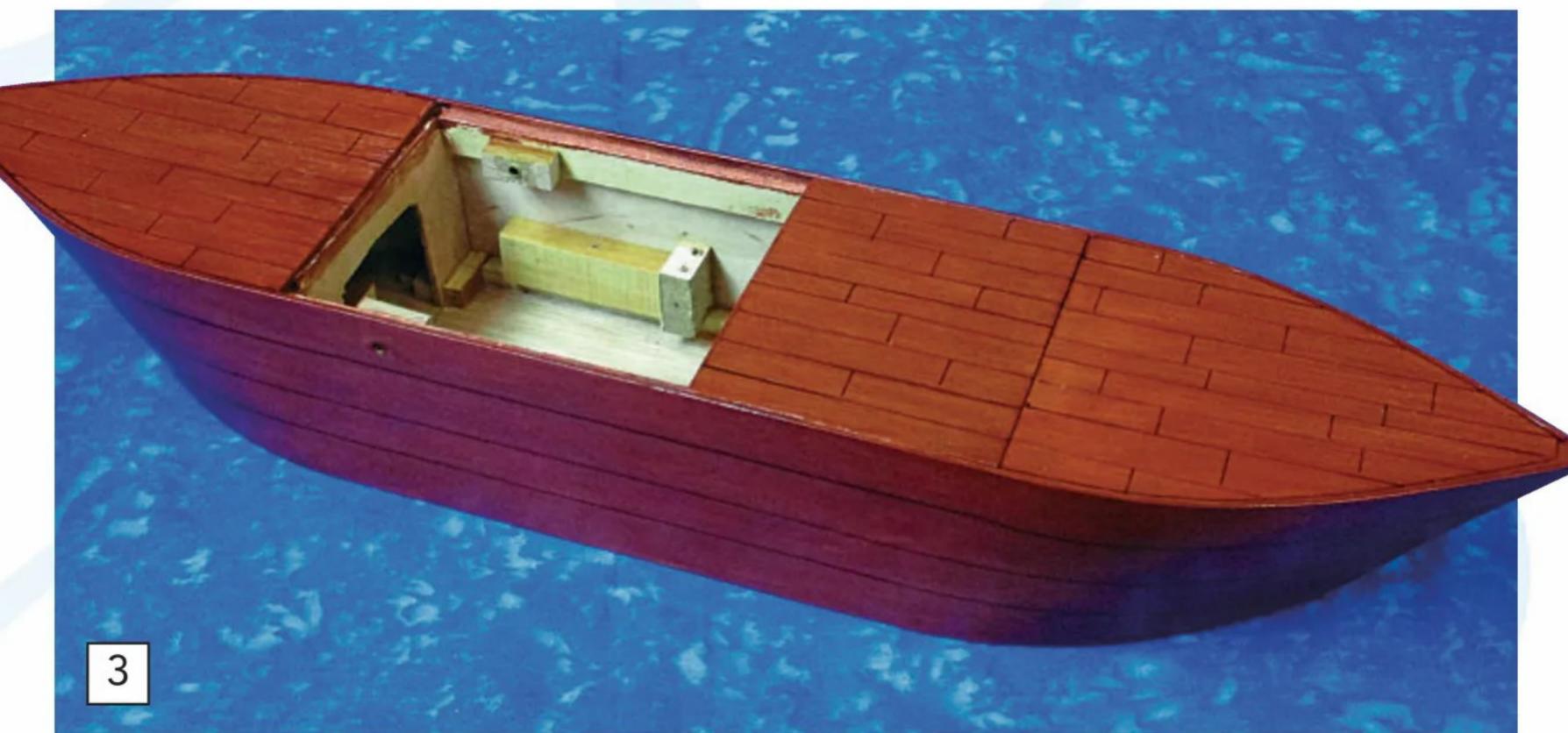
Once everything was dry and roughly sanded, I wrapped the hull in cling-flim to waterproof it and plopped it in the bath, having added a Moana, motor/gear unit and battery to get an approximate waterline. This was important, as it would allow me, from here on, to work on several things at once. The outrigger was one of them, and for this I needed to know just how deep the sponson had to be set and how deep the supporting struts had to be.

To finish the hull, then, two deck pieces needed to be cut, from 4mm ply, for the bow and stern. Simply laying the hull upside down on the ply, drawing round the ends and then cutting 4mm inside the line soon resulted (with 'an amount' of sanding) in two deck pieces that fitted inside the hull flush with the top of it (see **Photo 3**). This also helped to even out the hull curve, as the deck bits could be sanded for an even shape and pressed inside the bow/stern, just in case there was some discrepancy in the curvature either side...

Inserts for the centre sections of the deck were cut and sanded for a good fit. One would be the normal access hatch, the other would have the working platform on it (a feature of Polynesian craft). Speaking of which...

Moana's throne

Moana sits on a sort of platform situated on top of the boat. On a real Polynesian craft this 'platform' provides the crew with a decent flat work area, made possible by the outrigger configuration favoured, which also gives these slim craft their stability. My Moana boat is not exactly slim, nor, for that matter, does she sit low in the water – factors simply not conducive to accommodating the mechanism and achieving the 'toy' look I was going for here. Strips of 4mm ply were cut on the bandsaw, between about 18 and 12 mm wide, to give a 'hand hewn' look, and the long side roughly sanded. The whole lot then was laid flat and glued edge-edge to give a 'planked' appearance. 6mm bamboo rod was glued around the perimeter, and holes drilled

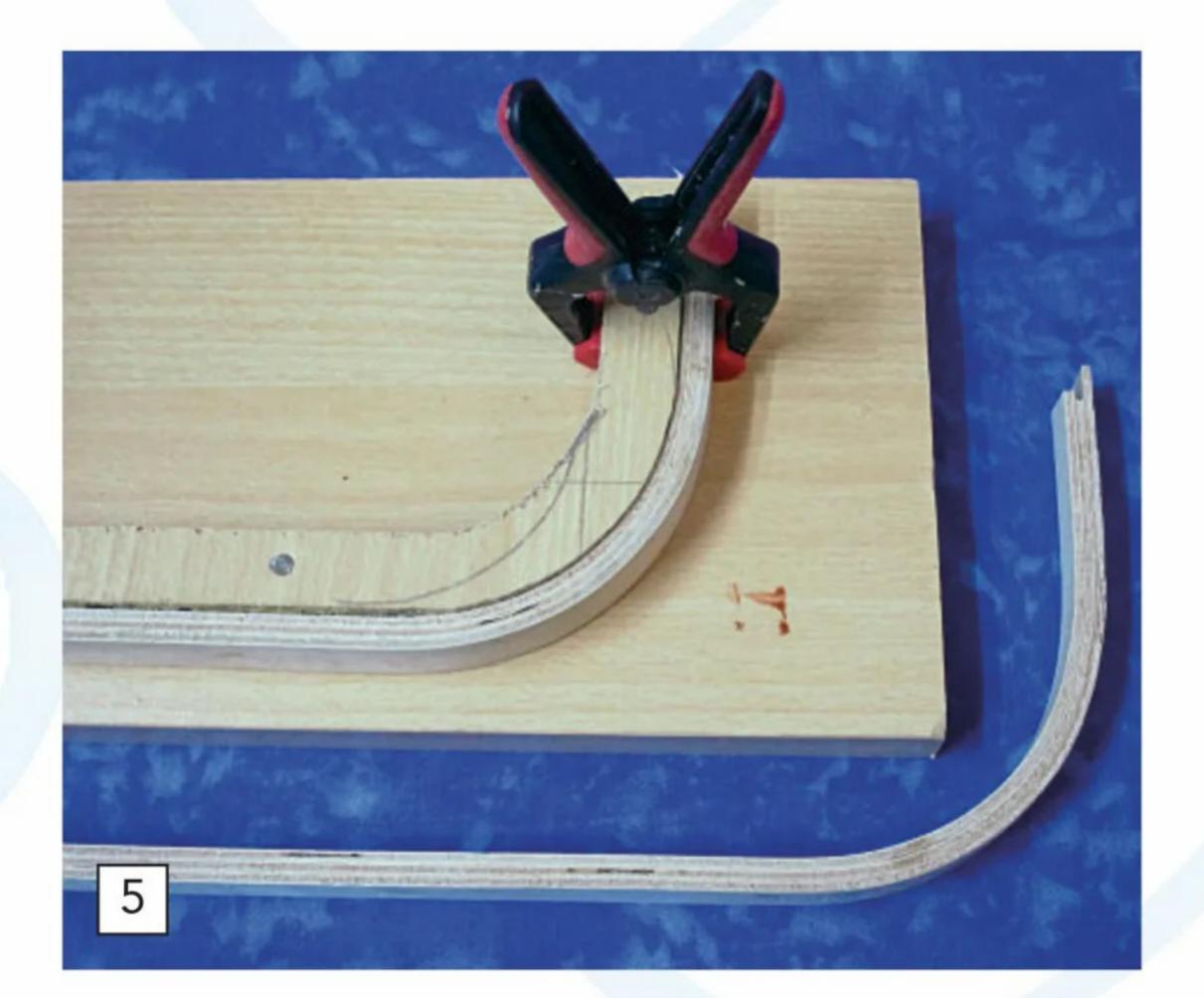


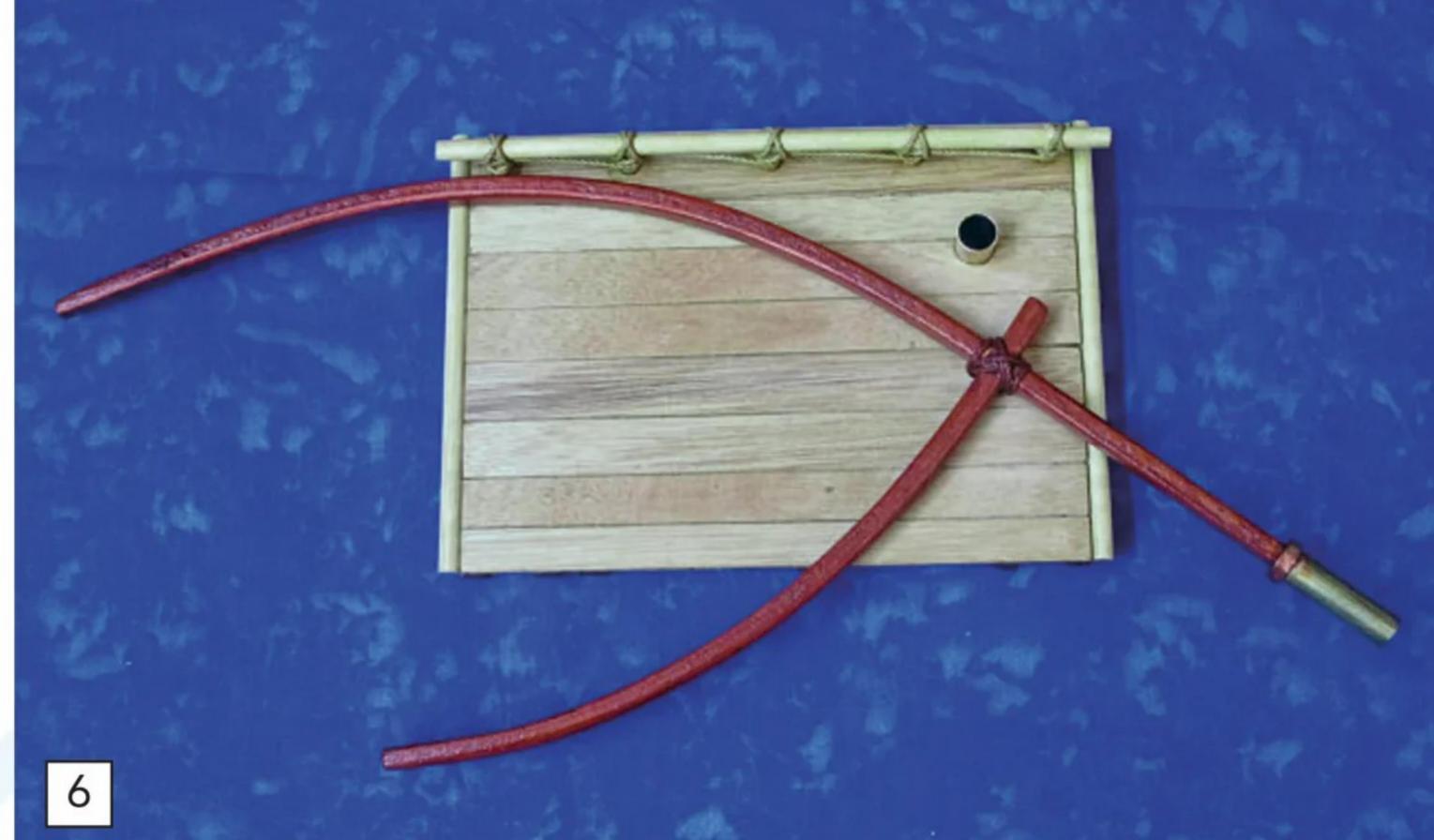


on the port side to accept short bamboo uprights to glue (yes, more) bamboo rod to for the grab rail (see **Photo 4**). This was fixed with superglue and then lashed to the uprights with string.

I wanted to be able to remove the outrigger to make the craft smaller for boxed storage purposes, so ribs of pine were cut and glued underneath, strengthening the somewhat tenuously glued together planked

deck and providing a space between the platform and under-deck in which to slide the outrigger arms. I had to wait until I had constructed the arms before I could glue all the strips in place. Although the platform had been glued to the under-deck hatch, the under hatch was just sitting on rails on the hull, so I thought that some sort of screw hold-down might be arranged when it was all finished.





"Plan B then came into operation..."

Outrigger and struts

On the film version of the boat there are half a dozen or so poles supporting the outrigger, but because I would be using a central paddle I could really only use the two outer ones, space being required for the rotary action of said paddle. In view of this, I made the paddle mechanism next to ascertain just how much room would actually be needed and found that although I might be able to use four supports, two were definitely a more viable configuration. 6 mm bamboo rods were boiled for a while, and then boiled some more, and more, before giving up. They just would not bend sufficiently. I tried pine strips, but they didn't play ball either. Plan B then came into operation. I laminated two struts using 12mm wide strips of 1.5mm ply glued together over a former. Nothing sophisticated... An 18mm plank of laminate faced chipboard shelving was drawn on, cut out, nailed to the other bit of shelf, and then the strips were held over the curve using loads of clamps until the glue was set. My photo shows just one of these clamps (see Photo 5).

Styrofoam was used for the outrigger, but first some trials in the bath were held once the boat had been varnished so as to find out what size and how deep the outrigger needed to be. A long chunk of Styrofoam was roughly shaped and cut-outs to seat the ends of the outriggers were routed in the top, whereupon Moana, battery, motor and servo were all placed in their respective positions in the hull and the whole lot was floated in the bath. Some adjustment to the float were carried out until the whole ensemble floated on the level. As the battery was not fixed in at this stage, there would still be the opportunity for further adjustment as regards trim once the boat got to the pond. Once size and position had been decided upon, the Styrofoam was sanded to an appropriate shape before being covered in epoxy resin to provide a tough finish (see Photo 4 again).

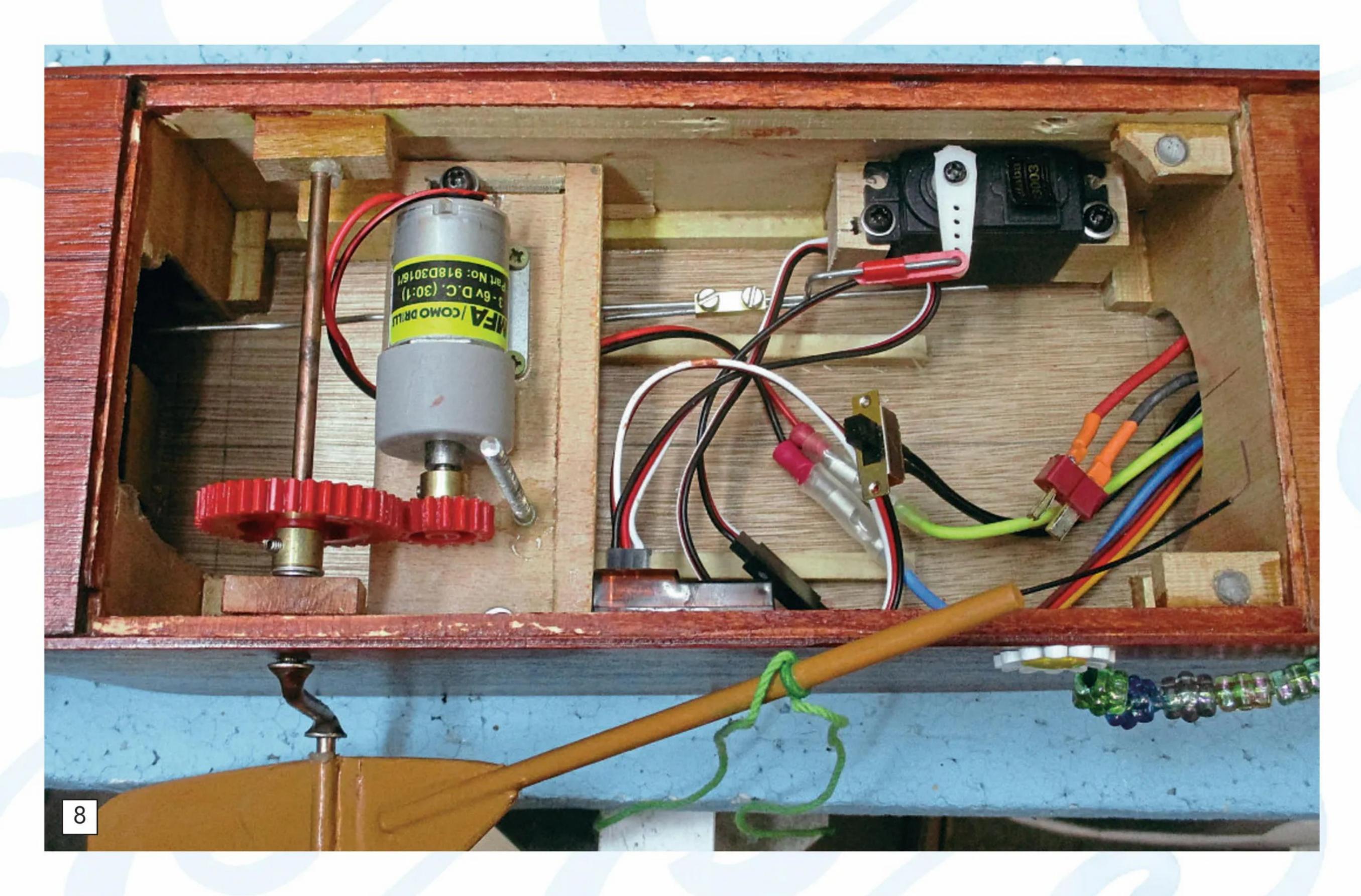


The funny mast

Yes, the sort of curved 'Y' shape mast is odd, but it's a feature of these Polynesian craft. Obviously, my 6mm bamboo dowel was a candidate for its construction, but as it needed to be curved, given my abortive attempt at bending the outrigger struts, this was a cause for concern. A laminate mast it would be then! Strips of 1.5mm ply 5mm wide were laminated with PVA on another temporary former, and, to short order, I had two bits of a nicely curved mast. After notching the parts where they joined, they were fixed together with superglue, smeared with PVA and, finally, lashed together with cord and varnished a mahogany colour. A brass sleeve at the base of the mast allows it to sit in a specially sited hole in a corner of the platform. This hole was fitted with another brass tube of a fit that provides easy rotation of the mast (see **Photo 6**); my reasoning for the swivelling feature being that if the mast was fixed in place it would indeed act like a sail, oppose Moana's frenzied rowing attempts and the boat would be blown to

Ahoa-haha, or some other island (more likely the opposite bank, actually). By swivelling, however, the mast would be more like a flag and present the least sail area, and thus wind resistance. In order to clear Moana's head, the mast had to be higher than it ideally should; any lower and it would have had to be fixed in place, losing the wind resistance advantage.

Patterned light beigy-yellow cotton material provided the sail. Two pieces of this were stuck back-to-back (as one side is white) with PVA, and once dry pressed with a steam iron, shielded by a pillowcase, to flatten the material out and get rid of any bubbles formed by the glue during drying. Following this, I laid my mast on top of the material, drew round the outside with a pencil and cut just inside the line with scissors. After a bit of trimming, a scallop was cut at what would be the open side of the sail, and was then glued to the port side of the mast. As this looked very neat, I didn't bother lashing the sail to the mast, as it should be of course (see Photo 7, which shows this nicely).



"Yes, the sort of curved 'Y' shape mast is odd, but it's a feature of these Polynesian craft"

Motors, gears and bent wire

In a departure from the original rowing boat plans, and to create something a bit different to Peter's canoe, my boat would be powered by only one oar, on the right side of the canoe, between the canoe and outrigger – a bit like a pedalo. I was banking on getting away with this because the craft has an outrigger and is thus a sort of catamaran and not a single hulled boat. As there would only be one paddle, the boat would need a separate rudder underneath to steer it. My belief that one paddle would be sufficient was also buoyed by Peter's boat, which was significantly heavier and longer than mine but went very well with two paddles. Considering the lesser weight and size of my little Wa'a Kaukahi, therefore, it should in theory manage OK on effectively half the power (and Moana is a strong girl!). Dimensions for the paddle crank and Moana's arm position for when the time came to fix her in place had been taken from the plan. A more robust mechanism, however, was in fact required, as the doll's limb offers much stiffer resistance to turning than the lightweight and quite free dummy paddlers on the original. To this end, gears were used in place of the plain rubber belt and pulley system, facilitating a good strong turning effect. Red plastic gears with brass centres, as used previously on my other paddle boats, were sourced to suit, and a crank was fashioned from 4mm steel rod.

This needed to be accurately bent to prevent unwanted wobble. Twist was easily detected by laying the bent rod on a flat surface to see if it rocked, and then adjusted until flat, while two rulers laid against the long arm and the short paddle arm were used to gauge the parallel-ness of the arms. A hole was drilled in the canoe side at the appropriate point, and this was bushed with a brass tube. Inboard, another bit of tube was employed to support the far end of the rod, with the larger red driven gear acting as a collet stops the crank coming out of the boat.

A paddle speed of about 120 rpm was the sort of figure suggested as a good pacy rowing stroke, so the MFA geared motor table was consulted and a "918D 3016/1" (30:1 using a 6V 280 motor) motor/gear unit was ordered. This, according to the sheet, would give 300rpm at 6v and a 2:1 reduction would take place on the red gears, resulting in 150rpm+ on full throttle (as I would be using a 7.2V battery), or a comfortable 80-ish rpm on half throttle (see **Photo 8**).

A boxed Moana comes with her own paddle, but this is a leaf shaped object and too small to be of use on my boat. Drilling into the paddle as per the original plan yielded a fairly thick paddle as I used a chunkier rod than the original (therefore it had to be thicker), so, again, the laminated approach was tried, using two pieces of 1.5mm ply for stiffness, while the rowing

arm was supported by a fabricated brass bracket glued in place with epoxy. At the hand end, the paddle handle was artfully filed to produce a notch (for want of a better word) into which Moana's hand could fit. This, however, turned out to be either too tight or really loose, depending on which part of the stroke Moana was on. The flat laminated handle, therefore, was replaced by a thin wooden dowel one, with a bit of green string doing the job of keeping Moana holding on.

Moana

The Hasbro doll ultimately proved to be unsuitable. Not only does she have articulated elbows, but her torso moves, and the plans call for a strong body support and stiff arms. The sort of plastic used in these dolls doesn't glue well either, so a "Disney Princess Moana Royal Shimmer Fashion Doll" was purchased (they are not expensive) and, with her solid arms and torso, she's a winner! Although her right arm was a bit stiff out of the box, it responded wonderfully to a session of physiotherapy and a drop of silicone spray oil, which freed it up nicely. It does need a top up spray now and then, but with the motor and gear train being quite powerful, it has proven to be adequate for the task. Moana is rowing with one hand! Not very realistic, of course, but there again this is essentially a cartoon boat, and the novelty of the rowing action glosses over the credibility issues. Oddly enough, the arm movement on the Hasbro doll would have allowed the left arm to come over just enough to touch the oar, but I couldn't use her, of course.



Moana is held on deck with 'mechanical fixing devices' covered by her skirt, while the platform is held down by a threaded rod and small dome nut between her legs (to spare the innocent, not illustrated here!). A strong hold-down was required for the platform as it is heavy and has to support the outrigger, and the mechanical drive exerts quite a powerful action upon it, unlike the access hatch forward, which makes do with magnets to stop it flying off into the surf. Moana's companion pig, Pua, has been fixed to the deck in a similarly cruel way to provide a lifting handle and add interest.

You'll notice from my photos that Moana's head is fixed, looking slightly to the left, which is frustrating when taking photos of model but no problem while its out on the water.

It all comes together

I varnished the hull with half a dozen coats of Rustins' water based satin Mahogany varnish to get a nice deep brown finish (see **Photo 3** again). A 'light oak' finish was used on the other bits for contrast, as per the toy. I'll admit it was a nasty shock here when I opened the tin and discovered

a horrid mucky grey liquid inside, but I shouldn't have feared; this 'sludge' in fact dried to a nice light yellowy-wood colour and proved good match for the bits that had been moulded in yellow on the toy. For the log outrigger float, I used a dark brown acrylic, and this was then gloss varnished. The paddle was painted with a beige acrylic paint and similarly varnished. To achieve the planked hull effect, a fine tipped black permanent marker pen was used to draw on lines representing planks.

Moana's toy canoe has a decoration along the top edge of the hull, consisting of a procession of large flowers with a garland hanging between them, and a visit to Hobbycraft soon sorted out some nice flower buttons and semi-transparent flower shaped beads to hang between them. Holes were drilled in the side of the boat, the beads were strung on thin green ribbon, and some fiddling with superglue ensued until everything looked ship-shape (see **Photos 9** and **10**).

It was finally time to fit the servo for the rudder. I'd left this until last as I'd wanted to fit all the gear in first, and it was handy to sit the boat on its flat bottom without a rudder in the way while all the construction work was carried out. So, the servo was screwed to blocks glued to the inside of the hull, and a tortuously bent rod was made from 1.6mm thick garden wire (as the motor platform was in the way) after the boat was proven to work. The shape of this rod is immaterial really; it does its job, even if it does look a bit odd. A 15A Mtronics' ESC and a 2.4Gig receiver completed the equipment, and we were good to go!



We're off!

Having waited for a few hours one sunny morning for Moana to shower and get ready, the canoe was transported to the sun-soaked sandy beach at Bushy Park (only joking!), turned on and lowered into the distinctly non-Polynesian cold pond, ready to make her debut (although in the interests of saving face, Moana had in fact already been tried out in secret one weekday when no-one was around, and she hadn't disappointed).

Anyway, on the day of her 'official launch', although not exactly fast, at ¾ throttle she went across the water well enough. Steering, however, wasn't great. Back at base, this was improved slightly with a (much) larger rudder.

After a few more voyages on the pond, a second very large rudder at the bow was added, thankfully operated by the same steering servo (so there was no issue with having to put a second servo in the hull), and she now steers fairly well. The model did have a tendency to veer off to the left

- understandably, given that its only being paddled on one side – but this was no major issue and a slight bias on the stern rudder had it sorted. Stability wise, everything was great, and the boat was nice and solid on the water, with no discernible rocking, even when I turned the wick up and put Moana into a rowing frenzy! However, this looked silly and didn't, as far as I could tell, produce an increase in speed to match the increased paddle rotation, but did manage to cover the boat in splashed water.

A new larger paddle was made to increase propulsive efficiency using 4mm ply and dowel, and it has a flat filed at the bottom to increase the gap between the water and paddle when at top-dead-centre, which has produced a small increase in speed.

Connecting a wattmeter to the battery reveals that at about ¾ throttle the motor is barely consuming one ampere, a miserable current draw giving more running time than I can stay awake for at the pond side! She

does reverse, which is handy for laying off coral reefs, and the mast pivots nicely in the breeze, although you have to careful with the sail angle so as not to bash the paddle at the top of its stroke.

None of us rowers like much in the way of wind, due to the very low power, so we are very much calm-day performers. Speaking of wind, and hence waves, the paddle was shortened again after a few sailings to further increase clearance, as there was still 'an amount' of forward splashing going on. A small fence to the inside vertical was also added to lessen water being pushed out the inside of the paddle, along with a small shelf to stop water travelling up the paddle blade.

Honour restored?

Oh, yes! I can now play with an actual rowing boat in the company of Woody, Jessie and the indigenous native Americans. Job done.



Hull: 580mm by 120mm, 80mm hull

side height

Outrigger sausage: 300mm long,

set 200mm out from hull Mast: 330mm above deck

(de-mountable)

Canoe weight: 1.4Kg fully equipped Moana's weight: Undisclosed!



Tim Logan chats with Ted Correia about his ambitious first ever R/C build...

n autumn, 2022, members of the Model Mariners Club of New England (MMCNE) had once again gathered at the water's edge on Lake Massapoag in Sharon, Massachusetts. It was their 33rd season of scale R/C boating. New vessels and new faces were welcomed, encouraged and supported by this low-key, friendly community of model boaters. One such newcomer was first-time builder Ted Correia.

A few weeks prior to this, Ted had entered his newly completed Dumas kit build of a 44 ft Motor Life Boat (MLB) in the IPMS Patcon show in Hudson, Massachusetts. For his efforts Ted won 2nd place. It was his first R/C scale model! Here Ted met MMCNE member and USCG veteran Bill Michaels.

Bill was excited to see Ted's 44 ft MLB 44357 and explained that he had built the Dumas kit for USCG-36500 [from the USCG's TRS class, which preceded the class represented by Ted's boat]. They conversed for some time about the model, the show and the MMCNE. This was Ted's first model show and he had no idea of what to

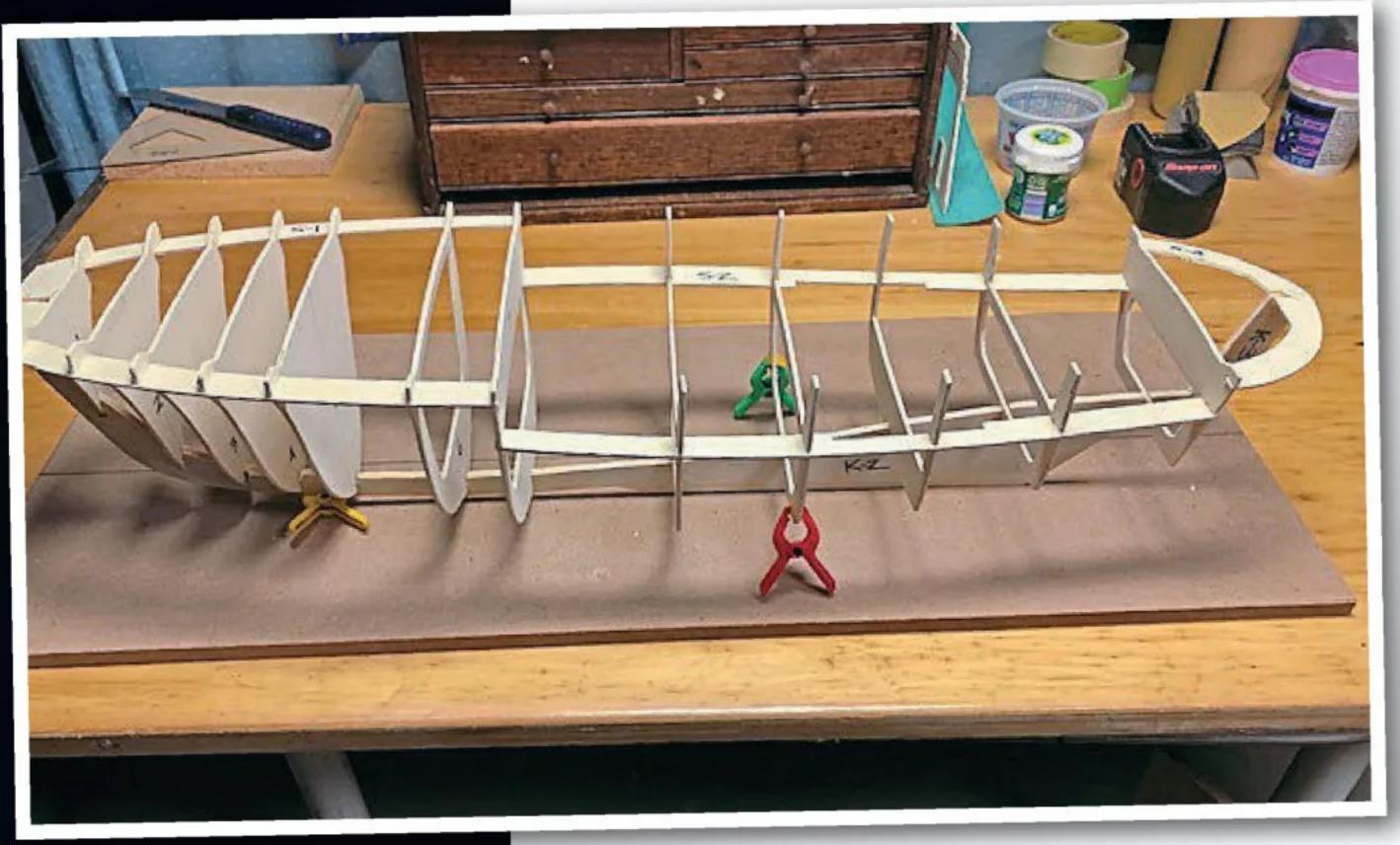
expect. He was therefore, in his own words, dumbfounded by his win and delighted to have met so many talented people. When Bill invited him along to an MMCNE event the following week at Lake Massapoag, Ted gratefully accepted.

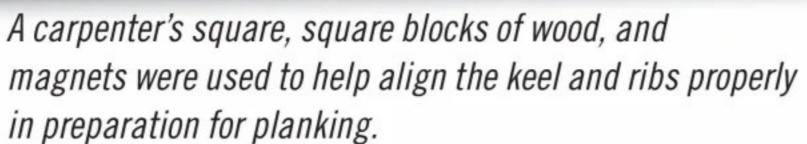
Shortly thereafter when Ted arrived at lakeside I was completely taken by his 44'. This was partly because I was just completing

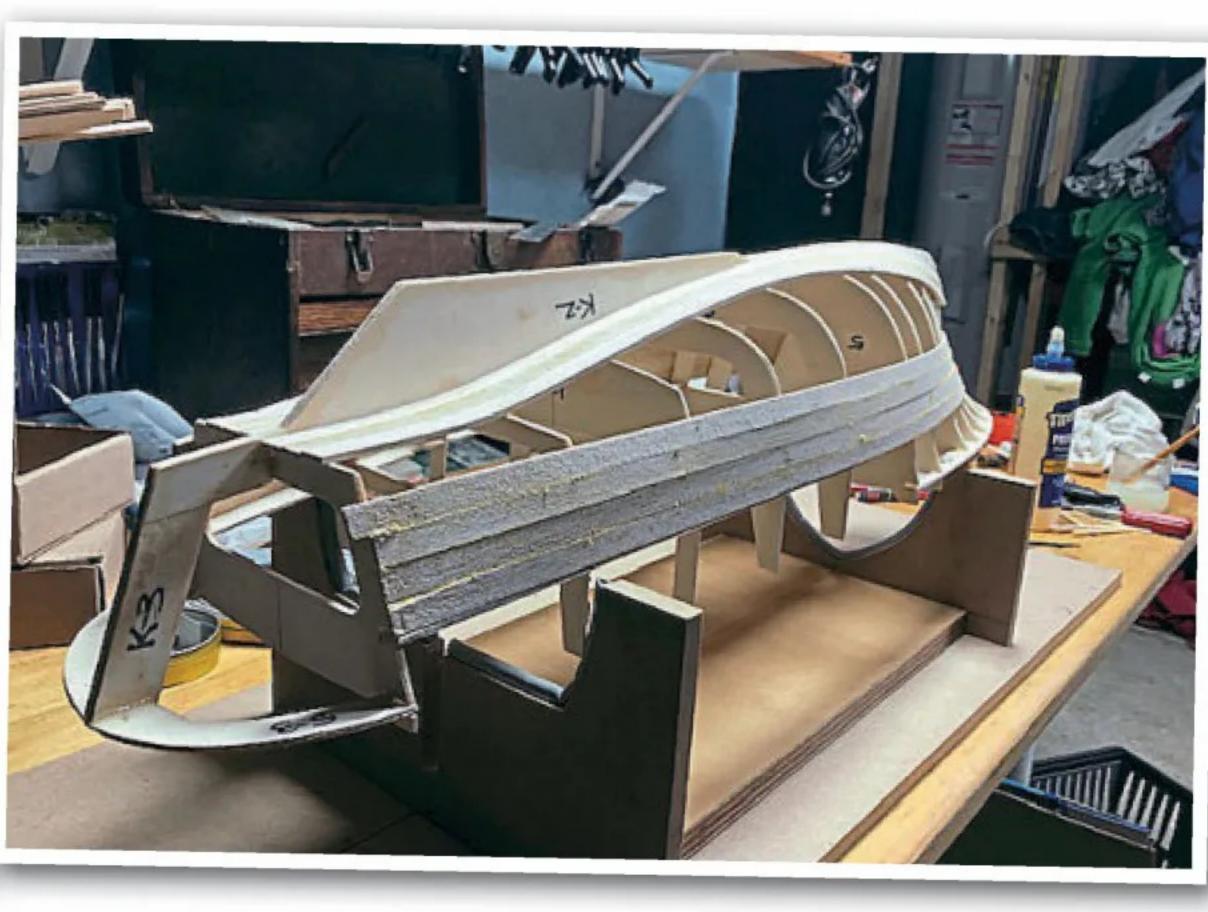
my first model as well – a Waveney, the RNLI version of the USCG 44 MLB. I had recently joined the club and we were both quite surprised that we had chosen versions of the 44' as first projects. Our similar interests drew us into many subsequent discussions about the craft.

In late 2023 I thought it might be great to share Ted's experience with fellow modellers – in particular those new to the hobby. Here is a record of our conversations and Ted's thoughts on building.









With the hull inverted, planking was started at the keel, working outwards and laying the planks one strip at a time to each side to avoid any chance of causing the hull to twist.

Ted, having never attempted anything like this before, what motivated you to build an MLB?

I've been a marine service technician for 45 years and live a stone's throw from the Atlantic Ocean. During the 1980s I serviced several vessels adjacent to the Castle Hill USCG station in Newport, RI, and MLB 44357 was docked at the pier adjacent to me. I'll never forget how she belched diesel smoke whenever she started up for a call! My doctor had a model of a 44 ft in his office, too, which I loved. So, undoubtedly, the seeds for this build were planted long ago – they just lay dormant for a while!

Years later, I realised I was watching way too much TV and that it was time to do something more constructive with my time. I opted to go down the R/C rather than static build route because I loved the idea of modelling a boat that would move at my command.

What preparations did you make before taking the plunge?

Well, first, I chose a kit rather than attempting to build completely from scratch. Although I am familiar with hull design and construction, to be honest, I was worried the complexity of a scratch build might end up taking so long I would find myself losing interest. As it turned out, roughly 60% was, in fact, scratch built, due to the many features I added or replaced – such as lights, radar, railings, steering console, hatches, etc.

Before starting work, though, I researched photos, plans, and articles online about the 44 ft MLB. I even acquired training and operational manuals. I also read the kit instructions very thoroughly, which helped reduce the possibility of errors and redoes.

Unfortunately, we no longer have a local hobby shop, so I also had to search online to locate components and materials from reputable suppliers. I pretty much had all the basic tools I needed initially, although, as I got further into the project, I found I did have to purchase some more specialised tools.

Many first-time modellers would shy away from planking, considering it far too difficult. How did you find the experience, and what would you say/recommend to any fellow novices skeptical about whether they have the ability to tackle a planked hull?

Initially it was difficult. I began with a squared lined board, slightly larger than the model. Then I used a carpenter's square, square blocks of wood and magnets to help align the keel and ribs properly. I found that CA glue with an accelerator for initial positioning, followed by wood glue for bonding, worked very well and made the process much easier. With the hull inverted, I started at the keel and worked outwards laying the planks one strip at a time to each side to avoid any chance of causing the hull to twist. After I had done a few planks, I got into a rhythm.



Planking completely smooth and ready for fibreglassing. Eliminating all flaws before applying the cloth and resin is essential.



Fibreglass cloth should be cut so that it fits easily in place, particularly when compound curves are involved.

Shooting the breeze...

"The hull must be sanded and faired smoothly to eliminate imperfections, as fibreglass will not hide flaws"

The quality of the kit material was very good, but I broke a few planks and had to order a few extra. The instructions recommended saving all the scrap wood that was left over. This was good advice.

Balsa is an excellent wood for this boat design. It is easy to bend, sands well and absorbs epoxy, which gives it incredible strength.

What I would say to new modellers is that planking is actually easier than you might think. Patience and thinking the process through will render great results. One nice thing about planked hulls is that there are many choices, and the initial cost is less.

Likewise, first-time modellers are often very hesitant to work with fibreglass. You showed no fear and jumped right in. Where did that confidence come from?

In my early 20s I worked at a facility that produced fibreglass tanks – so, in all fairness, I was already familiar with the process.

I suggest that modellers practice using small batches of resin and cloth on scrap wood to get used to working within the time constraints and the way epoxy resin flows. The hull must be sanded and faired smoothly to eliminate imperfections, as fibreglass will not hide flaws. I used body filler to fair my hull and deck; this is easier to sand than epoxy, but it does have a strong odour and requires good ventilation. This step is very important as it is remarkably difficult to remove any bumps once the fibreglass is in place, and trying to do so leaves you open to the danger of sanding through the epoxy resin. The fibreglass cloth should be fitted carefully before any resin is applied. Epoxy resin is runny. It must be applied in thin coats as the hull is manipulated to avoid pooling and dripping.

Once my resin was cured, I sanded it lightly and applied Awlgrip 545 marine primer; this is an industrial marine coating I have access to, but it's not available to the general public. However, spray can primer and paint work well, and you can achieve similar results without any elaborate equipment required.

By the way, the turtle housing and wheelhouse were also fibreglassed.



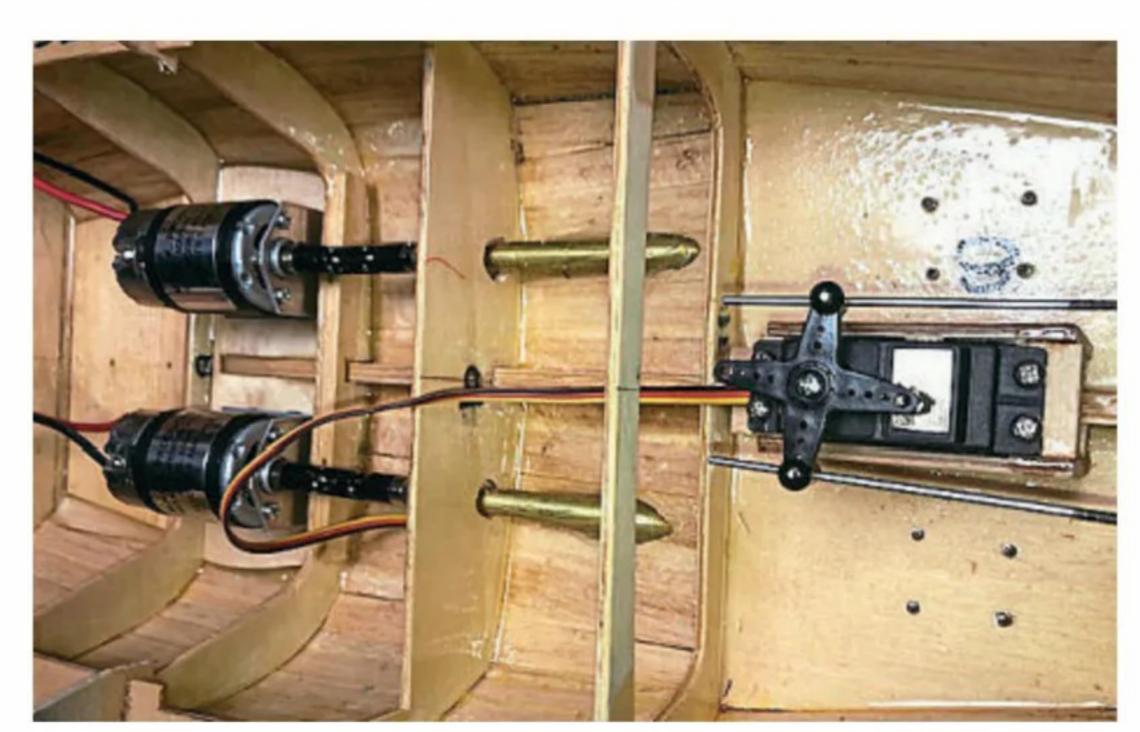
Deck pieces were fitted carefully and examined before final gluing in place.



Fibreglass work completed, with no drips or runs. The hull is extremely durable at this stage.



An industrial grade marine primer was used to prepare the hull for paint.



Rubber mounts were used to allow for fine motor angle adjustment and vibration dampening.

Can you tell us a little bit about the MLB's drive system and its installation?

I purchased the propulsion system, along with the kit, from Mack Products in New Jersey. This recommended drive system included two 12-volt brushed motors, which draw 4.9 amps/hour. As the drive system is inclined, I used rubber mounts to allow for fine motor angle adjustment and vibration dampening. I also used a small tube, slightly larger than the drive and motor shafts, to temporarily replace the universal joint. I rotated this tube to ensure there was no binding as the motors were installed. The result was perfect alignment.

After the motors, running gear and steering assemblies were installed I tested how much ballasting the model would require by first loosely placing the batteries and other hardware (bilge pump, deck house material, etc) into position so I could



Painting in stages makes the process much easier. Here the deck is painted after careful masking and before fittings are installed.

find an acceptable scale waterline. I built a rectangular box to use as a test tank, so that any potential problems could be corrected and adjusted prior to the MLB's first outing.

Although built from a kit, you've added a lot of additional detail to the MLB. Can you elaborate...

Yes, I made many, many modifications.
All the deck fittings, hatches and railings
were scratch built from photos. I didn't care
for the pot metal hardware provided.

I experimented with some styrene sheets and scratch built the dashboard and console.

The supplied window framing was flimsy, so I bent and soldered a brass superstructure to look like the real thing. It also makes a handle sturdy enough to remove the deck assembly!

The wire grating behind the wheelhouse was scratch built. I obtained the grating from industrial supplier McMaster-Carr. They carry a huge assortment of grating, stainless steel rod, copper bar, brass tubing and rods, et al.

I created two airtight compartments, one in the bow and one mid-ship, as well as adding an automatic bilge pump.

MLB's have a deep well in front of the turtle structure, which is very close to the water's edge. This can create problems on the water, so I installed drainage scuppers.

I added a complete lighting system using charts from Evans Design for bulb size and voltage. Using 3 mm white bulbs allowed for consistent voltage, since different coloured LED lights use different voltages. It's best to



Railings from the kit were discarded and replaced with brass tube, carefully bent and soldered.



Wheelhouse window framing was scratch built to create a cabin strong enough to be lifted by the frame.



Stuffing lighting wire through the scratch-built mast proved a bit of a challenge!



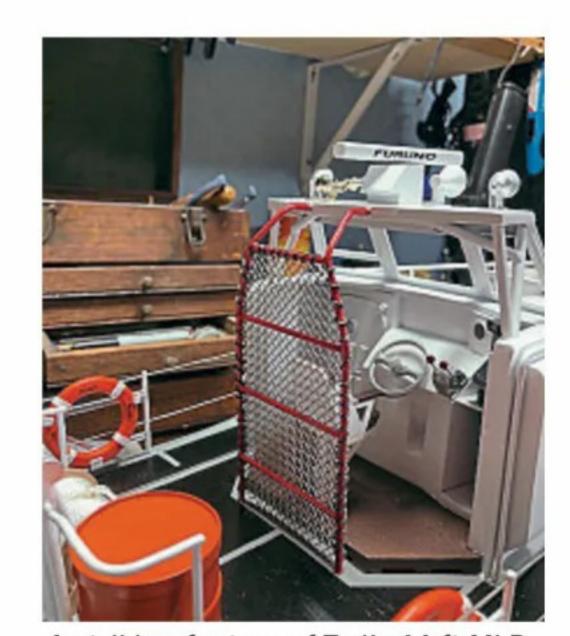
Fabricating directional mast lights took some careful planning and steady hands.



The completed lighting. White LEDs and coloured lenses were used to maximize brightness and eliminate voltage variations.



Ted's instrument panel was scratch built from styrene plastic.



A striking feature of Ted's 44 ft MLB is the laced grating behind the wheelhouse. Grating was purchased through industrial supplier McMaster-Carr.

use white then colour housings later. White is also the brightest of colours. Each light was individually wired, and the brass mast was used as a chassis ground. The hardest part was stuffing so many wires into the mast. The lights and radar have separate circuits. Replacing bulbs would be very difficult so it was vital to test the lights continually as each element was added.

How has becoming a member of the Marine Modellers Club of New England (MMCNE) helped you, and what would you say to others debating whether or not they should join a local club?

The high calibre skills, talent, and imagination possessed by the members of a club like MMCNE is astounding. Gatherings have a very casual and comfortable atmosphere, with members happy to share their experiences and knowledge. MMCNE is very low key and not judgmental. Most importantly, it's just plain fun to sail and chat with other model boaters. It's a great community. To fellow novices I would say don't be apprehensive or intimidated. Experienced modellers love to encourage and assist newcomers to the hobby, and with that type of support the sky's the limit for any project you choose!

Have you begun work on your next model yet? And if so, what can you tell us about i+?

Yes, I'm currently building the service companion to the 44' MLB, the 41' UTB, also a Dumas kit, in the same scale. However,

there are some constructional differences, which make it an interesting challenge. She will have more features than the 44' MLB – part of the natural progression in model boat building!"

What would be your top tips for newbies to the hobby?

I would say, start small. Use simple electronics. After you've put some time in on the model you can then upgrade it with additional features, or start another one! Learn from your experience. And, above all, enjoy the deep sense of satisfaction that comes from watching your accomplishment glide across the water!



Out on the water and looking good!



Ted's USCG 44 ft MLB 44357 model ready for her maiden voyage.

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FLETCHER CLASS DESTROYERS

John Parker salutes these highly successful vessels and the modelling opportunities they present

very once in a while, the complex interplay of factors governing military procurement comes into alignment to create a truly great program. Such was the case with the US Fletcher class destroyer program of World War II. The design was sound, with no significant issues; the timing was right, with the US shipbuilding industry being on the cusp of mass production and able to build it in large numbers; it was successful in action; it was adaptable to changing demands; and it was well liked by those who crewed it. Built to the tune of 175 vessels, more than any other type of destroyer, the Fletcher was the dominant class of destroyer in the Pacific during World War II and went on to serve in the Korean War and even the Vietnam War, with the last of its type only being decommissioned from the US Navy in 1971.

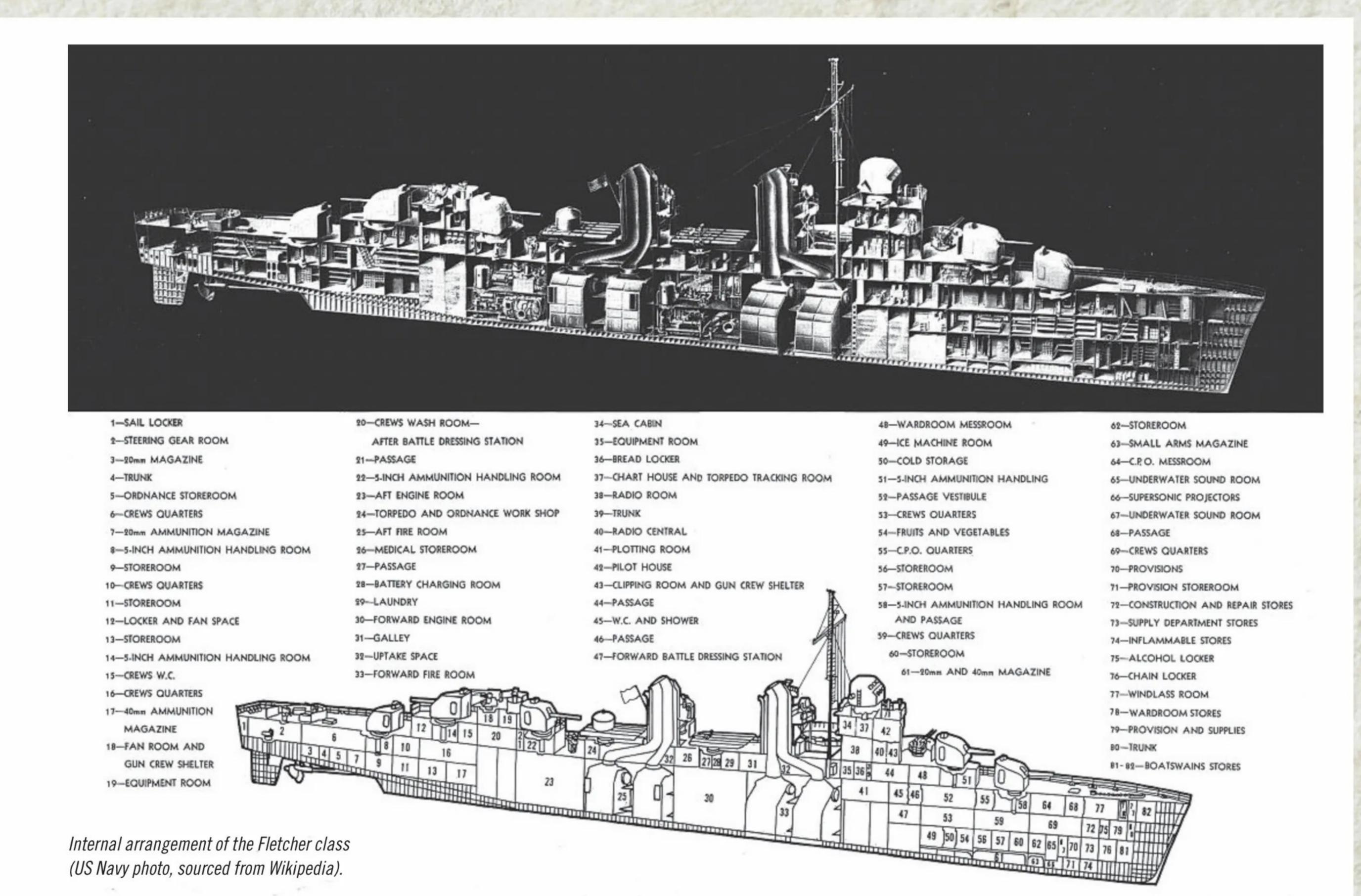
Design

The Fletcher class program heralded an end to period of experimental development that has resulted in some less than satisfactory designs. By 1939 the US Navy was no longer bound by the requirements of naval treaties and was able to design a destroyer that was better suited to its needs. The vast distances of the Pacific Ocean meant that long range was essential, and this meant a large vessel. At the same time, it needed to be well armed and fast to take on, for example, a Japanese Fubuki class destroyer, and not suffer from the top heaviness that had blighted earlier designs.

A primary armament of five 5-inch guns in single turrets was settled on, as well as a tentorpedo broadside in two quintuple mounts. For anti-submarine work 56 depth charges were carried and could be fired from six throwers on the beam and two racks at the stern. The initial AA armament of six Oerlikon 20mm cannons and a single 1.1-inch gun was steadily added to as the war progressed, and the Fletcher was the first destroyer type to be fitted with radar as built. This consisted of a fire-control radar, ground surveillance radar and air warning radar. The specification resulted in a large hull, 376.5 ft (115m) long

by 39.5 ft (12 metre) beam, with an initial standard displacement of 2,050 tons. To provide the desired speed of 37 knots 60,000 horsepower was required, 10,000 more than previous classes, and this was supplied by twin geared turbines operating at the higher pressure of 600-650 psi (4100-4500 kPa). The machinery spaces were configured on the unit system, which reduced the risk of a single hit putting the ship out of action, with Gibbs and Cox (see Flotsam and Jetsam, April 2023 issue) responsible for all detail design.

On the downside, the flush-deck design was strong but resulted in cramped accommodation for the crew. It also reduced seaworthiness in rough conditions compared to a raised foc'sle design; this, however, was considered acceptable in a ship destined to serve mainly in the generally calm conditions of the Pacific. Steering was an issue, too: due to their considerable length and having only a single rudder, the Fletcher class was known for having a turning radius larger than that of an lowa-class battleship.



Production

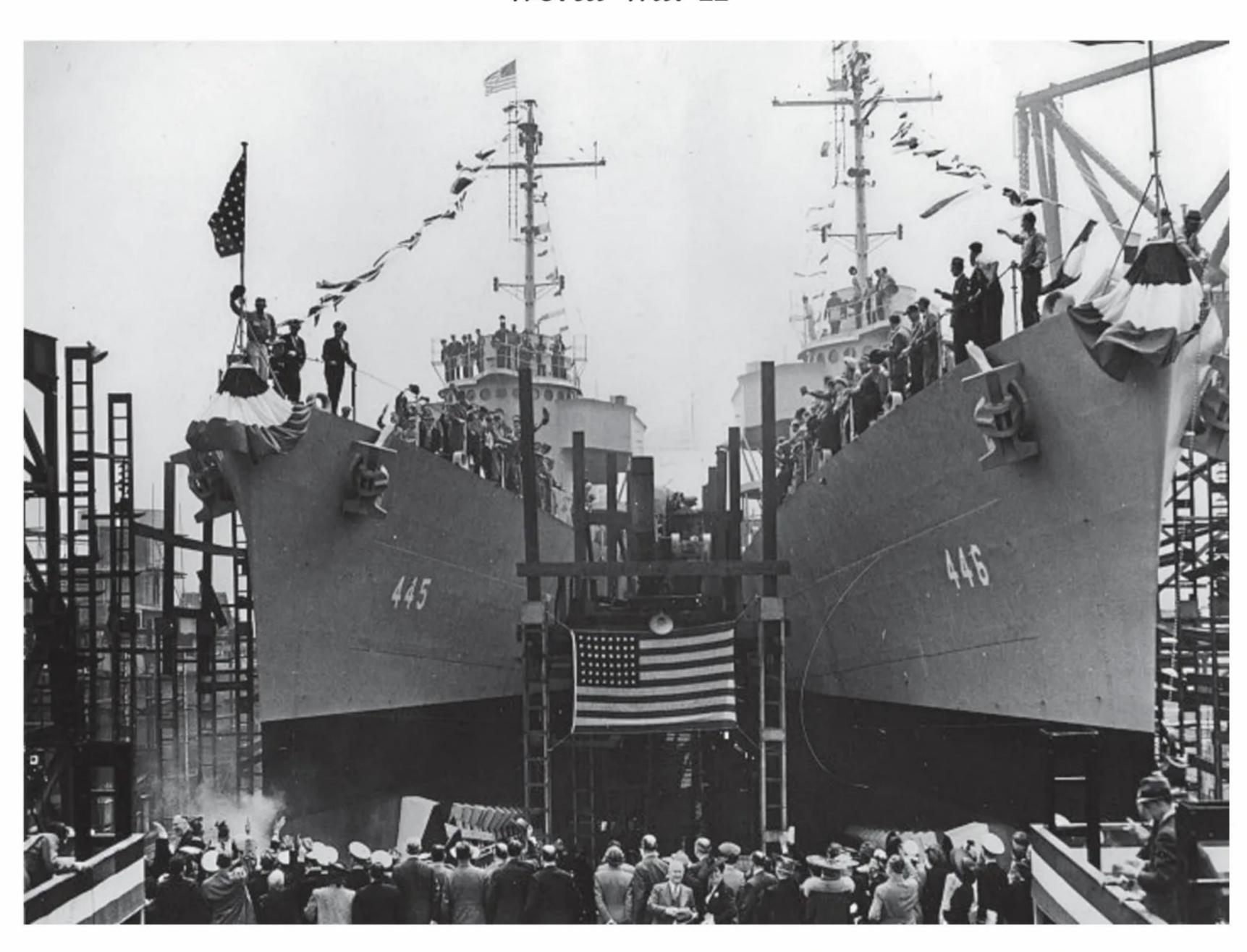
Although the Fletcher specification might suggest a 'silver bullet' design, very capable but expensive and only to be available in small numbers, the opposite was true. The ship was designed for mass production, and with its welded hull could be built in as little as six months. Eleven shipyards across the United States came into the Fletcher class program and from March 1941 to February 1945 turned out 175 ships in two variants, the earlier 'round bridge' type (58 built) and the later 'square-bridge' type (117 built) before production switched to the derivative Sumner-Gearing class.

Into service

The Fletcher class was in the thick of the action from late 1942 onward and soon proved itself to be a hard-hitting ship that could take a lot of punishment and yet remain afloat; some were known to have their sterns or bows blown off and still make it home. Perhaps the best example of their resilience is provided by the Battle off Samar in October 1944.

Right: USS Fletcher and USS Radford at launch on May 2, 1942 (US Navy photo, sourced from Wikipedia).

"Built to the tune of 175 vessels, more than any other type of destroyer, the Fletcher was the dominant class of destroyer in the Pacific during World War II"



"The Fletcher class was in the thick of the action from late 1942 onward and soon proved itself to be a hard-hitting ship that could take a lot of punishment and yet remain afloat; some were known to have their sterns or bows blown off and still make it home"

Due to a false assumption and lack of communication, an American escort carrier group accompanied by three Fletcher class destroyers and four destroyer escorts was left to face a Japanese fleet consisting of four battleships, eight cruisers and eleven destroyers. The scene was set for a great Japanese victory, but the American destroyers unnerved the Japanese by their constant torpedo attacks, feigned or otherwise, and the small escort carriers put up such a defence that the Japanese commander became convinced he must be fighting a much larger force of fleet carriers, so after two hours withdrew from the battle (leaving three stricken cruisers behind). The price for this deliverance included the sinking of two of the Fletcher class destroyers, Hoel and Johnston, but only after they had taken a pounding from shells up to 14-inch.

As the war reached its final stages, the threat from kamikaze attacks became ever greater and the Fletchers had their AA armament increased in stages up to a typical ten 40mm Bofors in twin mountings and seven 20mm Oerlikons. It was a testament to the ship's design that it was able to carry this extra weaponry without becoming excessively top heavy; only the final stage of increasing the AA armament to no less than 14 40mm Bofors cannon necessitated the removal of one set of torpedo tubes for weight and space reasons.

A total of 19 Fletcher class destroyers were lost in World War II, with a further six deemed irreparable. They accounted for 29 Japanese submarines and an uncertain number of surface vessels sunk. After the war, most were put into reserve for re-activation and modernisation in case of future conflict, and many were sold to other navies, where they enjoyed long service careers, at least one of which lasted into the 21st century. Today four are preserved as museum ships: Cassin Young in Boston, Massachusetts; The Sullivans in Buffalo New York; Kidd in Baton Rouge; and Velos of the Hellenic Navy in Greece. Only Kidd remains representative of a World War II Fletcher.

Models

As might be expected with a design that was famous and built in large numbers, there is no shortage of options available to model makers of all disciplines.

Emergency Production Historical Study

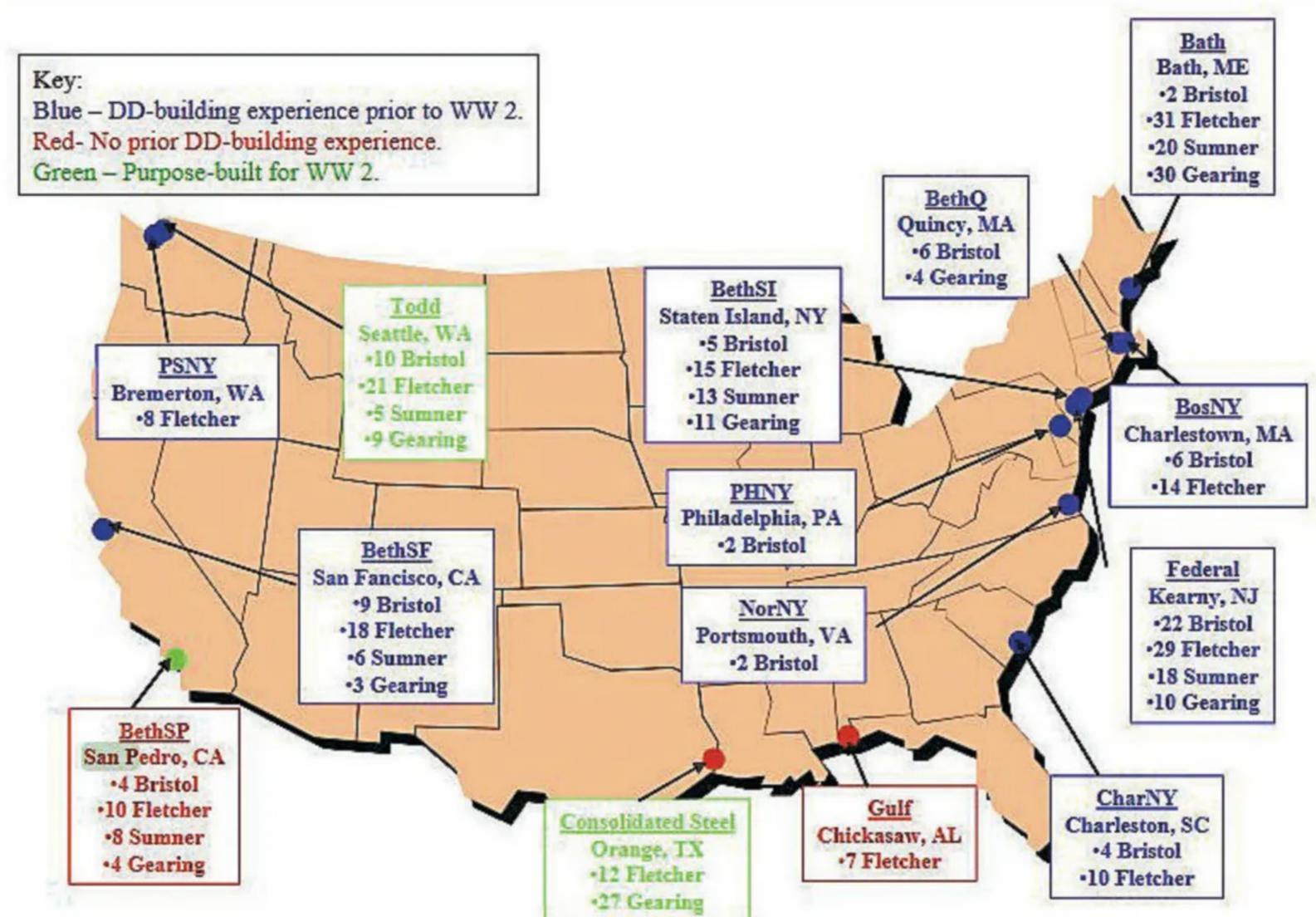


Figure 39: WW II Destroyer Shipbuilders, Geographical View

American shipbuilding yards of World War II (Department of Defense photo, sourced from Wikipedia).



A Fletcher class destroyer transferring supplies during the Korean War (Australian War Memorial).

Injection moulded plastic kits are (or have been) available from the likes of Tamiya, Revell, Trumpeter, Lindberg, Eduard, Aurora and others, in scales ranging from 1:700 to 1:125, with many etched metal after-market parts available to enhance them.

The original 1:125 Lindberg kit is an ancient one, dating from the 1960s, which was motorised and came with all manner of working features. It has the advantage of size, being some 910mm long, making it eminently suitable for conversion to an R/C working model if the original running

PRINCIPAL EXTERNAL FEATURES OF A FLETCHER CLASS DESTROYER

Model: 1/72 USS Twiggs DD-591 by G. Smithwick Photo: H. Jansz



- Forward 5" guns
- 40mm AA guns x
- Main mast with radar
- Searchlight x Quintuple 21" torpedo mount
- 20mm AA guns x 40mm AA guns - x
- 10 Quintuple 21" torpedo mount
- 11 Depth charge throwers x
- 16 20mm AA gun 17 Depth charge racks
- 13-15 Aft 5" guns

12 20mm AA gun

Note: "- x" denotes on both sides

Displacement: 2,050 tons (std.) 2,500 tons (full load) Length: 376.5 ft (114.8 m) Beam: 39.5 ft (12m) Draft: 17.5 ft (5.3m) Complement: 329 Propulsion: 4 oil-fired boilers, 2 turbines, twin shafts Power/speed: 60,000 shp (45,000 kW) / 36.5 knots Armament: 5 x 5" (127mm) 38-calibre guns in single mounts; 2 quintuple torpedo mounts; 6 depth charge throwers and 2 racks; 1 x 1.1" and 6 x Oerlikon cannon AA armament (early vessels), much upgrated later.

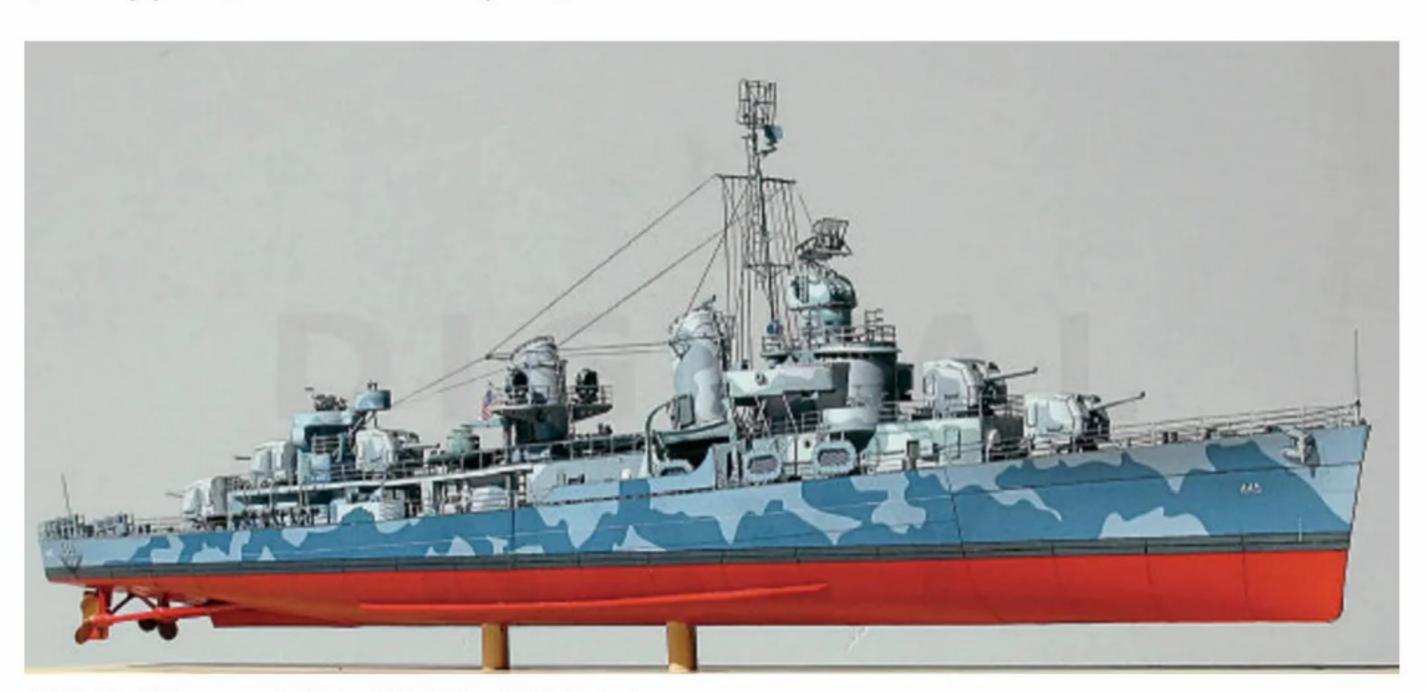


The result of four kamikaze attacks on the USS Newcomb (US Navy photo, sourced from Wikipedia).



Stephen Day's model based on Lindberg's 1:125 scale kit.

"As might be expected with a design that was famous and built in large numbers, there is no shortage of options available to model makers of all disciplines"



A Digital Navy card kit build of the USS Fletcher.



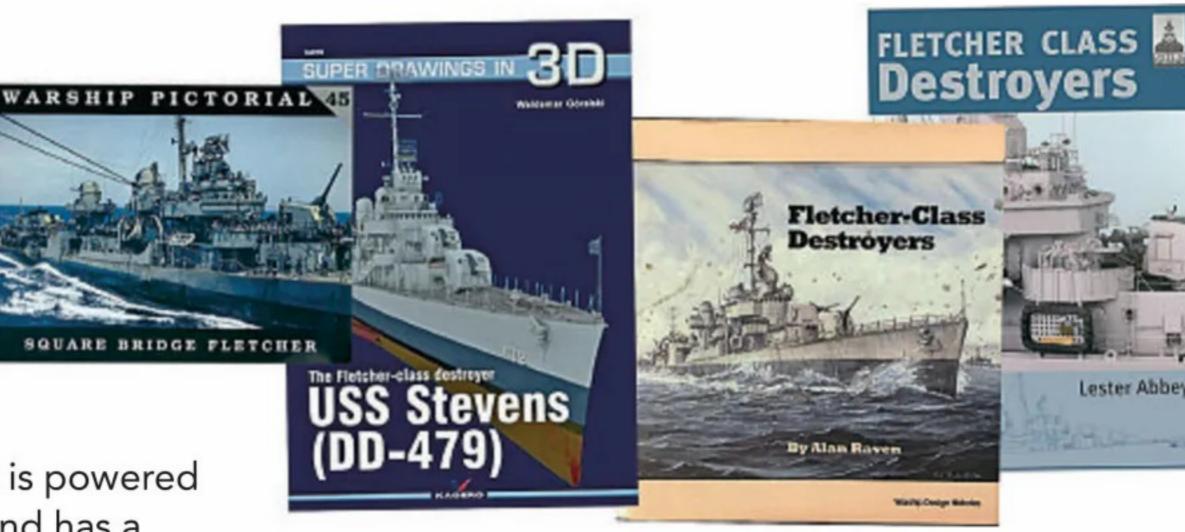
Aft deck detail of the USS Fletcher card kit (Digital Navy).

gear is replaced and some work done to correct the many inaccuracies. This kit featured in a build article by Dermot Curnyn in the April and May 2023 issues of Model Boats. Another example, by Stephen Day, is a regular performer at

my local lake. Like Dermot's, it is powered by two tiny brushless motors and has a switchable mixing function that ensures that this is one Fletcher class that can turn tightly.

Of the card options available, I would perhaps single out Digital Navy's 1:200 full kit for the USS *Fletcher*, as, when tackled by skilled modeller, on completion it's hard to believe that what you're looking at has been constructed from a paper kit.

A 1:96 kit of the USS *Kidd* is available from Deans Marine, resulting in a model 1.16 metres long, and if that is not large enough for you there's always 1:72 scale, which makes your Fletcher almost 1.6 meters long. Popular with the Australian Task Force 72 organisation, fibreglass hulls may be available from APS Models (enquiries to apsmodels@optusnet.com.au). You can even go one



Reference books.

larger if you have a capable 3D printer and twelve boxes of PLA filament going spare – cgtrader.com has files for a 1:48 scale Fletcher that tops out at 2.4 metres or 8 feet long!

Scratch builders will find a wealth of information available on the internet, including fully detailed construction drawings from, for example, Model Shipwright (www.themodelshipwright.com). Camouflage patterns and potted histories of each of the 175 Fletchers built can also be found, and there are books aplenty, so for once you are not likely to be short of information when building your model.

Output

Description:



USS Casin Young museum ship in 2011 (Image courtesy of Tony Hisgett, sourced via Wikipedia).



Kerry Jang reports back on his visit to Shizuoka, Japan, home to kit manufacturers Tamiya and Woody Joe

apan is considered a dream destination by many, and Shizuoka, a town an hour away from Tokyo and home to such plastic giants as Tamiya, Aoshima and Hasegawa, should be on every modeller's bucket list. I was treated to a day trip to this town, an hour away from Tokyo, organised by members of the Tokyo-based modelling club THE ROPE while attending their annual exhibition of sailing ships (both scratch and kit built). I speak very little Japanese, but fortunately many of the club's members have a good command of English – and where that's not the case, well, when it comes to our hobby, as modellers we always seem to find ways to communicate, regardless of any seeming language barriers, don't we?

Bullet train bonus trip

As soon as we stepped off the Shinkansen bullet train, this city's model making heritage became immediately apparent. Shizuoka's Hobby Square has all the latest model goods produced in the area on display. Equally, as you walk along the streets, trucks sporting the Tamiya logo can regularly be spotted going about their business (i.e., transporting the company's products to retailers throughout Japan).

Tamiya tour

Our first stop was a visit to Tamiya Mokei Co. Ltd (mokei means kit in Japanese). Modellers from all around the world were there visiting the factory, showroom and museum devoted to all things Tamiya. Naturally, it was the spectacular display of all the ship kits, in both wood and plastic, that Tamiya has produced over the years that I found most fascinating. Our guide pointed out that as the company' early ship kits were just strips and blocks of wood, a few fittings in cellulose, and a scale plan, magnificent box art was required to sell the promise of what could be built using the materials inside the box. This continues to be an important part of the way Tamiya packages and markets its products to this day.

A warm welcome from all at Woody Joe

Following our tour of Tamiya, my friends had a special treat in store, a visit to Japan's only wooden ship kit manufacturer, Woody Joe.

"As soon as we stepped off the Shinkansen bullet train, this city's model making heritage became immediately apparent"



Examining some of the scratch-built ship models (or, to be more precise, in this case, sectional models) at THE ROPE's annual exhibition in Ginza, Tokyo.

"The brand name had been familiar to me for many years but, other than that, I had no first-hand knowledge, let alone experience, of these kits"

The brand name had been familiar to me for many years but, other than that, I had no first-hand knowledge, let alone experience, of these kits. After a short drive from Tamiya we arrived at Woody Joe to be met by the daughter of the owner, Ms. Yukari Gojo. We were led into the showroom via a loading dock, where three ladies in company uniforms were packing boxed kits into shipping crates. In true Japanese style, they immediately stopped work and we kindly greeted by them with bows and calls of "irrashaimase!" (welcome) and "hajimashite?" (how are you?). The showroom itself exhibited numerous stunning Woody Joe kit-built models, and the subjects were all very Japanese. I asked Ms. Gojo how subjects were selected, and she replied that choices were usually determined by what the company felt the Japanese market would most enjoy building. Interestingly, I heard similar comments from Tamiya, so it would seem what is of interest nationally is the first and foremost consideration in the decisionmaking process. While famous and familiar wooden ships like the Cutty Sark, HMS Victory (a cross-section kit) and Santa Maria are all part of the kit line up at Woody Joe, ships that have a significant place in Japanese history are very clearly the company's main focus. For example, Commodore Perry's USS Susquehana, features because her 1853 arrival in Tokyo Bay marked the beginning of the end for Japan's feudal society, paving the way for modernisation and Japan becoming



Shizuoka is an hour's journey from Tokyo Station by one of the Tokaido Shinkansen bullet trains that routinely travel between 250 to 300km per hour and arrive on time to the minute!

a world power. The Japanese generically referred to the American ships as "Black Ships" due to the colour of their hulls, and interestingly, the kit is named in Japanese as 'Black Ship' (黒船 or Kureofune), with her actual name appearing in English only. Another fascinating kit is that for the auxiliary screw powered square rigger Kanrin Maru, the first Japanese warship ship to sail from Japan to the United States. The purpose of this 1860 trip was to show the world that within 10 years of the opening up of the country, Japan had mastered western ship technologies and navigation techniques.

Japanese ships from the age of the samurai, such as the Atakebune, Kitamaebune and Higaki, Kaisen abound. Woody Joe's kit designer, Mr. Shigeru Arata, developed the Higaki Kaisen from the research gathered and scratch-built model constructed by THE ROPE member

Mr. Taketoshi Tanaka, who just happened to be on the tour with us. Mr. Arata also designed the brand's 1:200 Yamato, which was made available nearly 20 years ahead of the Trumpeter/MRC/Gallery plastic kit. He confided in me that he didn't follow up with a kit of the Mushashi based on his Yamato because the hulls were different and could not be considered identical sisters. Musashi was built by Mitsubishi in Nagasaki, whereas Yamato was built in Kure by the Kure Naval Arsenal, and no contemporary drawings of Musashi and her hull shape survived. Clearly, Mr. Arata is very exacting in his designs. His most recent IJN ship has been the 1:144 scale I-100 submarine.

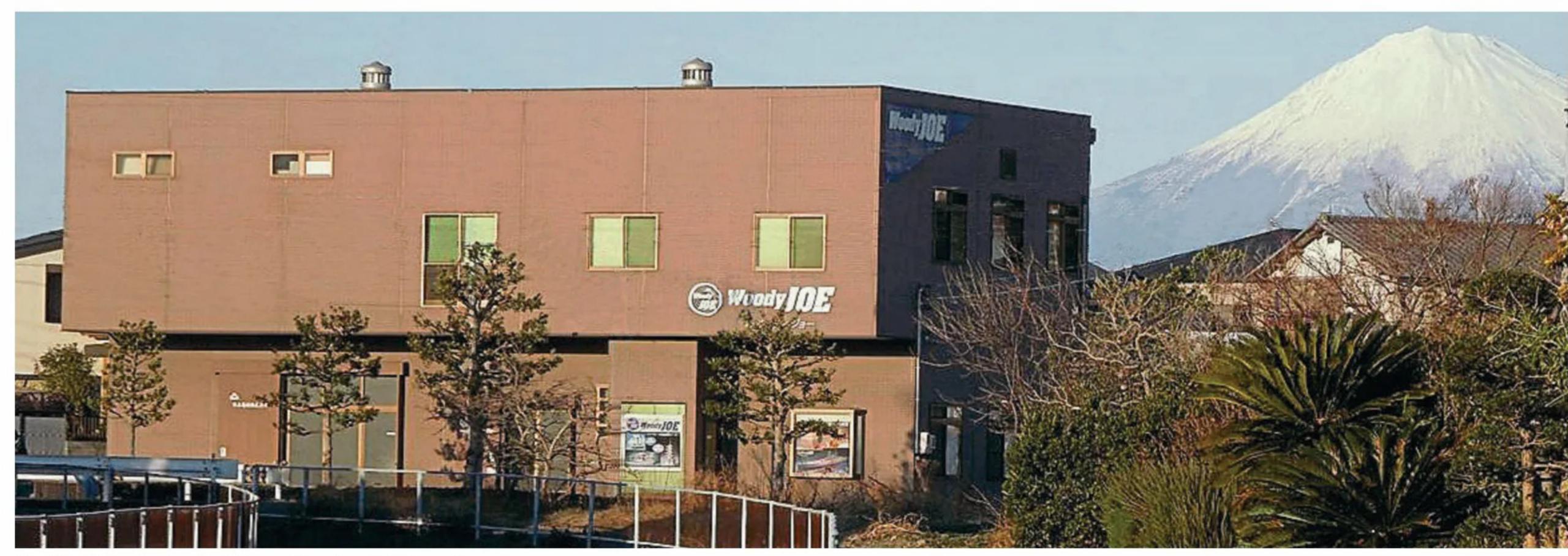
For all the ship kits, the hulls are built up single plank on bulkhead style in hinoki cypress wood (all the shaped wooden parts all cut by laser), with details manufactured from injection moulded plastic (e.g., rigging



Plastic modelling's mecca — Tamiya Mokei!



Vintage Tamiya wooden kits of Imperial Japanese Naval ships. Box art became vitally important very early on in Tamiya's history, as back then it was the only way of illustrating what modellers could hope to achieve from the contents of the box.



The Woody Joe factory building, with a breathtaking view of Mount Fuji as a backdrop.

blocks, deadeyes), etched brass, or sharply cast zinc (e.g., ship's wheel, decorations, capstans, aircraft, etc). The instructions and plans are in Japanese but are fully pictorial and in colour, so if your Japanese is limited to ordering draft beer at a sushi restaurant like me (which is, by the way, "sumimasen, nama biru kudasai!") you will have no problems. English instructions are being created for popular kits, and those currently available can be viewed on the company website.

Woody Joe also has an extensive range of Japanese castles and temples. In Kyoto, my wife and I were enthralled by the beautiful Daigoji Go Juno To Buddhist temple and she quickly snapped up the Woody Joe kit during our visit.

As Japanese homes and apartments generally tend to be smaller than those in the West so, thoughtfully, several of the kits in the Woody Joe line are offered in two or more scales. The kits are issued in different versions as well, such as with or without sails. It is common in Japan to offer different versions of an item so you can purchase exactly what you require and reduce unnecessary waste and cost. After all, if you want to, say, build a bare poled ship, why should you have to pay for the extra sailcloth?



From left to right: Mr. Arata (Woody Joe), Mr. Tsuchiya, Mr. Yoshida, Mr. Tanaka (THE ROPE Tokyo members), Ms. Gojo (Woody Joe), Kerry Jang, and Mrs. Oshiro (Mr. Oshiro from THE ROPE Sapporo is taking the photo).

The next stop was the warehouse, where we saw how the kits were put together. This large building was stuffed to the rafters with wood strip, stock, blocks and thousands of boxes containing cut wooden pieces. The rear of the warehouse contained large raw baulks of wood that had been cut down with saws and planers,

and the scent of these exotic woods was delightfully intoxicating.

When packing kits, staff members carefully pick the parts and hand insert them into small plastic bags, which they then label and staple to a card header so there are no mistakes. Here we learned a little more about the company.



A group of happy modellers going though Woody Joe kit boxes. Ms. Yukari Gojo is to the left, with Mr. Taketoshi Tanaka from THE ROPE (Tokyo) model ship club to the right (in the foreground) of her.



The Woody Joe showroom is packed full of built-up examples of its ship, castle and temple models. Here, Kerry's wife has found a temple kit for her next project. All Woody Joe kits are heavily prefabricated in wood, plastic, metal, and card parts, and supported by full colour step-by-step instructions.



Yet more examples of the display cabinets that fill Woody Joe' showroom.



Inside Woody Joe's wood stock warehouse. The primary wood used is hinoki cypress, although other exotic hardwoods are also imported from Thailand by the company for its kits.

Originally the family business, back then called Tsuneki Kyozai Co., Ltd., after Ms. Gojo's father, Mr. Tsuneki, undertook the manufacture of wooden parts for the kit maker Imai. At that time, Imai produced a large range of both wooden and plastic scale model ships. In the late 1990s, Imai ceased operation. The plastic moulds were acquired by Aoshima (meaning kits produced from these can still be purchased, albeit now under Aoshima branding). Mr. Tsueneki, however, deplored the idea that Japan would no longer have a domestic producer of wooden kits, and consequently founded Woody Joe to fill the void.

Because, as already mentioned, the company's focus is on products that appeal to the Japanese market, much of its production output is geared for, and taken up by, that market. Ms. Gojo explained that Woody Joe does not currently market its products outside of Japan as its production capacity just wouldn't be able to keep up with any further surge in demand; sales have already significantly increased since webbased Japanese retailers started offering to ship Woody Joe kits to overseas customers. What many who reside outside of Japan may be unaware of, though, is that you can cut out the middleman and order a kit (provided it's still currently in production) directly from Woody Joe via email (English is fine) – contact details can be found in the box out below.



The stash of Woody Joe kits Kerry and his wife took home with them: the Nippon Maru, Daigoji Buddhist Temple, and I-400 Submarine.

In another touching demonstration of Japanese hospitality, when our tour ended, the entire team at Woody Joe came out to wish us farewell.

A trip full of unforgettable experiences

Our cultural education continued with lunch at a local family run restaurant, where you order via a tablet from your table and your meal is then delivered by a robotic serving cart sporting a cheerful cat's face, which actually speaks to you in Japanese!

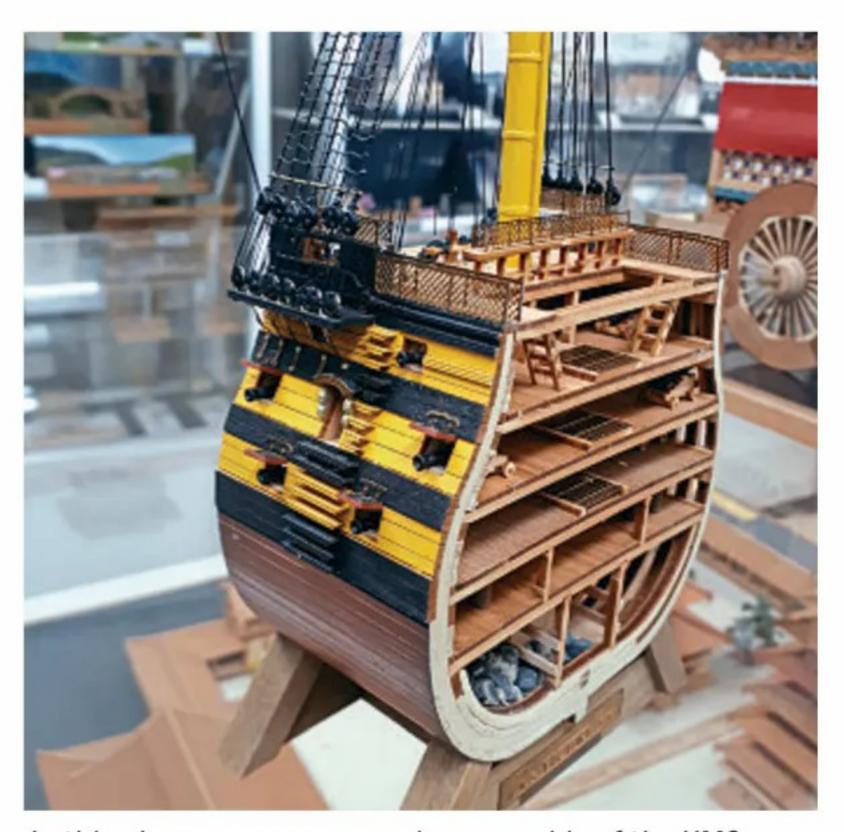
Finally, on our return Tokyo, again via the Shinkansen bullet train, we were wowed by a spectacular view of snowcapped Mount Fuji against the setting sun – the perfect end to a perfect day!



This Woody Joe Higaki Kaisen kit was developed from the research of Mr. Taketoshi Tanaka of THE ROPE (Tokyo) model ship building club.



Mr. Shigeru Arata, one of Woody Joe's kit designers, who has now been with the company for over 20 years, shows off a cross-section of HMS Victory, just one of the many superb kits he has worked on over the years.



In this close up, you can see how one side of the HMS Victory cross-section exhibited has been planked and painted to demonstrate the finish that can be achieved.

CONTACT DETAILS

THE ROPE (Tokyo)

THE ROPE's website (https://theropetokyo-en.jimdofree.com/) provides visitors with the option of viewing content in English, while its quarterly newsletter, which reports on the club's activities and provides lots of useful wooden ship modelling hints and tips, is also published in both Japanese and English. The club's annual exhibition in Ginza, Tokyo, is open to the general public and welcomes visitors of all nationalities.

WOODY JOE CO. LTD

While several reliable third-party vendors offer an overseas shipping service, Woody Joe kits can also be ordered directly from the manufacturer. Information on the Woody Joe website, and indeed in the company's full catalogue, appears only in Japanese, but this can be easily converted into English using one of the language translation services that can be called up by your web browser.

■ Website: www.woodyjoe.com ■ email: sales@woodyjoe.com ■ info@woodyjoe.com



US Navy Seaplane Tender build



of this US Navy seaplane tender and covering the painting and the addition of all the little finishes touches that really bring this model to life.

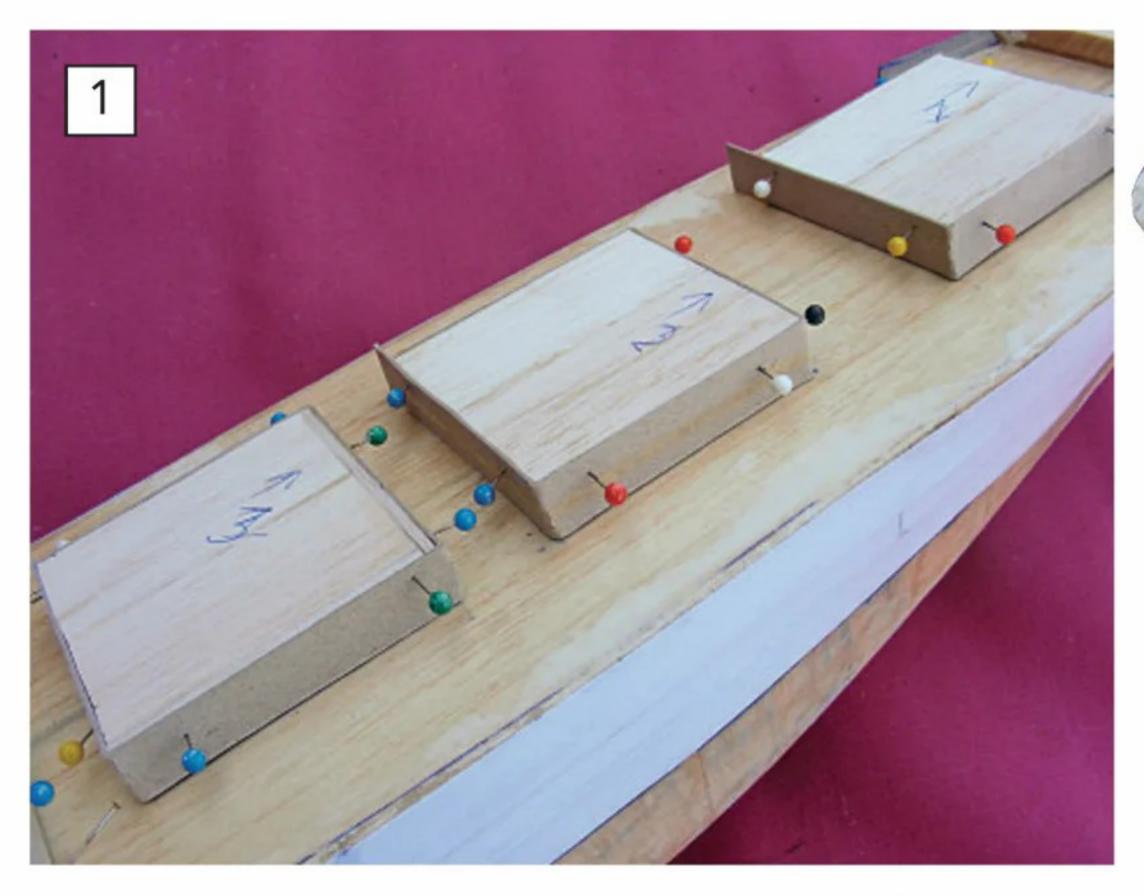
I will start with the coaming... The detachable hatches and superstructure block were held in place by fitting over coaming strips around the inside of the deck access openings. They are not a structural part of the hull; they just keep the removable parts in place and any water landing on the deck out of the hull. They could, therefore, be made from anything, providing it's not too heavy of course. Once again, I went for card, this time about ½ inch (2 mm) thick.

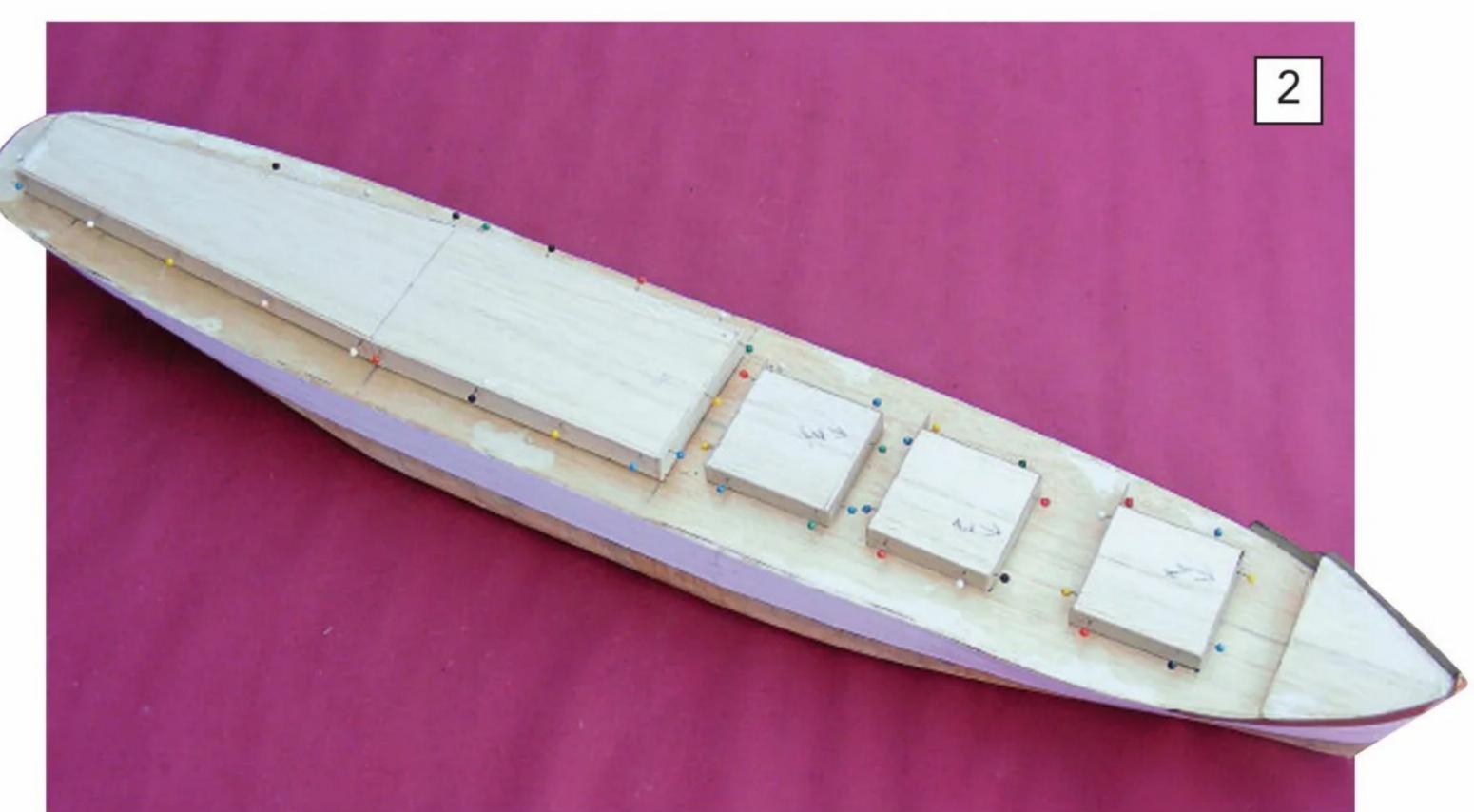
The card was cut into strips some ¾ inch (20 mm) wide and glued around the inside of the deck openings, with their lower edges flush with the undersides of the deck sheet. It's important that the vertical outer surfaces of these coamings are square to the deck.

As with the hull sides, a couple of coats of dope, with a light sanding between them, sealed the card coamings. Dope was applied to both the outer and inner surfaces, as well as the top edge. This was to make sure that no damage would occur should capillary action allow water to creep up the gap between coaming and hatch sides.

The hatches were made from the balsa, with card strips running around their edges. By using the balsa pieces cut out of the deck earlier, these hatches could be built over the deck coamings to create a good fit (see **Photo 1**). My only caution here would be that glue must be used sparingly to avoid sticking the hatch to the deck or coaming.

Now for a confession... I thought the layout of these vessels was understood when construction started. The plans of the C3 vessels showed three hatches ahead of the superstructure and these were duly created on the model. Alas, when I checked photographs of the real vessels, the first hatch was not there, apparently the opening had been plated over. Presumably, it wasn't needed, and its absence created more working deck space.





It was tempting to leave the extra hatch in place and hope no one would notice. However, over the next few days, it seemed to grow ever larger in my eyes until finally it had to go. So, the coamings were cut away. Luckily, I found that when the balsa piece was cut free from its card edging strips it still fitted into the deck opening. A slightly larger piece of card was then stuck to the balsa to create the 'plated over' look yet still give access to the water pump.

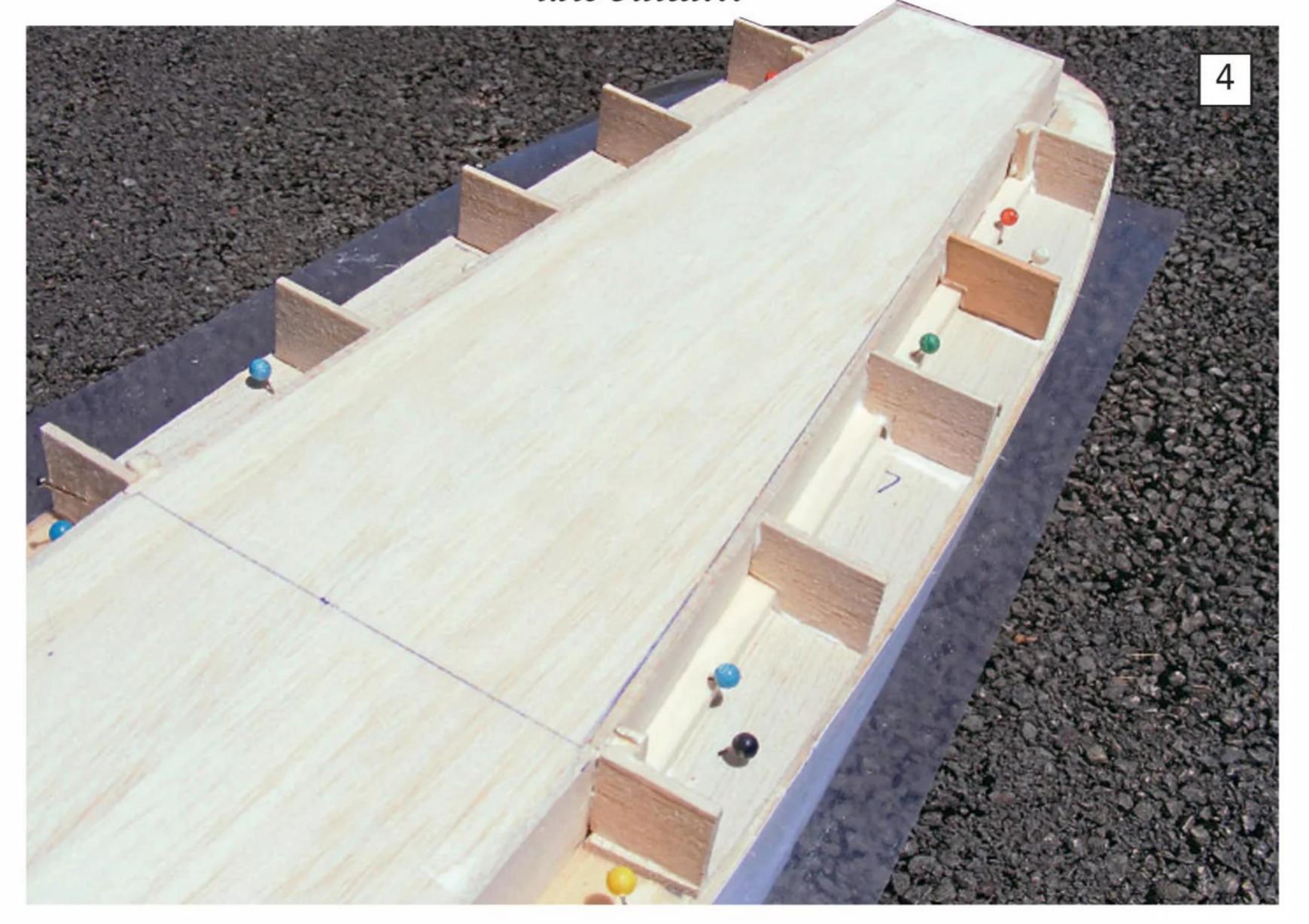
The hatches looked a little bare, so some card strips were added to their vertical sides. These suggest the stiffeners that might have been there on the full-size vessels. After this, the hatches were sealed with a couple of coats of dope.

Superstructure hatch

This was also built over a deck coaming, but this time much larger and running from Bulkhead 3 to just ahead of the transom. The piece cut out of the deck to make the opening was again used to make this hatch (see **Photo 2**).

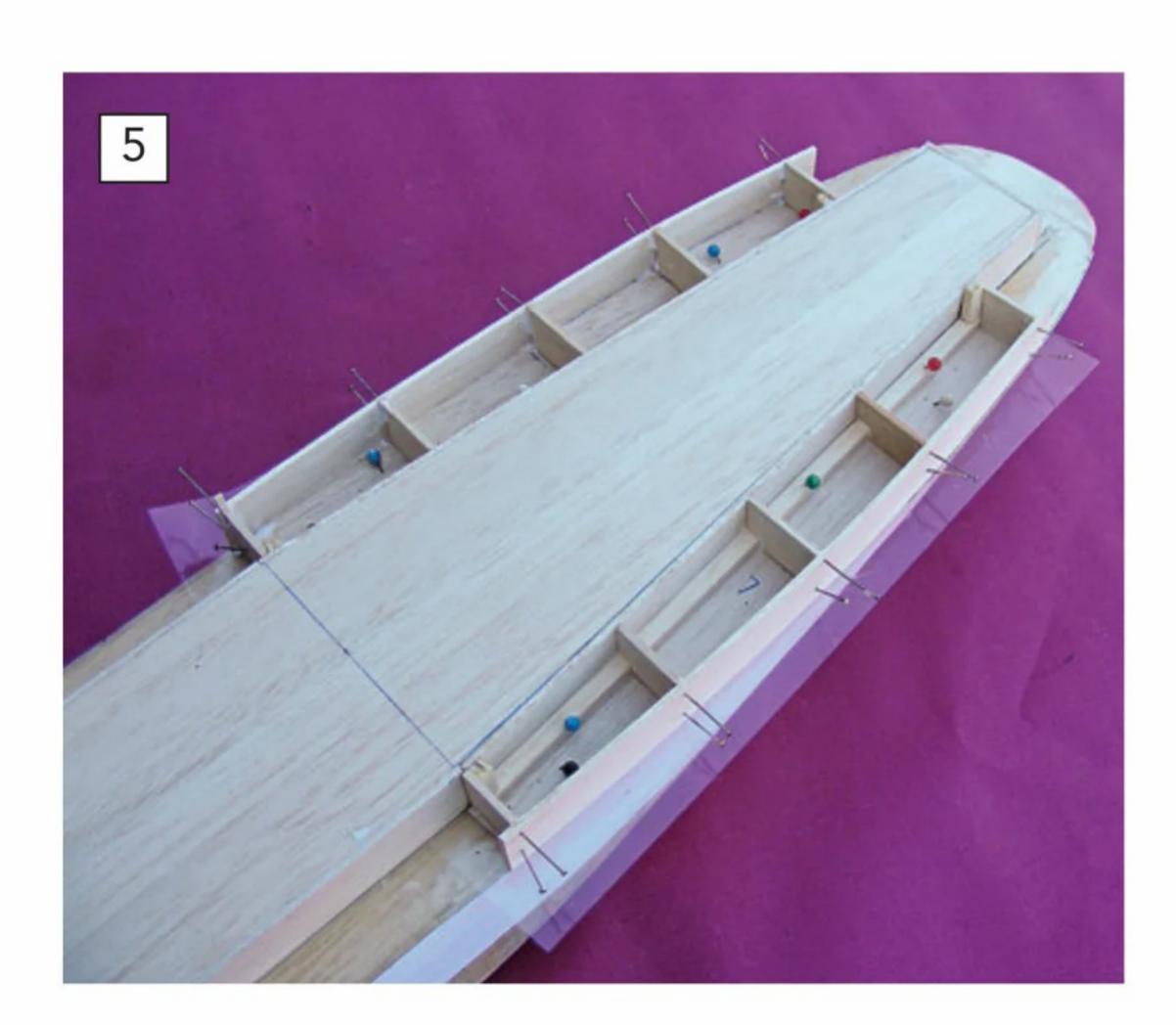


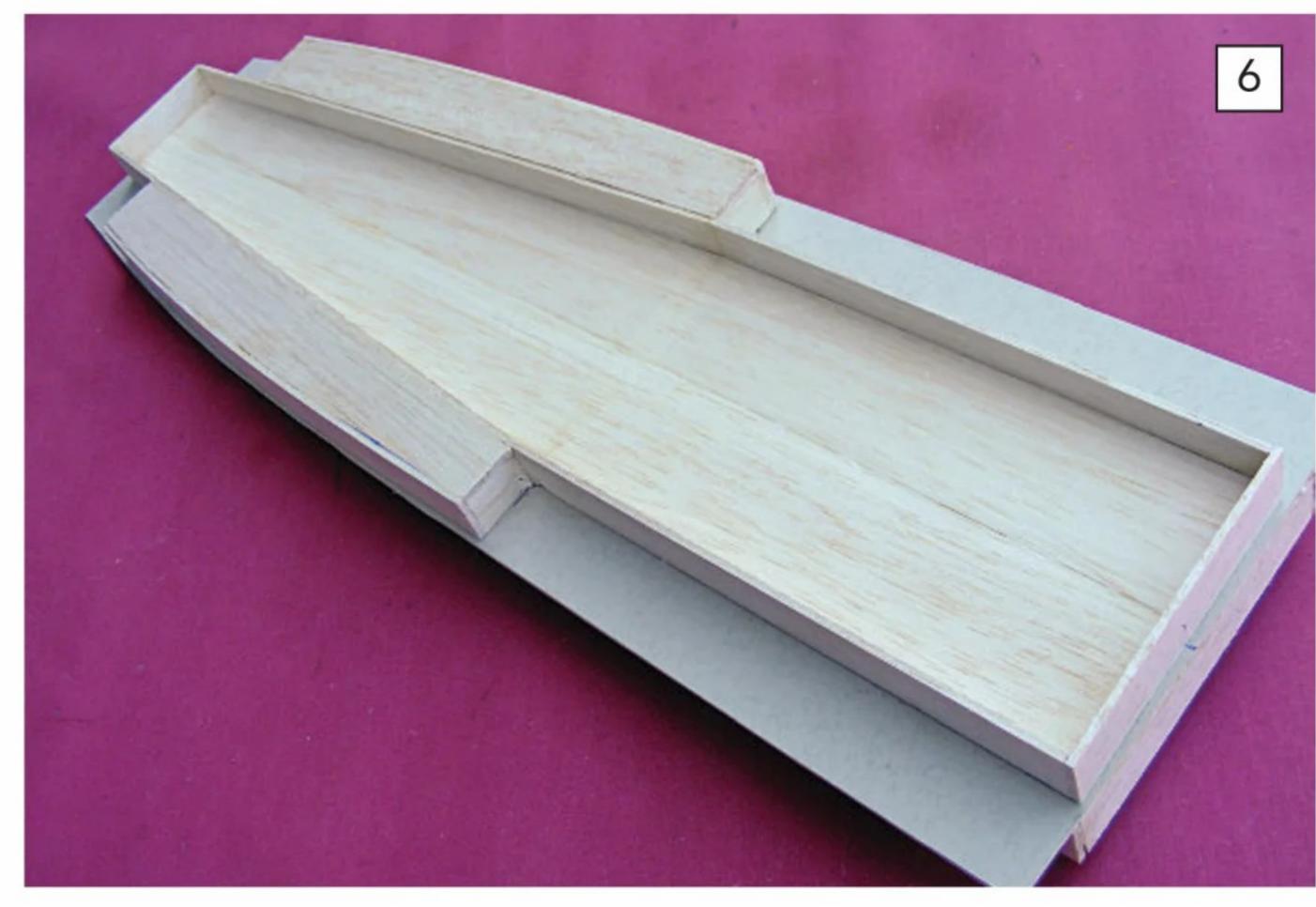
"Now came the tricky bit that had exercised my mind throughout this build..."



Now came the tricky bit that had exercised my mind throughout this build. To add more workspace and accommodation, these vessels had the superstructure under the seaplane deck extended out to the hull sides. To further stiffen the hatch and keep internal access as free as possible, these extensions had to be built into the detachable hatch yet look like they were fixed to the hull.

A couple of pieces of 1/8 inch (3 mm) balsa were cut to be the correct length of the extensions but slightly wider than needed to cover the deck. The outer edges had to be trimmed to match the deck edge shape but also be set back to allow the 1/8 inch (3 mm) thick balsa that would form the outer surfaces to be flush with the deck edge. This was achieved by placing a packing piece of balsa sheet of the same thickness up against the hatch, pushing and pinning the extension piece against it. The deck edge was marked upon it by drawing a line on the underside along the junction with the hull sides. Trimming back to this line produced the desired gap at the edge when refitted to the model but without the packing piece in place (see Photo 3).





The two extension pieces were glued in place along with rectangular balsa formers, plus a strip of balsa, about ¼ inch (6 mm) square, reinforcement (see **Photo 4**). To prevent glue sticking anything to the deck, thin sheets of plastic had been placed over the deck before reaching for any adhesive. The final outer pieces of balsa sheet were then glued in place (see **Photo 5**).

Superstructure and fecks

The seaplane deck, which was an extension of the first deck in the superstructure block, was cut from some card that was about ½ inch (1.5 mm) thick. Bought from an art shop a while ago, this has proven to be an economical way to create large flat areas in my models. Alternative materials could, of course, be used, such as lite ply or balsa, but costs may start to rise.

This deck must match the shape of the hull's deck. My method was to lay the card on a suitable surface, then place the upturned hull, with the hatch in place, over the card, being careful not to damage anything. With a pencil, held as vertically as possible, I then drew around the edge of the hull. This created a guide for cutting the deck which, especially if using card, should be done with a sharp blade. After the inevitable small adjustments,

this deck was stuck to the top of the hatch and a few weights were used to keep things flat as my glue dried (see **Photo 6**).

The remainder of the superstructure was built up using balsa for the vertical surfaces and card for the decks (see **Photos 7** and **8**). To make a neater job of things, the balsa was covered with thin card. With no wood grain visible, it was much easier to create a realistic steel appearance.

Photos of these vessels all showed vertical supports running from the lifeboat deck to the main deck on both sides of the superstructure. These were made for my model by using solid copper wire, about $\frac{1}{16}$ inch (1.5 mm) thick, which came from some domestic electrical cable. They were bent into an 'L' shape and, using epoxy, stuck into holes made in the superstructure and notched cut in the deck edge. Once the epoxy had set, the wires were trimmed to sit just above the main deck when fitted on the model (see Photo 9). I then added a few hatches in the superstructure, just card rectangles, before sealing the external surfaces with a couple of coats of dope.

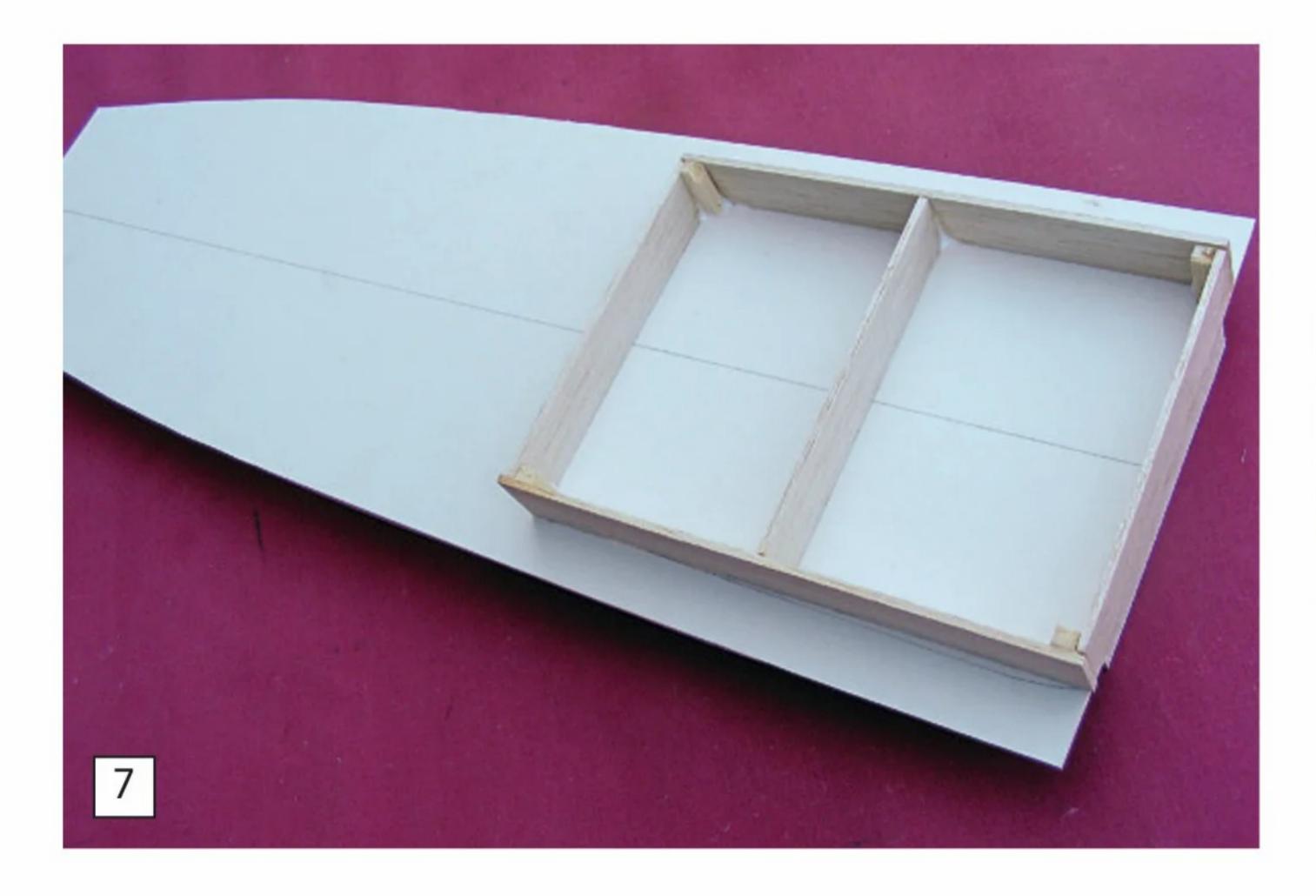
First painting

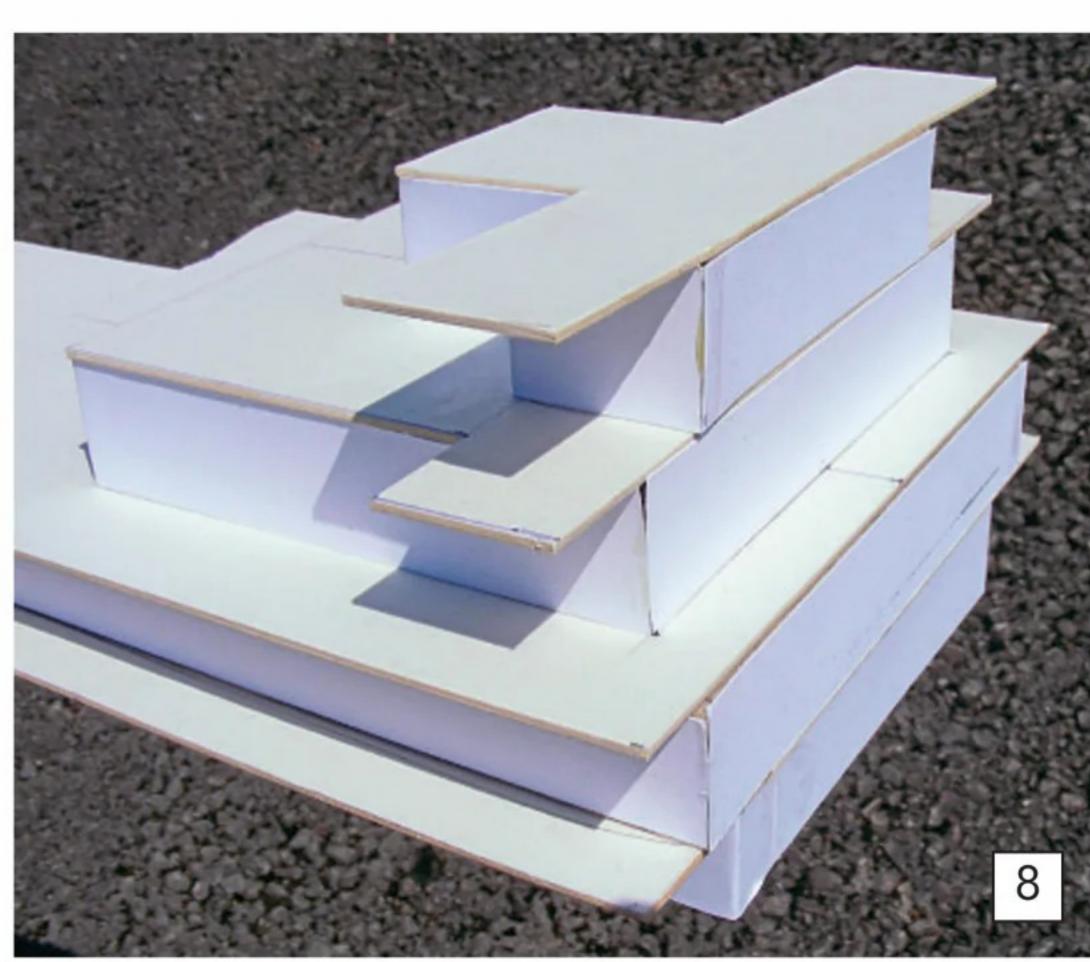
Rather than working around all the small details, I usually start painting the unadorned

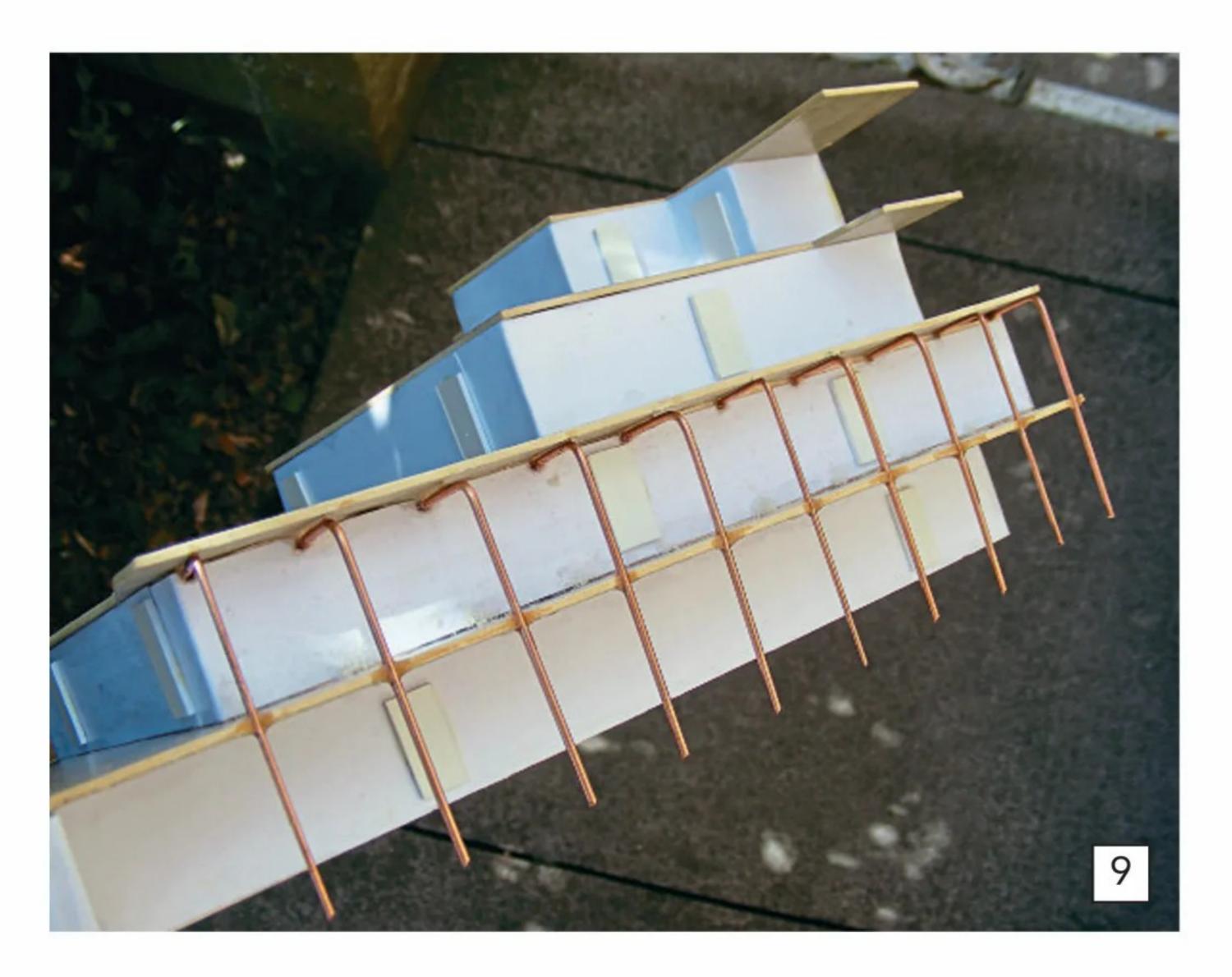
hull and superstructure. No surprises here; being a military vessel, grey was the colour chosen for the superstructure and hull sides. Some photographs of these vessels showed elaborate camouflage patterns that most looked attractive. I settled for plain grey on the pessimistic reasoning that some people just cannot seem to avoid sailing their creations into other people's brightly coloured models. Painting my model grey was going to be risky enough but camouflage seemed suicidal.

The hull sides above the waterline were sprayed with a grey primmer bought in my local DIY store. Likewise, the sides of the superstructure and hatches were sprayed grey. A couple of coats will usually be enough, along with a check that all the awkward corners in the superstructure have been covered.

The underside of the hull was painted black, using gloss enamel – not scale, but this looks much better when the model is sailing than the bright red colours that some use. The main and seaplane decks were painted dark matt grey but using slightly different shades to add a little subtle contrast. A dull matt red paint was used on the other superstructure decks, again for contrast.









"These tenders, along with quite a few contemporary USN vessels, featured a distinctive crane. After another head scratching session, a simple way to make one was found"

Fiddly bits

These items were made and painted before being added to the model. The funnel was created from thin card wrapped around two balsa formers. Setting the upper former a little below the funnel top allowed the addition of a few internal pipes for an extra touch of realism.

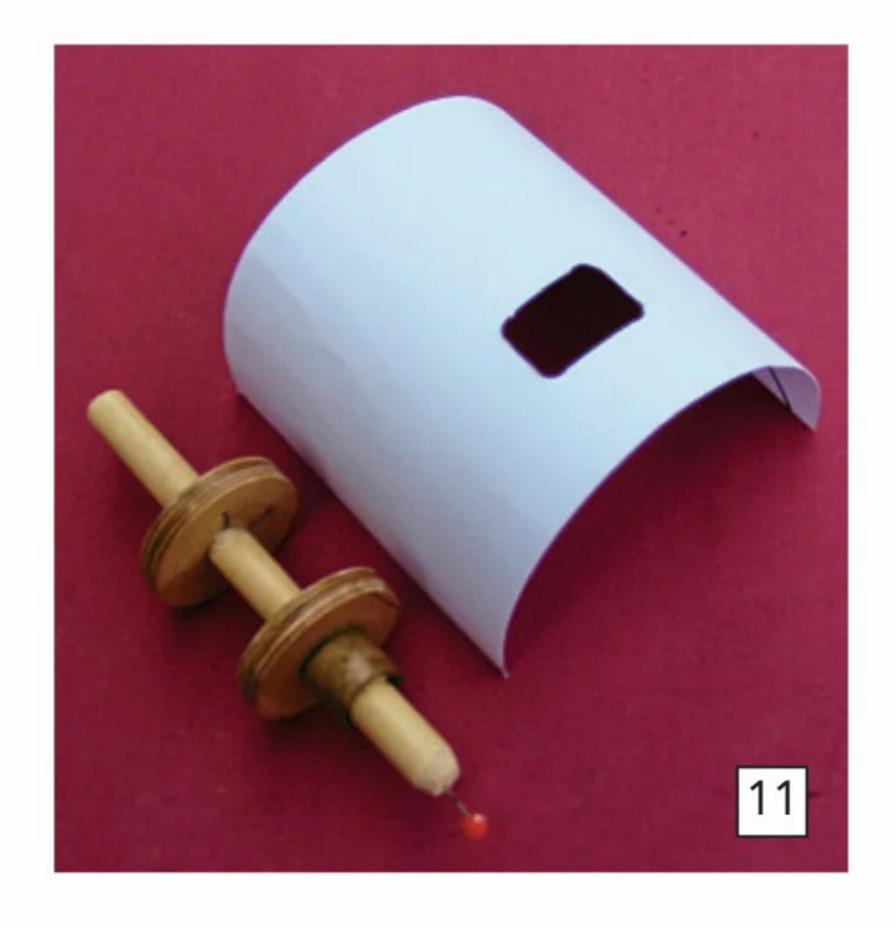
These tenders, along with quite a few contemporary US Navy vessels, featured a distinctive crane. After another head scratching session, a simple way to make one was found. Using a hole cutter, two discs were cut from plywood and their holes enlarged to fit on a suitable length of dowel. This was long enough to both create the upper part, which supports the jib, and to fit into a hole cut in the seaplane deck. The upper part of the dowel was slightly tapered, and the lower part had a sleeve fitted over it to keep it the correct distance off the deck (see **Photo 10**).

The crane's machinery was enclosed in a cylindrical housing, which had a cut-out for the jib. An oversized piece of thin card was used for this, but the cut-out was made before sticking it to the discs (see **Photo 11**). After the adhesive had set, the excess card was trimmed away, and the crane sealed with dope.

The crane jib could be made but featured a tricky girder structure. The thought of either soldering or gluing this item up did not appeal. In the end, I found some acceptable plastic girders from the Plastruct range in a local hobby shop. These could be assembled into a 'V' frame, and pulleys suggested with small washers (see **Photo 12**).

Four lifeboats were carried on the superstructure, and these were made from scrap balsa. Photographs showed that these tenders also carried extra boats, usually on the forward hatch covers and the decks around them; these were also made from balsa.

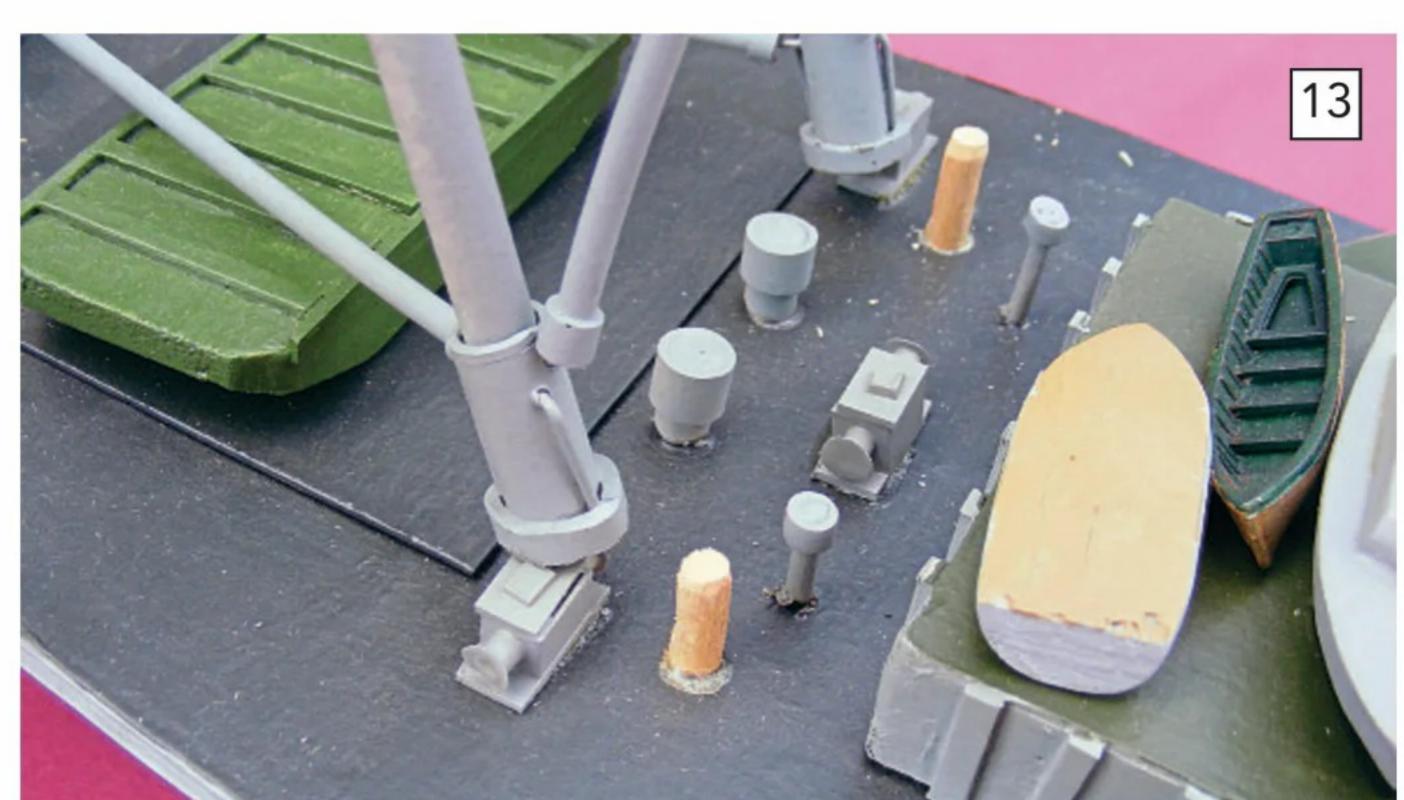
Being military vessels operating in war zones where attack was possible, suitable defensive weapons were carried. These seemed to vary from ship to ship, presumably because of alterations and additions carried out at different times and places. This model's outfit was based on what might have been carried in the later stages of the war when attack from the air, especially Kamikaze style, was highly likely, an open 5-inch single mount at the stern and two twin 40 mm mountings on the rear of the seaplane deck. Four single 40 mm mounts were fitted to the superstructure and on a raised platform in the bows. The 20 mm weapons, which were widely used at the beginning of the hostilities



but by now considered relatively ineffective against a determined attacker, were limited to four in the bows and two on the superstructure. All the guns were made from plastic card, wire, pins, tubing and whatever else I had to hand that would produce a weapon shape.

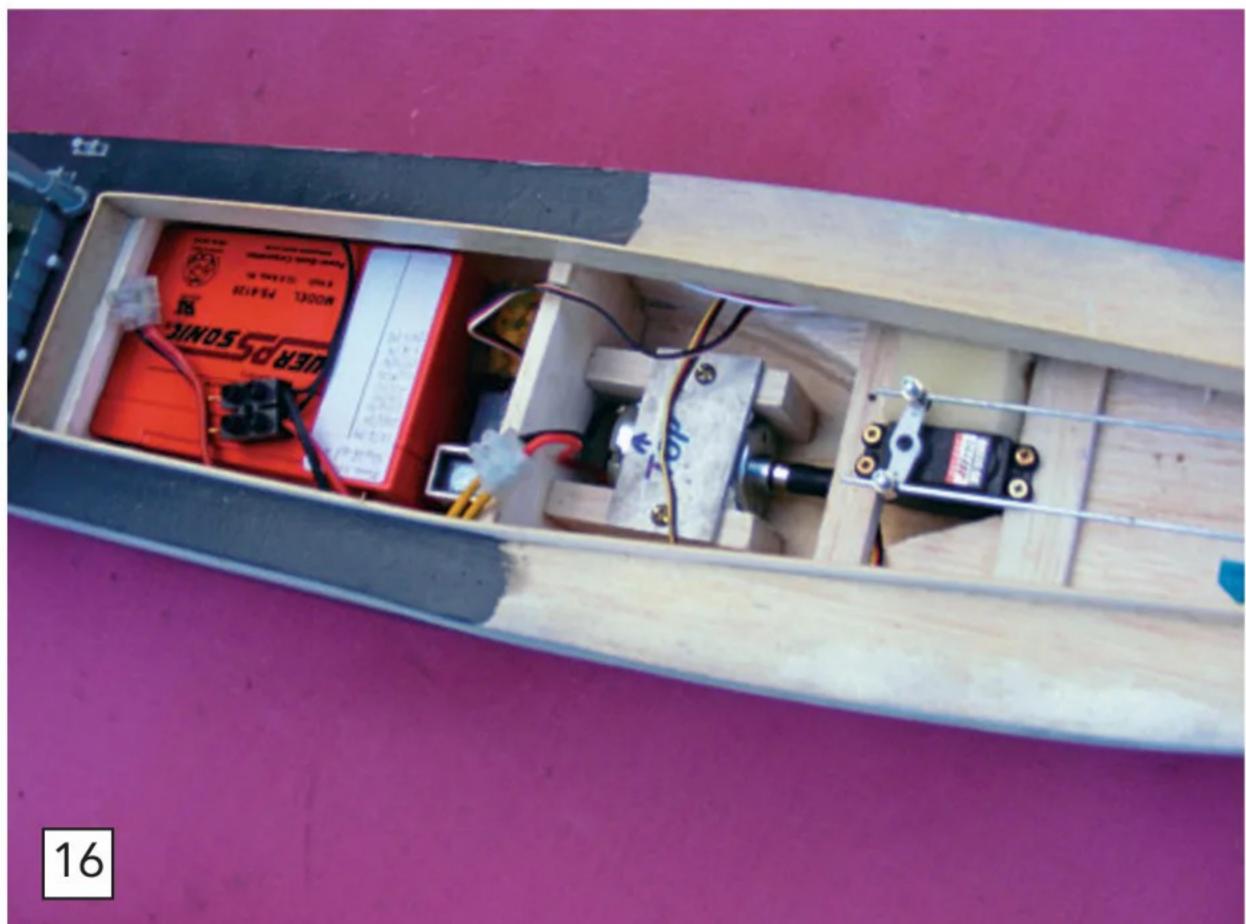
Deck lockers, vents and winches were simple shapes, usually made from plastic. They were placed on the deck and moved around until a busy but not overloaded

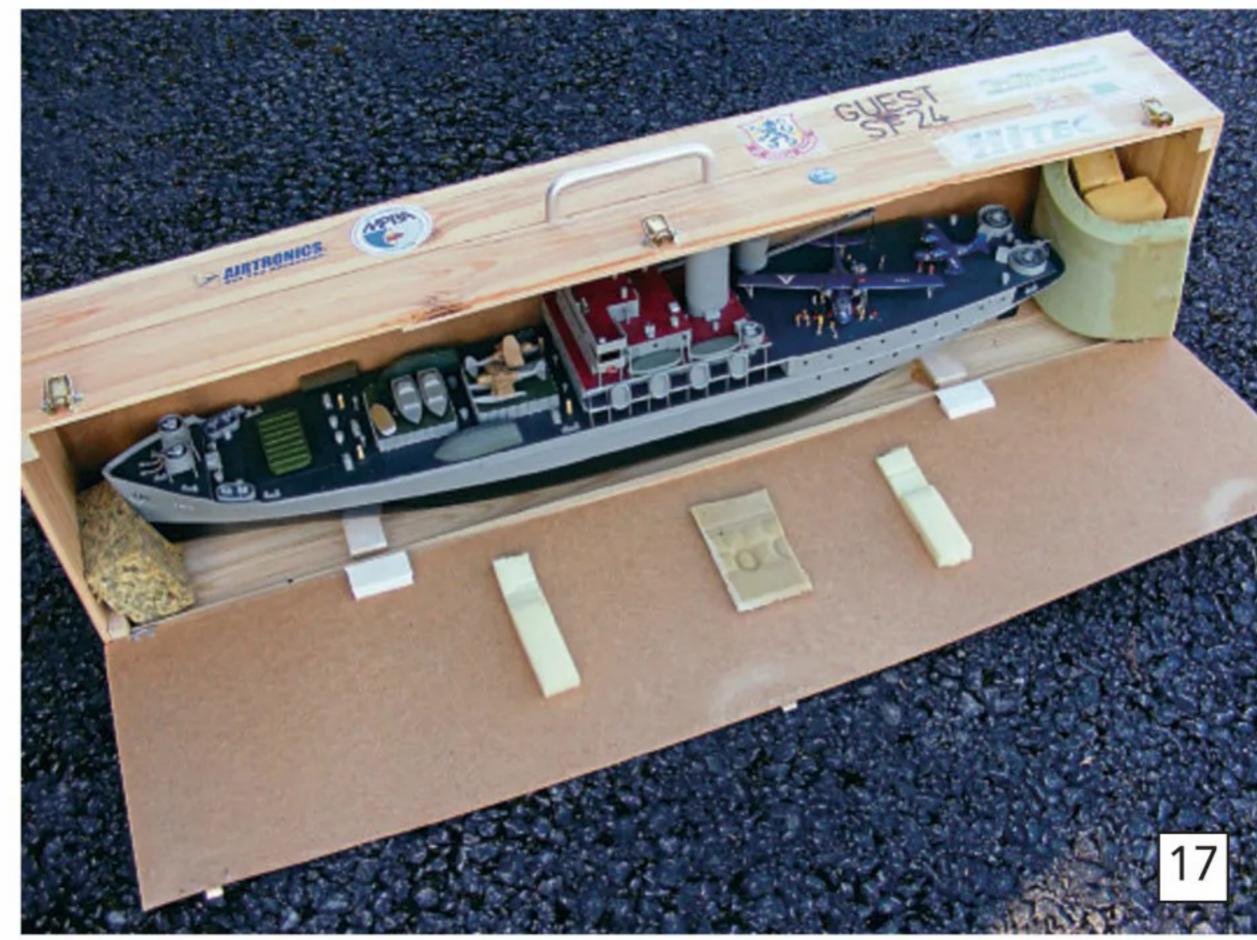












appearance was created. I used plastic tubes for the masts and booms, but metal one should also be OK. To minimise the risk of damage when the model is being worked on or in transit, masts fitted over lengths of dowel were stuck into the deck (see **Photo 13**). There was a girder between the tops of the fore pair of masts. Once again, a suitable piece of 'Plastruct' avoided a difficult assembly job.

Flying machines

It would have been silly to leave this model without any appropriate aircraft. The term 'appropriate' applies to two things. Firstly, they had to be the right type, i.e., aircraft these vessels would have carried, either US Navy seaplanes or floatplanes, and, secondly, the planes had to match the scale of the model. Luckily, the model was designed to be approximately 1:144 scale and this scale is used by many plastic kit manufacturers.

The two kits mounted on the deck were the Minicraft PBY-5A Catalina and F-toys JRF-5 Grumman Goose. I bought them a few years ago when my subconscious mind suddenly piped up "That could be useful – buy it now – put it somewhere safe for use later". It's doubtful that you can walk into a

hobby shop and find these kits on the shelves today. However, searching on the internet might locate either these or something equally suitable.

Based on the logic that these seaplane tenders could be used to ferry aircraft, perhaps as replacement for those lost or damaged on warships, I added a couple of small floatplanes to the third hatch. These were built without fitting the propellers and had their wings cut and glued in the folded position. Some crumpled tissue paper was used to suggest a protective covering (see **Photo 14**).

Colour harmonising

My model was finished with a mixture of gloss and matt paints at this stage and, while not unpleasant in appearance, it somehow didn't look quite right. Consequently, the whole model was given a light dusting with a spray can of clear satin varnish. After two such coats, this seemed to bring all the different colours into a harmonious state. The model now looked like a proper working military vessel, clean and tidy, and, while not dull and drab in appearance, without an unrealistic shine. The satin varnish also gave the model protection from the dreaded oily fingerprints.

A little bit of life

The model was sailed in this state during its 'shake down cruises', i.e., initial outings where I search for any flaws or problems. I also had to learn how to sail it, as models can have unexpected idiosyncrasies that will catch you out at the worst possible times.

I soon began to sense there was something of a 'ghost ship' feel to this model. Many types of model can be sailed without a visible crew or passengers, but this large open seaplane deck looked positively deserted. That was definitely the cue for crew. Luckily, 1:144 scale is close to the model railway N gauge and so figures are readily available.

One potential problem with adding figures to a model is that they will be in static poses, and so may, after surveying them for a few seconds, begin to look unrealistic. I try to set them in some sort of tableau where you might expect little movement for a time. In this case, they were grouped around the PBY, which was clearly being worked upon, as evidenced by bits of kit and parts spread around (see **Photo 15**). Hopefully, it's not difficult to imagine them debating just where a part ought to go!

US Navy Seaplane Tender build

R/C installation and ballasting

Modern 2.4 GHz radio systems are sufficiently resistant to electrical interference, which allowed my receiver to fit alongside the rudder servo. The battery, a 6-volt 12 Ah sealed lead acid, was slotted in between Bulkheads 3 and 4, with a strip of balsa on the floor to keep it firmly in place. This created just enough space for the ESC between battery and Bulkhead 4. The wiring was neatly routed, with no risk of it fouling the coupling and rudder servo (see **Photo 16**).

A servo extension lead had to be used to connect the servo operating the bow-thruster switch which sat just aft of Bulkhead 2. Two wires were run aft from this switch to connect with the drive battery. A further two wires were run forward through Bulkhead 2 to connect with the pump.

A trial float in the garden pond showed the model to need extra ballast to bring the bows down to the desired waterline. Raiding my box of lead pieces and finding a few lengths of flattened lead piping had the model floating level, upright, and with more than adequate stability. Other materials could be used for ballast, provided they are dense and of a suitable shape to avoid raising the model's Centre of Gravity too much. However, whatever you use it must be prevented from moving while sailing. Rather than making it immovable without damaging the model by using epoxy or similar, I usually tack my ballast in place with 'blobs' of domestic sealant or latex adhesive. Either should hold your ballast secure in normal use yet can be peeled apart with modest effort. At this stage, my model weighed in at about 10 pounds (4.5 kg), close to my original estimate.

The R/C functions were also checked out, at least as far as the pond would allow. The motor/prop combination produced a healthy propwash and the rudder was clearly effective. The maximum static current draw was measured at 2-2.5 amps, giving an input power of 12-15 watts. This gave a power loading in the 1-2 w/lb range, which I knew from past experience would fall within the 'handy' range of R/C ship model performance.

One minor problem was that unlike all the previous water pumps I've used in models, this one would not self-prime. The solution to this, I discovered, is to, just before launching the model, insert the nozzle of a syringe containing water into one of the pump outlets and squeeze until water jets out of the other outlet. If the model is then promptly placed into the water, the pump remains primed and ready for use.

Sailing (at last!)

The first thing I noticed in the sailing trials was that the model sat 'firmly' in the water. It was, as it ought to be, very stable, and any wind or waves (within sensible reason, that is) only caused a modest movement.

Moving away at slow speed, the rudder was obviously effective, with immediate response to transmitter commands. One handy characteristic is that if full rudder is applied to the model before moving away, then she will start to turn before any significant headway has developed. This can be useful when caught in tight spaces.

Increasing the speed in stages failed to reveal any problems in steering, with a smooth and instant response. The rudder throw was about 40 degrees each way and enabled turns down to 7-8 feet (2-2.5 m)

in diameter to be made. The model would immediately run straight upon centring the rudder. Sometimes models need a touch of opposite rudder before returning to a straight course, but not this one.

Astern sailing was investigated next, where it was found that the model could be safely run at full speed but looked awfully silly and had no reliable steering! That said, the astern steering is actually quite good for this type of model, provided you keep the speed down to the 'sweet spot' where the rudder can still maintain control.

The full-size vessels had a top speed of 18 knots, which for the same wave pattern (*i.e.*, dynamic similarity) at 1:144 scale calls for a model speed of about 2.5 ft/sec (0.76 m/s). The model does look very realistic at this speed, especially if the water has a suitably rippled surface. Her top speed is way over this, and useful to have at times.

The bow-thruster tested out OK. Its effect is gentle, and you have to hold your breath for a second or two before it has any noticeable effect. It takes something like 30 seconds to turn from stationary through 180 degrees. This might seem to be slow but ought to be more than enough for a model like this.

After sailing checks have yet to detect any leaks or other problems. The result is that this model now considered to be safe and reliable, with very predictable handling – perfect for scale steering courses, should a local club ever deign to hold them. Plus, she looks sufficiently different for spectators not to call her a battleship or the *Titanic*.

One final point: after going to all the trouble of making a good model, it seems criminal to leave it open to accidental damage. A simple box will keep it safer both when in storage or when being transported (see **Photo 17**).





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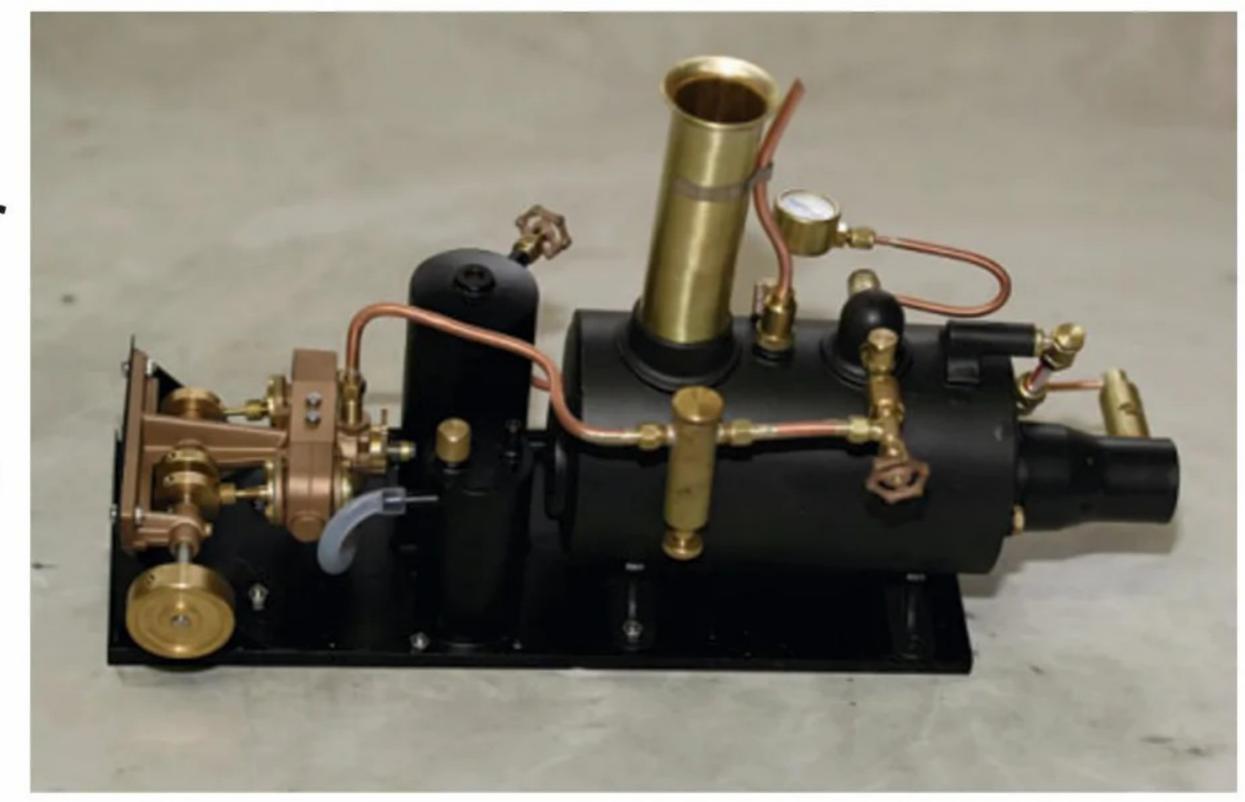
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Denes Designs' new Ministry of the Ministry of

October 2022 edition of Model Boats Magazine we looked at a new smoke generator unit from Denes Designs in Test Bench. Back then, if asked what single smoke generator innovation I'd most like to see next, the answer would, without doubt, have been a unit significantly reduced in size that could still boast great functionality, thereby allowing it to be installed in some of our more compact models. Well, Denes Designs has now done just that, and so what follows is an evaluation of its new Mini Smoker (see Photo 1).

Different by design

This unit measures up at 50 mm x 50 mm, with a 15mm electronics box on the side, so, when compared to the nebulisers we've seen in the past, it can sit quite comfortably in a much smaller model. In fact, this unit is now around the size of the hot oil type of smoke generators that used to be the norm a few years ago, so it can now compete with them head on. Interestingly, however, while the Mini Smoker still uses a nebuliser to produce vapour, it doesn't use the same nebuliser generator you'll find in almost all other nebuliser-driven units produced to date. The vibrating disc for the Mini Smoker sits at the bottom of the flue and is kept moist by a wick that touches the disc's underside and keeps

it supplied with water. The tank cannot, therefore, be filled through the flue, as is the norm. This needs to be done via a filling plug. While admittedly not quite as convenient, external filling is facilitated by running a silicone tube between the tank and a suitable deck fitting.

The Mini Smoker has also been designed with the dolls' house market in mind, along with just about any other area of modelling where a smoke generator might add interest/realism, so the electronics have a new feature. This comes in the form of a link, which is stored handily in the top of the electronics box and simply slots over a pair of the servo plug pins, to provide continuous operation without the need for radio control, as you will see being demonstrated in **Photo 1**.

Either in manual mode or when controlled from your radio, there are two adjustable control screws. One adjusts the amount of vapour generated and the other controls the length of the pulse for the 'puffing' effect (which ranges from quite a slow 'puff' to one that's continuous). Also on the electronics box face are two LEDs: one (green) to indicate power on and the other (red) to show when the disc is actuated.

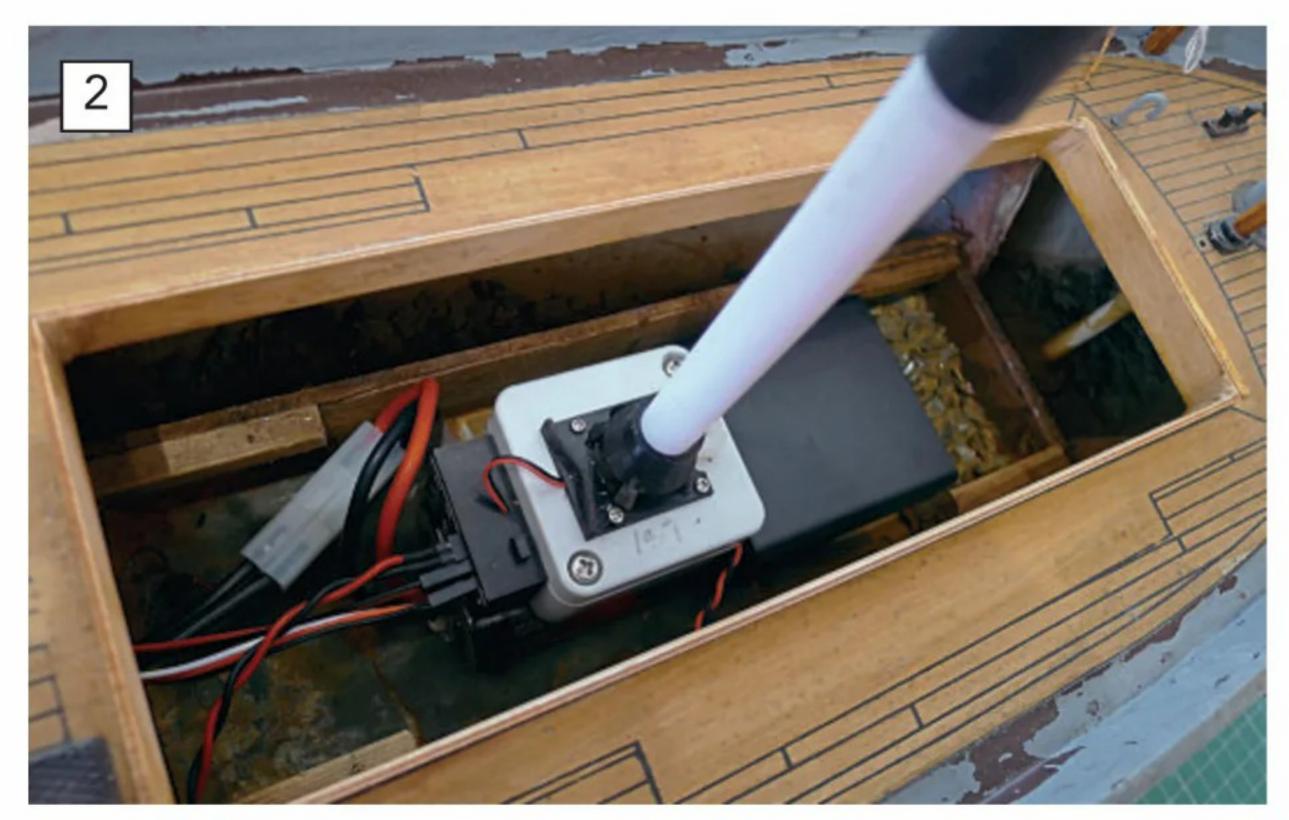
From bench test to pond trial

Having done a quick test on the bench and been impressed with the performance, I was

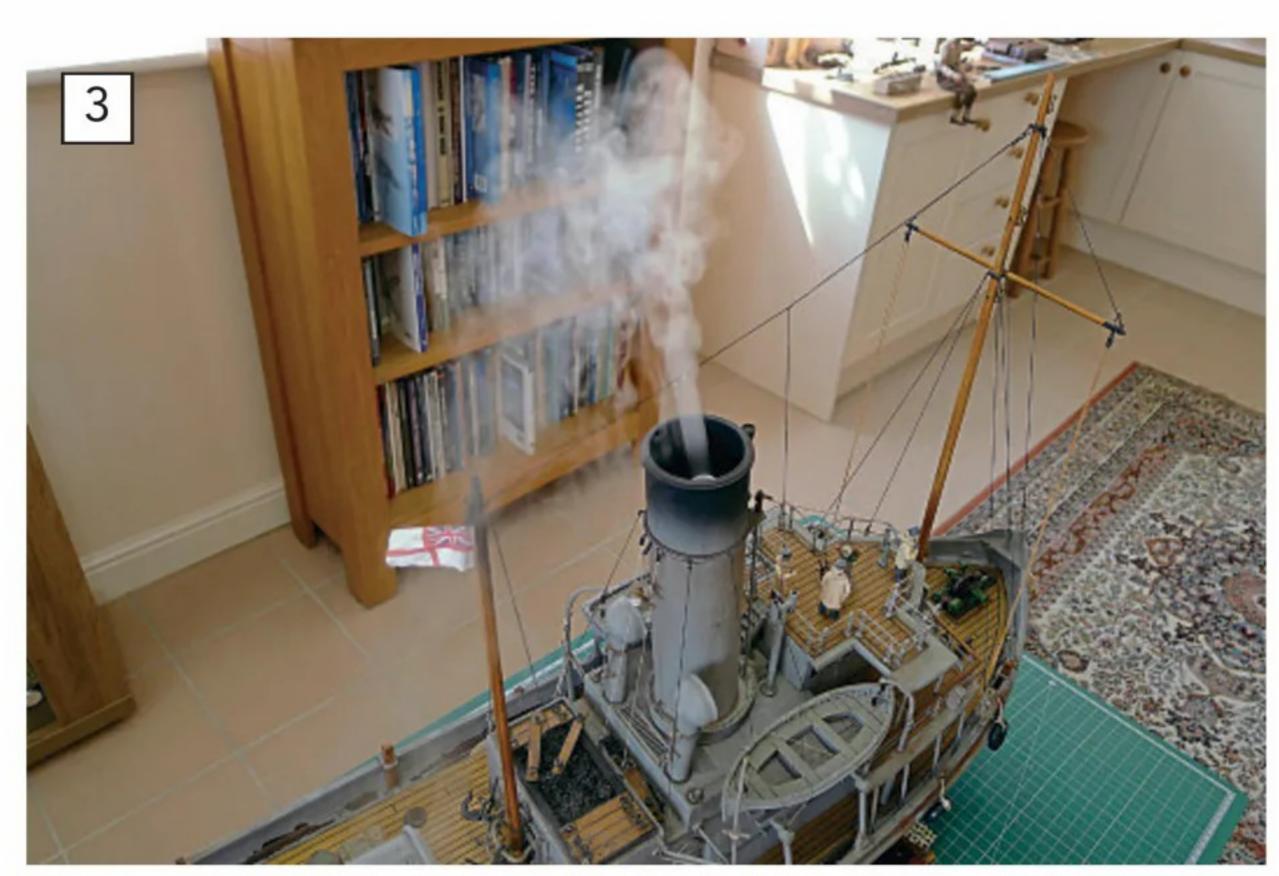
"This unit measures up at 50 mm x 50 mm, with a 15mm electronics box on the side, so, when compared to nebulisers we've seen in the past, it can sit quite comfortably in a much smaller model"



A new take on the nebuliser. Instead of a large unit submerged in the water reservoir, this vapour generator uses a small unit at the base of the funnel, fed from a wick below it.



Being so much smaller, the Mini Smoker lends itself to applications where previously nebuliser units have not been suitable. This unit was simply sat on top of the main power battery with a dedicated battery next to it.



The vapour generated looked adequate for the scale of Richard's tug and followed the control of the main motor perfectly. Density and pulse rate are both adjustable.

"I'll admit to thinking that the Mini Smoker's small reservoir of water was going to prove a challenge but, much to my surprise, I had the model out on the water for almost an hour with the unit happily continuing to generate vapour"

ready to put the unit into a model boat. Being a fan of vapour generating units, as I feel they add a whole new level of realism to a model, I already had a candidate in mind – one that for many years I'd been meaning to fit a smoke generator to my tug, Joffre. To keep the installation extremely easy and simple for the test, I sat the Mini Smoker on top of the main battery with some double-sided tape, extended the flue so that it went further up the funnel, and connected the servo leads into the plugs as per the instructions. I used a four cell AA battery pack (as this had an in-built switch) to power my smoker, which I sat on top of the main power battery (see Photo 2). Tests on the bench showed an impressive amount of vapour from such a small unit and its equally diminutive nebulising generator (see Photo 3), and the vapour production followed the main motor operation very closely.

Happy with these results, I took the model down to the pond for a trial on the water. I'll admit to thinking that the Mini Smoker's small reservoir of water was going to prove a challenge but, much to my surprise, I had the model out on the water for almost an hour with the unit happily continuing to generate vapour. I don't think it produced as much as a traditionally powered larger disc nebuliser would but, when you bear in mind the Mini Smoker is specifically designed for smaller models, the quantity was perfectly adequate (see **Photo 4**).



A breezy day would quickly disperse the vapour, as is the case with all smoke units, but on a calm day the vapour hangs nicely above the model and gives it a whole new level of realism.

Denes Designs' Mini Smoker in brief

Pros

- Good quantities of vapour for the size
- Can accept any voltage from 4.8V to 15V
- Follows the motor operation closely
- Can be run in either controlled mode or permanently on
- Adjustable for density and pulse rate

Cons

■ The reservoir cannot be filled through the funnel, so a silicone tube needs to be led to an access point somewhere

Denes Designs Multi Mini Smoker

Having had a good play around with the Mini Smoker and finally enjoyed seeing some 'smoke' come out of *Joffre's* funnel, I was surprised to receive another package. I wasn't expecting anything at the time but, after removing the numerous layers of bubble

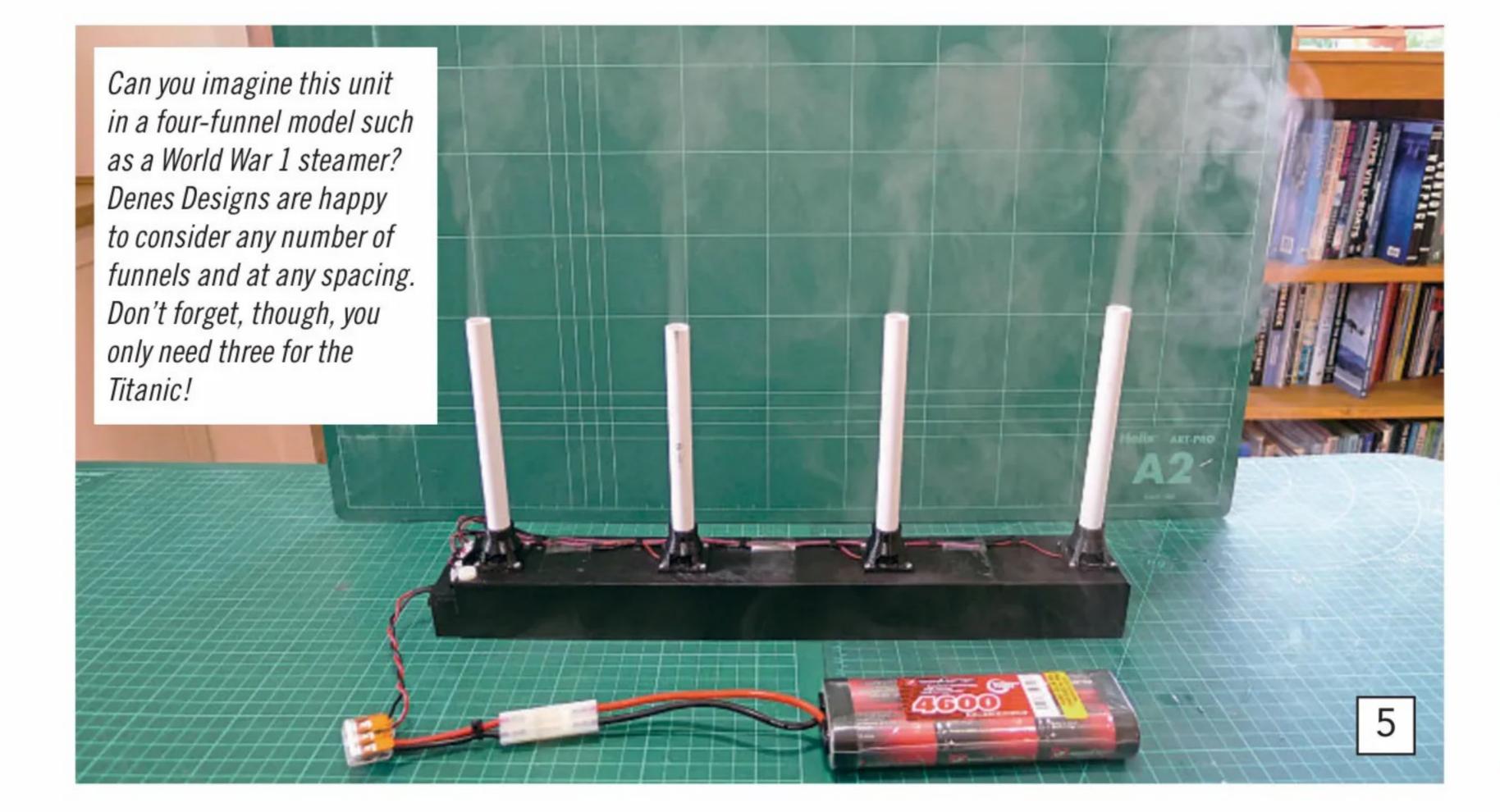
wrap and plastic wrapping, was delighted to find Denes Designs had sent me a four-funnel vapour generator! This unit basically consists of four of the Mini Steamers connected together. The 3D print for the single reservoir has simply been played around with to create a bespoke unit specifically designed for a four-funnel plastic kit conversion model, clearly demonstrating the incredible versatility and flexibility of 3D printing. The beauty of this is that an arrangement to suit any particular model under construction can be quickly and conveniently created. The possibilities really are endless! All the funnels are fed from a common reservoir but each has its own nebuliser unit at its base. The electronic controls are also common, so there's just the one electronics box for all the connections to the receiver. Again, the unit can be run in either controlled mode or manual, so can be used in a multitude of modelling situations, and pulse rate and density are adjustable. Photo 5 shows the four-funnel vapour generator running in manual permanent mode from a 7.2V battery pack.

Designed to order

Denes Designs will, I'm told, be happy to consider commissions featuring any specific number and spacing of funnels for a multifunnel ship, so, if you have a project in mind and would like to see some cold water vapour adding a bit of life to it, contact details can be found below.

DENES DESIGNS CONTACT DETAILS

For further details of price and availability of all Denes Designs' electronic control products email design.denes@gmail.com





Richard Simpson responds to the question of whether a feed system is worth installing, and explains the various options

had an interesting conversation at the pond side recently, dealing with the various types of feed systems. I went through the engine driven types, the electric types, the diverter valve controls and fully automated electronic units before getting to the real crux of what was being asked. All the chap really wanted to know was whether a feed system was actually worth it. It was one of those moments where I felt we had been discussing all sorts of details but hadn't really got down to the bare bones of the issue. It was a fair question and one which I thought merited more evaluation.

It does seem to be a bit of a 'thing' (for want of a better expression) nowadays to add unnecessary complexity to everything. For example, I have to question the desire to make model boats capable of emitting all sorts of sounds, regardless of how unrealistic (trust me, steam engines do not make any discernible noise) or out of scale they are, or why LED lamps that create a blindingly white arc of light should be installed in fishing boats that would originally have been fitted out with oil lamps. The same thinking sometimes gets applied to our steam models, with the inclusion of everything possible, simply because it's available rather than because it enhances accuracy or will improve things operationally. So, this is brief review of the available options when it comes to boiler water feed systems, which may put a bit more of a balanced slant on the question that inspired this month's instalment of Boiler Room.

Basic feed system types

Probably the easiest way to deal with this is to lay things down in order of complexity, starting with the simplest and working up to the most sophisticated.

So, starting with the simplest feed system I have ever come across, fitted to a Maxitrak Sentinel model, this consisted of a nitrile ball in the top fitting of the sight glass, held in place by a normal conical pipe fitting nut. The ball was held on its seat by boiler pressure and formed a seal. A syringe of water, without a needle fitted, was pushed up against the top of the ball and water was injected into the boiler. I actually tried it and was surprised to see it worked.



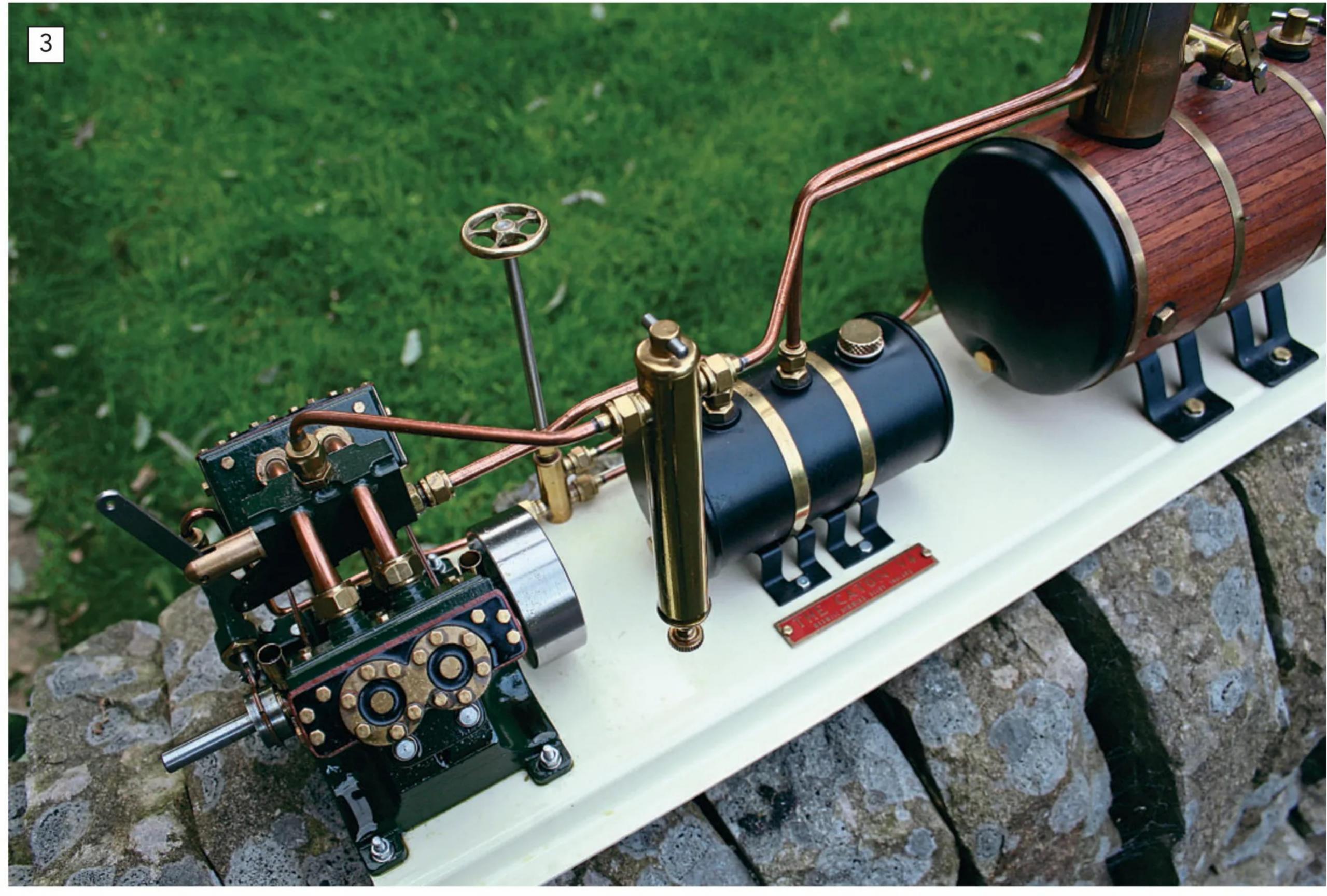
Simple but surprisingly effective: a syringe held against the nitrile ball and some water is injected. This takes a bit of practice, and you will get spat at a few times, so, Richard points out, you should wear gloves.

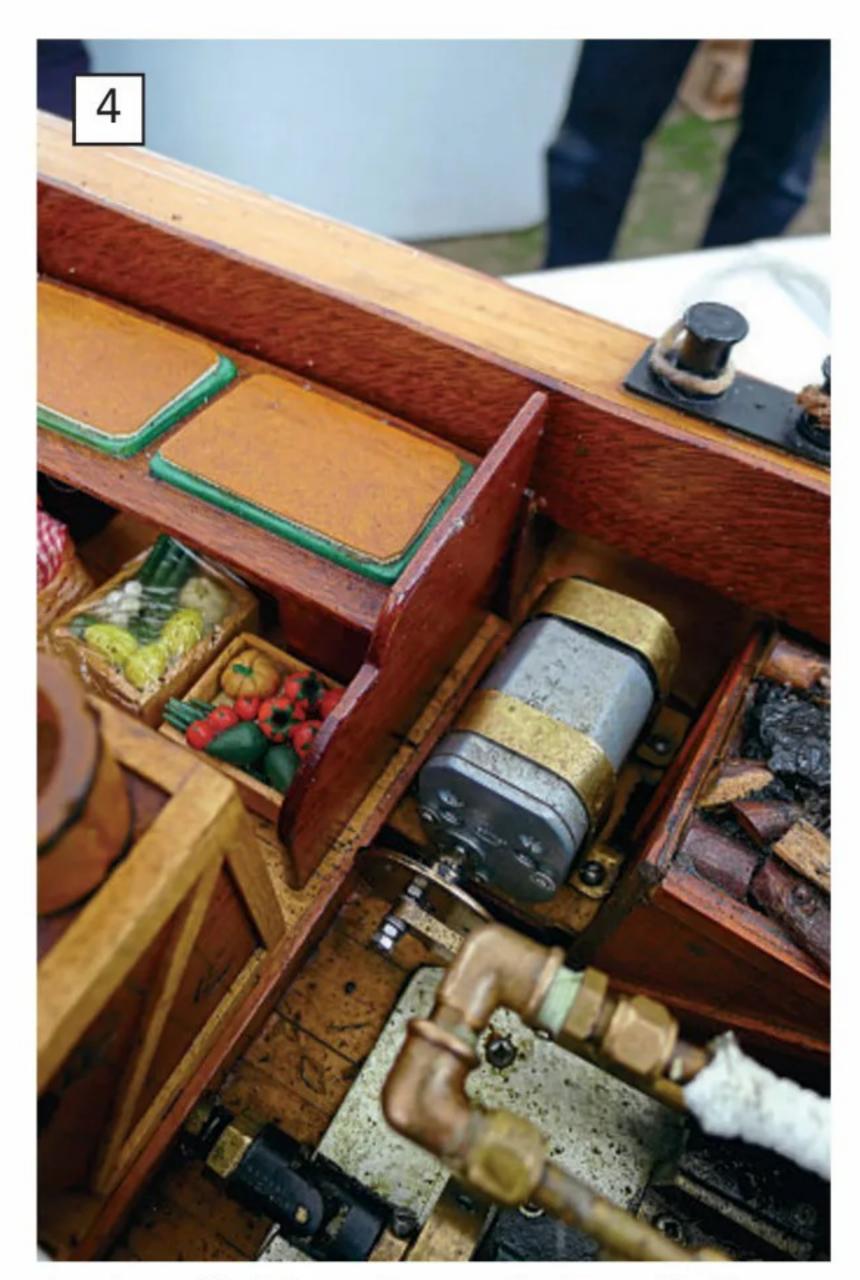
While obviously the model boat has to come out of the water, at least it doesn't need the boiler venting, so both fuel and time is saved. What the final life of the nitrile ball would be is anyone's guess, but if it starts to leak you can simply fit a replacement. Care would have to be taken to ensure that hot water or steam is not ejected during the filling, but the ball will seal pretty quickly anyway (see **Photo 1**).

Moving one step up the evolutionary ladder we find the manual onboard pump, such as the Stuart Turner example shown in Photo 2. Usually, the feed tank and pump are built into the model. You could, however, also have a rig with a pump and a water tank kept on the bank that you connect to a valve on the boiler, so that the valve when opened pumps the water into the boiler – a fairly quick, easy and simple method of filling the boiler without the need to vent it, and you would only need a spare valve on the boiler. Pipework would obviously need to be strong enough to withstand the pressure, so better copper, which makes the arrangement a little less convenient but there are possibilities.

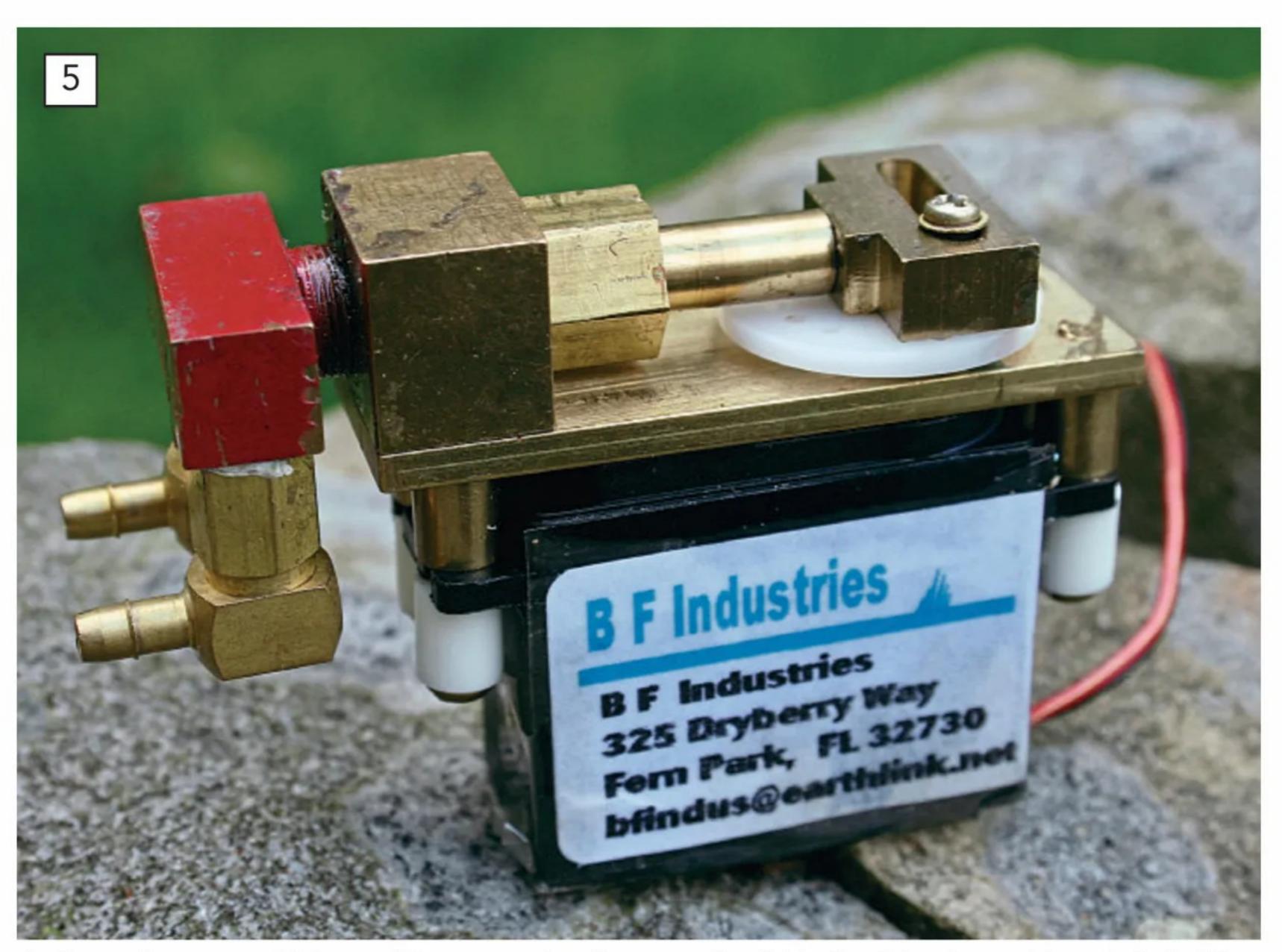
Below: The engine driven pump is just visible on left end of the crankshaft. The pump draws from the feed tank then pumps it back to either the feed tank or the boiler, depending on the diverter valve position.







A motor and built-in gearbox can also be used to drive a piston pump via a simple disc crank.



Another neat arrangement is to mount the pump on top of a servo unit and drive the piston via a scotch crank. Sadly, this unit is no longer manufactured, but is shows what can be done.

The next option would be to have an engine driven water pump that extracts water from a feed tank and then returns it via a diverter valve which can be manually adjusted to transfer some of that return into the boiler. Because the pump is driven by the engine, the diverter valve can be very finely adjusted to give a reasonably close approximation of the feed water required to replace the engine's needs while the model is out on the pond, where a slight inaccuracy would not be seen as a change in level for quite some time. For a relatively simple set up, i.e., purely manual, with no controls or electronics required, this is a surprisingly effective and reliable system. The Hemmens Caton 'V' four plant featured in **Photo 3** has an engine driven pump and a manual diverter valve with an extended spindle.

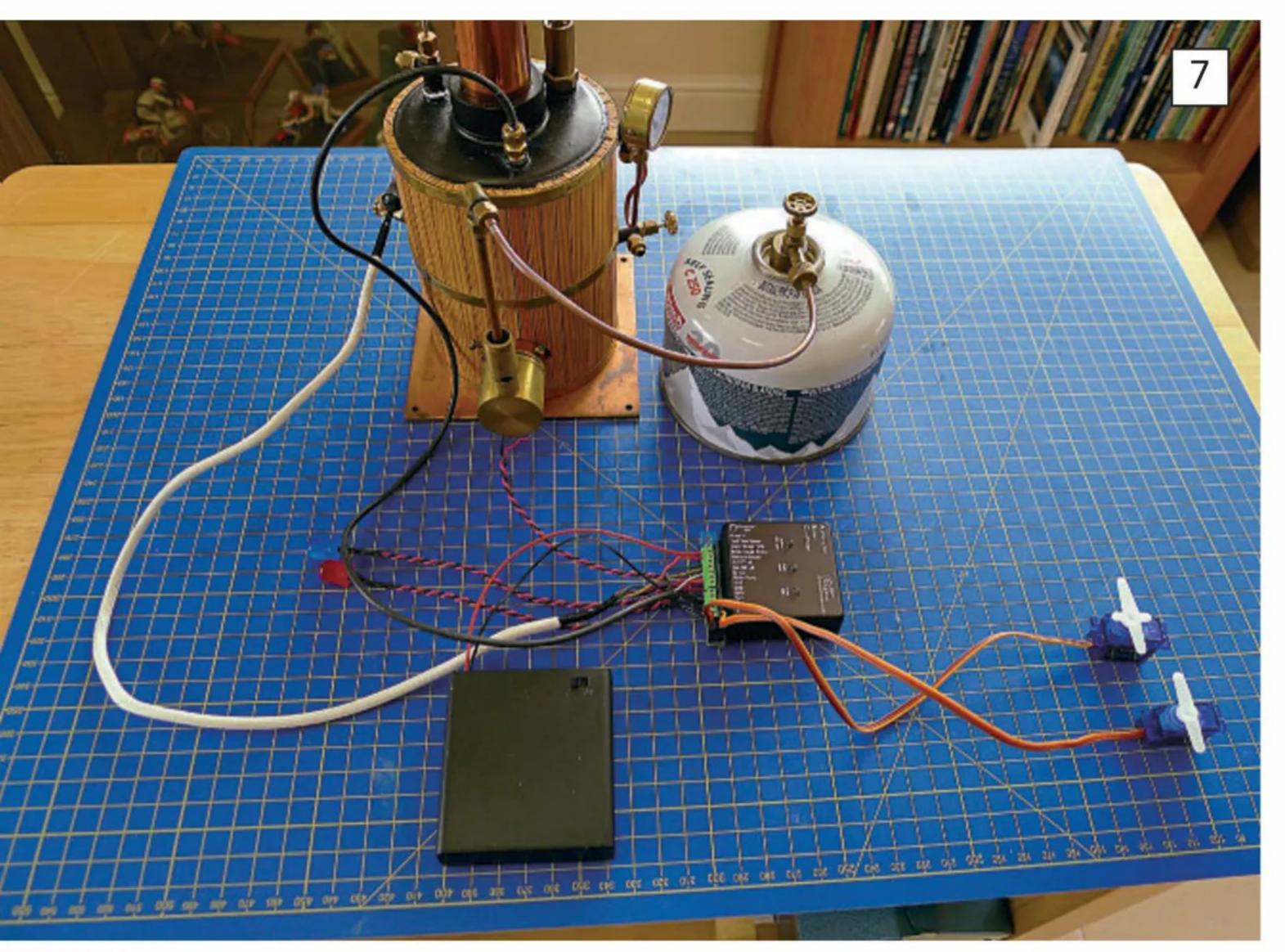
Another system, which is pretty much on a parallel with the one described above, would be an electric motor driven pump with a manual diverter valve. However, while this has the advantage of not consuming engine power to drive the pump, the motor doesn't follow the demand of the engine, so it isn't actually as effective as the engine driven pump arrangement. It also requires the motor to have a power supply, which may necessitate a voltage transformer. A common arrangement is to simply fit a motor and gearbox unit to drive the pump, as with the installation shown in **Photo 4**.

6

Another similar arrangement, again using a servo but with a disc crank. Using the servo motor makes speed control very convenient.

An enhancement of the above arrangement could be to fit a speed controller to the electric motor that drives the pump, and then control that speed controller with a 'Y' splitter cable from the signal to the engine control servo; here the pump would follow the demand of the engine a lot more closely, with fine tuning still available from the diverter valve. It's quite a simple set up if you have the space for it, and another fairly reliable 'set it and leave' arrangement. A neat way of achieving this is to use a servo to drive the pump (see **Photo 5**), which can then easily be fed from a receiver and a 'Y' cable and speed controller (see **Photo 6**).

Finally, you could go the whole hog and introduce electronics to control things, with a feedback signal generated from a level sensor. The basic layout can be seen in the test rig illustrated in **Photo 7**. The level sensor is fitted to the sight glass, and the control box output is being used to drive a servo, which can then operate a diverter valve. This particular test rig also incorporates a gas control function, which drives another servo operating a gas valve. The control box can either be used to control a servo attached to a diverter valve, such that a low water level opens the valve to the boiler and a high-water level closes the valve to the boiler and opens it to the feed tank, or it can be used to stop and start an electric motor driven feed pump. Sensors have come a long way in recent years, with the latest from Denes Designs having temperature compensation and fluctuation damping built in, making the sensor as reliable as it can be. What can still prove to be a challenge, however, is the fact that air bubbles can get into the sight glass and remain there, which seems to be as a result of some boiler designs. If the sight glass remains clear though, the electronic automatic system can be a very reliable system, but it's best to

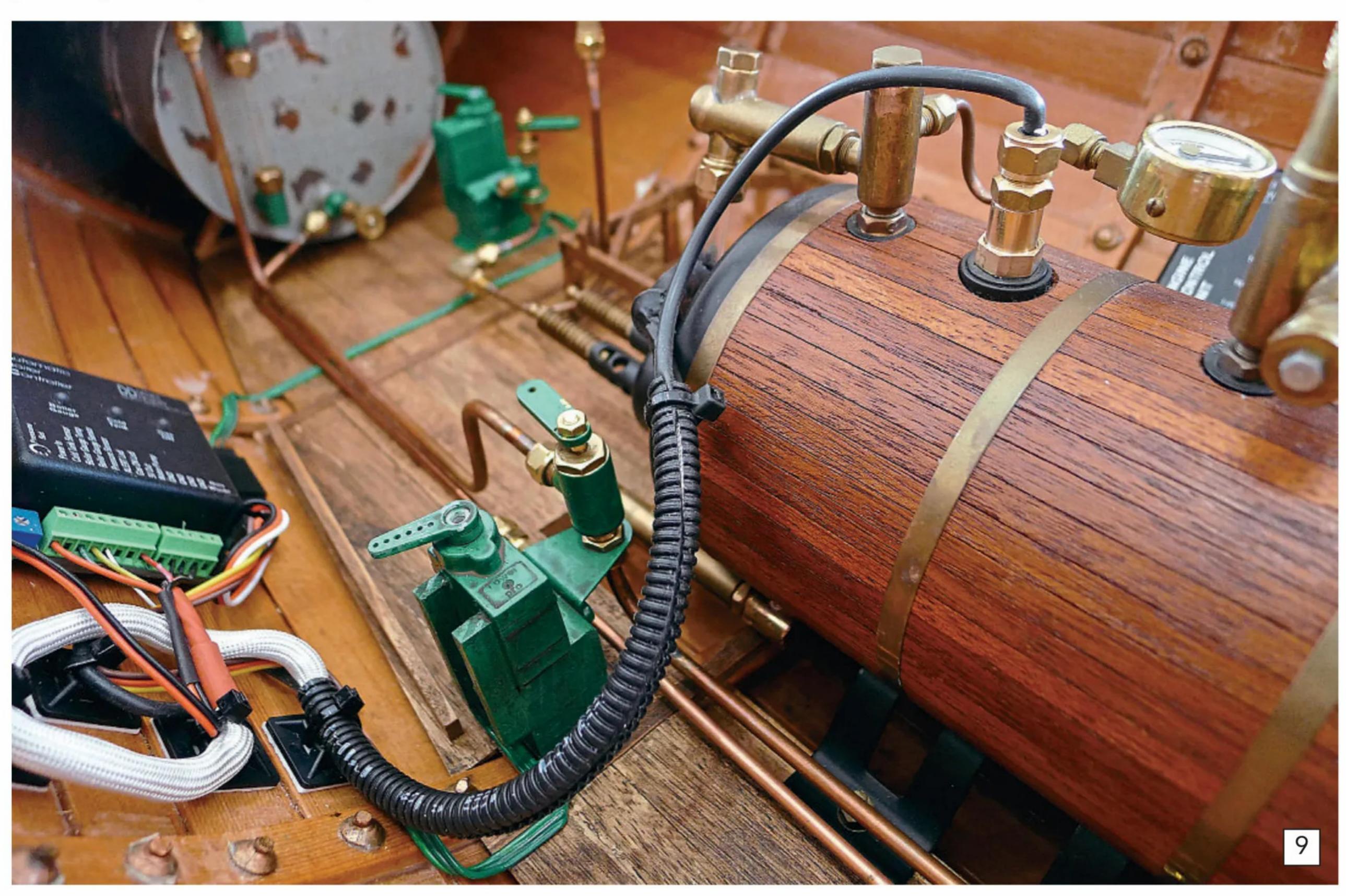


A test rig to demonstrate a full boiler management package. The level sensor can be seen on the sight glass. Moving the sensor up and down shows the operation of the water level diverter valve servo.



An engine driven pump can be neat and compact and, contrary to what some believe, doesn't actually use a lot of engine power.

Below: As the water level falls, the diverter valve closes and forces the water into the boiler through a non-return valve on the boiler rather than allow it back to the feed tank.



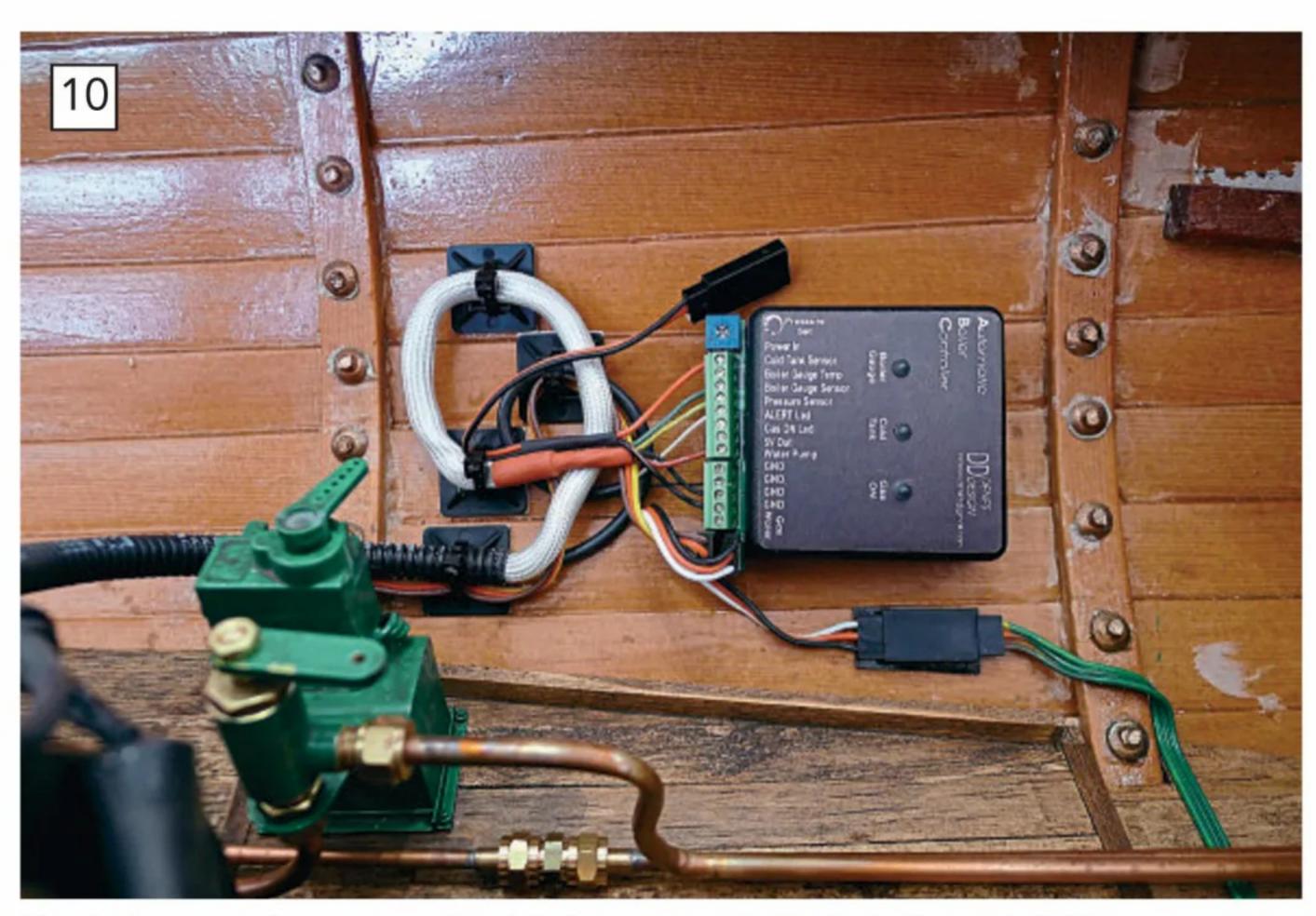
fit it with a dedicated power supply, and so you do need enough space for the electronics and, frequently, a battery. In this plant an engine driven pump (see **Photo 8**) draws water from the feed tank and returns it to the feed tank, but this is diverted into the boiler by a servo operated valve (see **Photo 9**) when the level gets low. The electronics are hidden away in a locker with its own battery (see **Photos 10** and **11**).

So, which should you go for?

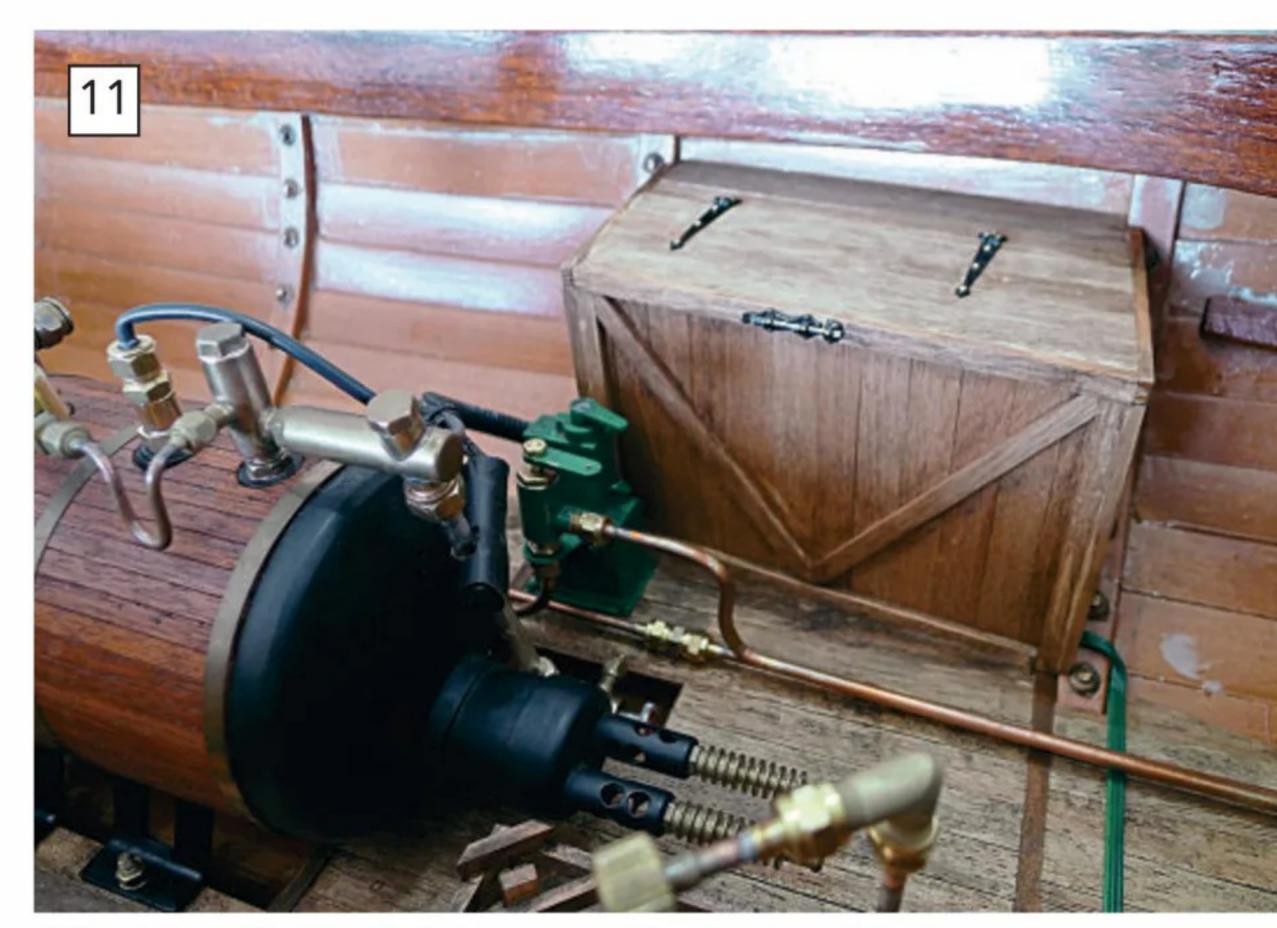
Having seen above just what the options are, and that there are probably more possibilities than you might first have realised, the trick now is to decide what to fit in your own boat. Consequently, you have to start thinking about how you want to operate your model and therefore what equipment you might want to incorporate to help you do that. This thinking goes hand in hand with the design

of the entire plant and, not surprisingly, no one aspect can be contemplated in isolation. Basically, they are all interconnected and have to work in harmony with each other.

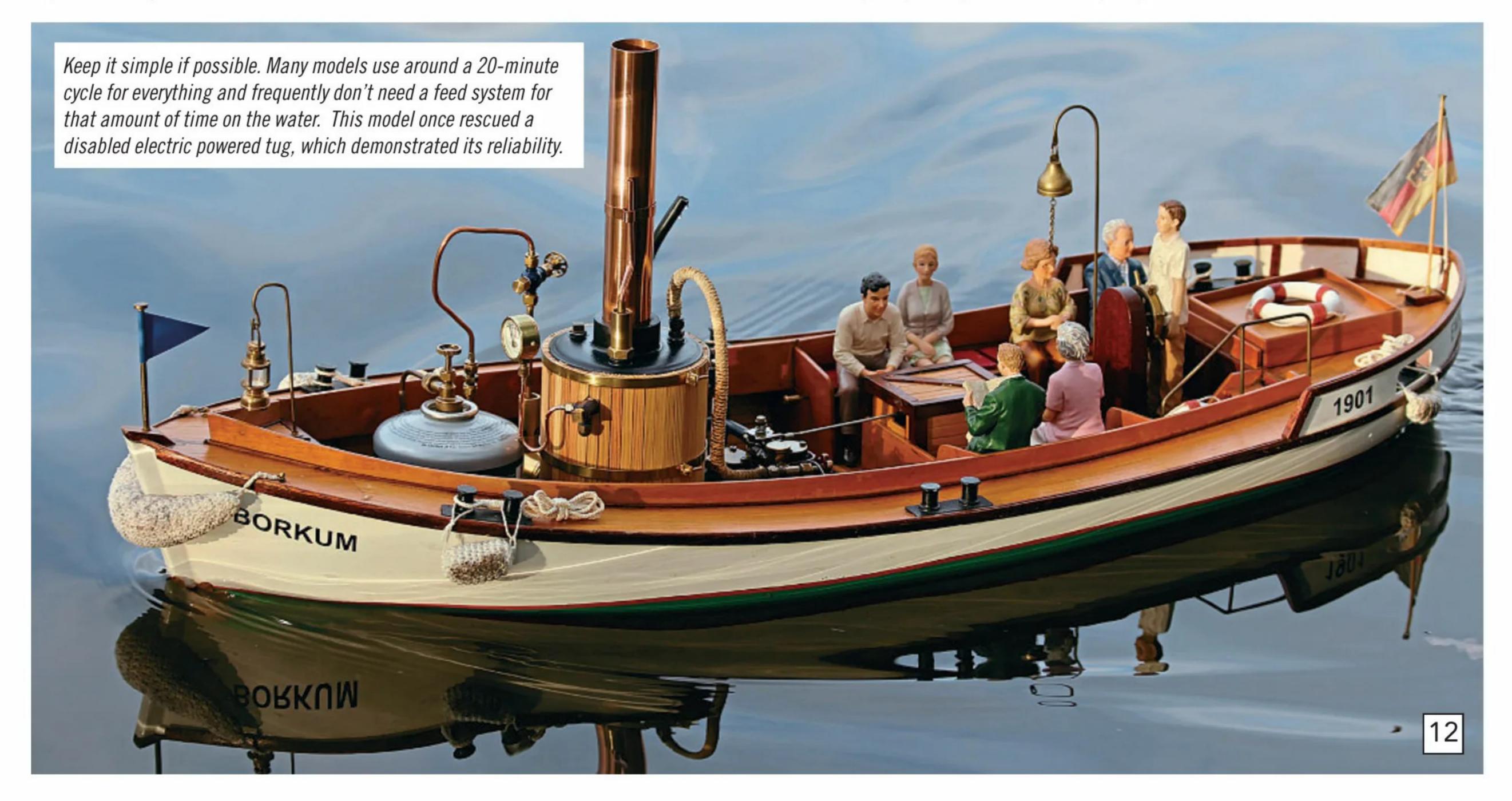
Say, for example, you want a feed tank with a feed system that can supply the boiler with enough water to last for around an hour's normal steaming. If your lubricator only holds enough oil for around 20 minutes and your separator can only hold enough condensate



The electronics package can require a bit of accommodating in the hull, especially if you use a separate battery as well.



It then takes a bit of creativity to come up with a housing which allows easy access but completely disguises everything. This locker is only loosely sat in place, held by the lower frame piece, which is attached to the deck.



for half an hour on the water, what is the point of the feed set up? Here you would be adding complexity and weight for absolutely no benefit, as the model will have to come out of the water anyway after 20 minutes so you can add some oil to the lubricator. If you then don't empty the separator at the same time, you will only have ten minutes when you put it back on the water before it is spitting dirty water out of the exhaust pipe and it has to come out again. Next, you might decide to fit a bigger lubricator and a bigger separator so they both last for an hour, but then you discover that the refillable gas tank only lasts for around 45 minutes, so everything you have fitted so far is now unnecessarily large! Consequently, all aspects of the plant have to be considered when designing it, and everything has to be considered as an integral part of the operational philosophy. Not surprisingly, most modellers tend to

work at around 20 minutes on the water before removing the model for a once over of everything. This allows the use of most commonly supplied separators, gas tanks and lubricators, so it makes sense to consider the feed arrangement at the same time. Having this thought at the back of your mind should guide you in the direction of what you need from a feed system.

Narrowing down the choice

By now the thinking should be a little more focused as you start to develop an idea of what you want to achieve. If you want the model to stay on the water for an hour, then everything in the plant should be designed to support that. Fuel, oil, feed water and condensate storage should all be designed to accommodate an hour on the water, which is actually no mean task. If, on the other hand, you're happy with 20 minutes on the

water and are using a standard displacement lubricator, separator and gas tank you might even find that the boiler you are using will operate between high level and low level within that time; so, when you bring the model out of the water after 20 minutes of running you can fill the lubricator, empty the separator, top up the gas tank and fill the boiler back up to the high level. Your only decision then is whether you want to fill the boiler under pressure, in which case you'll need a pump, or whether you're happy to vent the boiler and fill it open to atmosphere, in which case you'll need a funnel or a syringe. As the model is out of the water anyway you can bring it back up to pressure and ready to go again before dropping the model back on the pond. This is actually a pretty convenient and straightforward means of operating the model, not to be underestimated.

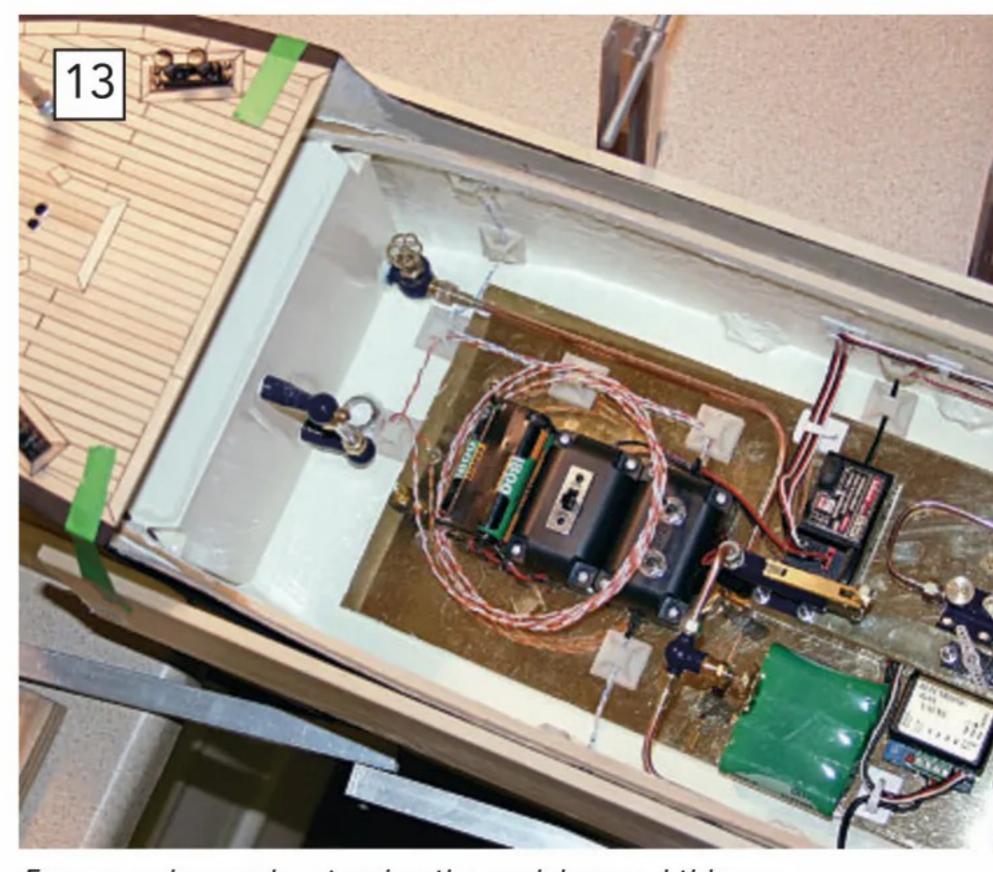
If your boiler is not of a sufficient size to last 20 minutes from high level to low level the option of a feed system might just be worth considering to bring the boiler water duration in line with your other parameters. You will then need to evaluate the advantages and disadvantages of the feed system options in order to choose the best one for your particular model. I suspect that weight, and your model's ability to support the extra weight, will play a part in this, as well as the personal choice of a system that looks after itself, either mechanically or electrically.

In conclusion

All things taken into consideration, there really is no simple one-word answer to the question of whether a feed system is worth it. I hope, however, the above will help you make a more informed choice when it comes to what's best for your model. There are a lot of models out there that stay on the pond for around 20 minutes or so and are then taken

out of the water to have their lubricators filled, separators emptied and gas tanks and boilers topped up all at the same time. These work reliably and consistently; indeed, my own Borkum configured in this way (shown here on trial with a new boiler in **Photo 12**) has been doing so for best part of 20 years. **Photo 13** shows a manual pump and feed tank I fitted into a model simply to enable me to top up its boiler quickly and easily at the pond side.

It is sometimes easy to get misled into thinking that throwing every item you can think of at a model will make it better, whereas quite often not only is this of little or no benefit but you may find you've introduced elements of unreliability. Think carefully, therefore, before deciding to install a feed system and only do so if the overall operating philosophy of the model really merits this. Electronic complexity isn't always the holy grail we like to think it is but, when it all works it can give impressive results (see **Photo 14**).



For convenience when turning the model around this one was fitted with a feed tank and a manual pump. The pump discharge valve was simply opened, and the pump operated to top the boiler up. Again, nice and simple.

Below: While a feed system and an electronics package can be tempting, you'll have to justify the additional complexity to yourself and ensure that the operating philosophy behind both work well together. Even if this model is only on the water for around 20 minutes, the boiler will probably need refilling.



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

South Coast inshore trader

I am sending you some photos of the sailing boat I've finally finished. I started building this model back in the early 1990s, originally intending her to be radio-controlled; this idea was, however, later dropped, and she's been completed as a static model. She represents a 18th/19th century South Coast inshore trader. Measuring over 4ft in length, her glass fibre was supplied by Horizon Kits of Hastings. I made her cotton sails myself, dyed them using spirit wood stain, and threaded rope up all the seams that are attached to the mast and spars; the mast rings were made of 2mm glass beads threaded onto rope and tied to the sails. I've set the deck out with crew members (one splicing rope), a ship's cat (catching a mouse), a ship's dog, bags of lead shot as deck cargo, and a net containing barrels. The coopered bucket and mop I scratch built, both of which were a bit of a challenge. I've now mounted the boat in slings suspended between arms on a boat stand I crafted from Ash.

JOHN ROGERS EMAIL

What a fantastic job you've done, John. Loving those gorgeous sails, how much thought you've put into setting the scene on deck, and that very smart hand-crafted display stand. Ed.



John Roger's beautifully built and delightfully detailed South Coast inshore trader.











HMNZS Canterbury (F421)

I thought I'd send you a wee update from Rab's boat yard! After recently acquiring a second-hand Leander GRP hull I decided, as a slight sidestep, to delay my next paddle steamer project and start work on that instead. I opted to model the HMNZS Canterbury (F421), one of the two broad beam Leander class frigates operated by the Royal New Zealand Navy; the main reason for this being that New Zealand was my place of birth. Despite having last year got myself a fantastic new workshop/boat yard, I found myself returning to the old slip in my kitchen to save money on heating and lighting – well, that's my excuse, or maybe it's just hard to change the habits of a lifetime. So, warm and cosy indoors, and with the kettle at the ready, I got started. As the hull was over 5ft in length, I'd sourced plans in 1:72 scale, which was perfect in that I already had a spare vintage Western Scout I could mod into a Wasp helicopter. I built the deck and superstructure from ply, polysheet, stiff card (well, crimbo cards to be precise) and other sundries found in my scrap box; the only expenditure being on items such as stanchions, 0.2 wire, decals, various glues and epoxy resin, etc. She's now all finished and I hope you like her.

It's back, then, to the paddle steamer, window duties, after handrails, etc – all good fun.

Thanks again for a great magazine. I look forward to it every month.

RAB CROW DUNBLANE, SCOTLAND

Brilliant work, Rab! Please follow up with some pics of your paddle steamer when you get her finished. Ed.



The magnificent HMNZS Canterbury (F421) built in Rab Crow's kitchen!





Canterbury complete, work on Rab's paddle steamer has now resumed, and we look forward to bringing you an update from his 'boat yard' in the near future.



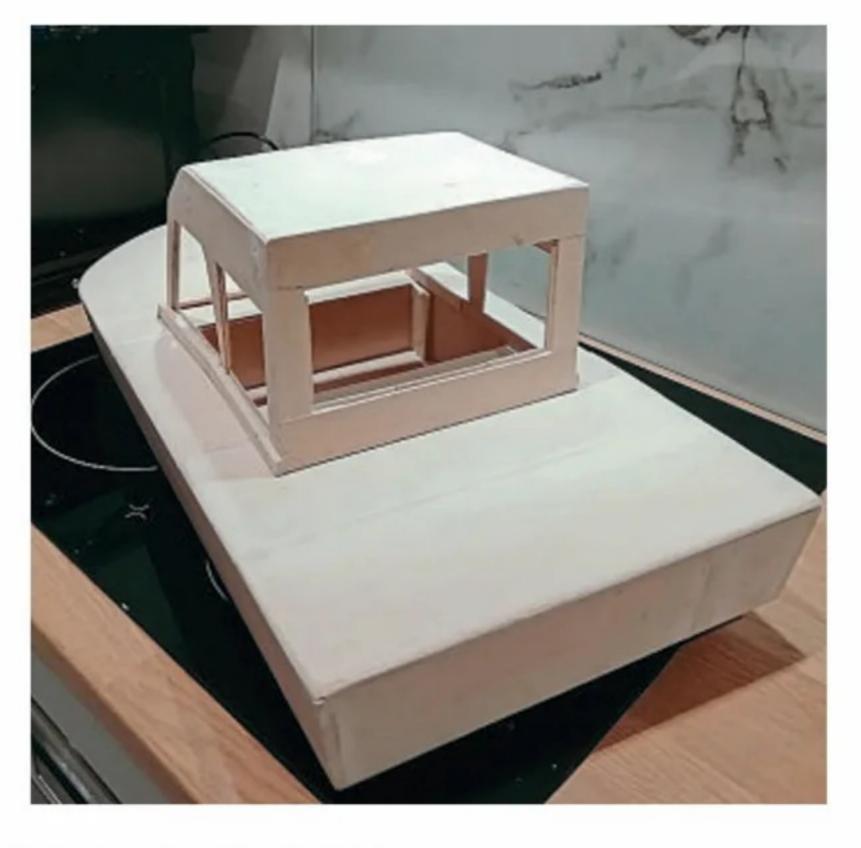


The fab and fun little airboat designed and built by Haydn Foulkes.

Park Ranger airboat

I have, to date, completed seven model boats, but my latest, an airboat, which I started last August and finished in January, is the first I've built from a plan that I designed myself. The inspiration for this came from both real air boats and a model constructed from depron foam I'd seen posted online by another modeller. My aim was to create a balsa wood semiscale model of a type used by the 1000 Island Airboats Company in Wisconsin, USA, which I'd immediately been drawn to, both because of the cab featured and how good these craft look in the company's attractive yellow livery.

I'll admit, several revisions had to be made during the build. For example, after fitting the cab, I opined that the hull sides were too shallow; gluing some extra planking to the bottom, however, soon remedied this.







Where electronics are concerned, I rely heavily on the help of other members at my local model boating club, to whom I am very grateful. But in this case, I swatted up on motors (and other electronic kit) before settling on a 1520KV brushless motor (a first for me).

The first trial on water didn't go too badly. As I'd expect from an airboat, the model had speed, but its endurance left something to be desired. I could have experimented with different motors and batteries ad infinitum, but I decided a cheaper way would be

to start trying out different propellers, and in doing so managed to rectify the problem.

I added boat markings created to my own design. For my driver figure, I fashioned his body for out of polystyrene and dowel but bought his plastic head. As a park ranger, he is a law enforcement agent, so give way to him if he wants to pass you!

HAYDN FOULKES EMAIL

Bravo on your first self-designed build, Haydn. I bet this little airboat is so much fun to run. Ed.

Booth Bay Lobster Boat

I thought I would share a couple of photos of my Booth Bay Lobster Boat built from a Midwest kit purchased while on holiday in Florida over decades ago. I completed this, only the third model boat I'd ever built, back in 1989. I am delighted to report she is still going strong to this day – although in the ensuing years she has been subject to numerous refits, including having her electronics updated. While I have used some dry brushing techniques here and there, most of the weathering evident has happily occurred naturally over time.

STAN REFFIN EMAIL

I always love seeing your work, Stan, as the sheer level of attention to detail you manage pack in never fails to amaze. What is particularly astounding about this lobster boat, though, is that you achieved this back when others would still have considered you a 'rookie'. Wow! Ed.



One for the family album, Stan Reffin poses with his Booth Bay Lobster Boat.



Packed with detail and ageing beautifully thanks to natural weathering, Stan's Booth Bay Lobster Boat on the water. Image courtesy of D. Roberts.

Your Letters

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

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





The troubling brown marks starting to appear on the paintwork of Trevor's 50-year-old hull.



Trevor now has some serious concerns about the plastic components on this sailing boat, which he built from a Graupner kit some 35 years ago.



Ageing woes

I am now 75 years old and doing well but my models seem to be suffering from old age!

The sailing boat was built 35 years ago from a Graupner kit; I am afraid I can't remember its name. Worryingly, its original plastic steering wheel has disintegrated. The hull and deck is, I think, a blow moulding, so can I expect the same thing to happen to that? I've noticed that it now leaks, which it never did before.

The carrier is fibreglass and never leaks, despite being 50 years old, but its original Humbrol paintwork has recently started to break out in brown blotches.

Although I now live out in Spain, both models are kept well away from exposure to sunshine when not in use.

Has anybody else experienced similar issues that you know of?

And can you advise what these problems are symptomatic of, and whether there is anything that can be done to halt them or arrest their progress?

TREVOR BRUCE

How frustrating, Bruce! I have spoken to one of our contributors, Colin Bishop, about this, and he advises: "Older models such as Mr Bruce's yacht are probably a lost cause as the problem is in the material itself. A while back I read an interesting American study which was prompted by whether museums should accept models

A (w)hole new problem

I like mangling metal, a.k.a. model engineering. Basically, model engineering = mangling metal; you start with a large piece of metal and then create a smaller piece of metal along with a huge pile of swarf!

In another world, a long, long time ago (the 1960s), however, the then ten-year-old me would often gaze longingly at the models featured in the Aerokits' illustrations in Model Boats magazine, the Sea Urchin, Sea Hornet, RAF Crash Tender and others.

As those dreams were never fulfilled as a boy, several years ago I was excited when Model Boats published a plan for a model loosely based on the Sea Hornet, called the Sea Hornet Minor. Although I kept hold the magazine, though, for the longest time I did nothing with the plan, unless you can count having the drawings copied. Until, that is, about five years ago when I was somewhat unwell and had to have a few weeks off work. It was at that point I dug out the plan and build guide and made a start. Once I'd achieved the basic hull, though, I realised I had to drill a prop shaft hole. How? The

problem terrified me and so, despite the best of intentions, the project was shelved.

Fast forward once more and having recently finished tidying up the workshop (sort of), fixed the knock on the old Kennedy saw, finally fitting an auto stop (no-volt release, etc) and attended to the motor on my sander, which had been sticking, I began to ponder the Hornet Minor again. How was I going to create that little hole without wrecking the hull? Over a large number of malt whiskies (Talisker mostly) I had a cogitate. It occurred to me what I needed was a horizontal drilling machine of sorts, that could be used along with a bit of hand control. So, I used a chunk of 3-inch x 3-inch angle as the bed and a strip of aluminium as a guide before clamping everything together. Then, using cable tie on the trigger of my battery powered drill for slow speed and slide, the boat was propped on a bit of wood towards the drill bit. And this worked well enough! The composite photo I've sent you will show what it the set up looked like (I've had to put a drape

behind everything since mine is the sort of home where people wipe their feet when they leave!).

And, yes, I have started three or four other projects (and I've even actually completed two) in the meantime. It seems rather apt then, to finish with the modeller's prayer: "Please Lord, I cannot die yet, I have too many projects to finish. Amen".

MIKE JOSEPH EMAIL

I smiled all the way through reading the story of how you came up with this ingenious solution, Mike – and can so identify with the comments about your visitors wiping their feet when they leave, as, despite trying to stay on top of things, having a Husky in the house (and one who sees the sofa very much as her domain), mine can often be seen trying to discretely brush fur off their butts! So, if it's any consolation, I, for one, would have no complaints, especially as you clearly have excellent taste in whisky!



The ingenious solution Mike Joseph came up with for fearlessly drilling a prop shaft hole.

that were partially constructed of plastic; the conclusion was that it was not a good idea as they would inevitably deteriorate in the not-too-distant future.

"With regard to glassfibre, somebody once said to me that nothing is truly waterproof, there are only degrees if water resistance. GRP hulls do have high water resistance, but they are made up of glass mat impregnated with resin, with a separate bonded outer gelcoat. Over the years, moisture eventually permeates the hull and causes blisters on the outside (popularly referred to as osmosis) which can be very expensive to treat as millions of yachtsmen know.

"I don't know what is causing the blotches on Mr Bruce's carrier but would guess it to be some sort of reaction between the Humbrol enamel paint and the hull gelcoat. There is probably not much atmospheric moisture where he lives, but maybe just enough to be a nuisance."

"All those old models in museums that you used to see until they were put into storage in favour of 'interactive displays', were made of traditional materials incorporating much wood and brass, etc. As long as they are kept in an environmentally stable environment they can last for hundreds of years. Sometimes the old ways are best! You just can't beat wood, ceramic and natural cloth".

Sorry we're not to be able to give you more encouraging news here, Bruce. If, however, anyone reading can offer any additional advice or tried and tested solutions, we'd love to hear from you. Ed.



If you want proof of just how durable traditional materials, such as wood, ceramics and natural cloth are, check out some of the antiquities found in museums, points out Colin Bishop.

Mr P ID

A massive collective thanks to all of you who responded to Graham Clark's appeal for more information on the origin of model only known to him as 'Mister P' in last month's issue. Included below are just a handful of the answers received, not only identifying the kit this model was built from but also featuring lots of additional nuggets of information. Ed

I expect you will get many responses to the enquiry about the identity of Mr P, as the kit from which it has been built will be well known among those of us of a certain age! The boat in question is a Veron Marlin, designed by Phil Smith and produced by Veron. This is actually now being reproduced as a laser cut kit by Vintage Model Works, and also by Belaire. The boat was first introduced in 1953. I have a Vintage Model Works kit in my possession awaiting building. Graham is lucky to have an original boat!

I'm enjoying the magazine, so keep up the good work.

IAN GARDNER EMAIL

The 'mystery' model on p.72 of the March issue is a Veron 'Marlin' cruiser c.1960, designed by Phil Smith but based on a full-size British built vessel, which I believe ended up in Egypt. I am lucky enough to have an example of the original kit.

DAVE WIGGINS EMAIL

I am sure I won't be the first or only person to advise you that Graham Clark's Mister



Thank to a flood of emails, Mister P has now been ID'd.

P featured in the Your Models pages of the March issue is built from a Veron kit called the Marlin Marine Cruiser. To quote from my article of August 2016: "The 36" Marlin Cabin Cruiser was an important model release for Veron, being the first of its kits that was really large enough to take the bulky radio-control gear of the day. It appeared in 1953 at 72s 11d (£94 today) and was reviewed in the November issue of Model Maker – the design, with its rounded cabin and open front cockpit, being described as "the nicest looking power boat yet kitted". It was intended

for 1cc to 5cc diesel power, or a large electric motor such as the 12v Taycol Supermarine. Veron kits, like others, used an 'egg box' construction, consisting of a rigid compartmented box to which the formers for the hull were attached. This had the advantage of doing away with the need for a building board but resulted in some redundant structure. Hull skinning was via single curvature 1/16" ply sheet with balsa bow blocks, resulting in rather full looking cheeks. A criticism would be the way the main longitudinal members were made up from smaller pieces, requiring careful alignment, and the difficulty of fitting the external keel.

Certainly, Mister P is a fine example of the type!

JOHN PARKER EMAIL

While reading my March copy of the magazine my eye was immediately drawn to the appeal on page 72. This was a Veron kit called Marlin, which I built in 1960. It's remained in my possession ever since and still runs perfectly.

GEORGE GRIFFETT EMAIL

The boat shown alongside the letter entitled 'Mr P History' featured in last month's issue is a Veron Marlin, designed by Phil Smith, who lived in Southbourne, Bournemouth. Plans are still available from Colin Smith, Phil's son. The "heavyweight electric motor" described was possibly a Taycol Motor, also made in Bournemouth. Veron's Marlin is mainly built from balsa wood, but a Marlin kit of heavier ply construction also appeared in the Aerokits range.

DR DAVID BINTCLIFFE EMAIL







Robbe River Police launch

While sitting down with a cup of tea and the March edition of Model Boats magazine, I spotted an appeal on page 71 in the Your Letters section requesting help in identifying a River Police launch model. I am pretty sure it's been built from a Robbe kit, as I have two of them!

One of them was bought from an estate sale near Black Park and, after a refurb and swapping the tired brushed motors for small brushless equivalents, has been the boat I most often to take to the pond used by the Oxford Model Boat Club, of which I am a member.

The second Robbe RP3 is one I bought a year or two ago from a chap in Warrington, supplied complete and unstarted in its original box. I am

currently working my way through a kit mountain of the kind most of us seem to accumulate, but I hope to get this Police Boat finished before the current one is worn out!

You will find some pictures of my boat on Flickr. Please feel free to take a look and to use one or more in the magazine if you wish. https://www.flickr.com/photos/david_e_smith/albums/72157714677970371/

DAVID SMITH EMAIL

Thank you so much for the info and for allowing us to share these superb shots, David. You really are a fantastic photographer! Ed.



David Smith's Robbe kit-built River Police launch.

Princess Victoria

Peter Binns' *Princess Victoria* featured in the February 2024 edition of Model Boats is a terrific model in concept, construction and execution. It puts my modelling capabilities to such shame I may never attempt to build another one!

I was interested in Peters' comments about the manoeuvrability issue and looking at the stern photo one can see the problem – twin relatively small screws, a single rudder and a quite substantial skeg. All good for course stability but making waiting for a sharp turn to start potentially quite exciting. In real life it would have been much easier to achieve smooth control of the engines to give the necessary differential thrust than with the pair of little 11mm bore oscillating engines on Peter's model!

TIM GIBBS
KENWITH CASTLE MBC
BIDEFORD, DEVON



This stern view built shot of Peter's 1:18 scale model shows why scaling down the 1907 Cornish twin-screw passenger steamer proved a particular challenge in terms of operational manoeuvrability, points out Tim Gibbs.



Peter Binns' magnificently modelled 1907 Cornish twin-screw passenger steamer, the Princess Victoria.

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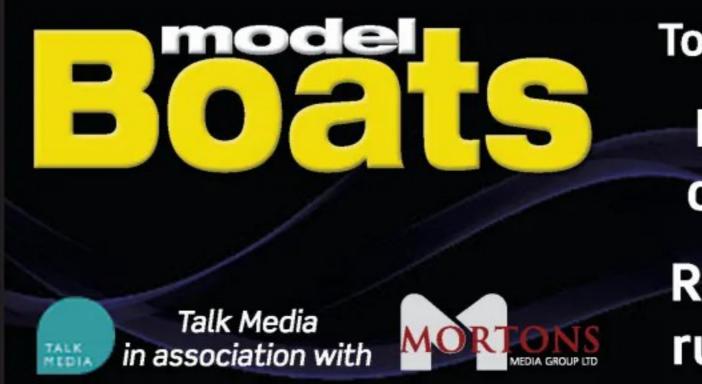
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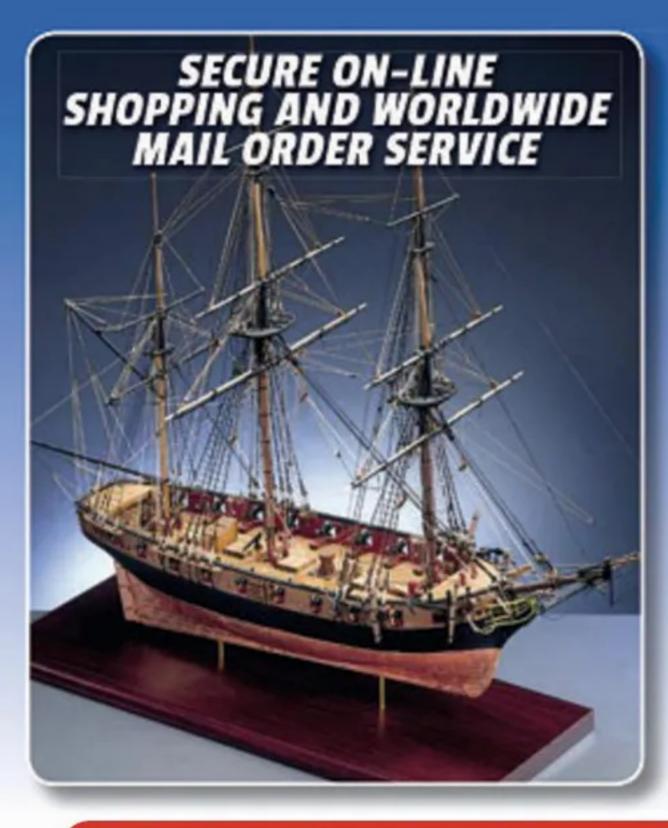


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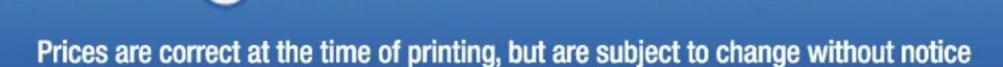
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