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PLAN**

PLUS first instalment of a two-part guide
to this super little coastal trader build



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July 2025

Vol. 75 No. 896

model Boats



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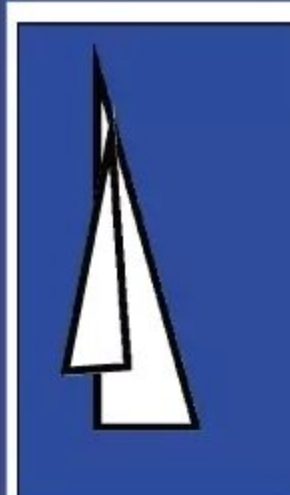
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WELCOME TO THE JULY 2025 ISSUE OF MODEL BOATS

I should perhaps start the introduction to this month's issue by explaining two things about the free coastal trader plan and supporting feature included...

Firstly, the concept behind this plan is a model that can be built economically from timber found in any decent DIY store, and, as far possible, using tools likely to be owned by the majority of you. It's also worth pointing out that although designer, Glynn Guest, has built his prototype as a steam-powered model, if steam's not your thing/too expensive to contemplate, you can, of course, opt to equip your version with an electric motor.

Secondly, due to all the detail Glynn has packed into his build guide (with the emphasis being on guide, rather than instructions to slavishly follow), we've had to split this into two parts. Part 1 naturally focuses on the construction of the hull. Part 2, covering the superstructure, finishing and detailing, plus what to expect from the model's performance on the water, will follow in the August issue (on sale from Friday, July 18).

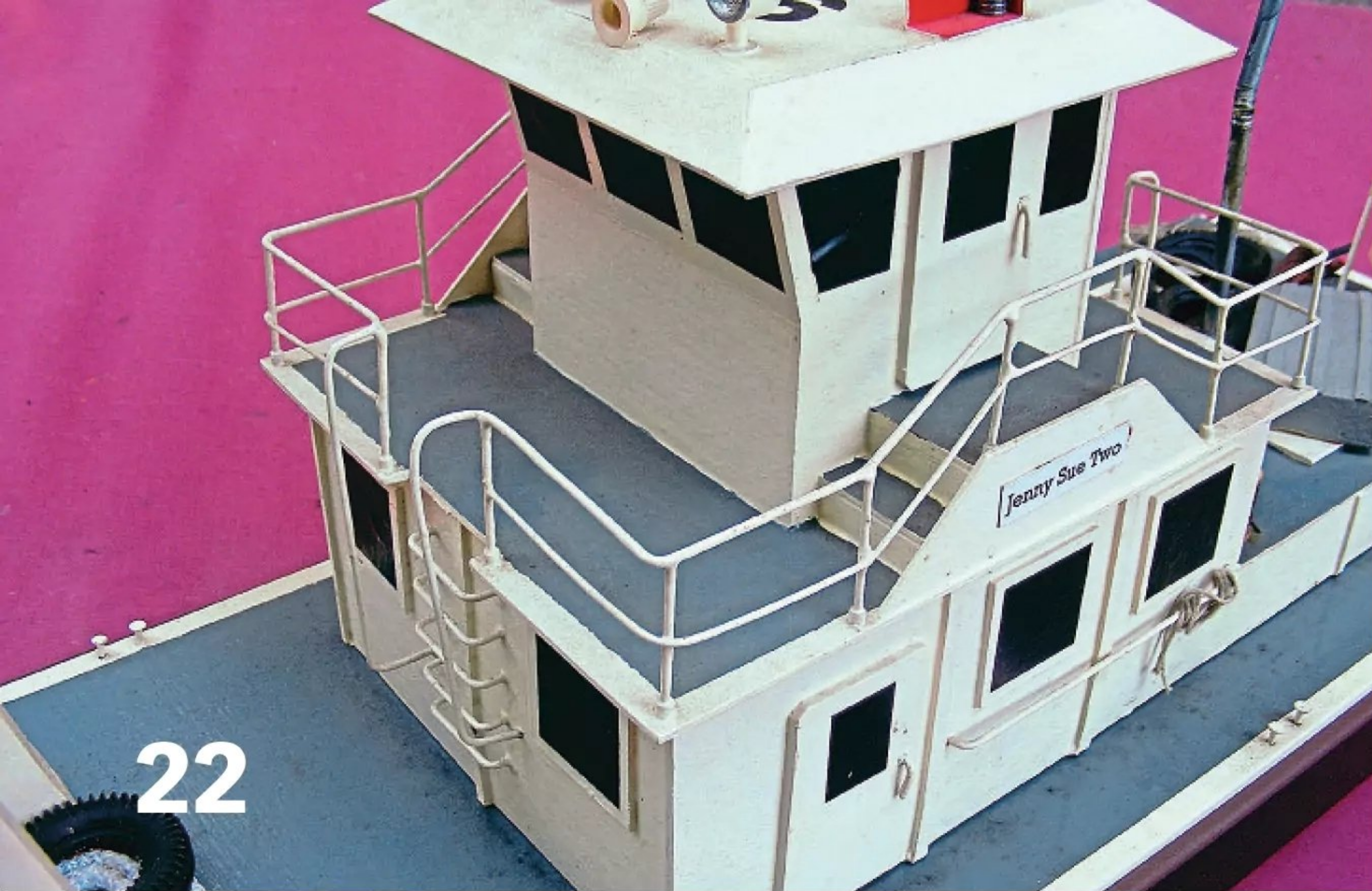
There are so many ways to enjoy this hobby, even on a very modest budget, so if you're looking for a project that requires splashing even less cash, then check out Eric Belshaw's fun and eco-friendly little *Bottle Cat*. Likewise, in other articles, you'll find some inspirational restoration/modification ideas and some top tips on how to develop money-saving DIY skills when it comes to nailing railing.

Also worthy of serious consideration is Jim Martin's suggestion of adding a sunken model boat locating device to the models you've already invested funds, time and TLC into. After all, whether you're new to the hobby or have years of modelling experience under your belt, to quote Nelson Mandela, "*One cannot be prepared for something while secretly believing it will not happen*".

Finally, thanks so much for keeping all the contributions to the Your Models/Your Letters pages and the event notifications for the Compass 360 news section coming.

In particular, I think the all-too-often unsung heroes who work tirelessly behind the scenes to keep model boat clubs running and organise promotional events really deserve a shout out. On the subject of which, all best wishes to Redcar MBC, which I understand is still waiting for the local council to resolve the issues with a leak in the 100-year-old boating lake at Newcomen Terrace in Coatham, Redcar. Apparently, a lack of water has meant R/C cars have recently been raced there instead. So, good luck chaps, and I hope it will all be plain sailing again very soon.

Lindsey



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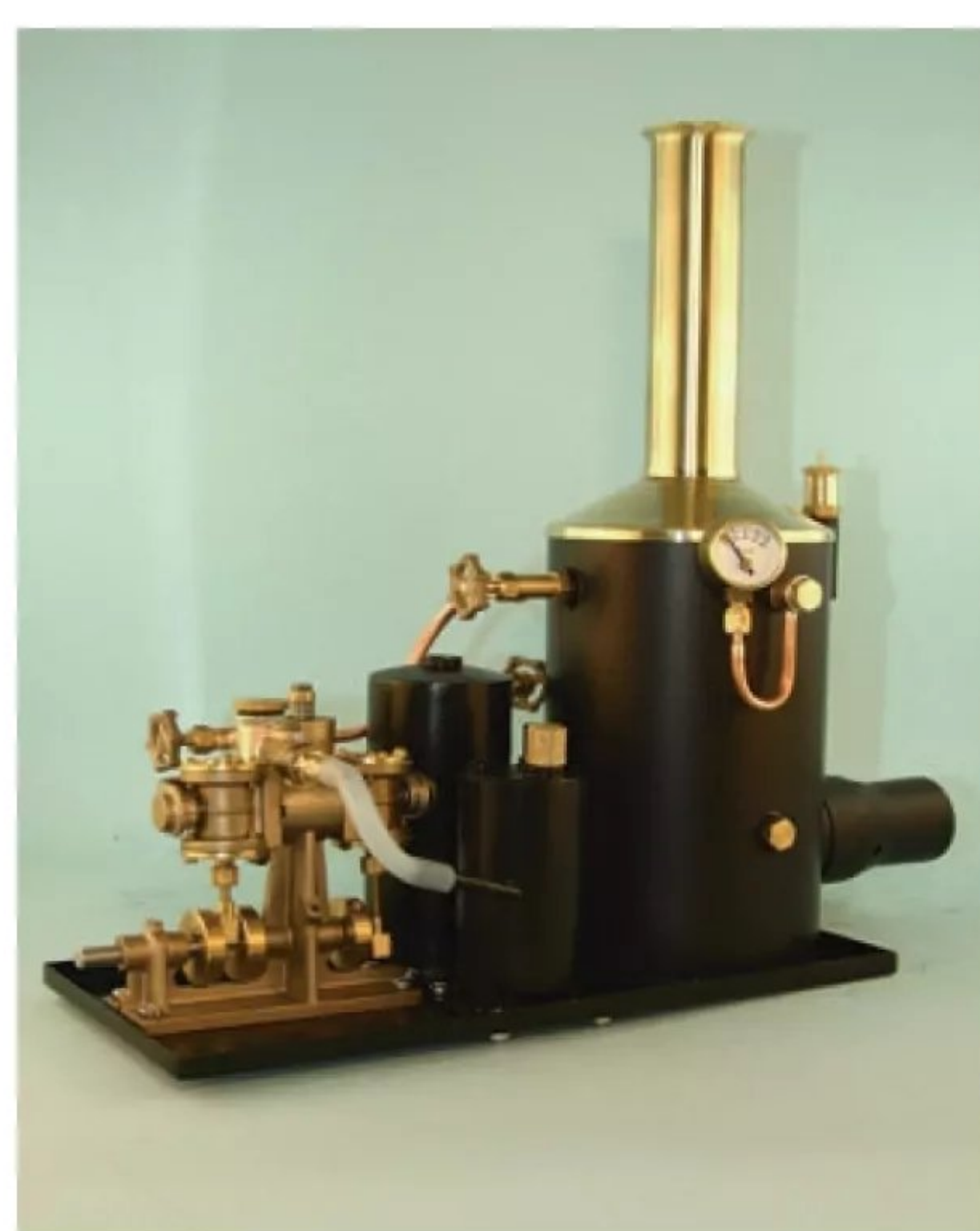
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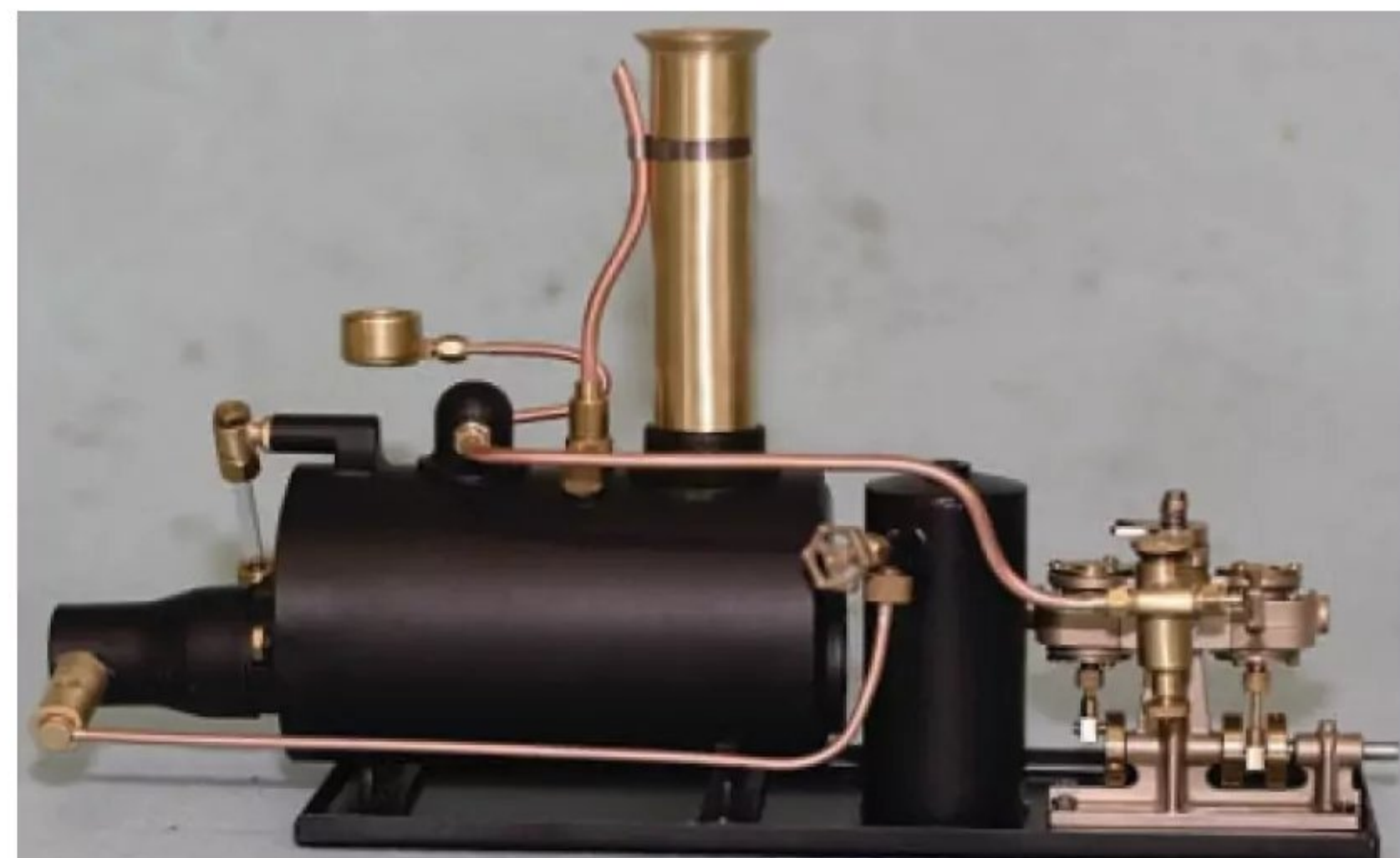
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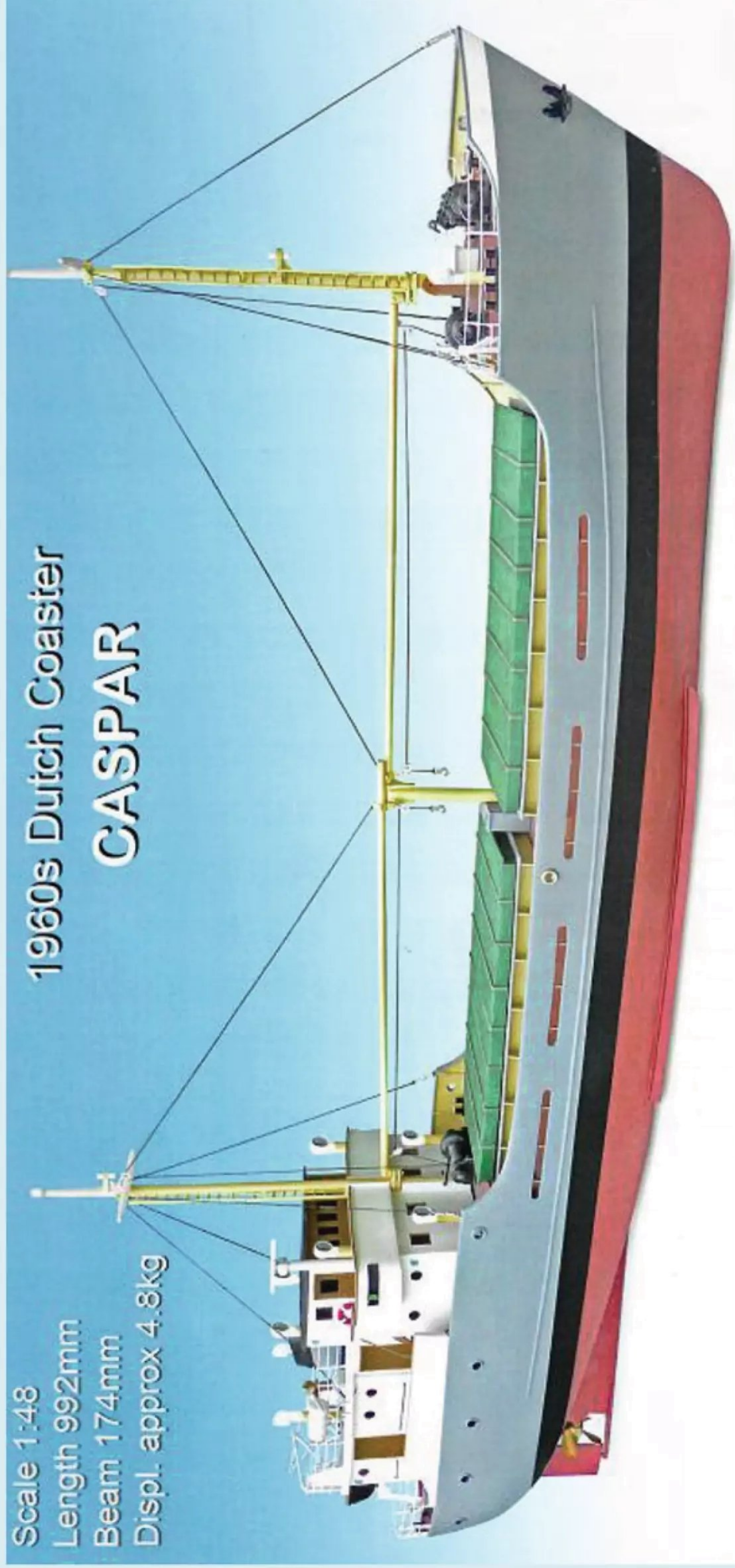
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Length 992mm

Beam 174mm

Displ. approx 4.8kg

1960s Dutch Coaster CASPAR



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



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

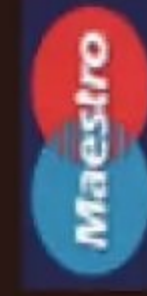
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If you have a news story for these pages, please contact the Editor, Lindsey Amrani, via e-mail at editor@modelboats.co.uk

Most useful feature *erratum*

Due to a technical glitch, the explanatory diagrams featured on page 46 of last month's issue failed to print in their entirety. Sincerest apologies, therefore, if you found yourself trying to make sense of things! To set the record straight, here are the diagrams as they should have appeared. The complete article in digitally amended form can also be found posted on our website at www.modelboats.com.

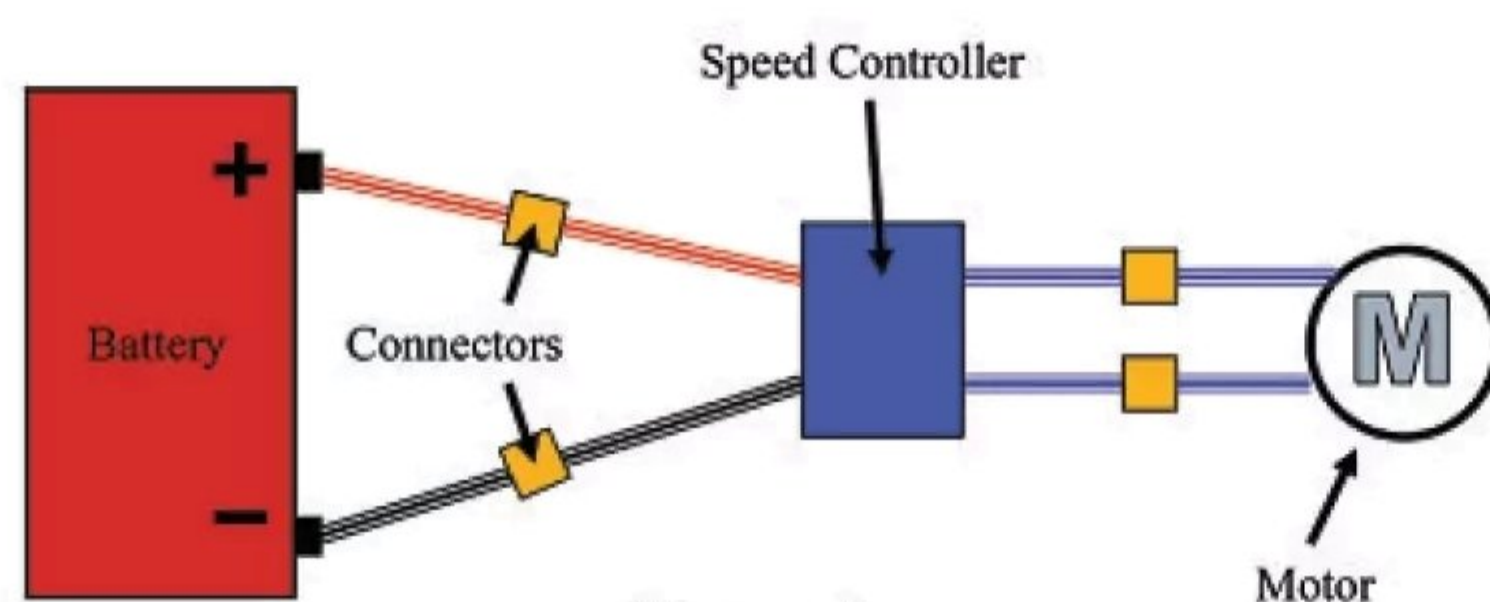


Figure 1

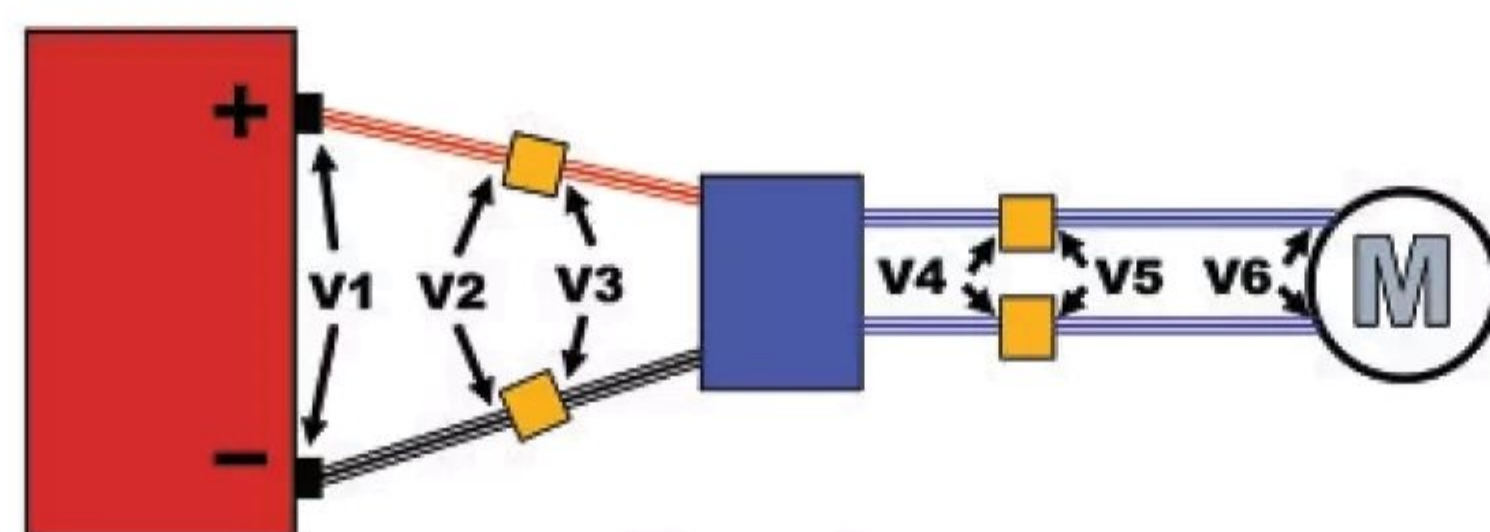


Figure 2

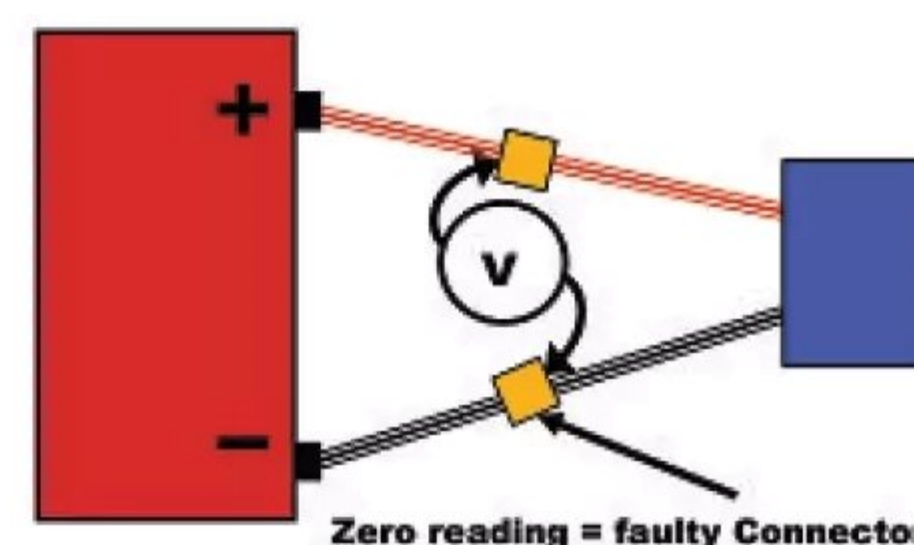


Figure 3

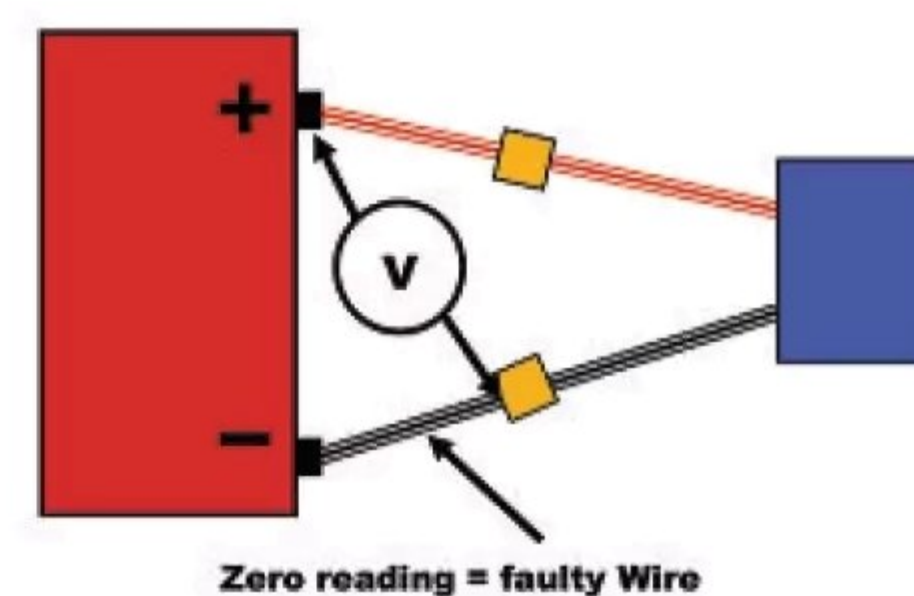


Figure 4

OUT AND ABOUT

Broomfield Park boating pond is back!

Former members of the Broomfield Park Model Boating Club are finally returning to beautiful Broomfield Park, located in Palmers Green in the London Borough of Enfield, after a six-year closure of the boating pond there.

Issues with the pond's pump, along with blocked pipes that prevented it refilling with water, put the pond out of action, and the exceptionally long, hot, lockdown summer of 2020 then left it in a very dried-out state.

Sadly, the Club's Chair and some of its members passed away during the pandemic, and with a sailing venue no longer available, the Club then folded.

However, thanks to the Friends of Broomfield Park championing the cause, Enfield Council has over the last year and a half undertaken the extensive work required to make the pond useable again. And while the Club has not been reinstated as such, a group of former members are once again casually meeting up at pondside every Sunday.

If you'd like to join then, you'll find further detail posted on the Friends of Broomfield Park's Facebook page.



Model boaters are now returning to the restored boating pond in beautiful Broomfield Park, as evidenced by the two RAF Fire Tenders out on the water when these shots were recently taken.

Tugs Model Boat Weekend at Bressingham



The Bressingham Museum at Low Road, Diss, Norfolk IP22 2PA, will, over the weekend of **August 2/3**, be hosting the boat modelling celebration *Tugs*:

The Exhibition. Amongst the attractions will be a collection of original models used in the filming of the television programme *Tugs*, first broadcast in 1989 and produced by the same company as *Thomas the Tank*.

The steam museum is located 2.5 miles west of Diss and 14 miles east of Thetford, on the A1066 (program

your Sat Nav to IP22 2AA). There will, during the day, be free onsite parking (please note there is *strictly* no overnight parking). For those using public transport, there is unfortunately no direct service to Bressingham. The nearest mainline railway station is in Diss, approximately three miles away. A taxi journey between the railway station and the museum may be the easiest option and its suggested you book your taxi both ways from the station. Please also note that no dogs (other than Assistance & Guide dogs) are allowed in either the museum or the gardens and should not be left in vehicles during your visit, so please make other arrangements for four legged friends.

Food and drinks will be available to purchase in Carriages, the Museum's café, and at the adjoining restaurant run by the Bressingham Garden Centre (your day admission ticket to the museum allows you to leave and return to the site as many times as you'd like to **on the day of your visit**, so you can also visit the garden centre to both eat and browse). Alternatively, you are more than welcome to take a picnic to enjoy in Bressingham's gorgeous gardens.

Advance tickets (valid for one day) can be booked online via <https://bressingham.merlintickets.co.uk/product/EVENT00074>. For further details visit <https://bressingham.co.uk/events>

Mananan Model Boat Festival, Isle of Man



This year, the Manx Model Boat Club on the Isle of Man will be holding its annual two-day model boating festival, entitled Mananan, over the weekend of **Saturday June 28-Sunday, June 29**. This will take place at Silverdale Lake, located just outside the village of Ballasalla on the south of the island and will be open to all.

Starting at 10am each day, and running through until 3.30pm/4pm, Mananan will feature static displays, 'have a go' boats, competitions and free sailing, although, please note, no fast electric models can be accommodated. Likewise, while entrants/attendees will be granted temporary membership so that they're covered by the club's insurance and public liability policies, those wishing to run steam plant (whether for static demos or to power model boats out on the water) must provide proof of in date safety certification and their own liability cover. The club would also like to point out that it is unable to conduct any certifications or observations of safety functions sign offs at this event.

For further details, visit <https://manxmodelboatclub.org/events/> or email mmbc@manx.net



Model boat enthusiasts and visitors enjoying Silverdale Lake and its café/ice cream parlour.



Isle of Man Steam Packet Company boats on display.



Various competing beauties await inspection by the judges at a previous at a previous show.

Cambridge MBC Open Day



The Cambridge Model Boat Club will be hosting an Open Day on **July 12, 2025**, at Paxton Lakes Sailing Club, Haul Road, Little Paxton PE19 6ET (nearest postcode)/What 3 Words: libraries.earliest.glorified.

The event will start at 11am, running through until 4pm, and visitors will be

very welcome to bring along their own boats, although no steam or I.C. models can be accommodated – there will, however, be a stretch of water set aside for scale electric/fast electric models. There will also, be a number of 'have a go' boats for visitors to try out under the friendly supervision of club members.

Free tea and coffee will be available, but please note that no food will be served. For those not packing picnic, there is a nearby Co-op store where sandwiches/snacks can be purchased.

For further details and directions please check out the club's website, Cambridgemodelboatclub.co.uk



THE TALL SHIPS RACES ABERDEEN 2025

19 – 22 July 2025



Four days of festivities to celebrate the city of Aberdeen playing host to participants in The Tall Ships Races of 2025 will take place this July. From **July 19 to July 22**, 50 plus magnificent tall ships (divided into four classes – from large sailing ships to smaller single-masted boats) will be open to the general public for inspection, free of charge, at the Port of Aberdeen, with visitors also being able to enjoy both daytime and evening entertainment, STEM (Science, Technology, Engineering and Mathematics) activities, street markets, charity stalls and a fun fair. For more about the vessels that can be seen and a full schedule of events, please visit <https://www.tallshipsaberdeen.com/whats-on/>.

Bourneville MBC Open Day

Bournville Radio Sailing & Model Boat Club

Open Day

Have a go with a yacht or model boat
Sun 21st June 2025
10am – 4pm
Valley Parkway
Bournville Lane
Birmingham
B30 1QS

Refreshments available
www.bournvillebrsmbc.com

Bournville MBC will be holding an Open Day at its picturesque boating lake at Valley Parkway, Bournville Lane, Birmingham B30 1QS on Saturday, **June 21, 2025**, from 10am to 4pm, and visitors will be more than welcome to get hands on with one of the club's model boats or yachts.

Free parking will be available, and the refreshments will be served from the club house throughout the day. The entire venue offers easy access for the disabled (including the perimeter of the pool, the club house and toilets). For further details visit <https://www.bournvillebrsmbc.com/>

Kirklees MBC Summer Open Day



The Kirklees Model Boat Club will be holding its annual Summer Open Day at Wilton Park, Bradford Road, Batley WF17 8JH from 9.30am to 3.30pm on **July 13, 2025**.

Visitors will be welcome to sail their own model boats alongside those belonging to members on the club's lake (please note, steam powered models will need an up-to-date certificate and no I.C. or high-performance fast electric boats can be accommodated), plus there will be static model boat and military vehicle displays, possible trade stands to browse, a massive raffle, refreshments served and free on-site car parking. For more information contact the club's events planner on 0113 2675790.

PRIZE DRAW ANNOUNCEMENT

The 'new' Zeeland winner

Thanks to the ongoing generosity of the kind folk at Billing Boats, in the April 2025 issue of Model Boats we were able to offer you the chance to win the newly improved and updated 1:35 scale kit for the tugboat *Zeeland*. We are now delighted to announce the winning entrant drawn as Paul Allen of Dartford, Kent!





LV21 moored alongside St Andrew's Quay Gravesend before sailing for her new home at the Historic Dockyard Chatham.

SPOTLIGHT ON LV 21

Got a model ship that's seen better days or perhaps an abandoned unfinished project crying out to be given a new lease of life? Then maybe you're ready for **Fraser Gray's** stunningly illustrated conversion suggestion...

I suspect many readers will have models that have either seen better days or were perhaps abandoned half-finished and that now sit gathering dust on a shelf somewhere. Perhaps your modelling skills have moved on from those early days? Well, springtime is the season of rejuvenation and reinvention, and the good news is that almost any old ship model could be reincarnated as a light vessel.

Light vessels, also known as lightships, historically served as floating lighthouses, and would emit powerful lights and foghorns to warn approaching ships of any potential hazards; the first of these, in 1732, being the Nore Light Vessel, which

D&M Towing Limited's tug, Christine towing LV 21 in Gravesend Reach on the River Thames.





LV21 being towed past East Tilbury, Essex, with Coalhouse Fort to port, built between 1861 and 1874 to defend the Thames estuary against a French invasion.



A.J. & A Pratt's former MOD Port Auxilliary Service tug Christine, built in 1966 and still enjoying a productive life working the River Thames, River Medway and south-east coast.

operated at the entrance to the River Thames. As an island nation with a maritime heritage to be proud of, we now have many light vessels in preservation around the UK and visiting them can be a great source of model making inspiration.

Following on from the engineering skills of the shipyard, your old model could be recycled into a light vessel

“As an island nation with a maritime heritage to be proud of, we now have many light vessels in preservation around the UK and visiting them can be a great source of model making inspiration”

once a lantern tower (easily crafted from suitably sized plastic pipes available from a plumbing supplier) and maybe a radio-controlled lantern has been added. The model can then be primed and painted a striking crimson and the light vessel's number added to the superstructure in white paint. The completed light vessel can then start a new life, perhaps setting



Christine carefully towing LV 21 in the Thames estuary. As LV 21's engine has been removed as part of her conversion, the light vessel is reliant on the tug to navigate the tidal waters of the Thames and commercial vessels inbound to the Port of Tilbury and London Gateway Port. Note the visitor's gangway and tyres placed along her hull to prevent damage. These are necessary modifications for the light vessel's new role as a floating art and performance venue.



After spending the evening anchored off Hoo Island waiting for high tide on the River Medway, LV 21 and Christine are joined by A.J. & A. Pratt's Nipashore. The trio are passing the Elizabethan artillery fort Upnor Castle to starboard on the west bank of the River Medway.



Nipashore gently tows LV 21 in the narrow channel between the yacht and boat mooring pontoon to port, while at her stern is the steam tug TID 164 launched in September 1945 – one of only four from the original 182 TID-class tugs built for the Ministry of War Transport to have survived.

LV 21 safely alongside the Historic Dockyard Chatham, with the crew securing her.



the stage for the next club boating regatta or as a tow for a model tug.

Strictly speaking, light vessels had their engines removed, although affording ourselves a little modeller's artistic licence means this has doesn't have be done. Your model light vessel could simply use her engine to drop anchor 'on station' in the boating pond, without the need for waders!

The history of LV 21

LV 21 was one of the last lightships commissioned by Trinity House, Britain's maritime safety authority, specifically crafted by Philip & Son. This vessel, measuring 40 meters in length, was designed to withstand the harsh marine environment, serving as a stationary guide for vessels navigating the treacherous waters off the Kent coastline.

Throughout her service life, LV 21 was stationed at several key positions, including Varne, East Goodwin, and Channel stations. One of the most notable incidents in her history was the collision with the *Ore Meteor* in 1981 while stationed at Varne. Despite the severity of the impact, LV21 survived, a testament to her robust construction. This event, however, marked a significant moment in the vessel's service history, highlighting the dangers faced by these maritime sentinels.

After a service life that spanned from 1963 to 2008, LV 21 was decommissioned by Trinity House. Fortunately, rather than ending her days in a breaker's yard, she was acquired by creative professionals Gary Weston and Päivi Seppälä in 2009, who envisioned a new life for the ship beyond her navigational duties.

Specifications and design

LV 21 is a steel-hulled vessel, reflecting the post-war trend towards more durable, long-lasting maritime constructions. Her design included accommodations for crew, a manned light tower, and, later, automation for unmanned operation. Her original optic, donated back in 2013 by the Association of Lighthouse Keepers and Friends of St. Mary's Island, is now a cherished relic aboard, connecting the ship's past to her present cultural identity...

Transformation into a cultural beacon

Post-retirement, LV 21 was transformed into a floating art space and performance facility. Her current role is a nod to her past, as she now serves as a beacon not for ships but for cultural enthusiasts and artists. Moored at the River Medway's Historic Dockyard Chatham, she has become an iconic landmark, fostering a diverse array of creative activities and hosting various

events, performances and exhibitions, acting as a platform for emerging artists across different disciplines. This unique setting provides an immersive experience, blending maritime heritage with contemporary art. Educational programs, heritage projects and community engagement activities are also part of the repertoire, making LV21 a significant cultural asset to the Medway towns.

This transformation was further recognised when she was awarded the title of National Historic Ship's Static Flagship of the Year in June 2023 – a celebration of her 60th anniversary and her ongoing contributions to art, culture, and education.

LV 21's new home

My photographs, which I hope you will enjoy, show LV21 sailing The River Thames with assistance from tug *Christine* and also her arrival at the Historic Dockyard Chatham, her new home. She has now lowered her gangway to welcome visitors aboard. The Dockyard is a fascinating museum to visit, with a tall ship, warship and submarine all open for inspection. There are plenty of hotels in the Medway area, and the City of Rochester's cathedral and castle are both within walking distance. High speed trains offer services to London and the Bluewater shopping centre is nearby, too. ●



Location, location, location...

Jim Martin explains how to create a godsend of an aid, albeit hopefully one you'll never need!

Having read the sad story about John Parker's model tug *Craig* sinking last November and being lost in the lake, it made me think about ways to find submerged model boats without having to wade around in the pond poking the mud with a stick. This reminded of a solution used in the full-size world to indicate the location of underwater objects and hazards – the marker buoy.

If a buoyant object is located on the deck of a model boat and tethered to it with a line, this will remain floating on the surface and indicate where the model has gone down if it sinks. In its simplest form this could be a

ping-pong ball attached to the model with a piece of string, but that is not a particularly elegant solution, so there are a few things we can do to make a more sophisticated marker buoy.

Any buoyant and detachable object positioned on deck could be used as a marker buoy, so, on a scale model you could consider using a fender, life ring, life raft container, a cargo crate or barrel, a tender, or even a detachable floating funnel. The possibilities are only limited by what would work well and look right on your own model.

If the buoy is large enough to accommodate some electronics, we can take the idea a step further and

add sound and light to make the buoy easier to find in a large pond. Adding strobes and a siren is not difficult, and they can be activated automatically when the buoy floats off the model if it sinks.

As I have a box of spare electronic parts left over from all sorts of previous models, including radio-controlled helicopters and cars, I thought I would build a prototype marker buoy with two flashing LEDs and a beeper.

The key to this design is automatic activation using a magnetic reed switch in the buoy and a magnet fixed to the boat. When the buoy is close to the magnet it remains switched off, but if

Figure 1 - Basic circuit with one self-flashing LED.

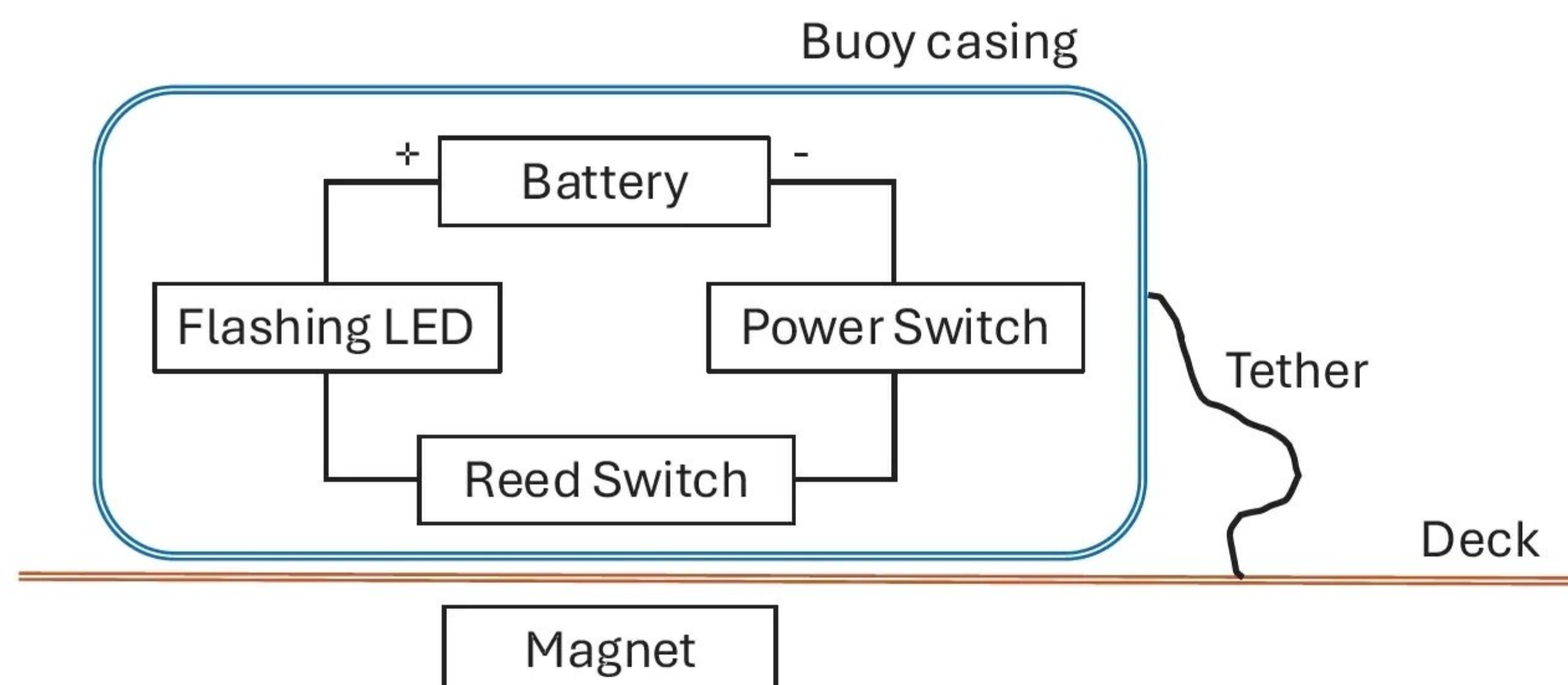
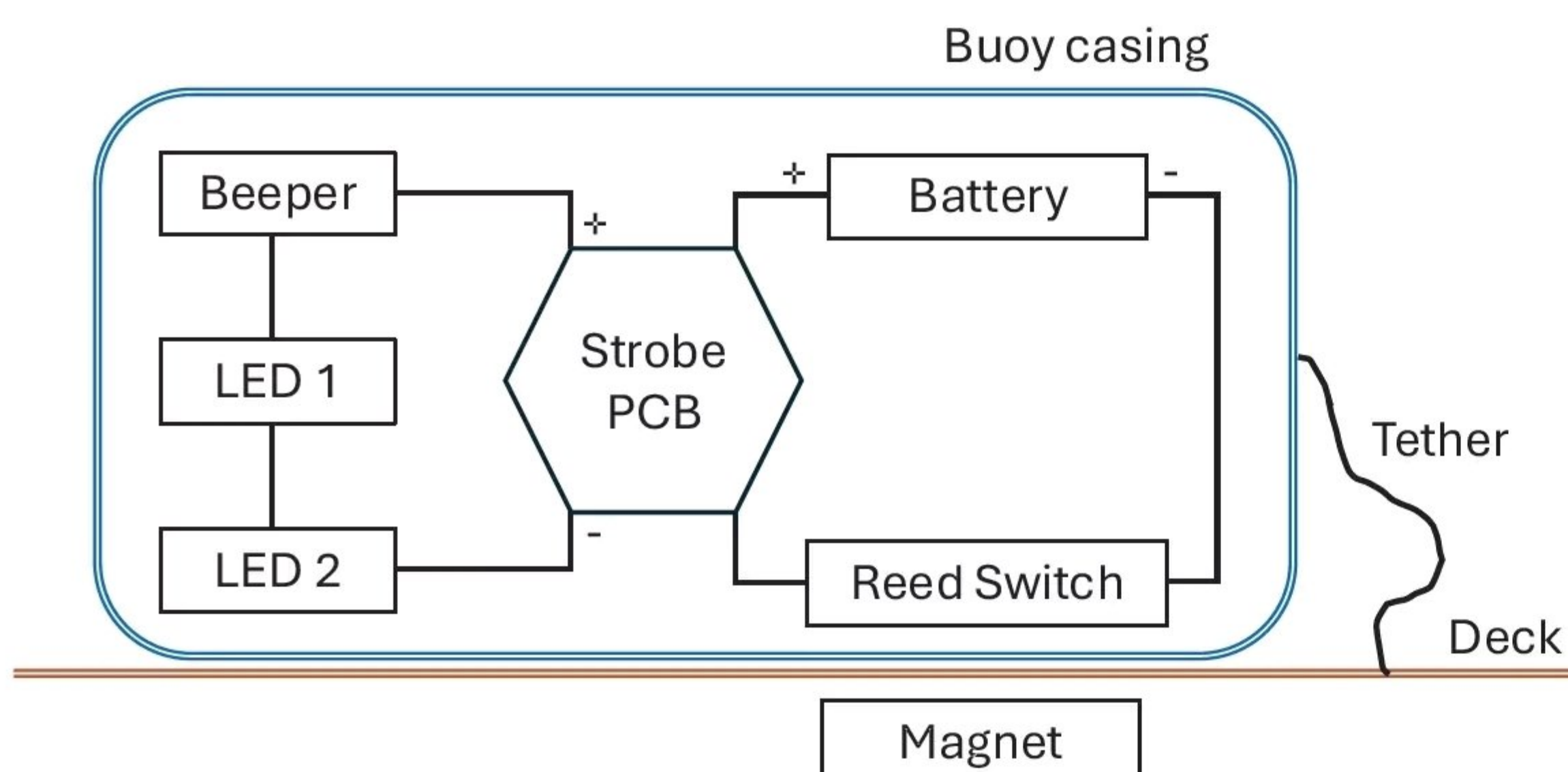


Figure 2 - Advanced circuit with strobe module operating 2 LEDs and a beeper.

- Strobe PCB includes power switch and strobe frequency adjustment.
- LEDs are not self-flashing as the strobe PCB controls them.
- Beeper is a 'continuous tone' type as the strobe PCB controls the beeps.
- Wiring the beeper and LEDs in series rather than parallel worked best in this circuit.



“If a buoyant object is located on the deck of a model boat and tethered to it with a line, this will remain floating on the surface and indicate where the model has gone down if it sinks. If the buoy is large enough to accommodate some electronics, we can take the idea a step further...”

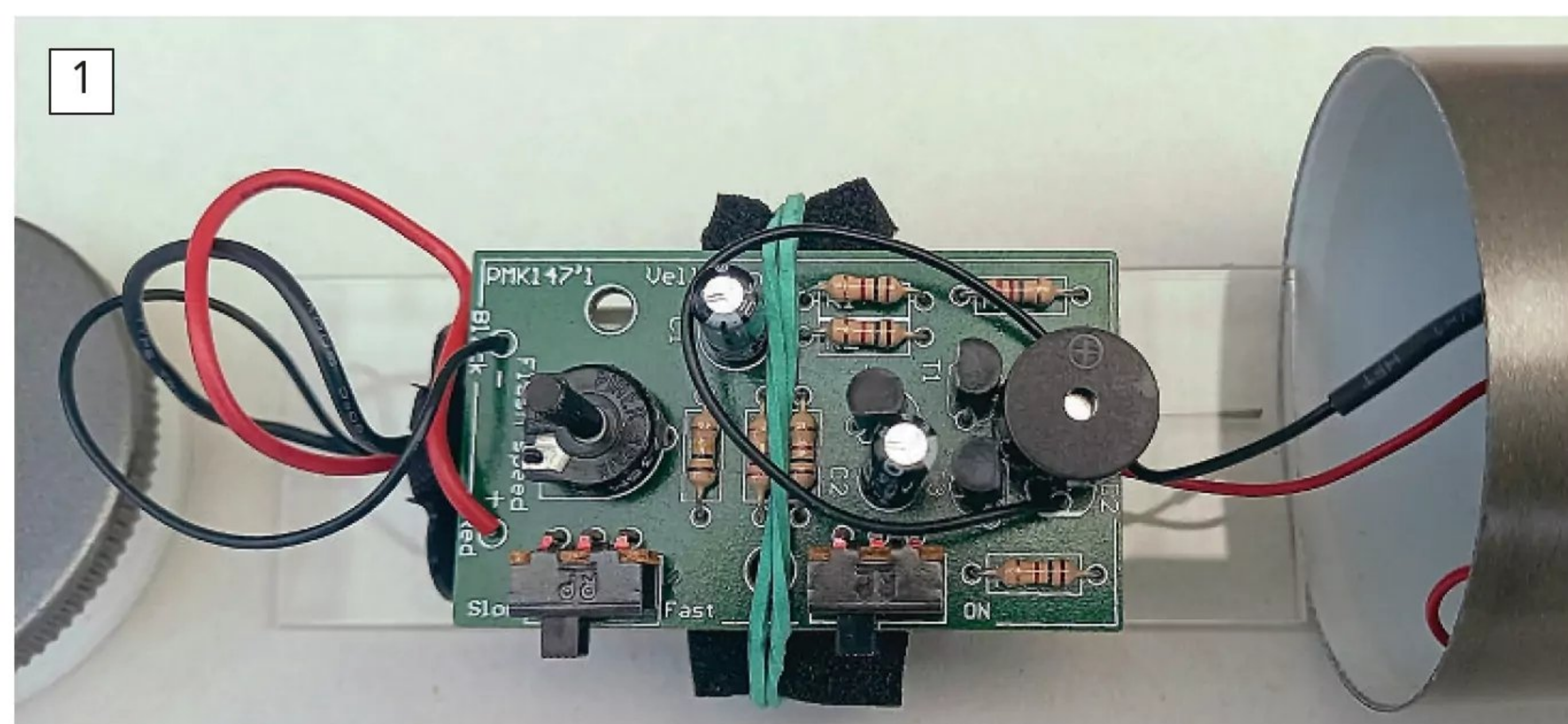
is present. In the buoy, the reed switch is connected so that it is open (off) when a magnet is close by and closed (on) when there is no magnet within range. The reed switch I used required connecting to the two wires exiting the reed switch at the same end. You can test how a reed switch works by connecting a multi-meter to it and using the continuity function to observe how it switches on and off when a magnet is moved back and forth near the switch.

If you would like to add more than one flashing LED or maybe a sounder, this can be done using self-flashing LEDs and an intermittent type of beeper but there is no guarantee that the flashes and beeps will be synchronised as each component will be working independently. To overcome this problem, an electronic strobe module can be used to drive all the components together so that they flash and beep at the same time. **Figure 2** shows the layout for this type of circuit.

Prototype parts list

In the spirit of using bits and pieces I had in the shed, I set about getting all the parts together for a prototype. The only item I did not have to hand was a suitable reed switch but fortunately these are readily available online for a pound or two each. I found a pack of five on eBay for £6.49, including postage. Having sketched out a design, here is the list of parts needed:

- **A suitable watertight container**
I used a small plastic tub which originally contained herbs and spices, as sold in major supermarkets. The lid was airtight to keep the contents fresh and submersion tests in a bucket of water confirmed the lid was also watertight.
- **An electronic strobe module**
In my case I already had an old Velleman PMK147 strobe kit left over from a helicopter project. This uses a 9v PP3 battery and normally drives two ultra bright LEDs. The frequency of the strobe

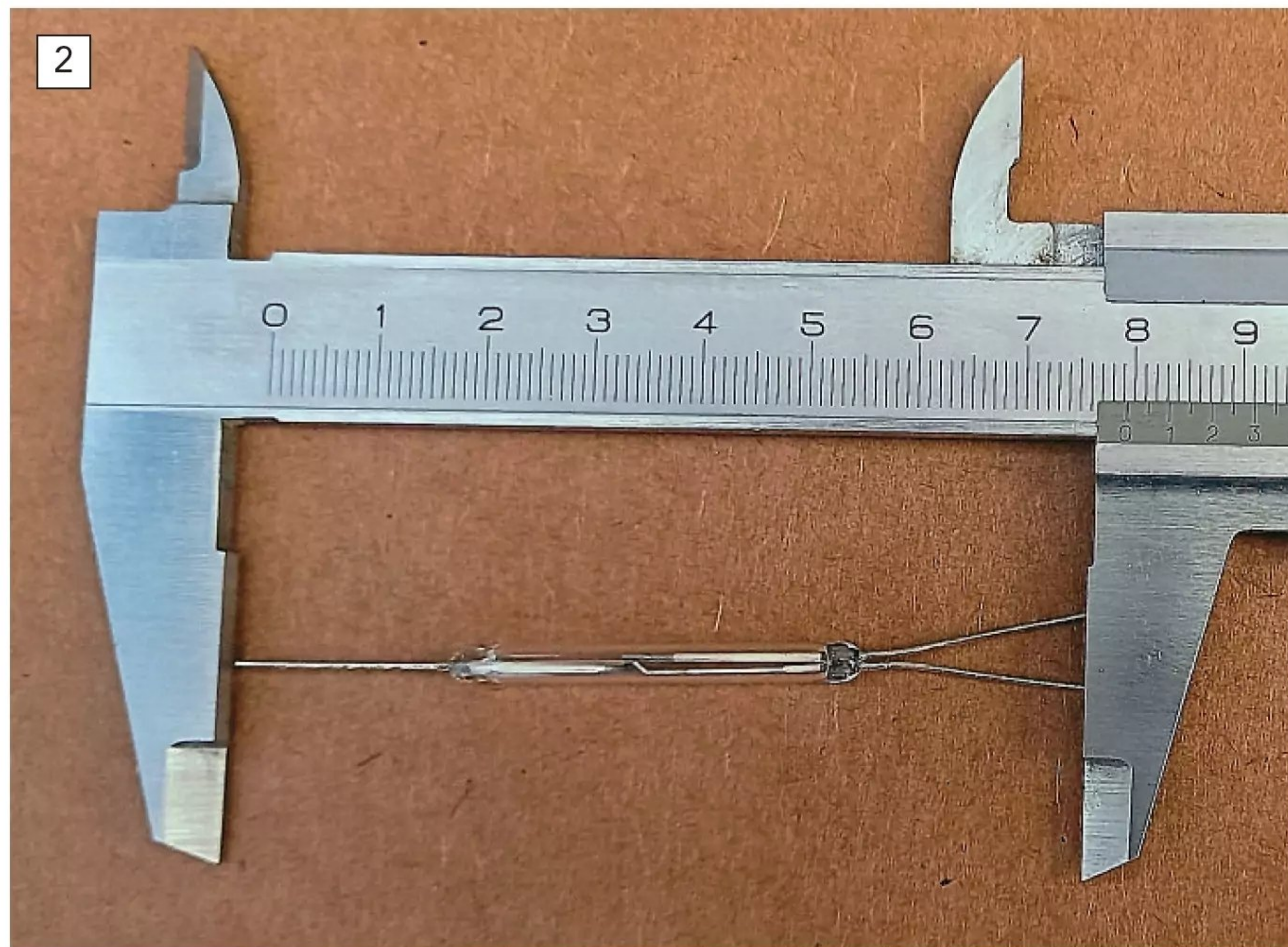


the buoy floats off the model, the reed switch closes and triggers the strobes and beeper.

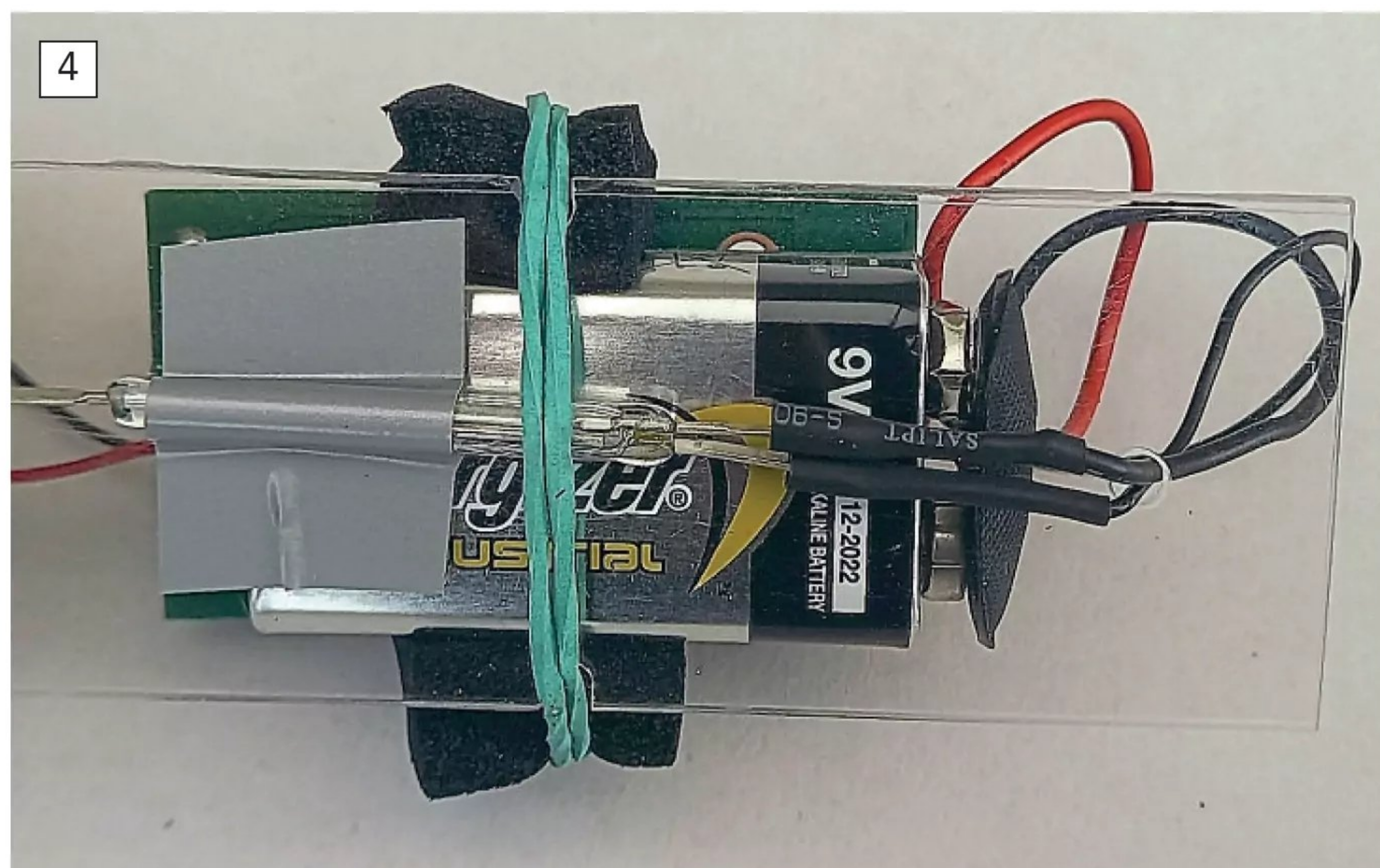
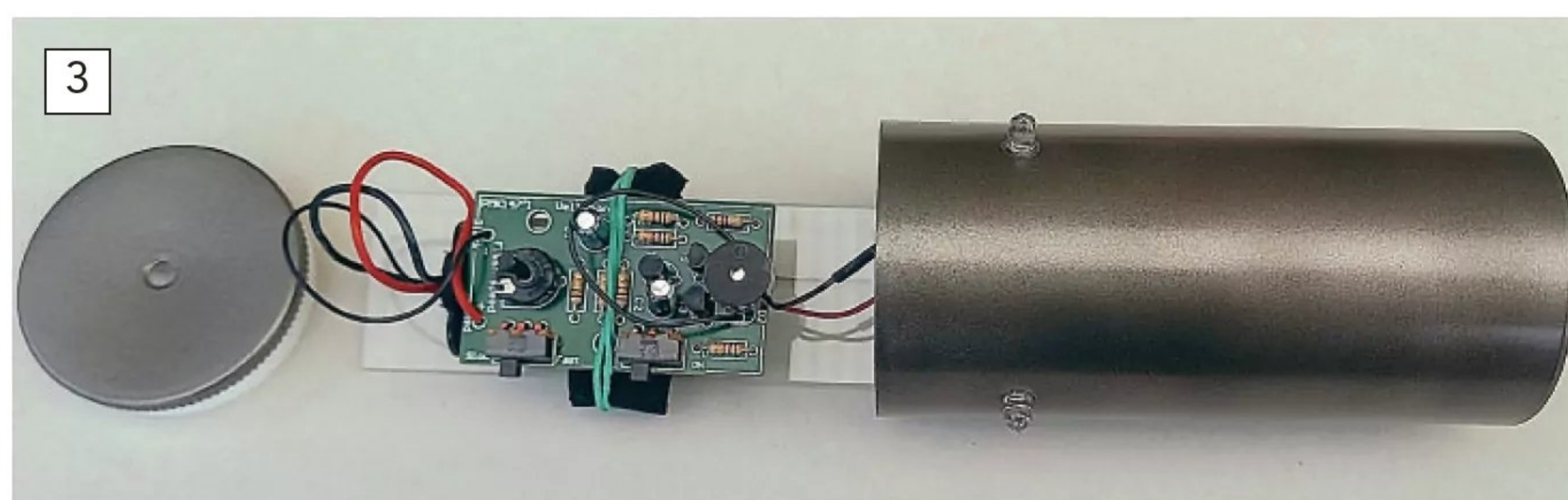
Figure 1 shows a basic circuit layout using a battery, power switch, reed switch and self-flashing LED. I have not shown exact components as this would depend on the size of the buoy you plan to make. You could use button cells

to power a self-flashing LED, although in my prototype I used a 9v PP3 battery to power an electronic strobe module.

The reed switch must be of the dual mode type which can operate as 'normally open' and 'normally closed'. These have three connections to provide both an open and a closed circuit when no magnet



“Be careful with these magnets as they can damage anything sensitive to magnetic forces”



is adjustable. This particular kit has been discontinued and replaced by the Whadda WSL147, which is available online for a few pounds. The module comes as a kit so you will need to solder it together, but many other ready-made strobe and timer modules are also available online. (see **Photo 1**).

- **A magnetic reed switch**
This needs to be the dual-action type which can be ‘normally open’ and ‘normally closed’ depending which connections you use. These have three connectors and are normally described as SPDT (single pole, dual throw) or ‘changeover’ types. I used a model rated at 0.3 amps (see **Photo 2**).

- **A magnet**
This is used to operate the reed switch. I used a ‘rare earth’ neodymium magnet, which looks a bit like a button cell, with a countersunk hole in the middle for attachment using a screw. These magnets are small but powerful. A magnet with a diameter of 10mm and thickness of 3mm gave a range of about half an inch to operate the reed switch. **Be careful with these magnets as they can damage anything sensitive to magnetic forces.** Observe the warnings provided by suppliers as they can also chip or shatter if dropped. Suitable magnets are available online for a pound or two each.
- **An electronic beeper**
I used a sub-miniature 5v continuous tone self-driving sounder as this does not need a separate signal generator to produce a beep. These are also available online for a couple of pounds.
- **Light emitting diodes**
Although two ultra-bright LEDs are included with the strobe kit, I decided to use blue LEDs instead. These are ultra-bright 5mm types without the self-flashing feature, as the strobe module controls them.
- **A PP3 9v battery and battery clip**
My old strobe module included a battery tray, but to save space I used a clip-on type of connector, which is smaller.
- **A baseplate**
I used an offcut of rigid acrylic sheet to make a baseplate, which slides into the buoy case allowing the reed switch to be attached underneath it and the electronics on top of it.
- **Thin wires and heat-shrink**
I extracted some lengths of wire from a piece of spare house alarm cable. This had six separate thin stranded wires within the overall cable and was ideal for connecting the LEDs to the strobe module.
- **Elastic band and foam pads**
These allow the battery and strobe module to be adjusted on the baseplate so that the buoy floats the right way up and is level in the water. The battery and strobe module act as ballast and therefore need to be positioned carefully.

Assembly

Having gathered all the parts, I started by building the electronics to see if



they would work as planned. This only took about an hour as I had already soldered the strobe kit together, although I did have to unsolder and remove the two existing white LEDs as my plan was to replace them with a beeper and two blue LEDs. The new LEDs would be connected using short extension wires so they could be fitted through holes in the buoy casing while allowing the electronics to be slid in and out on the baseplate (see **Photo 3**). Experimenting with the LEDs and beeper in various combinations of parallel and series wiring revealed that the circuit worked best with all three components wired in series. The strobe module has a built-in power switch so it can be disarmed when not in use. Without this switch, the buoy would activate continuously if moved away from the magnet.

After removing the original LEDs, I soldered the positive connection of the beeper into the positive strobe output on the circuit board where one of the original LEDs had originally been installed. Next, I soldered a wire from the negative contact on the sounder to the anode (+) of the first LED, and then another wire from its cathode (-) to the anode of the second LED. The cathode of the second LED then went back to the negative output on the strobe module. Using the magnet, I tested the circuit to make sure it was working properly before continuing.

The first job was to test buoyancy of the case with the electronics inside to make sure it floated at an acceptable depth and was stable enough to keep the LEDs above water and pointing in the right direction. By luck more than judgement, the combination of parts I had chosen worked well and the buoy floated with just over half its diameter above water. With the battery acting as ballast, the buoy was stable in roll as well pitch.

Having cleaned the label and glue off the herb tub using white spirit, I lightly sanded it to provide a key and



“The reed switch must be close to the inside surface of the case to give it maximum range to the magnet on the boat”

then sprayed it with undercoat and metallic grey car paint to look a bit like a fuel drum. Leave the lid on when spraying so the sealing surfaces are not contaminated with paint, or the tub may leak.

I then cut a baseplate from a scrap of rigid acrylic so the battery and strobe module could be mounted low down in the buoy, with just enough space below it for the reed switch. The reed switch must be close to the inside surface of the case to give it maximum range to the magnet on the boat (see **Photo 4**).

Next, I bored two holes in the buoy case near the lid end for the LEDs. This was done very carefully to give a tight friction fit, even though the LEDs would normally be above water. They were located on the circumference of the case to aim slightly upwards from horizontal in the hope this would be most visible from the shore of a pond. The herb tub is made of polypropylene which some adhesives will not stick to, so I opted for the sort of liquid cement you would use for an Airfix kit to seal round the outer perimeter of the LEDs.

The final step was to attach the strobe module to the top of the battery using double-sided foam tape. I also stuck insulation tape to the upper surface of the battery to prevent the risk of short circuits if the metal battery case came into contact with the reverse side of the circuit board. Using an elastic band and foam pads allowed the position of the battery and strobe unit to be adjusted on the baseplate

to achieve the correct waterline for the buoy. Rotating the baseplate adjusts roll to keep the LEDs in the right orientation and moving the battery and circuit board fore and aft adjusts pitch. This step involved trial and error until the buoy floated evenly. Once set up correctly, guides could be added to ensure the position is fixed even when removing the baseplate to access the power switch or change the battery. Putting the lid back on with the electronics correctly positioned inside completed the buoy (see **Photo 5**).

As a prototype, I tested the buoy in a small tray of water rather than by sinking a model boat! With a magnet stuck to the bottom of the tray, as water was poured in to simulate a model sinking, the buoy floated away from the magnet thereby triggering the strobes and beeper (see **Photo 6**). The final step is to add a tether to attach the buoy to the model boat. Make sure the tether is long enough to reach the depth of your pond with a bit of extra slack and is strong enough to keep hold of the buoy in choppy waters.

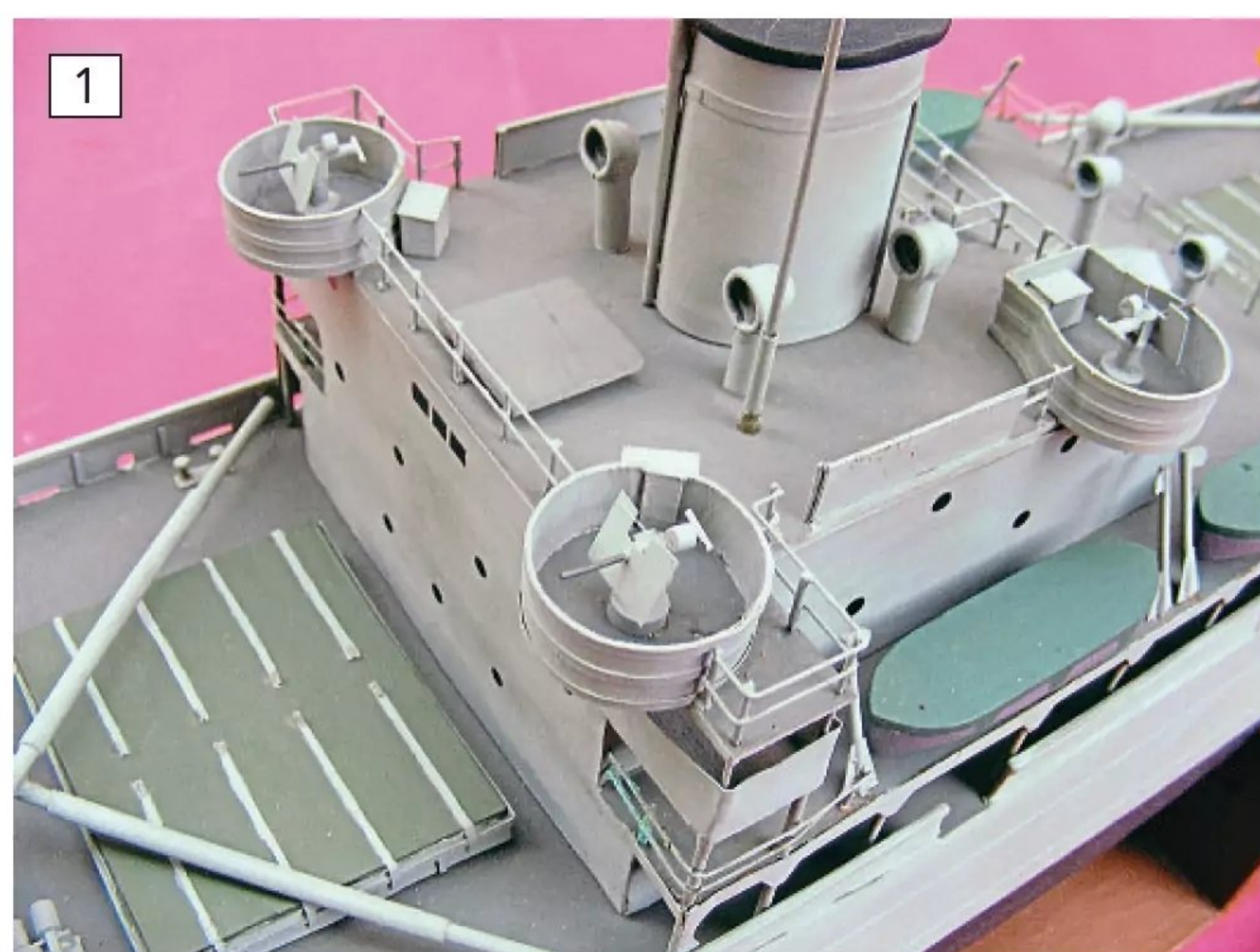
All is not lost until it is actually lost!

So that's it, a relatively simple way to find your model if it sinks. Whether using a ping-pong ball on a string or an automatic electronic alert system, hopefully there is a solution that will suit your models. Using a marker buoy could reduce the worry of losing a model or at least save time trying to find it should the worst happen.

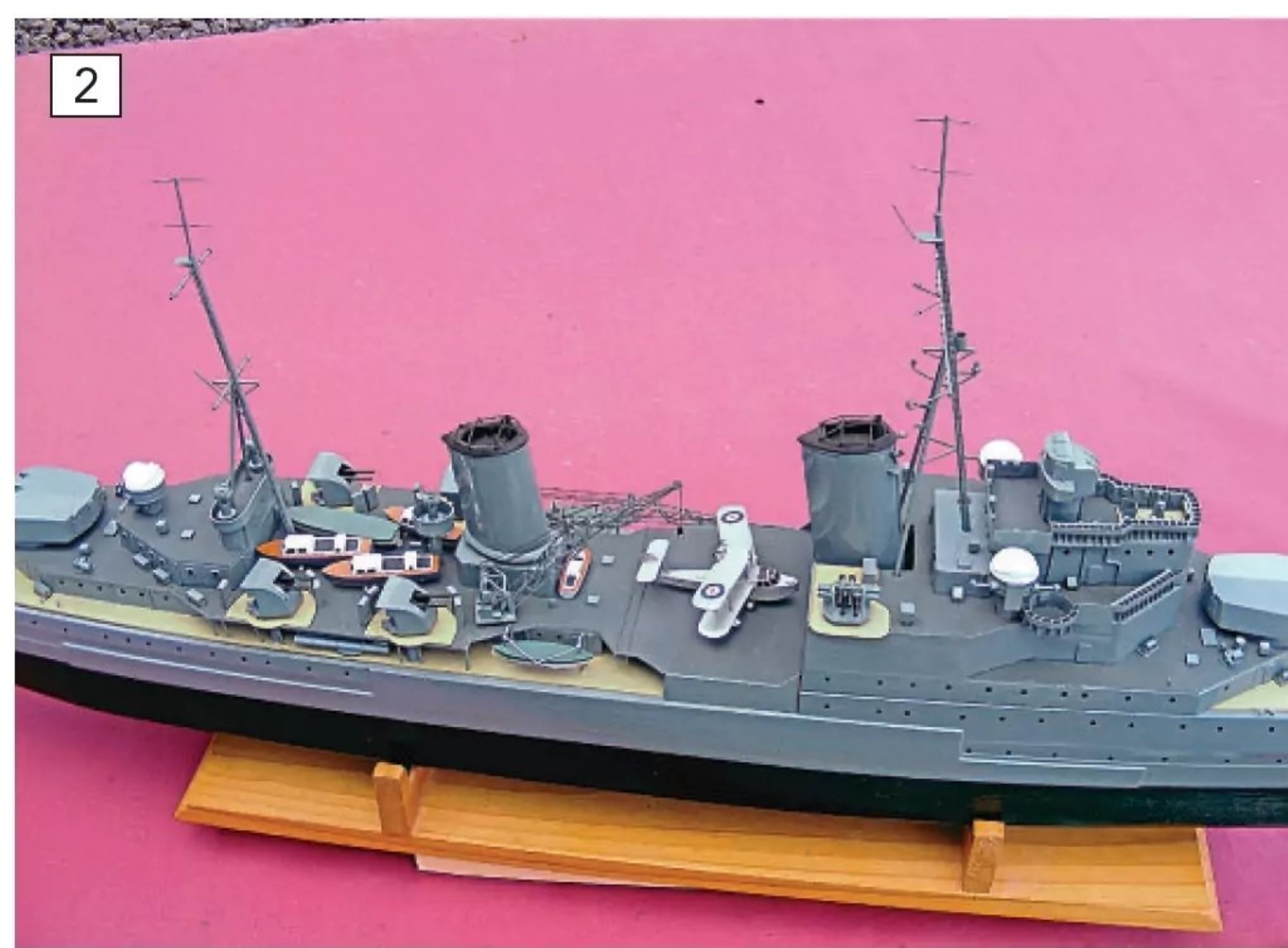
If you have several models, you could opt to build just one buoy that can be easily transferred depending on which of them you'll be sailing on any given occasion. This would simply require the buoy to have suitable mounting and tethering points, and, if using a reed switch, a magnet to be installed on each model. ●

Nailing railing

Glynn Guest offers some handy hints and tips



At 1:144 scale, Glynn's Liberty Ship has some delicate details.



HMS Sheffield, also at 1:144 scale but with details that are more robust.

It is always interesting to view how other people have built their models. There can often be new ideas and techniques that can be gainfully used in your next creation. However, to be totally honest, sometimes it is a case of saying (to yourself, if tactful) "I wouldn't have done that".

You have to accept that there's a lot of personal choice exercised in making a working model to which the term 'scale' is applied – in its many varied ways. This ranges from the 100% perfect accuracy of what could be called 'Exact Scale' (in which the builder hopes it could withstand microscopic examination both in and out of the water) to 'Stand-Off Scale' (where the model looks the part when sailing but doesn't claim to withstand close scrutiny) and then to 'Semi Scale' or 'Freelance' models (which ought to look realistic, even if they don't match a real vessel).

A static model, especially if it lives inside a protective glass case, can feature the most delicate of details without fear of damage. True, some working models can be built to these standards, but I wonder how often they are sailed and whether the owner/operator experiences more stress than enjoyment when his pride and joy is exposed to the public ashore and the antics of fellow modellers afloat? My Liberty Ship model (1:144 scale) is full of such small



A real Type 23 Frigate with hard to see railings. Image courtesy of the MoD.

details. It sails well but no one else, no matter how well intentioned, is allowed to touch it (see **Photo 1**).

Here comes a confession... Most of the damage to my scale models has occurred at home while carrying out maintenance or repairs. It's not surprising, therefore, that when adding details to models I quickly learnt that robust items with the right appearance when sailing were better for my nerves than detailed perfection (see **Photo 2**).

Rail scale

My model boat designing started with warship models in 1:144 (1 inch = 12 feet, yes, I started in pre-metric days!), which

allowed me to build destroyer types using standard (three feet long) balsa sheets. It quickly became obvious that railings around the edges of decks were going to be very vulnerable, if not a real pain to duplicate. Looking at photos of real vessels, it became clear that from a distance rails are hardly, if at all, visible (from **Photo 3**). So, with the confidence of youth and not knowing any better, railings were left off all my early models. Many of my warship models built to 1:144 scale still don't feature railing (see **Photo 4**). When I'm working at larger scales, however, the lack of railings on certain models would be more obvious, so they are usually installed – which is no problem,

4



This model based on the Type 23 lacks railings but still looks the part and is more relaxing to sail.

“I quickly learnt that robust items with the right appearance when sailing were better for my nerves than detailed perfection”

since the larger scale allows more robust items to be used yet still matches the scale of the model (see **Photo 5**).

Railing against ready-built options

My issue with railings comes when they look unrealistically 'heavy'. This can be due to the use of commercial items that may suit some vessels but not all.

For this reason, whenever railings are installed on my models, even at 1:144 scale, I prefer to make my own. It's more cost effective, too.

The DIY route to railing

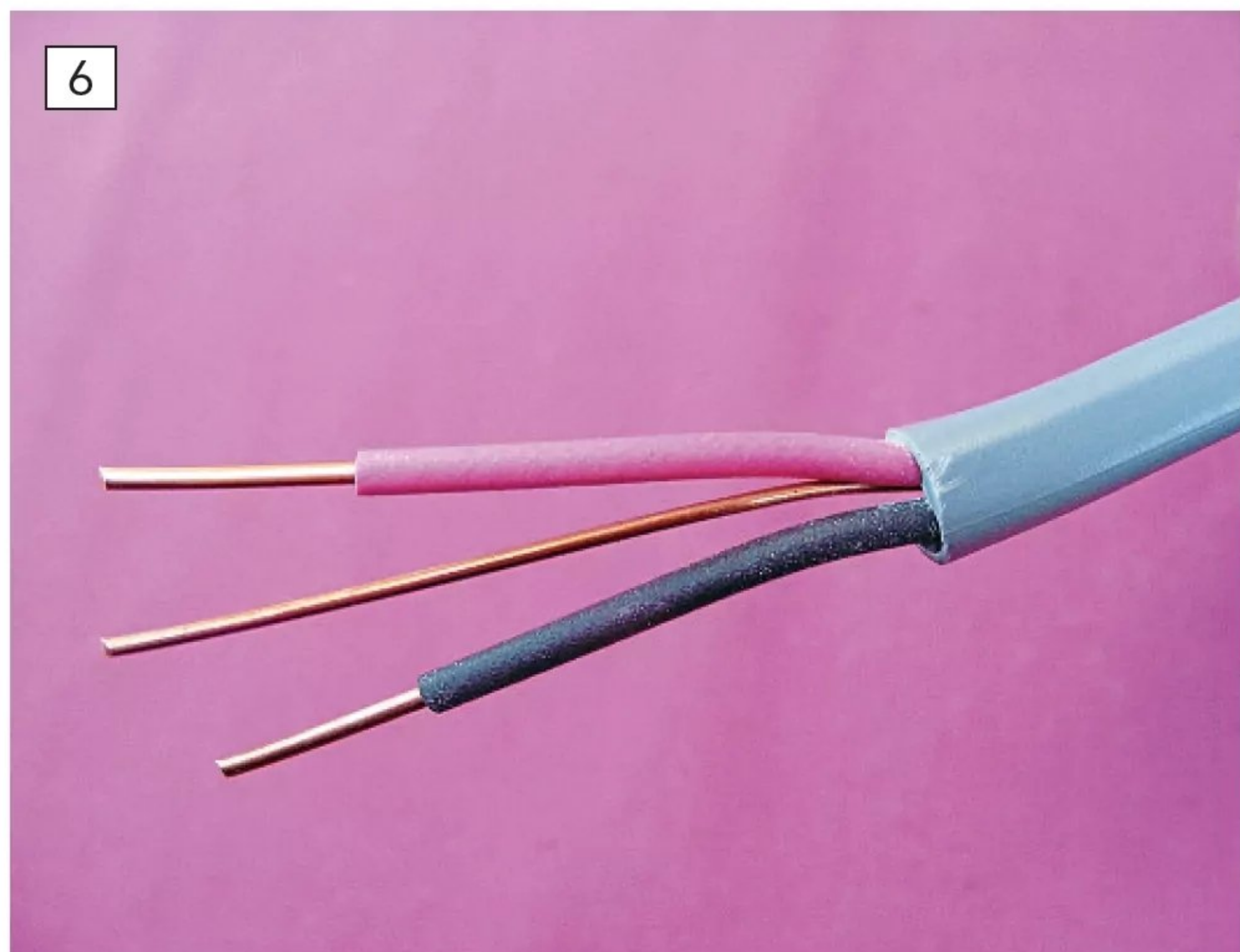
I originally used brass wire, but soon found it became expensive when a lot was needed and, also, that it was not always easy to shape. A better solution was to use copper wire, the solid type used in electrical cables (see **Photo 6**).

5



Glynn's Fireboat would, at this scale not look right without railings.

6



Stripping copper wires from domestic electric cable.

7



Stanchions glued into deck/hull before adding rails.

8



A Push Tug with more complex, but easy to bend in copper, railings.

Stripped from its insulation, it can be straightened by pulling it past its 'yield point'. This is usually achieved by firmly clamping one end in a bench vice, then pulling on the other end with some pliers until the wire is felt to 'give'. Of course, suitable safety precautions are needed,

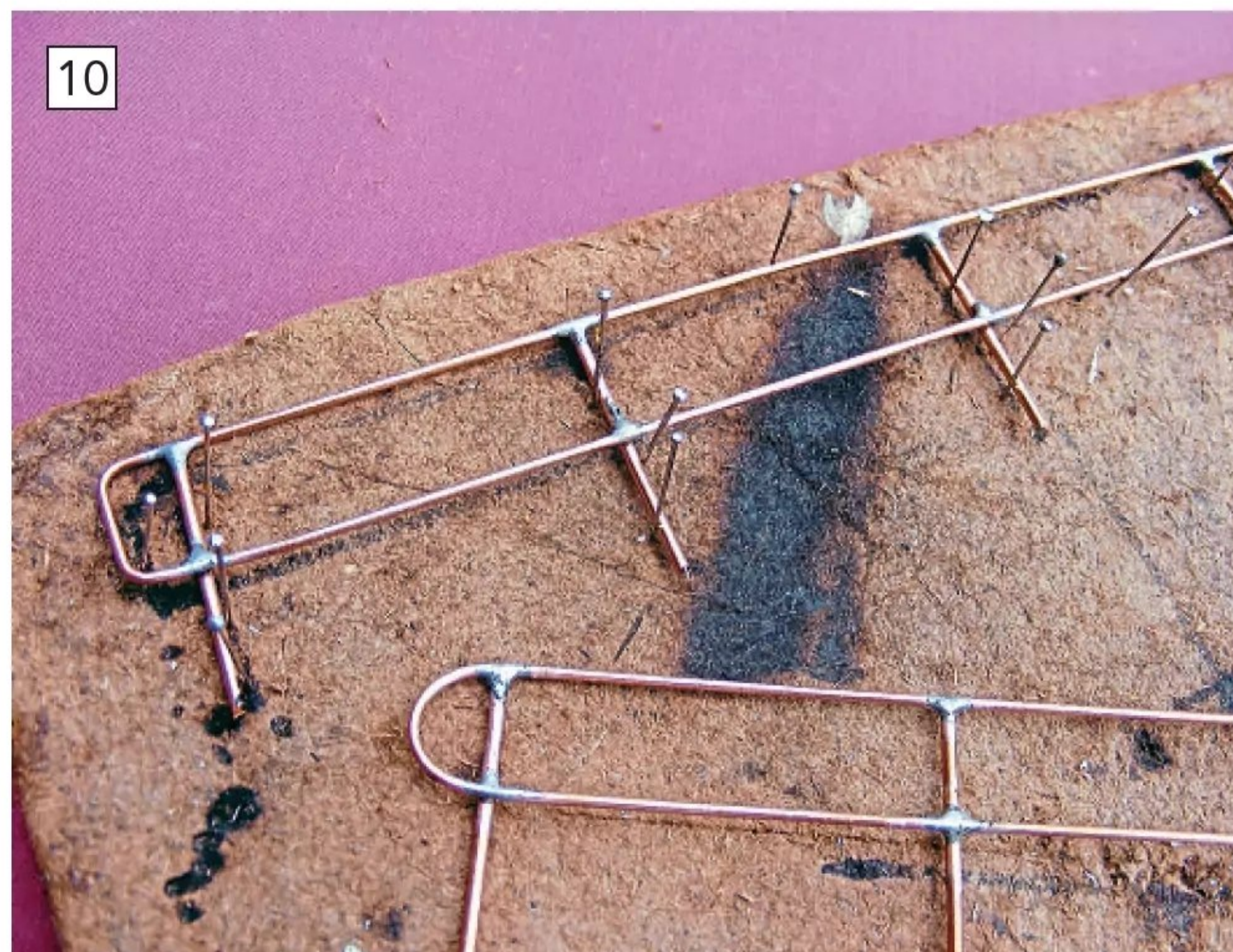
such as eye protection and not doing this where a fall might prove particularly dangerous should the wire slip or break.

Stanchions (the upright parts) are cut to a length and gives the right rail height when glued into holes drilled in the deck and superstructure as

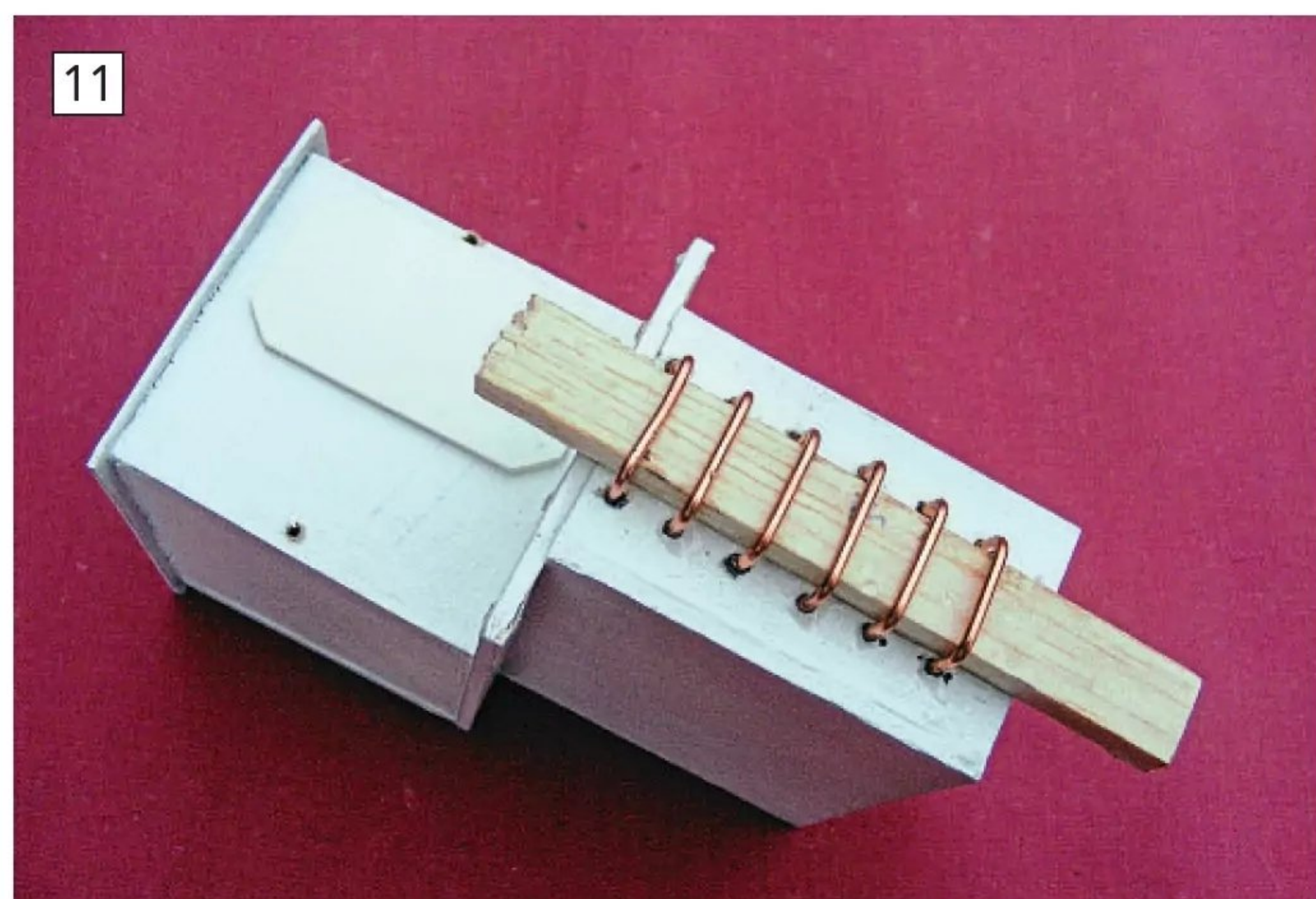
“To minimise or avoid joints in the rails, it is best to use as long a run as possible and pre-bend to match corners”



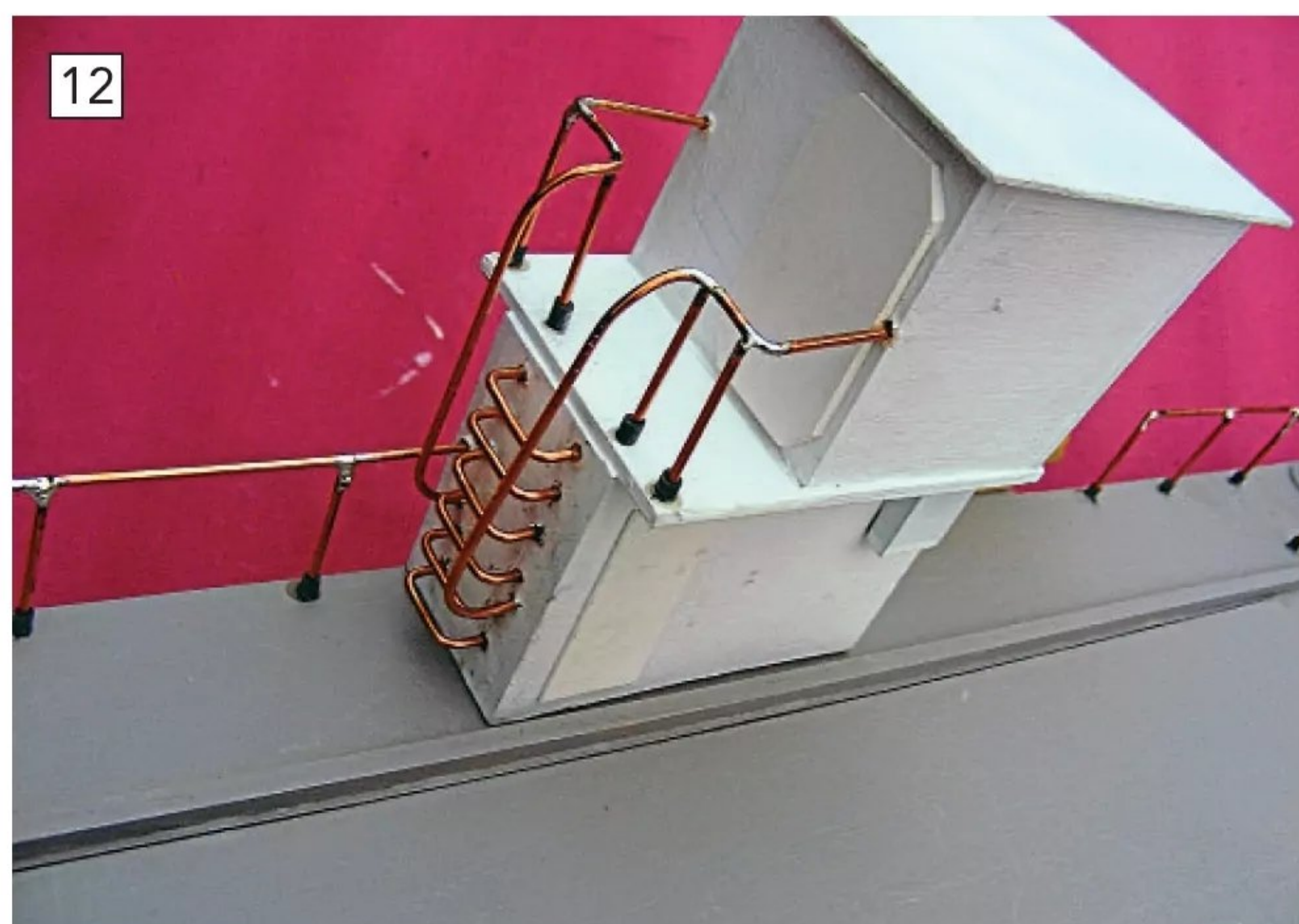
The kit needed to solder copper railings.



Railings being made off the model using a simple jig.



Wood strip being used to ensure ladder rungs are correctly positioned.



The railings added to ladder.

“A lesson soon learnt was not to try solder a joint next to the one that’s just been done. Copper conducts heat so well that it’s easy to melt adjacent joints”

appropriate. Epoxy adhesives are best for this; slight roughening of the wire surface that goes into the hole and the use of a slow setting epoxy ensures a firm bond (see **Photo 7**).

To minimise or avoid joints in the rails, it is best to use as long a run as possible and pre-bend to match corners. The great advantages of copper wire are the ease with which it can be bent and the lack of ‘spring back’ (where a material tries to return to the original shape). I once had a bad experience with a coil of some hard-drawn brass wire supplied in a kit, it would not straighten out or stay in the shape it was bent it into! There is also the advantage of being able to straighten out any bending mistakes in the copper wire and reuse it (see **Photo 8**).

Soldering on

Epoxy could be used to join rails to stanchions but solder is both quicker and stronger. This just requires clean surfaces, perhaps with a dab of flux and a soldering iron of the right power for the size of wire. For smaller wire sizes, something like a 40-Watt iron works OK for me, but thicker wires need a 100-Watt one (see **Photo 9**). A lesson soon learnt not to try to solder a joint next to the one that’s just been done. Copper conducts heat so well that it’s easy to melt adjacent joints. Holding the wires in place while trying to operate the soldering iron and apply the solder can make you wish for an extra pair of hands. Failing this missed evolutionary path, small crocodile clips can often hold things together until enough joints have been soldered.

Another problem can be that heat traveling down a stanchion can soften the epoxy at its base, and the epoxy will reset when things cool down. If this becomes a problem then a simple jig can be used, no more than pins pressed into a piece of ‘soft board’ to keep the parts in place while soldering (see **Photo 10**).

“I originally used brass wire, but soon found it became expensive when a lot was needed and, also, that it was not always easy to shape. A better solution was to use copper wire, the solid type used in electrical cables”

A multi-purpose must have

Copper wire can also be made to duplicate lots of other fittings, such as the ladder rungs often found on vessels. The trick here is to make sure that they’re evenly placed, and a wooden ‘spacer’ can be a great help in achieving this (see **Photos 11 and 12**).

The rewards of DIY railing

Making your own railings can become a rewarding part of building models. You can get the effect you want at a modest cost and, with care, avoid burning your fingertips and wallet! ●



Bottle Cat

Eric Belshaw introduces his great fun,
built for next to nothing, catamaran

I should warn you that I am about to talk trash, but please bear with me, as all will be explained...

Sometimes we go in search of new build ideas and sometimes they simply drift into our consciousness from out of the blue. This particular project falls very much into the latter category, and all started with a discarded plastic bottle floating in our boating lake that I fished out with my boat recovery line (a fishing rod with a weight but no hook). That simple act made me reflect on an old MYA posting about using plastic pop bottles to make racing yachts, which in turn got me wondering what I could build out of a load of rubbish – erm, sorry, recyclable materials. Further inspiration came from watching a 'YouTube' video of a vessel made out of four large drinks bottles being sailed on a pond in Brazil, and this provided the format for my own project.

I set my expenditure target to be as low as possible, and to that end I searched my scrap for winch and servo failures that could be repaired. I managed to source a cheap 3-channel receiver that was compatible with my

existing transmitter, and an 'everything is a pound' type shop provided a set of three snap-top lunch boxes, one of which became the waterproof radio box.

The hull

Recent Spring cleaning had provided three identical bleach bottles, and it was only a matter of time before a fourth became available. Gluing the bases of two of the bottles together would give me a reasonable hull. Past experience had shown that my bottles needed to be angled slightly to cut the water. At the junction, the top parts must touch, while the bottom must be spaced at 6mm to give a reasonable hull angle.

I used arrow shank offcuts as spacers. A contact at a local archery club provided copious amounts of damaged arrows in wood and metal from their scrap bin; these I sorted into bunches governed by material and diameter.

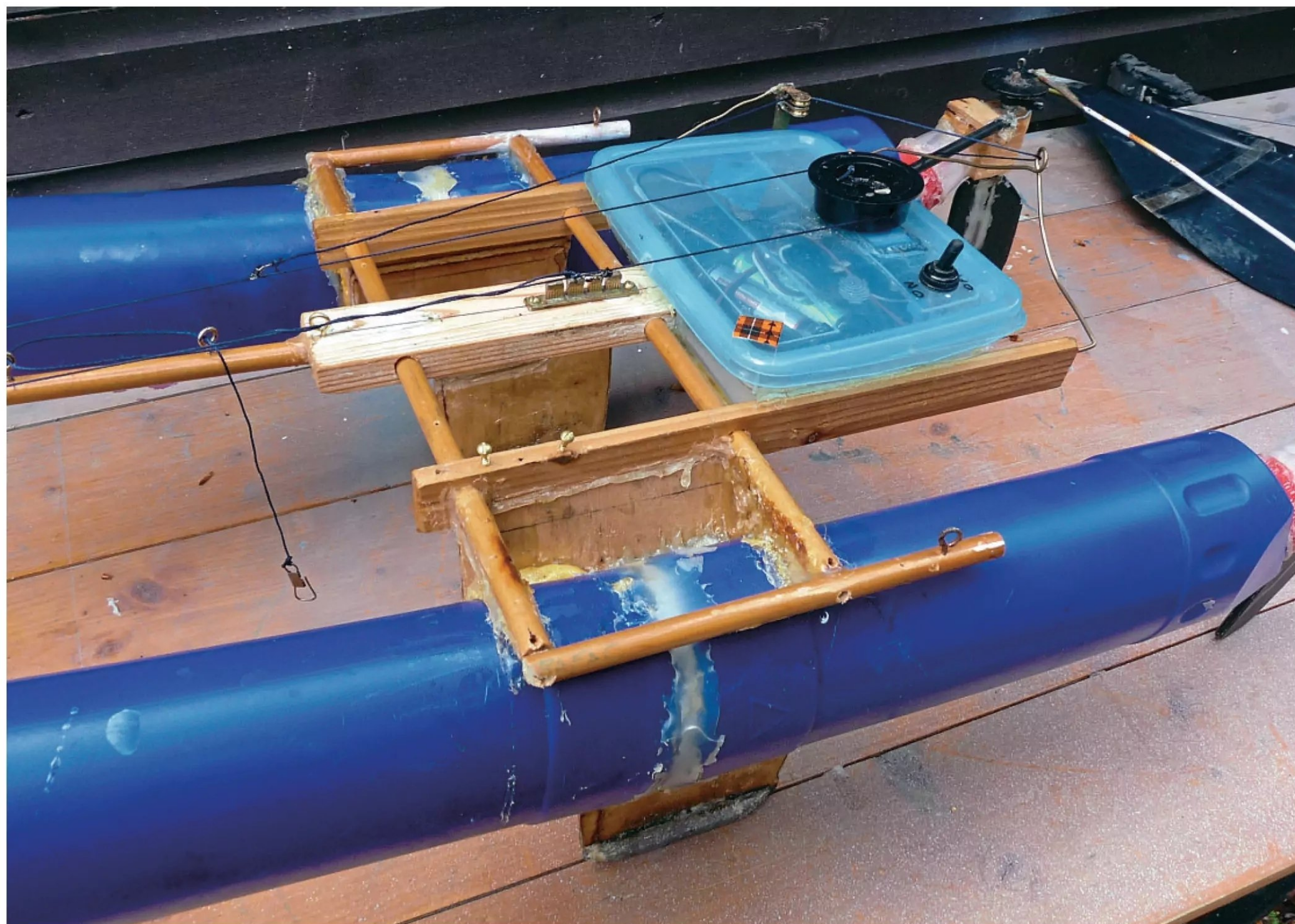
Mixed sizes of wood and ply came from the offcuts bin at my local wood supplier.

After several design iterations, I settled on an 'H' shaped main structure, where the width of the 'H' was governed by the size of the lunch box.

Gussets and dagger boards strengthened the 'H' structures attachment to the hulls. I made card templates for these items initially, to minimise the waste of plywood (there were only a few small offcuts of the thinner type in the bin). The dagger boards needed to be located 1/3 in front of the bottle joint and 2/3 behind to balance the sail forces.

It is probably obvious from my photos that I've encased the front of the hulls in something. These were late additions to prevent the bows from digging in in strong winds and help with water movement. They were made from empty spray cleaner bottles and stuck together with hot melt glue.

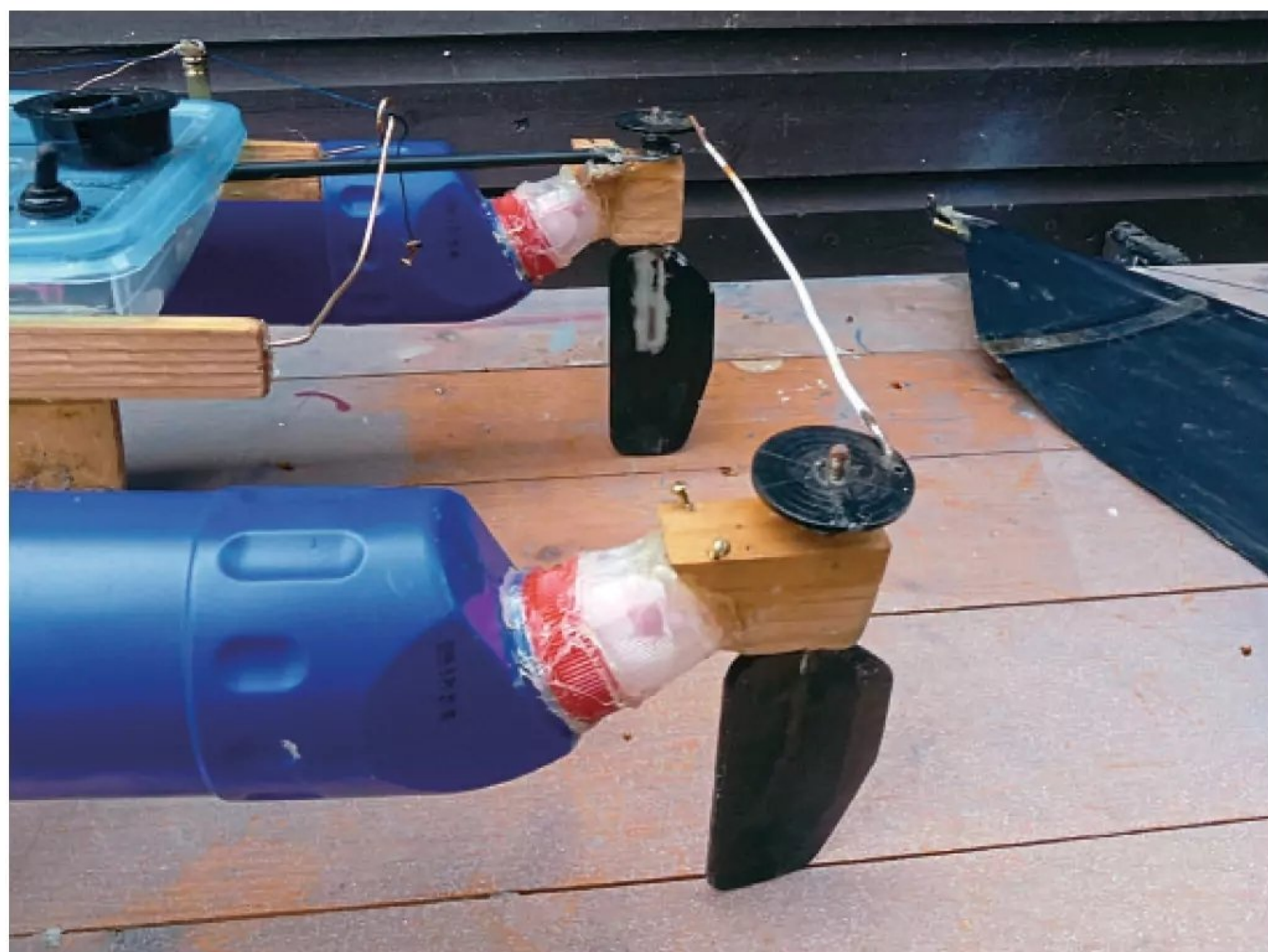
"Sometimes we go in search of new build ideas and sometimes they simply drift into our consciousness from out of the blue. This particular project falls very much into the latter category..."



The lunch box and central structure. Cut down wooden arrows made the hull-to-hull spacers, and a centre spar was added to carry the fore sail tack.



Bottle set up and dagger board location.



Rudder blocks, blades and operating arms.



A close-up of the goose neck showing kicking strap with wire bowsie.

Balancing weights were added. Initially I used 200 grams of flashing lead per dagger board, but that was trimmed back to 80 to 100 grams during trials and, as you can see, the weight is located behind the bottle junction

The boat needed some way of steering, and as there were two hulls, so there had to be two rudders. Easter came to the rescue, with a box of chocolates. My wife got the chocolates (well, most of them) and I got the plastic box, which was quite thick but brittle.

It was back to the cardboard template method for rudder size and shape

I had fashioned two wooden blocks from my offcut bin bits and 'hot melt' glued them to the bottle caps close to the lunch box (now a radio box).

A couple of M4 bolts from an old, dead, drilling machine were epoxied into the rudder blades I'd cut from the chocolate box lid. Luckily, I'd made spare blades, as I managed to break one through careless handling (I dropped the boat).

The rudder connecting bar came courtesy of an old wire coat hanger from the dry cleaners, while the operating arms were spare servo heads.

In my photo, you can just make out the servo to rudder operating rod and the guide tube. One of the smaller metal arrows was repurposed to provide the tube, while a spare 14-inch bicycle wheel spoke provided the drive rod.

The radio box had the rudder servo glued directly to the bottom, while the winch and on-off switch were fitted through the lid and sealed with silicon.

"It's a good job that I like Chinese takeaways!"

That left just enough room for a 4x AA battery pack

The mast and booms

I selected the largest diameter metal arrow shafts I had to make the mast, joining two sections together by hammering a chop stick into one arrow shank and shaving the exposed wood carefully until the other section fitted snugly. The two parts were then cemented together with epoxy resin.

The fore sail boom was just a length of the small diameter metal arrow shaft with a 30 mm long chop stick plug in each end to allow screw eyes to be fitted. It's a good job that I like Chinese takeaways, otherwise the build would have faltered!

The mainsail boom was cut from the tail stick of a firework rocket (thank goodness for Guy Fawkes night, I'd have no small square wood without that).

I fabricated a 'goose neck' from the tin of a biscuit tin lid, 10mm of brass tube from my scrap box and two M4 screws with locknuts. Trials with card shaped the tin piece to go onto the mast and to provide the top and bottom lugs that would carry the vertical pivot. The brass tube had lugs of tinplate soldered on to make the horizontal pivot. Now the boom could move side to side and up and down.

Finally, I used the metal ink cores from two dried up pens to make shroud spreaders to be located part way up the mast.

The sails

Next came the sails, possibly the project's greatest expense! I had previously made a 'Footie' yacht following the directions laid out by the MYA for that class. That experience led



Eric's sails, made from bin bags!



The mast step.

to making my fore and main sails from plastic bin bags, and I splashed out on new ones for health reasons – you just don't know what people put in them.

I made the recommended card sail-shape templates out of 'Amazon' delivery boxes. These I laid on the bin bag as shown in the MYA sail making YouTube video. I then cut around the templates with my soldering iron to seal the inner and outer bag layers together.

The reinforced sail corners were electrical tape, installed cord was necessary and eyelets were put through the reinforced areas. (If attempting this yourself, watch the sailmaking video before you start, as that will cut down on mistakes).

I tried several ways of attaching the sail to the mast and eventually settled on crossed Sellotape. "What's that?", I hear you ask. Well, you take a piece of tape 75mm (3-inches) long and roughly in the middle fix another piece so that the sticky sides are together. This creates a non-sticky band in the middle of your sail fixing. Next, you stick the luff (back edge) of the sail to one of the exposed sticky parts of your fixing. Next, you wrap the fixing around the mast, ensuring that the remaining sticky bit of your fixing attaches to the sail directly opposite the first bit. You can then repeat this for as many Luff fixings as you like or have tape for, keeping them as evenly spaced as possible.

The mainsail should be able to move up and down the mast inhibited only by the goose neck and the shroud braces. I used eight in the end to ensure the leach stayed close to the mast while sailing.

In addition, sail stiffeners, or batons, needed to be added at critical locations along the leach (outer edge of the sail). These are easy to make. With the sail flat, create a line from the head to the clew at the boom outer end. Establishing where to place the first baton is easy, as this will be wherever the leach changes direction. Measure the distance from the line to this location at right-angles to the line, multiply that measurement by 2.5 or 3. Then cut two coffee stirrers to that length. Fix one stirrer to each side of the sail, at right-angles to the line and with one end on the leach, with Sellotape, allowing 12 to 15 mm overhang at each end to ensure baton security. The location and size of any subsequent baton should be determined by sailing experience. Avoid too many batons, though, as this will make the sail heavy.

Rigging

With the sail attached to the mast, the sail tack then needs to be fastened to the boom or goose neck and the main head to the top of the mast. Here, I used strong button thread looped through the sail tack eye and secured to the mast at the goose neck clamp. Nothing moves in that area, so a couple of loops are adequate.

The top of the sail needs adjustment, so I plugged the top of the mast tub with wood (and glue) so that I could install a screw eye close to the top. I made a few three-hole bowsies from the remains of

"Next came the sails, possibly the project's greatest expense!"

the chocolate box lid. A bowsie is a flat plate with three holes (in a line) in it. The rope to be adjusted comes up from the sail through the first hole, then down through the second hole. The rope then leads up to the screw eye in the top of the mast, and down to the third hole in the bowsie where it is secured. The bowsie should be roughly in the middle of the rope rig at this stage and the sail should be slack.

The next sail rigging line is called the outhaul and attaches the clew of the sail to the boom. A line is secured to the eyelet in the foot, and I installed another screw eye at the outer end of the main boom for this line. A second eye screw was fitted about 50 mm away from the boom outer end. This line was fitted with a bowsie in the same way as the head rope and that adjustment will be used when setting up for sailing.

To stop the boom from wandering around uncontrollably, an adjustable restrainer (called a kicking strap or vang) is fitted. I put another screw eye into the bottom edge of the main boom about 50 mm from the gooseneck and another into the mast about 10 mm from the bottom. A line with a bowsie was fitted between the two.

I cut up a piece of G gauge brass rail to create posts that the mast could fit over, easily done with a hacksaw and a thin flat needle file. This created four mast step

"So, where is the fore stay?"



The winch turret, sprung return pulley and sail control lines.

adjustments. The location of this rail, however, was a matter of trial and error during sailing. My best results occurred when the first step position was in line with the bottle joint

Mast shrouds

The mast shrouds on this boat run from the screw eye at the top of the mast down to the shroud spreaders (the pin tubes), and then through a bowsie, which forms an adjustable loop. In this loop is a hook which will allow quick and easy shroud detachment. For these shrouds I used the same strong button thread; this is ideal for many sailing sessions, but you will have to replace these shrouds eventually as they will fray.

The shrouds hook into screw eyes in the longitudinal wooden hull structure bars. These screw eyes need to be at least 50 mm behind the last mast step adjustment position. Why? Because the mast has no back stay. Most masts have a stay front and back and left and right, this arrangement only has three, front, left and right, so the angling of the shrouds makes up for the absence of the back stay.

So, where is the fore stay? Well, that is provided by the line I installed inside the leading edge of the foresail.

“Aside from the radio gear, the whole thing was made for under £10”

Fore sail rigging

If you followed the MYA video to make your fore sail, there should be a line through the sail, with the top end attaching to the top of the mast with a bowsie loop, and the bottom connecting to the front of the jib. You can drill the end to take the line, but I used a screw eye. The clew of the fore sail gets attached to this location too, and the top of the sail needs an adjustable loop to tension the leading edge. The tack of the fore sail needs a loop of cord or wire to keep it close to the jib. It also needs an adjustable loop for setting the sail rear edge tension.

That covers the standing rig, the next bit relates to the running rig...

I have already mentioned that I sorted some failed sail winches from my scrap box, this enabling me to construct a suitable one for this model by recycling three similar units

A line was run from the winch to a pulley, then back to the winch. Two points were set on this moving line so that the sail control sheets could be secured. I used fishing swivels here to

prevent line tangling. The pulley came from a broken plastic toy and a spring was fashioned from a piece of elastic.

I put two screw eyes into the fore spar part of the structure to guide the fore sail sheet and a dumb block and wire loop to guide the main sail sheet. I had decided that the sheet attachment should have adjustment. So, on the bottom of each boom a tight line was added. Each line had a section of pen body fitted. I had previously drilled two holes just bigger than the line diameter into the circles of plastic about 60 degrees apart. To attach to these adjusting rings, I used fishing quick releases with swivels.

A cat with eco credentials

What you see in this article is the result of 'trial and error' modelling, but I now have a unique catamaran that sails beautifully in light to medium winds. Sailing experience has resulted in capsize and broken lines, but it does work as can be seen on Alvaston Pirates Facebook page.

Aside from the radio gear, the whole thing was made for under £10. So, why not challenge yourself to a similar project, you'll be saving money and, as a bonus, be doing your little bit to save the planet at the same time – what's not to love? ●



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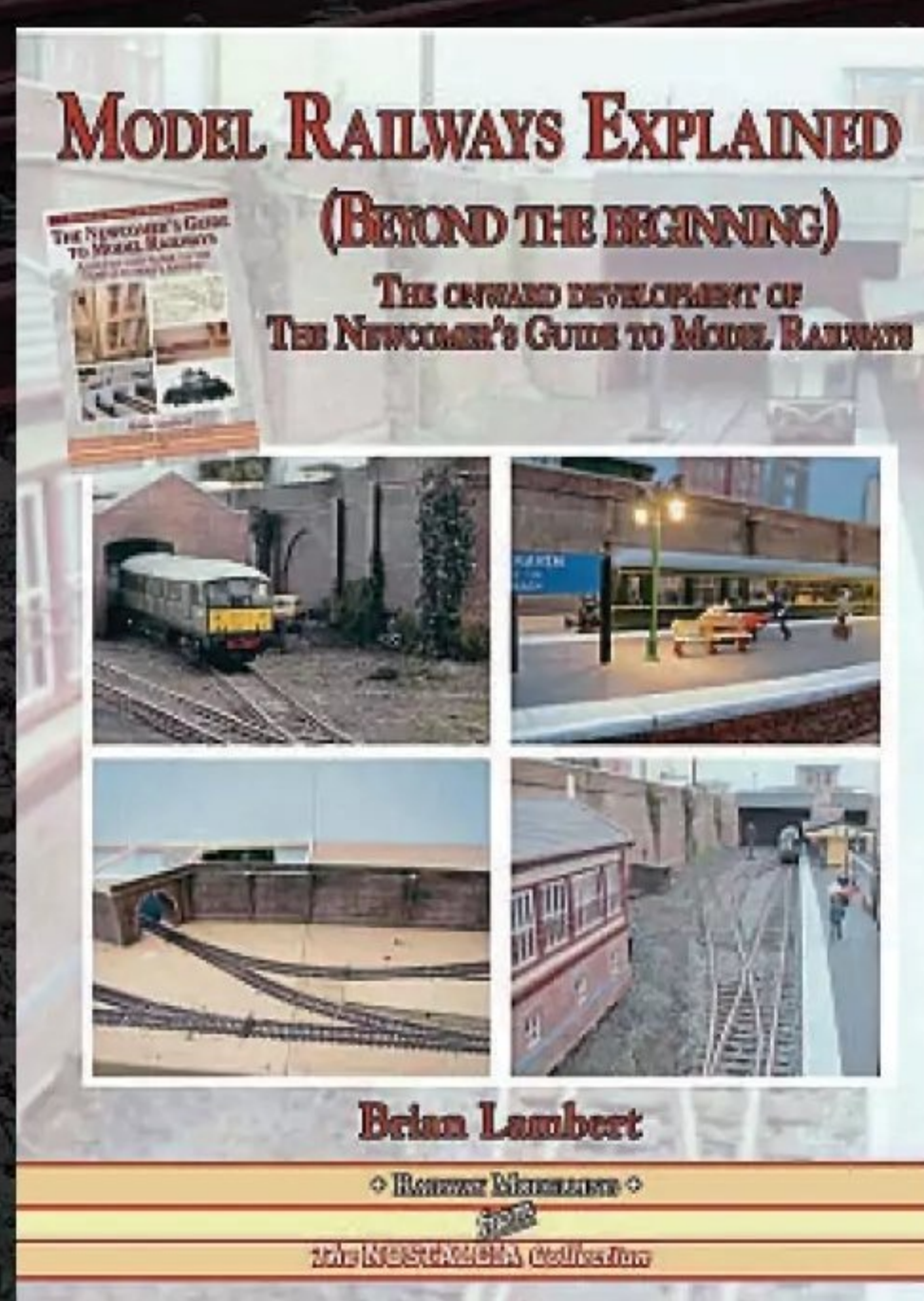
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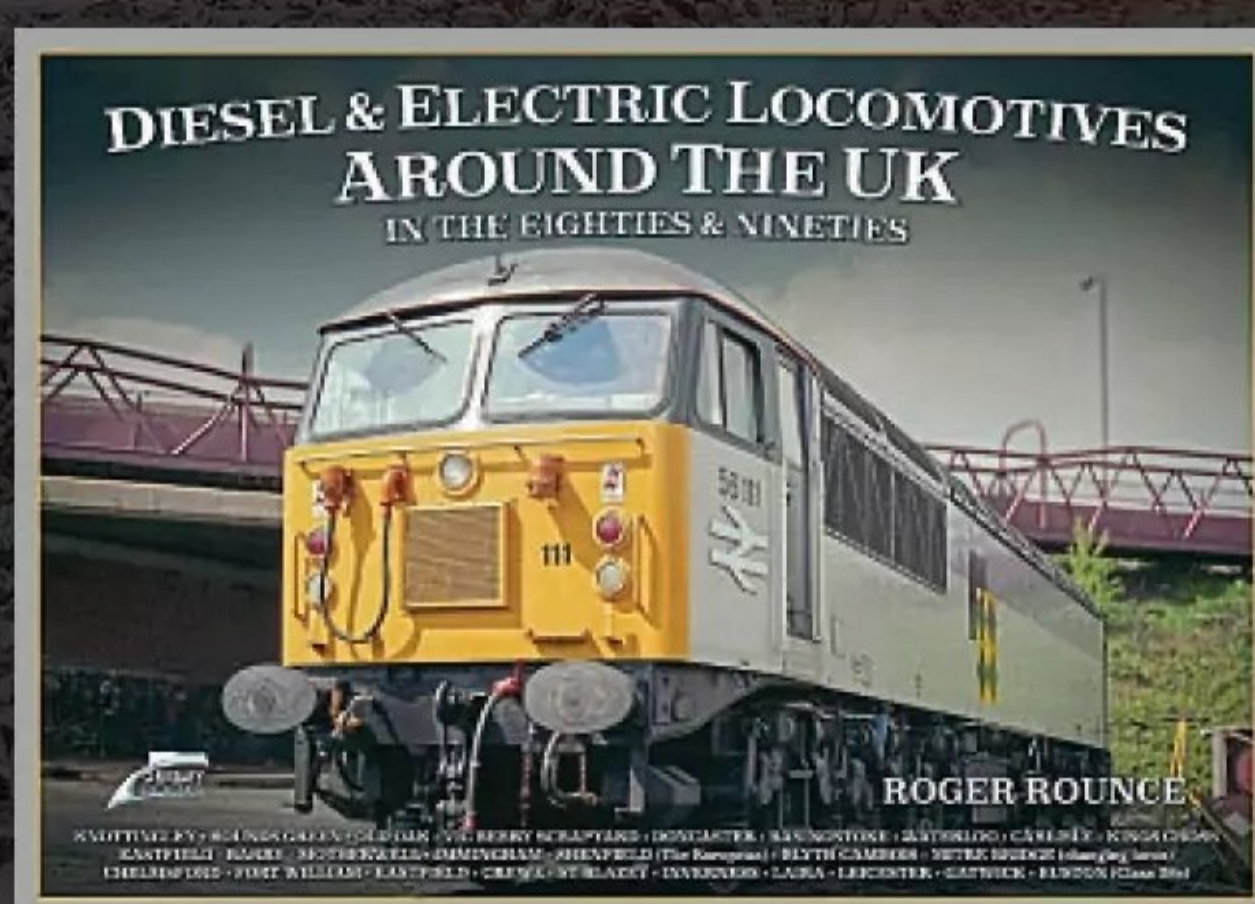
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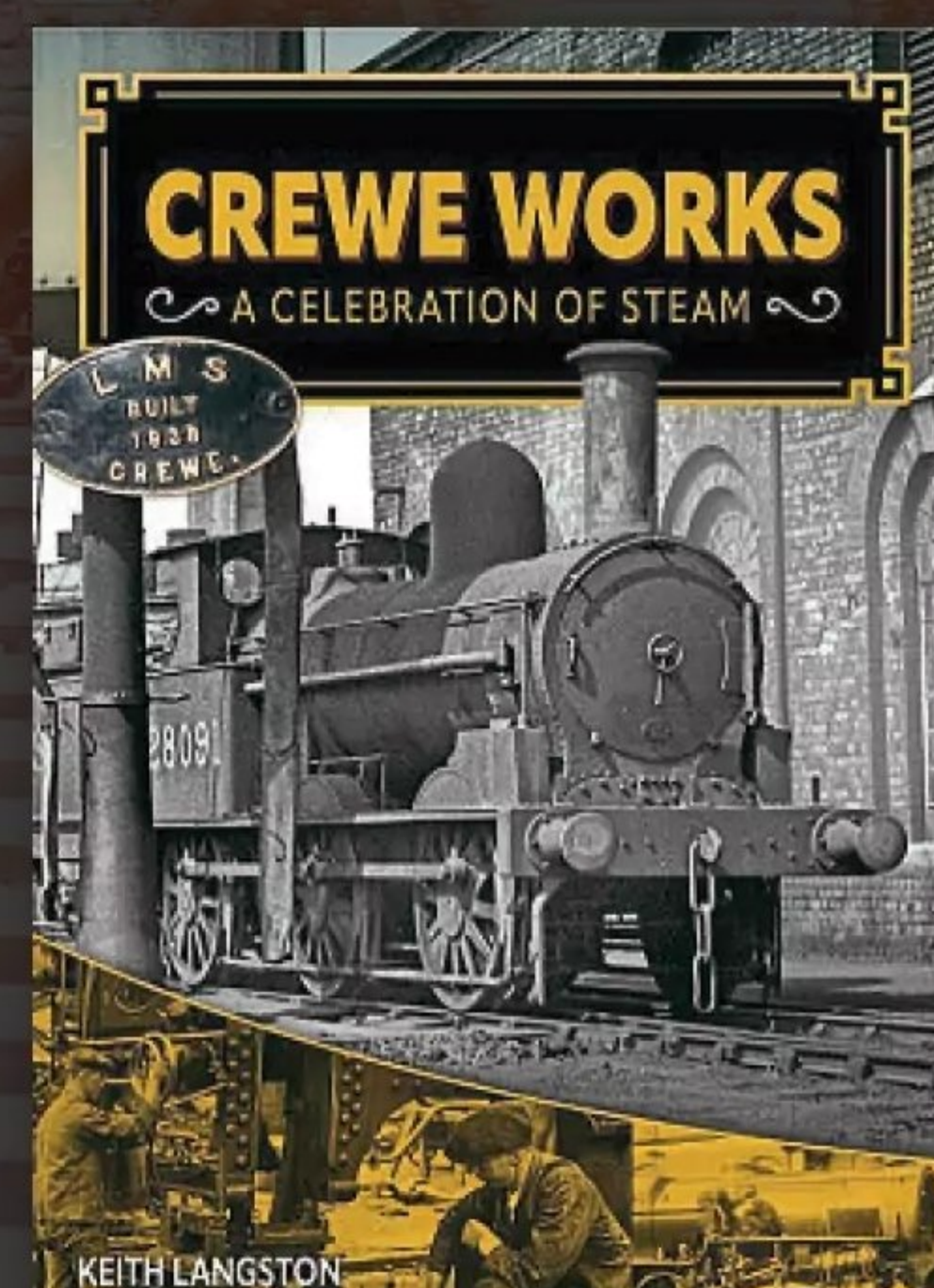
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TLC glow-getter

Old romantic that he is, **John Mileson** advocates for the modelling equivalent of the kiss of life!

Just a few of the model lifeboats on show at the Knightcote MBC Lifeboat Day.



Virtually every class of lifeboat was represented.

I sometimes think I spoil my wife. In fact, on reflection, I'm sure I do.

Mary is a keen gardener, and we are lucky enough to have a two-acre garden that she has made fabulous. Every year, yes, every year, I give her a special treat. Last year we went to a garden centre, had a cup of stewed tea and a piece of what was described as fruit cake, and it rained. Never having been one to rest on my laurels, though, this year I decided to top that with an even more exciting day out – a mystery tour!

The weather forecast was good, a picnic was packed and off we set off,

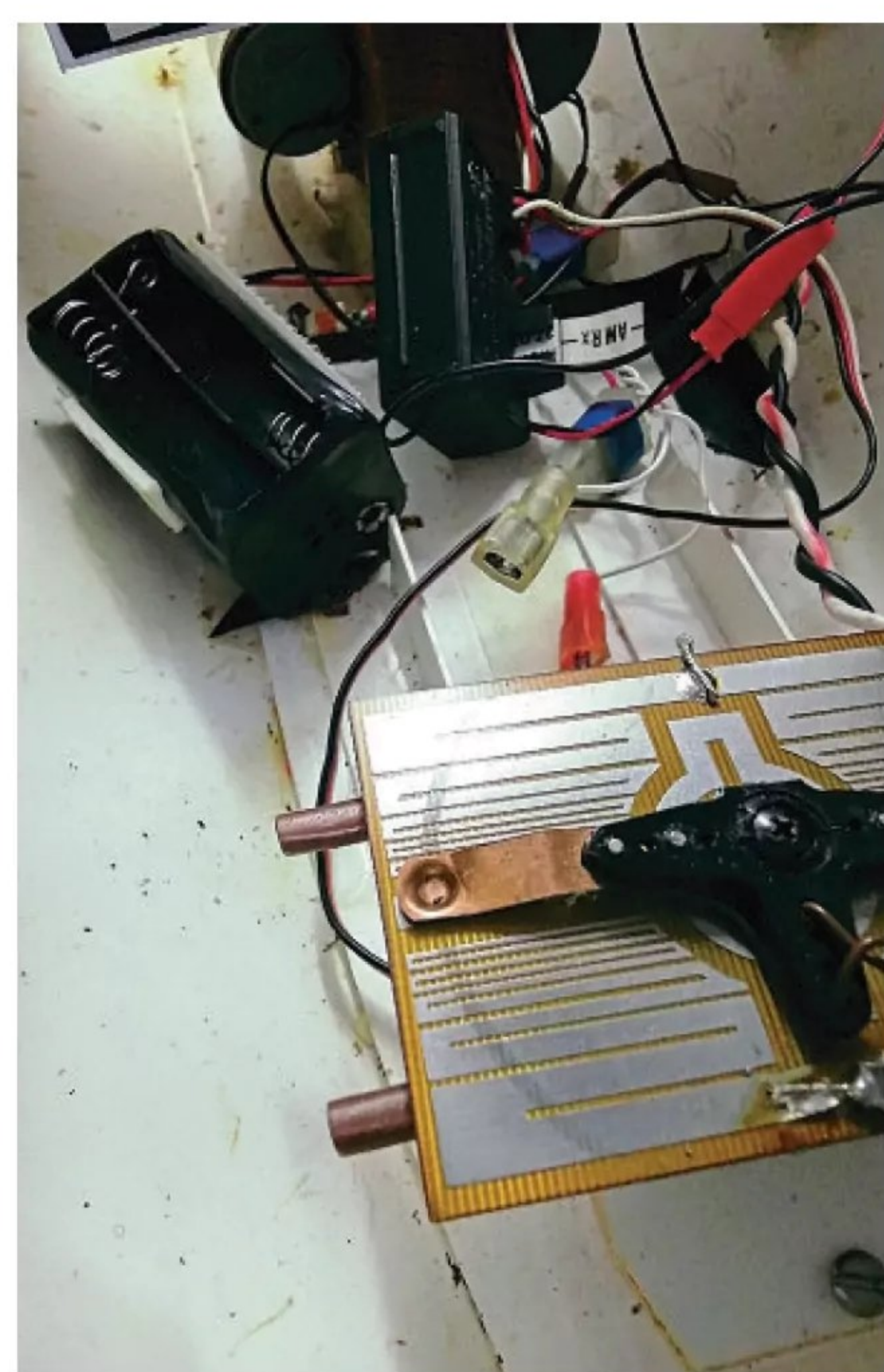
“How I was going to fit three quite large models into our Mini for the journey home posed a bit of a challenge. But where there's a will there's a way, and genius that I am it wasn't long before I'd worked out how it could be done. There was just one little problem with my plan...”



Once home it was time for John to inspect his purchases, and he was well pleased with this Tyne Class lifeboat.



The view from the bow.



The equipment inside the hull was not the very latest!



The beautiful glassfibre hull form of the coastal torpedo boat.

meandering through the picturesque lanes of Northamptonshire and Warwickshire. Until that is, we hit a major road closure and a diversion of almost 20 miles in the wrong direction of travel. However, our spirits were not dampened, and 'quite by chance' we found ourselves at the Knightcote Model Boat Club. Would you believe it, the club was holding a Lifeboat Day in aid of the RNLI, and I just happened to have my latest steam-powered lifeboat in the back of the car – what a stroke of luck! For some reason, I don't think Mary thought it so.

I have been to this club's open days a few times now and they're always good.

The club is located not far from Southam on New Hall Farm. The beautifully maintained pond, while not massive, is large enough for plenty of sailing activities. What's more, adjacent to the pond is a large

outdoor 45mm gauge model railway track designed for electric and live steam G1 locomotives, as the site is also home to the Knightcote Model Railway Club. On this occasion, the large barn conversion it uses as a clubhouse wasn't open. Pity really, but, like the trooper she is, Mary did a marvellous job of disguising her disappointment.

More than compensating for this, we were made very welcome by Adrian Clutterbuck and David Moir. They couldn't have been more helpful, setting us up with a table for my model.

Lifeboat Day rescues

On the table next to us on one side was Adrian's stand promoting the RNLI and the associated modelling of lifeboats. He had a large number of very reasonably priced lifeboat books for sale and, in a Perspex

"I was taught many years ago to never paint any models 'black'... Another tip I was given was to never use gloss paints or varnishes"

fronted display case /carrying box, a model lifeboat. This was also for sale. Similarly, on the other side of us was a stand selling donated model boats and parts, etc. Included amongst the boats was what appeared to be a superb glassfibre moulding of a torpedo boat.

I find listening in on others' conversations very enlightening. The lifeboat in the case was identified as a Tyne Class boat (although this meant nothing to me), and was apparently in very good condition, aside from its outdated electronic equipment, twin motors, prop shafts and propellers.



An overall view of the torpedo boat's hull.

By eavesdropping on the other stand adjacent to us, I learnt the glassfibre moulding was for a Thornycroft Coastal Motor Torpedo Boat, as used in World War 1 and World War II. Interesting!

It was strange though, for although a lot of interest was shown in the Tyne Class, and the torpedo boat, both remained unsold at the end of the day. Something, after hours of being talked about, criticised and manhandled (the models, not Mary and I), I couldn't help but feel sad about. So, being a bit of a softy, I made an offer on both, and I am delighted to say it was agreed that these orphans would come home with us. Even Mary was pleased.

Well, she seemed to be, at first... You see, how I was going to fit three quite large models into our Mini for the journey home posed a bit of a challenge. But where there's a will there's a way, and genius that I am

it wasn't long before I'd worked out how it could be done. There was just one little problem with my plan: I hadn't factored Mary into the equation. Hmm. I'd forgotten about her. Difficult one!

Eventually, however, with the torpedo boat balanced on her right shoulder, the empty picnic hamper on her lap and a large, boxed jigsaw puzzle she'd bought in her footwell, we were homeward bound. When asked, tongue-in-cheek, if she'd enjoyed herself, to my surprise she replied that it had indeed been a splendid day out.

This, then, brings me to the crux of this article, namely, the plight of old, much loved, previously owned model boats and their 'resurrection'.

The Hood made good

Back in March this year at the Wicksteed Park Model Boat Club

AGM, one of our members, Nick Brown, brought along several older boats that had been donated to the club. These would be sold, and any money generated would go into the club's coffers.

There was a distinct lack of enthusiasm from the members to adopt any of them.

To me this seemed a great shame, as whether built from kit or scratch, their original owners had obviously invested many hours in their construction and had no doubt once been very proud what they'd managed to achieve. So, for that reason alone, despite having now seen better days, surely these models deserve the new lease of life a little TLC could give them.

I found myself particularly drawn to one of the more forlorn offerings, representing the ill-fated HMS Hood. From my initial brief inspection, I could



HMS Hood from the bow. Note the dark grey paint below the waterline.

see that underneath all the dust and detritus from many years of storage in a shed, was a superbly crafted scratch-built model.

Measuring in at around 52 inches long, within the hull there was no evidence of motors or electric gear having ever been installed, although twin propeller shafts and propellers were there.

I imagine it was built in around the 1970s, or possibly earlier, by a highly skilled modeller. Of plank-on-frame construction, it was surprisingly 'delicately' made while at the same being enormously strong. The hull was totally open from bow to stern. No bulkheads.

Once purchased and back home, closer scrutiny revealed one or two

minor hairline gaps in the planking of the hull. Nothing of any consequence though and easily remedied with a little fine filler.

But first, after cleaning thoroughly, I poured liquid resin into the hull and swirled it around, coating all of the inner hull surfaces. Now I could be sure it was watertight.

The question then arose in my mind of how it should be restored.

For guidance, I purchased a plan of HMS Hood for Sarik, as I knew this would at least show me all of the ship's details. Those missing from the model I could either purchase or make, and the superstructure could be rebuilt.

But this got me thinking... Built entirely from scratch using a variety

of probably scrap woods, I wondered if all the exquisitely fashioned parts could be readily made today. Are such craftsman still around? Or could it be that, if restored and preserved, models like this will one day be revered as relics of a lost art?

Doubt started to set in: why did I ever think I could improve this beauty? After taking a few deep breaths, however, I reasoned that fitting motors and electrics, etc, wouldn't jeopardise the model's overall appearance, and that I wouldn't be destroying any of the wonderful original work. Elsewhere, I would simply repair some of the minor damage incurred over the years and gently clean the paintwork of the superstructure.

So, anxiety appeased, the hull was duly filled, sanded and sprayed using Halford's grey primer, which fortunately just happened to be a close match to the original paintwork.

Below the waterline the hull was painted in satin grey/black, using Phoenix enamels. The original prototype had, I believe, been painted black below the waterline. Why, then, didn't I paint this model black? Well, I was taught many years ago to *never* paint any models 'black'. The advice being to instead always add some white paint to the black to create very dark grey. As you can see from my photo, this removes the visual harshness of black. Another tip I was given was to *never* use gloss paints or varnishes. Gloss, I was told, makes models appear 'toy-like'. Sound advice.

My restoration of HMS Hood is now finished, and I am very proud of it – not so much because of what I've done to it, but more for what I haven't!

Hopefully, it will be loved and appreciated by future owners, who will still be able to reflect on the skill and craftsmanship of the original builder. At least it remains in an unsullied condition. A remarkable model.

The Tyne Class lifeboat

It's too soon to see the finished refurbished boat, but I propose to adopt a similar strategy to that of the Hood. It will, though, never be a masterpiece, since being originally a kit the builder simply followed the instructions and 'assembled' the boat. There was never any great skill used. In fact, while being a lovely boat, it can be difficult to rectify poor workmanship as modern adhesives make removal of parts very difficult.

Why then bother to spend time and money on it? Well, I think most models are worth saving for the future. I will

clean and tidy it up and repair any damage. As far as repainting goes, I intend to touch in areas that are scuffed or scratched. It's always a problem to know what make, type and colour of paint was originally used, so, unless demanding a total repaint, best to leave well alone.

I have tested the motors, and they operate well. All the remaining electronics, etc, though, will have to be replaced.

Hopefully, when complete it will look reasonable, and perform as when new. We will have to see. At least I will have saved it from the scrap bin and resurrected it for the future.

The Thornycroft Coastal Motor Torpedo Boat

Knowing little or nothing about these craft, a different approach will have to

be adopted; different, that is, from the other two.

This will mean starting from a different point. Firstly, I'll have to do some research into the original vessels. I'm not very good at that, I'm too impatient. Secondly, I'll have to sort out materials, appropriate motors, etc.

After this, a faltering start can be made. The quality of the fibreglass moulding merits great care on my part to create a first-class finish. Am I up to this project? Only time will tell.

Be a restoration hero

Restoring old models can be challenging. Some are just too far gone to resuscitate and end up in the scrap bin. The majority are, however, worth saving. At least we can all do our best to resurrect those boats dying before our eyes! ●



Part of the superstructure of HMS Hood, as viewed from the stern.



Although not super detailed, John is delighted by the sheer quality of this old scratch-built model.



SS *Vagabundo*

Glynn Guest provides Part 1 of a guide to building this small coastal trader model

In the middle of each year, the three model steam plants that lurk under my workbench are taken out and given their annual check over and steam up. As they are always returned into storage clean, dried and well lubricated, they have, so far, never failed to work. So, while running them in 2024, my thoughts turned towards building another steam-powered R/C model...

Steaming history

My introduction to steam power came in the late 1990s with the 'Ministeam' class of models. These had a length of 50 cm and were

powered by single cylinder oscillating engines with rudder only R/C. The first such model, *Beadle* (see the May 1997 issue of *Model Boats*), was based on a small launch of the type that might have been seen in late 19th and early 20th century harbours. A USE (Unit Steam Engine) steam plant was purchased for this model and worked flawlessly. After running the engine in so that it operated with silky smoothness, this model became a very reliable performer. This type of basic model was a perfect introduction into the extra rituals needed to avoid steamy problems!

The title's (then) editor had entrusted me with a review kit of the Midwest Fantail Launch, which included a steam plant that you also had to build. Luckily, all the metal parts were accurately fabricated, so, even with my limited tools and equipment, I managed to produce a successful model. This compact Midwest steam plant was then used in two other models: *Sabina*, based on a small pleasure cruiser (see MB Dec 2002), and *Dusty Miller*, based on a small tug (MB Feb 2008). Both fitted into the Ministeam category, with the engines running continuously and just control of the rudder. I did

experiment with a form of 'Kitchen rudder' in the tug model, which allowed me to change its speed and direction. However, while this was an improvement, the steering could be a trifle odd at times.

One minor irritation in these first steam-powered models was due to the use of solid fuel tablets. They produced a sticky tar like deposit on the underside of the boilers. Now, these small engines have modest power outputs and abysmal efficiencies. A rough engineer's 'back of the envelope' type of calculation came up with something around 1% of the fuel's energy ending up at the propeller – a worrying situation, until you realise that full-size steam engines can usually only just better 10% efficiency. So, rather than let the tar build up and reduce the efficiency further, I had to remove this deposit after each sailing session. Eventually, therefore, this cleaning chore was avoided by converting them to use methylated spirits, which burnt more cleanly.

The absence of speed and direction control with these single cylinder engines was no serious problem when sailing; their modest speeds never made recovery difficult. Still, I hankered after more control, which meant a twin cylinder, double acting setup, and preferably, a gas fired boiler. An internet search revealed that it was possible to spend a lot of money on such items, so at that time a Graupner product looked like the best option. Available with either a vertical or a horizontal boiler, I went for the latter (Best-Nr 1940) as it was a better fit with the type and size of model I had planned for it. This was to be based on an early TBD (Torpedo Boat Destroyer), these vessels actually having been powered by steam engines. The *Avispa* (MB Feb 2012), with its slim hull, proved to be an object lesson in keeping a model's Centre of Gravity low to ensure stability. With careful ballasting and minimising top weights (which included cutting down the boiler's tall brass funnel), safe and reliable performance was achieved (see **Photo 1**).

To be honest, I must have forgotten this lesson about the importance of top weights with my next attempt at a steam-powered model in 2017 – something based on a tramp steamer, old and grubby in appearance, perhaps eking out its final days sailing between small islands, being the aim. To make the best use of the modest power of the USE engine, this model was made as small as possible, with a 4-inch (100 mm) beam. This, combined with an admittedly heavy construction, proved its undoing. It was only marginally stable, even when grossly overloaded



“I wanted to design a model that could be built economically from timber found in any decent DIY store and, as far as possible, using tools likely to be available to most homeowners”

with ballast. There was nothing for it but to scrap the model, then build a replacement with a modest but adequate increase in beam to 5-inches (125 mm); this became the *Nomad* plan (MB June 2017).

What now?

After a gap of several years, the urge to build another steam-powered model arose. To give more operational flexibility it was to use the Graupner unit, with its reliable engine control. Also, I wanted to design a model that could be built economically from timber found in any decent DIY store and, as far as possible, using tools likely to be available to most homeowners. Hence, the previous *Nomad* model design was re-examined, this time making sure that the model would have adequate stability for the larger engine. A search in my favourite local DIY store showed that the best wood to use for the basic hull structure would be PSE (Planed Square Edged) Pine with a section of 12 x 96 mm. My design plans had the hull bottom and decks made from two pieces of timber glued edge to edge. This would create a final hull beam of around 8-inches (20 cm) – more than enough for good stability, I hoped.

Numerous sketch designs were drafted, ranging from the traditional 3-island vessels to small passenger liners, but all failed to create the right impression for various reasons. One recurring problem was the position of the boiler's funnel. I wanted it to exhaust straight up through the model's funnel and this often produced an awkward profile. After numerous discarded quarter scale designs, something looking like a small vessel with a cargo hatch forwards and limited

passenger accommodation aft looked promising. To double-check this idea, a full-size hull outline was drawn and the steam plant checked against it.

At this stage, an estimate of the model's final weight was around 20 pounds (9 kg). Not perhaps excessive, but I could see transport to and from some sailing waters and the launching and recovery operations might become troublesome. A quick session with a rubber and pencil reduced the model's length to 30 inches (76 cm), which made its weight a more reasonable 12/13 pounds (5 ½ kg). Surprisingly, the model's appearance was not spoilt by this and, as a bonus, all the hull parts could be drawn full-size without having to be cut to fit into this magazine's plan size!

A note of caution

What follows should not be regarded as something to slavishly follow. For example, it would be silly to expect you to be able to use exactly the same steam plant. Hence, alterations to the hull structure, like moving bulkheads, enlarging parts and altering the superstructure, could be essential to you building a successful model.

As this model is not based upon a real vessel, changes can be freely applied to its appearance. In fact, this model's superstructure and details were often driven by what materials were readily to hand. A lot of the wood was 'cut to fit' rather than to a previously designed shape. Although others might find this freedom (compared with following a dogmatic set of instructions and plans) unsettling, I found it to be a creative and relaxing exercise.

The only precaution taken was to try to keep a reasonably consistent scale appearance. Models featuring structures, details and crews that are of obviously differing scales always bother me. With this model, the scale turned out to be about 1:48, so I could use some O gauge model railway figures as crew. An alternative might be the 1:32 or 1:35 figures that match popular plastic kit scales. Remember, model plans can sometimes best be regarded as guidance, and you can modify them to suit your situation, circumstances and desires. When it works, you can feel satisfied with your creation, but if your changes fail, do not blame the designer of the original plans!

“As this model is not based upon a real vessel, changes can be freely applied to its appearance”

Before starting to cut anything...

I do not intend to repeat the detailed advice on operating these model steam engines, which has already been exhaustively covered in this magazine. However, it is perhaps worth pointing out the obvious to anyone starting from scratch: make sure you fully read the instructions that came with your engine and learn to operate it before installing into a model.

With all my steam plants, they were first secured to a suitable piece of wood, which in turn was clamped in one of those portable workbenches. This allowed me to conveniently work outdoors, as steam, hot water, oil and exhaust gases are not usually welcome inside the domestic home!

These 'out of the model' trial runs did establish some handy operating information. My boiler's capacity was found to be about 0.4 litres. I only fill it to around 75% of that when sailing and have a plastic squeeze bottle suitably calibrated to this value. Knowing when the gas tank is full can be a problem, but I practised using one of those small digital kitchen scales until the technique was mastered. During this work, I established that an engine with a boiler pressure of 2 bar will create enough power for this model.

Perhaps the most important thing to ascertain in these trials is how long you can safely run a steam plant before having to return the model to shore. The best setup is for the fuel to run out well before there is any risk of the boiler running out of water. These preliminary trials should allow you to establish a safe sailing time before you have to replenish fuel and water. All of this work is much easier when done out of the model!

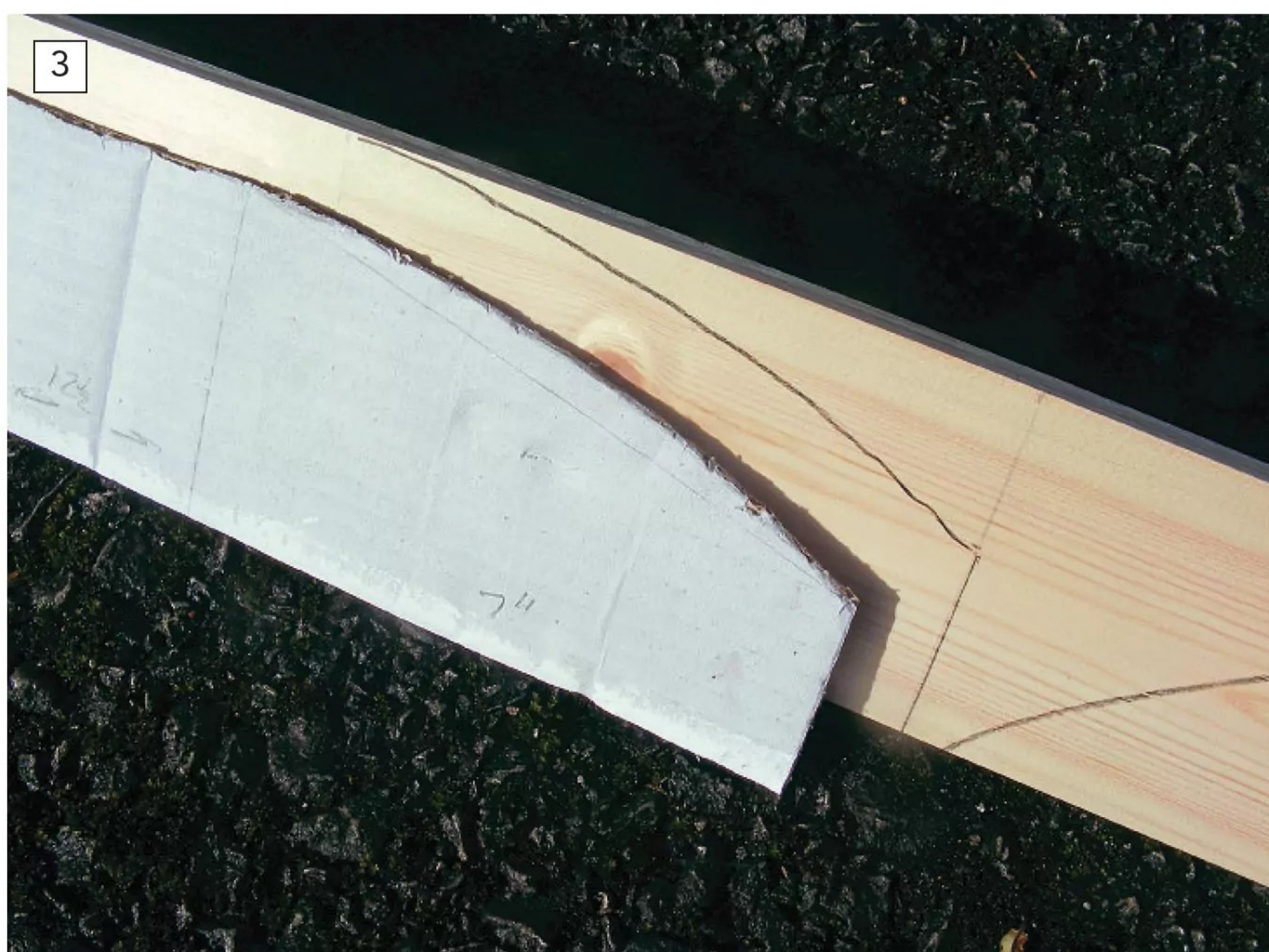
Materials

Noted below is what I used, but dependent on local availability you may have to make substitutions. Try to keep as close as possible to these sizes, though, and make sure that the parts still fit together properly.

- Hull structure
PSE (Plane Square Edged) Pine – two pieces of 96 x 12 x 2400 mm and one piece 25 x 6 x 2400 mm
- Hull sides
Lite ply or plywood – one sheet, 2 or 1.5 x 300 x 1200 mm
- Stern block
Laminated from scrap Balsa sheet
- Superstructure
Pieces of 3mm plywood from the scrap box

Tools

As mentioned earlier, the materials and the design of this model do encourage



“An engine with a boiler pressure of 2 bar would create enough power for this model”

the use of the following domestic power tools:

- Drill
- Jigsaw
- Belt Sander

During construction, one of those adjustable portable workbenches proved invaluable. It was widely used during the cutting out of the hull parts, their assembly, gluing together and

shaping. In fact, the model has spent most of its life sat on this workbench!

Cutting and drilling

The deck and hull bottom have to be made by gluing two halves together. It is important that these halves are identical. Do note that the bottom pieces are slightly longer than the decks to allow for the upsweep of the bottom at the stern. It is easier if a template is made for the bow and stern shapes, the middle of the hull has parallel sides. I just used some scrap card to make this template when drawing the shapes out (see **Photos 2 and 3**).



The timber was held firmly on the workbench with two clamps (see **Photo 4**). It is important that the timber is positioned on the workbench so that when using a jigsaw the bench table is not cut into (see **Photo 5**). The result should be a pair of identical deck and bottom pieces (see **Photo 6**). These parts must then be glued together. My workbench proved to be an ideal way to hold them firmly without applying excessive force (see **Photo 7**).

Only once the glue had fully set (I left the parts clamped for a day rather than trust the sometimes-optimistic suggestions on a glue bottle) could they be removed. The deck needs the

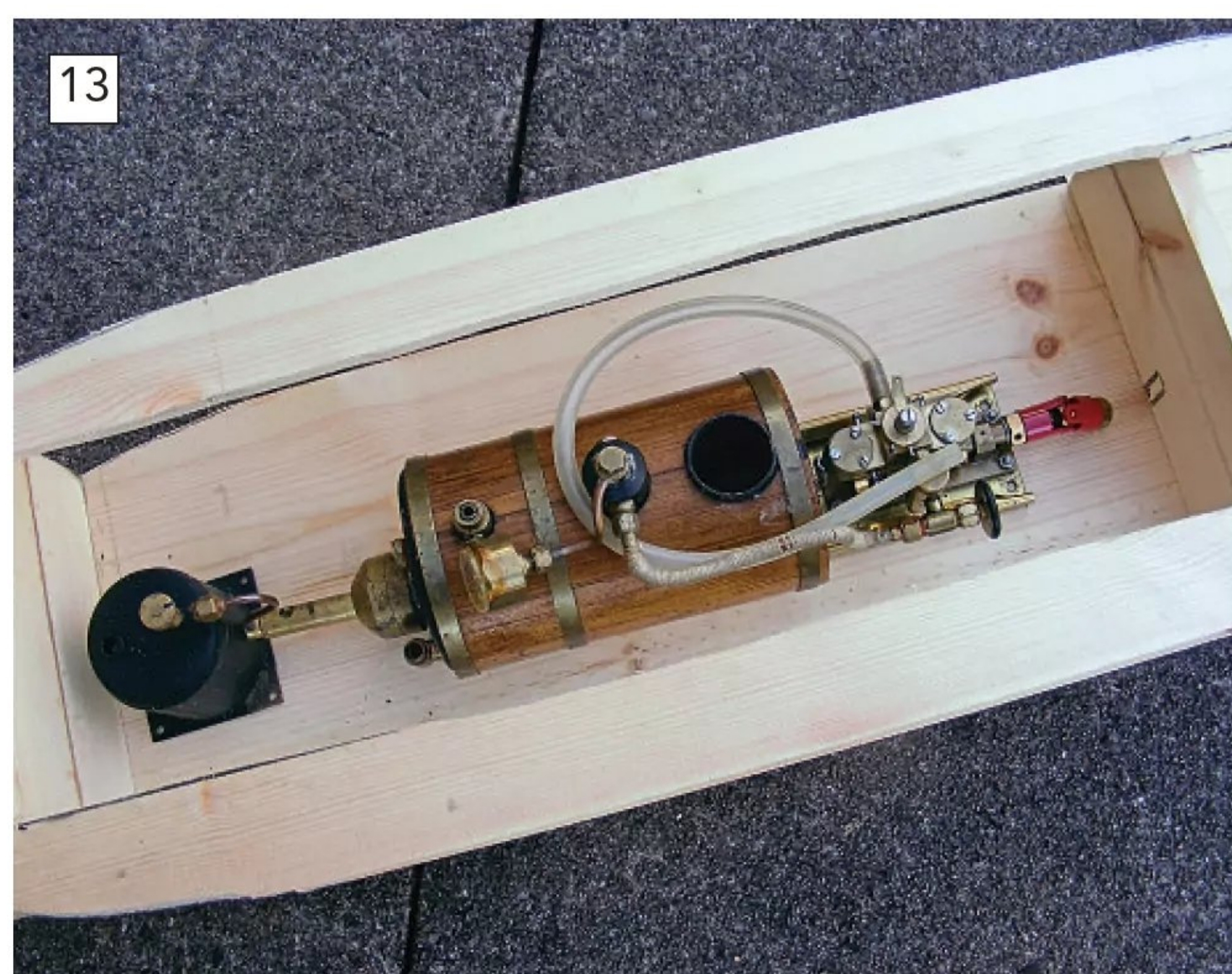
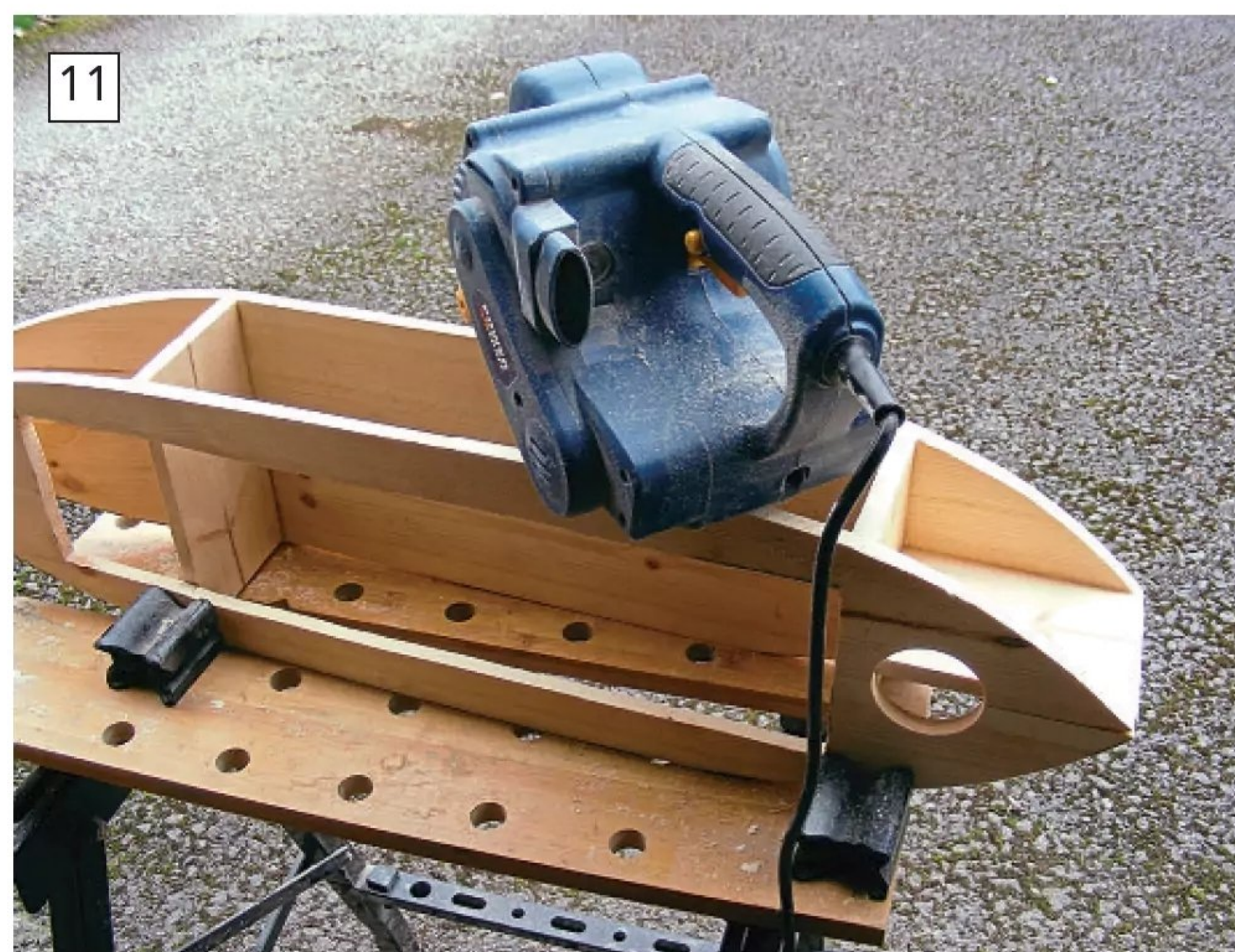
outline of the access opening drawing, as shown on the plans. Four holes were drilled inside the corners of this deck opening (see **Photo 8**). These holes needed to be large enough for the jigsaw blade to enter. A larger hole was cut in the bows to allow ballast to be added to this compartment when establishing the correct sailing trim. This hole was too large for a conventional drill, but I had a hole saw to hand. The disc it cut out of the deck was saved to make a plug for this hole later. Again, when cutting the deck access hole, you need to be careful that the jigsaw does not cut into the workbench table (see **Photo 9**).

“The deck and hull bottom have to be made by gluing two halves together. It is important that these halves are identical”

The stem piece and bulkheads are simple rectangles cut from the timber. Note the second bulkhead (B2) is wider than the first (B1). The holes for propeller tube and throttle linkage could be made at this stage, but I felt it was safer to do this later. A transverse cut was needed across the hull bottom at the position of B2 where the bottom will sweep upwards.

Fitting together

It's always a good idea to have a 'dry run' at assembling the hull parts before reaching for any glue. The surfaces that are to be glued should be close fitting and square (see **Photo 10**). The surfaces where the hull bottom piece fits onto Bulkheads 2 and 3 will need a small amount of chamfering to achieve a good-glued joint.



“The surfaces where the hull bottom piece fits onto Bulkheads 2 and 3 will need a small amount of chamfering to achieve a good-glued joint”

It did seem easiest to construct the hull inverted, first gluing the stempiece and three bulkheads to the underside of the deck. The clamping feature of the workbench was not needed for this stage, I just made sure the parts were accurately positioned, square and upright, then used some weights to keep things secure. The weights were some old lead-acid batteries, electrically dead but their square shape and mass are still useful.

Only when the glue was fully set could the two hull bottom pieces be added. Again, after a check for accurate placement, some weights held them firmly until the glue was fully set. At this stage, the hull frame was a hefty and rigid structure, but the edges cut by jigsaw were somewhat rough!

This called for the hull to be secured in the workbench again, but this time on its side. This allowed me to use the belt sander to smooth off these edges (see **Photo 11**). The sander was also used to make the angled edges on the stempiece, so the side sheeting could make a good-glued joint at the bows.

Looking at my creation, I saw that the glued joints between the parts that made the deck and bottom pieces were less than perfect. Running a fingertip across these joints I could detect a small step. So, having clamped the hull back into the workbench, it was out with the sander once more, until I had smoothed these blemishes away (see **Photo 12**).

Will it fit?

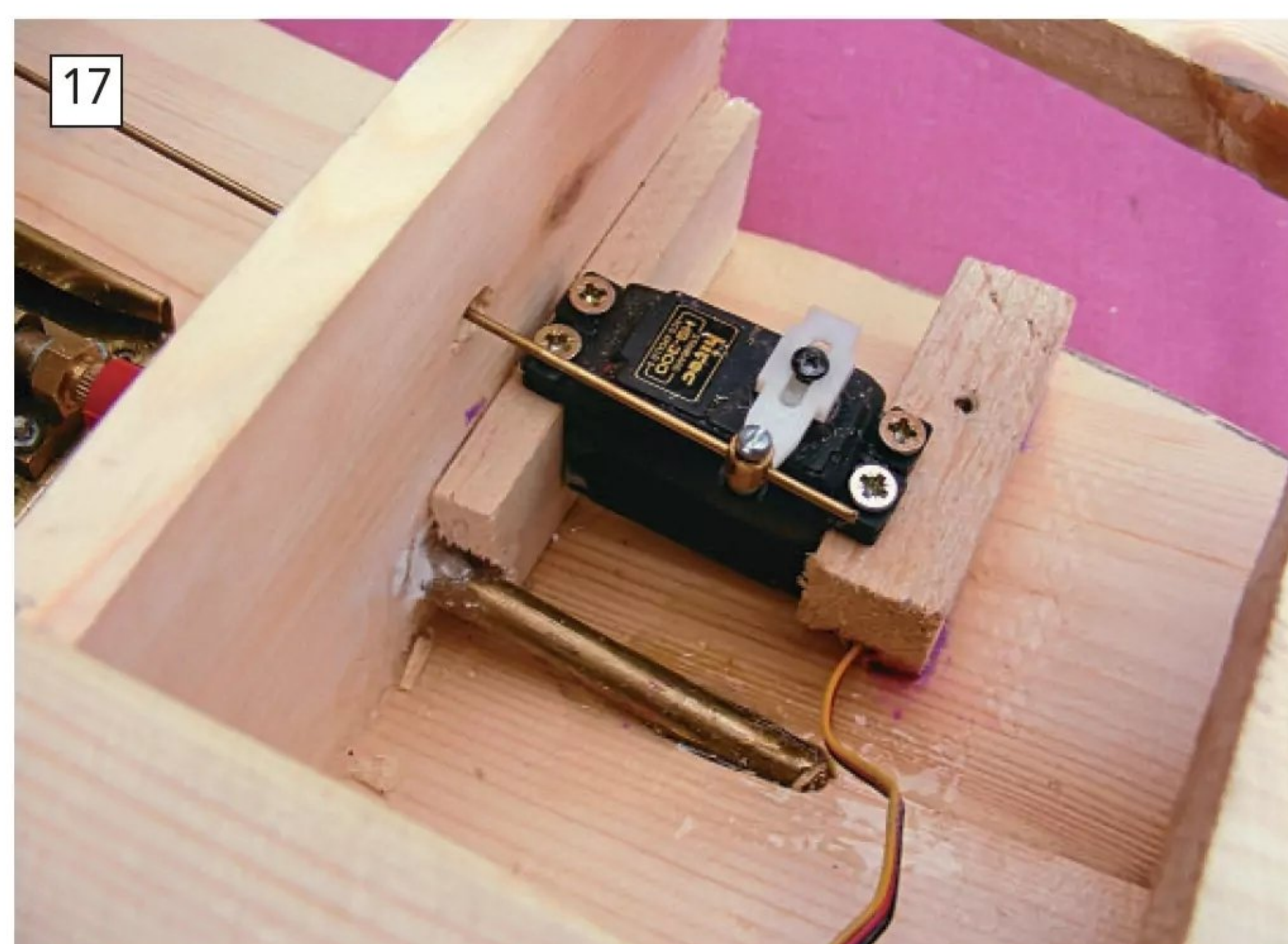
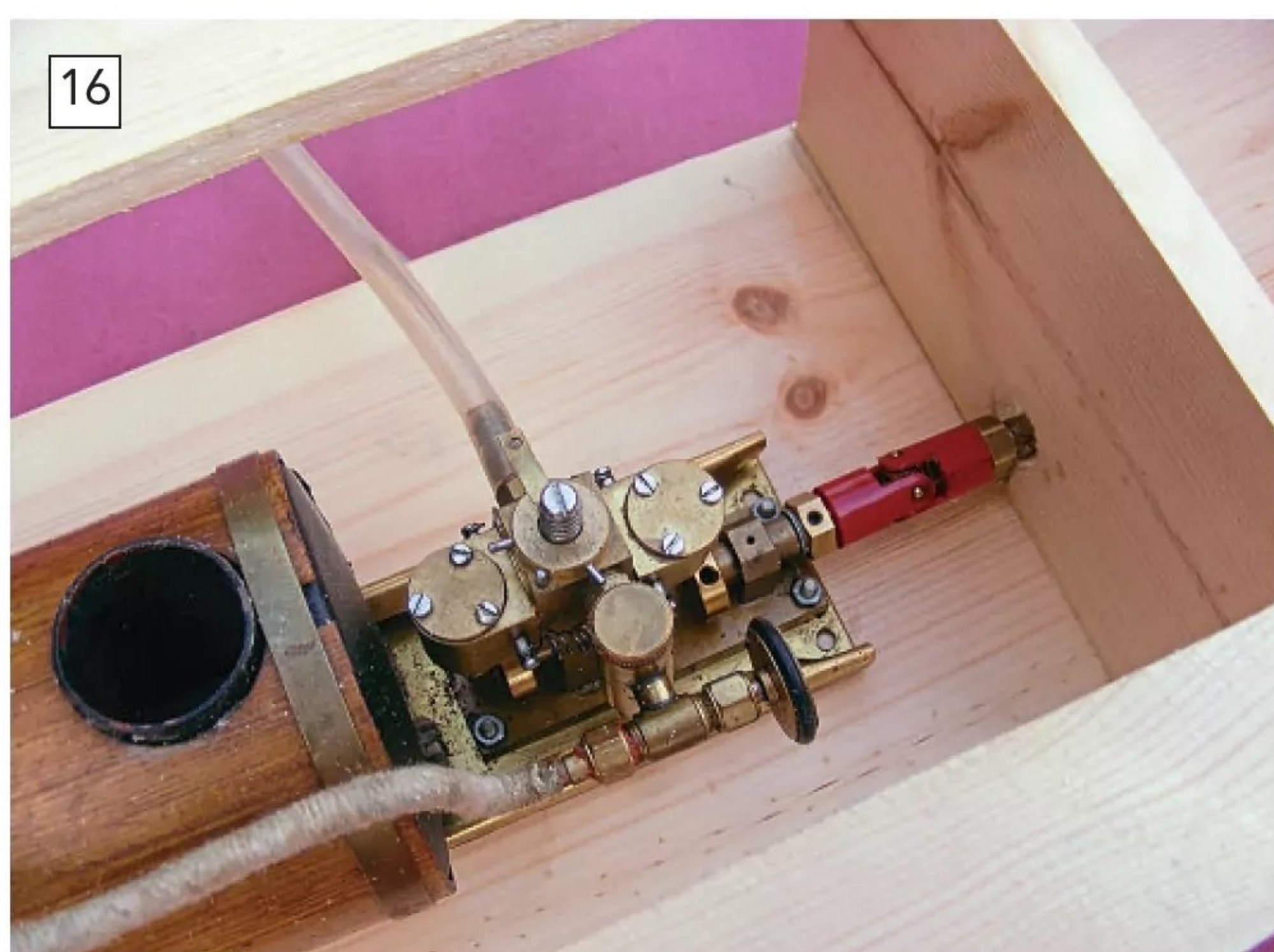
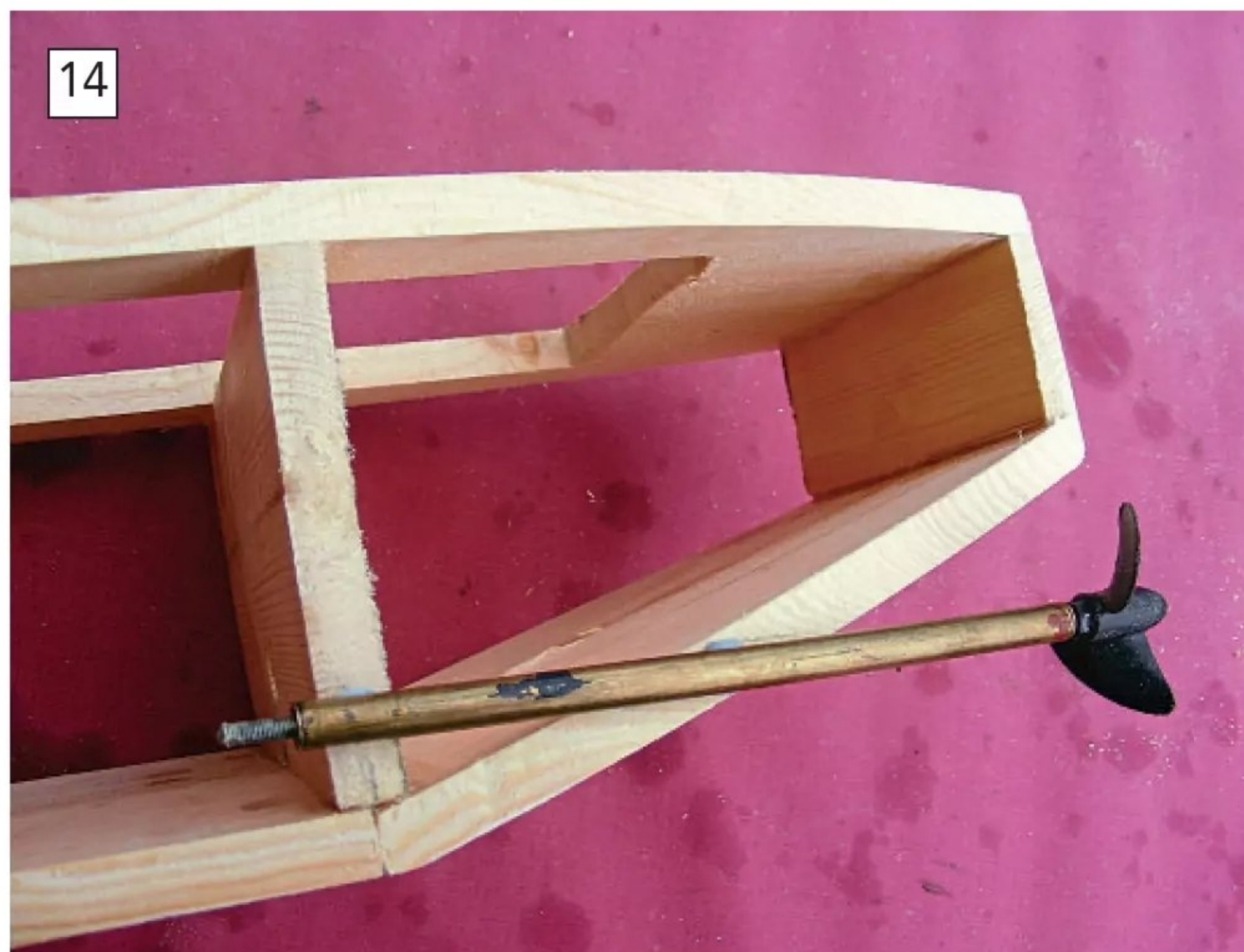
Although the steam plant had been checked against the plans, I'll confess there was a momentary worry when I tried it in the hull (see **Photo 13**) – thankfully groundless, as the engine, boiler and gas tank fitted comfortably inside, with everything accessible. This allowed me to determine the best position of the propeller tube

in B2 to create the smoothest line between engine and propeller shafts. I could also see where a hole would be needed to allow for a straight link between the throttle and servo arms.

With the steam plant removed, I found there was enough room inside the hull to drill pilot holes through B2. This then enabled me to place the propeller shaft and tube on the edge of the hull frame and, with the propeller fitted, gauge where a slot would need cutting through the bottom sheet (see **Photo 14**).

The actual propeller used in this model was a plastic two-bladed type, with a modest diameter but aggressive pitch. It had already proved a good match for this steam plant in my previous model, providing plenty of thrust at a modest engine RPM that matches performance with duration. It might not be as pretty as a shiny brass propeller, but plastic ones are much cheaper to experiment with to get the best results.

The position of the slot for the tube was marked in the centreline of the bottom sheet, then a hole



that matched the tube was drilled perpendicular to the bottom sheet at the middle of the slot. This hole was opened up to the elliptical shape that matched the desired shaft angle. I used one of those serrated drill bits where after drilling a hole the cutting edges on the shaft can be used make the desired final shape (see **Photo 15**) – a good alternative would be a bastard file.

Easy removals

I never like to install anything in a model hull that, should maintenance or repairs be needed, is not easily accessible and removable. This philosophy drove the next part of the model's construction.

The steam plant was refitted into the hull along with the coupling, and the engine and propeller shafts connected together (see **Photo 16**). The propeller was then slowly rotated to make sure it didn't foul the hull bottom. The aim should be for a smooth rotation, and this will likely call for adjustments at the holes where the propeller tube passes through the wood parts. I tend to make the tube a slightly loose fit and use

wedges of wood in these holes until the shafts can rotate smoothly before epoxying everything in place.

The boiler and engine were mounted on a brass baseplate, which had holes at each corner. Small screws in these holes secured it into the hull – these having been first checked to ensure they weren't long enough to go right through the hull bottom. I then once again checked everything still rotated smoothly.

The gas tank base also had corner holes on its base, but it needed to be removable to allow it to be filled outside the hull. Some gas inevitably leaks during refills and being denser than air you really don't want to fill the inside of a model with a potentially explosive gas/air mixture. Using screws would have made this a tedious job at the pond side, as well as possibly losing the screws somewhere in or out of the hull. I had, however, already found a good solution to this when building the *Avispa* model. With the burner being a snug fit into the opening in the end of the boiler and the two forward holes in the boiler base fitting over small panel pins driven into the hull bottom, the gas

“Some gas inevitably leaks during refills and being denser than air you really don't want to fill the inside of a model with a potentially explosive gas/air mixture”

tank and burner could be installed and removed from the model by just lifting it in and out, and this has proven more than secure enough when sailing.

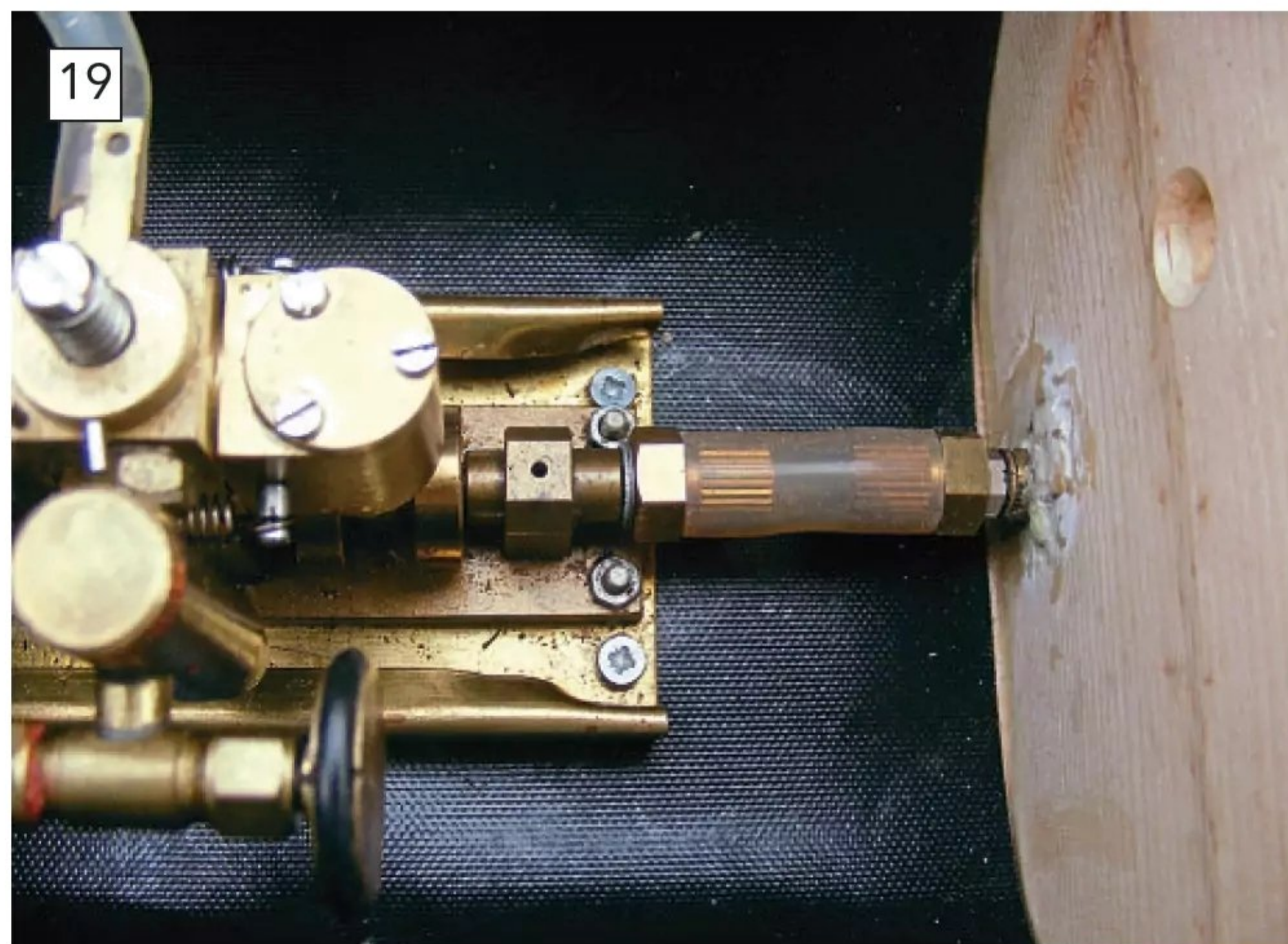
Even the chore of unfastening the coupling was avoided, as the two end pieces could be left secured to the shafts. The plastic centrepiece fixed over splines on these end pieces but could be slid off them. While not good practice in some installations, it caused no problems with the modest power and smooth running of this steam engine.

This seemed a good point at which to fit the throttle servo in the compartment bounded by B2 and B3. A standard size servo was to be secured to wood blocks glued to the rear of B2 and the hull bottom (see **Photo 17**). The latter needed the glued surface chamfering so that the servo could sit vertically. The set up

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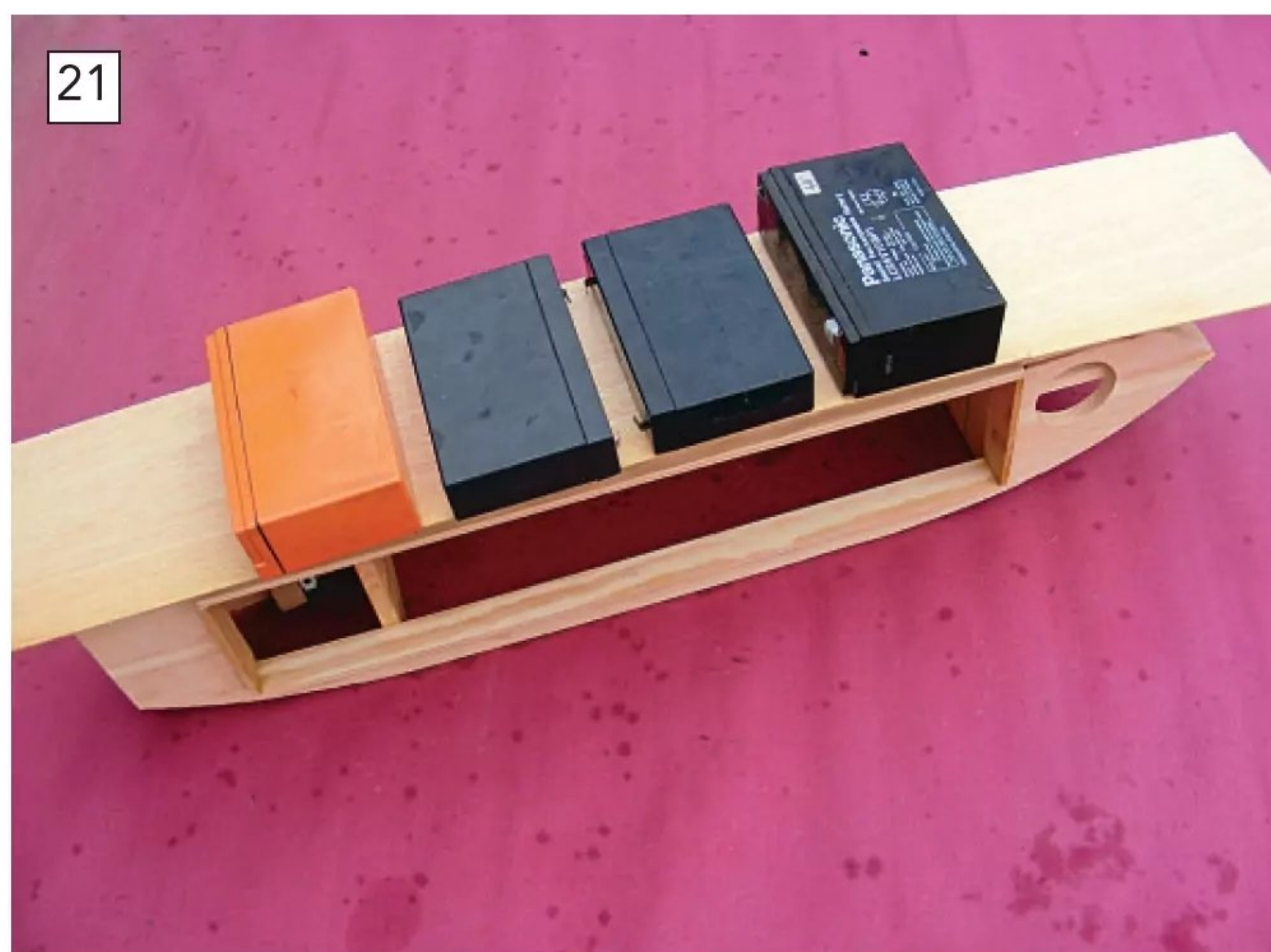
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was such that the wire linkage between the servo and throttle arms was a straight run. I also fitted an adjustable servo arm to make sure that any final trimming would be painless.

Experiment time

In previous models, I've lined the inside of the hull with the thin aluminium kitchen

foil. This has proved effective in keeping heat and water/oil away from the wooden structure. The only problem, as anyone who has tried to cut and shape this foil will have discovered, is it will tear at the first opportunity it gets. This has usually resulted in repeated raids on Mrs Guests kitchen foil until an undamaged lining could be produced.

A possible alternative was found while my better half was searching through the kitchen appliances in a department store. As I idly amused myself by trying find something that might have modelling use, I spotted a PTFE-coated non-stick fabric oven liner, claimed to be dirt and grease resistant and tolerant of



temperatures up to 260 degrees C. Could this make a good liner for the inside of a steam model?

It was worth a try, and the liner I bought proved just the right length to fit inside the deck opening. A trial fit was carried out and, with its smooth easy to wipe surface making a handy insulating air gap between the liner and hull sides, it looked promising. So, holes were cut in this liner to match the positions of the mounting screws and pins (see **Photo 18**).

On refitting the steam plant, it was found that the coupling had developed a minor but irritating wobble. Either the thickness of the liner or not getting things exactly back in their original positions could have been the cause. A solution was, however, to hand, in the form of a length silicone rubber tubing. This slid over and firmly gripped the

“Could this make a good liner for the inside of a steam model? It was worth a try...”

coupling splines, eliminating the wobble (see **Photo 19**).

Final hull construction stages

The steam plant was removed to avoid getting it covered with glue and sawdust while the coaming strips were fitted around the deck opening (see **Photo 20**). These were made from 25 x 6 mm strip, but alternatives could be used, provided the detachable superstructure is a secure fit over them. The wedge in the middle was just a temporary fitment to keep the strips in place while the glue set.

I had planned to cover the hull sides with plywood that had been salvaged from some old doors. Alas, while it looked like a good idea at the time, as soon as any attempt was made to bend it to match the bow shape it made protesting noises and split. Luckily, I had some 2 mm lite ply left over from another project which worked perfectly. An alternative would be plywood; 1.5 mm might be best, as it's stiffer than lite ply.

The model was to feature bulwarks around the deck edges. Rather than adding these items later, I just cut the sidepieces so they would stand above the deck level when stuck to the hull structure. The side sheets were added one side at a time. The first thing to do was glue the sheet to just B1, B2 and the deck/bottom edges between them. Once again, my 'dead' batteries kept the glued joints firmly in place (see **Photo 21**). The bow and stern sections could then be glued down; this time I clamped the hull on the workbench so that elastic cords could supplement the batteries (see **Photo 22**). The excess side sheet that extends beyond the stempiece in the bows had to be trimmed away, otherwise the second side sheet wouldn't fit (see **Photo 23**). The stern also requires this excess removing (see **Photo 24**). Fitting the second side sheet involves the same procedure.

I had decided to give this model a rounded stern. Having an aversion to discarding anything that might be useful, there was a box of balsa offcuts in the workshop. This allowed me to laminate a suitable shape and stick it to the rear of B3 (see **Photo 25**). After drawing a suitable curved outline, the belt sander produced the final shape (see **Photo 26**). This is another messy job best done outside.

I planned to put some railings on the model, so parts of the bulwarks had to

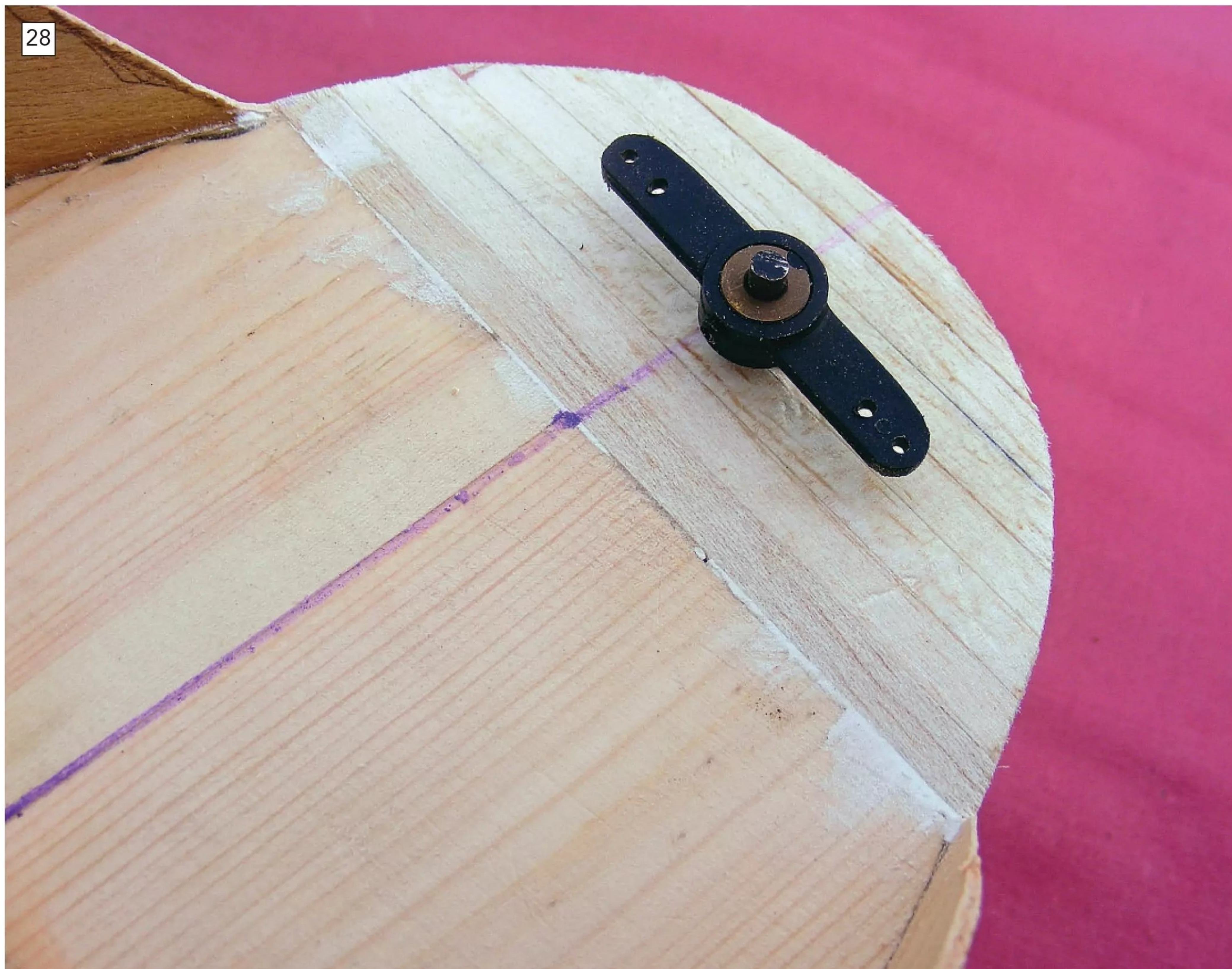
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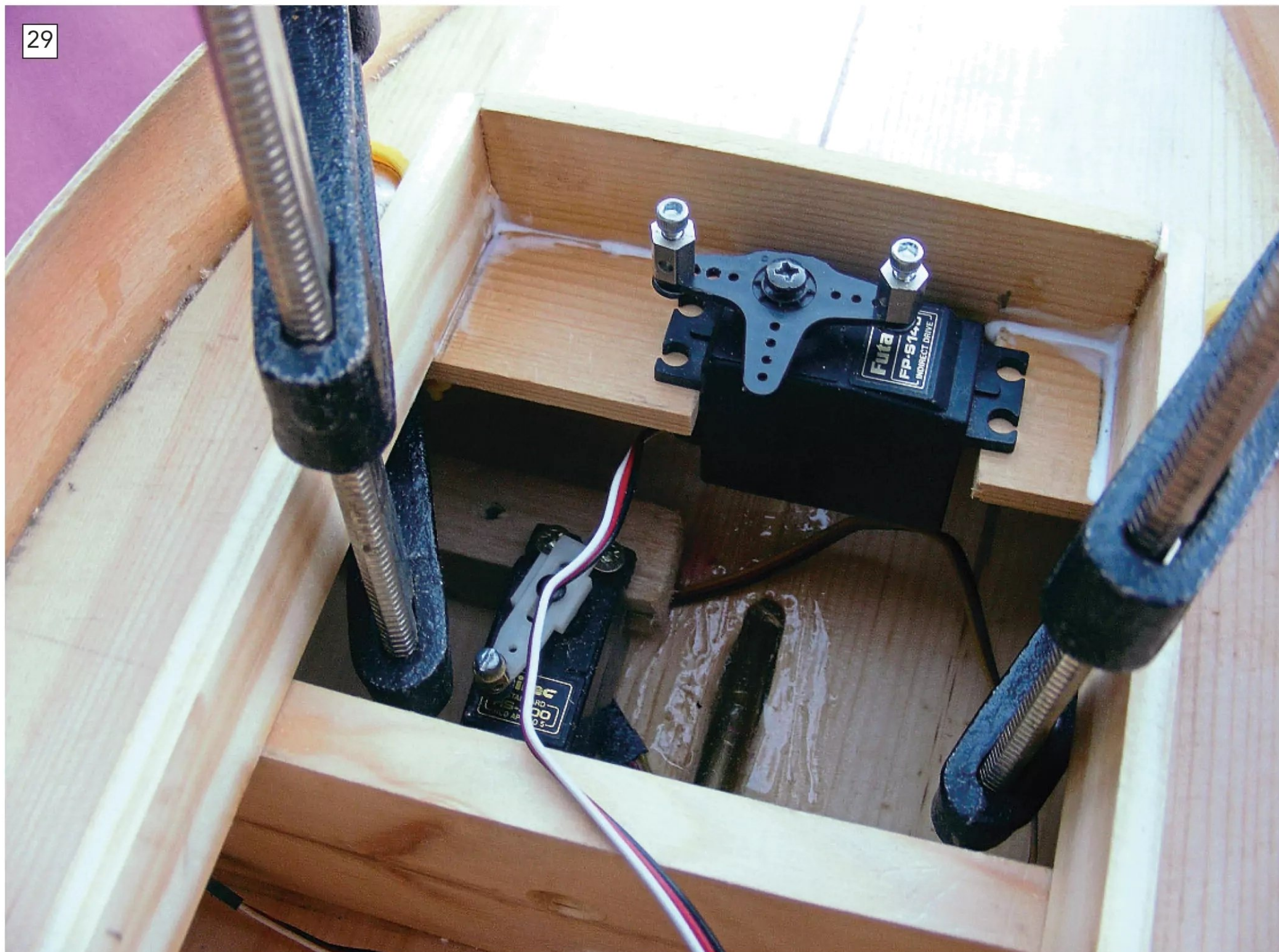
be removed. This can be a tricky task as it's so easy to cause damage with a slip of a blade or saw when making the cuts required. In one of those events that might make you believe in kismet, as I glanced around the tools in the workshop at this point, my eyes fell upon a pair of scissors. These were the type that claim to be able to cut through virtually anything – so, what about lite ply? A quick cut on a piece of scrap lite ply produced an accurate cut with a good edge and the bulwarks were soon cut down to deck level (see **Photo 27**). Carefully running repeated light cuts with a knife blade between these scissor cuts removed the unwanted bulwark sections.

The hull was given a once-over check for any defects and a final sanding. The junction between the side sheets and hull bottom was slightly rounded, but not enough to weaken this joint (see the cross-section on the plans). This was my token effort to streamline what was a very angular underwater hull shape.

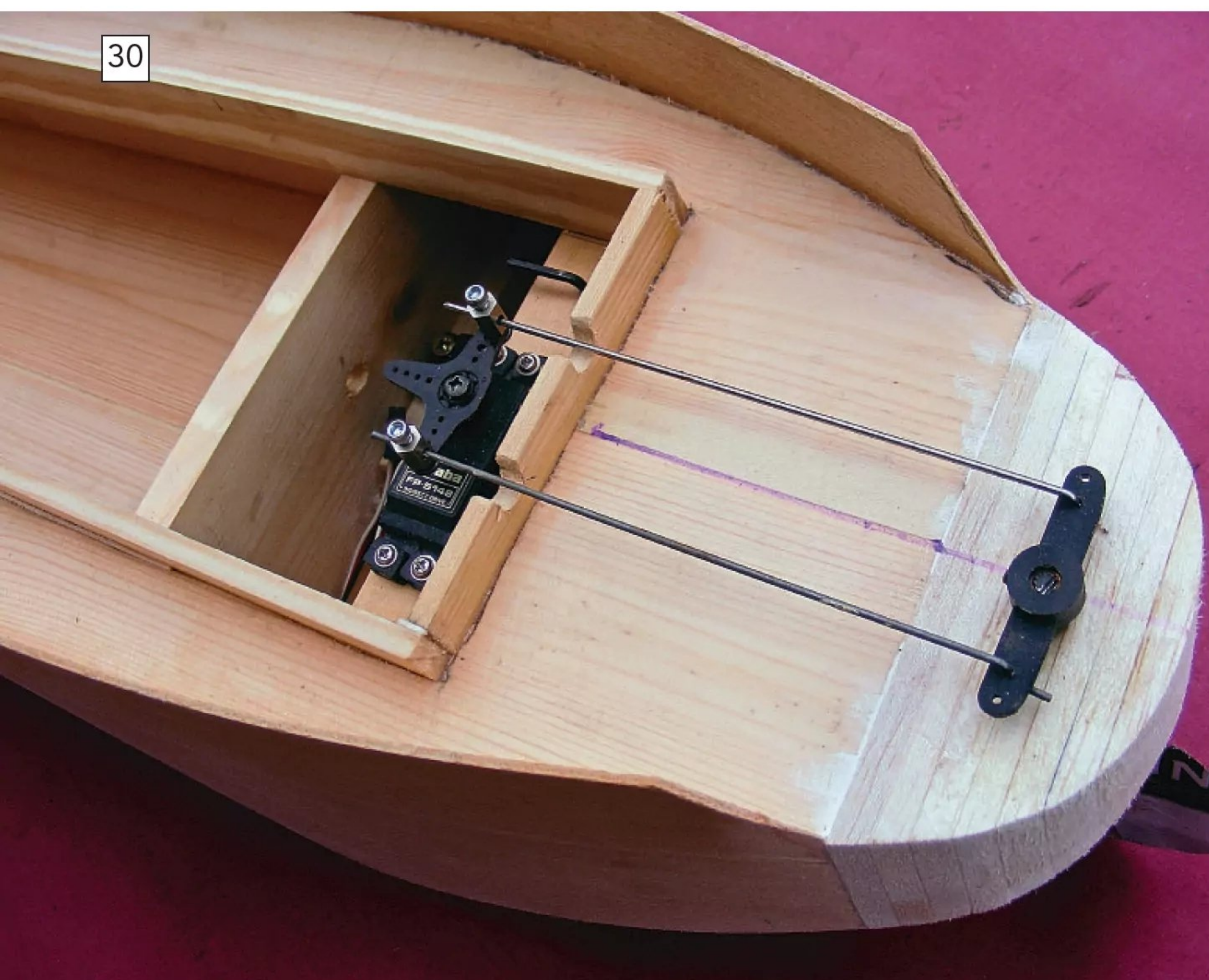
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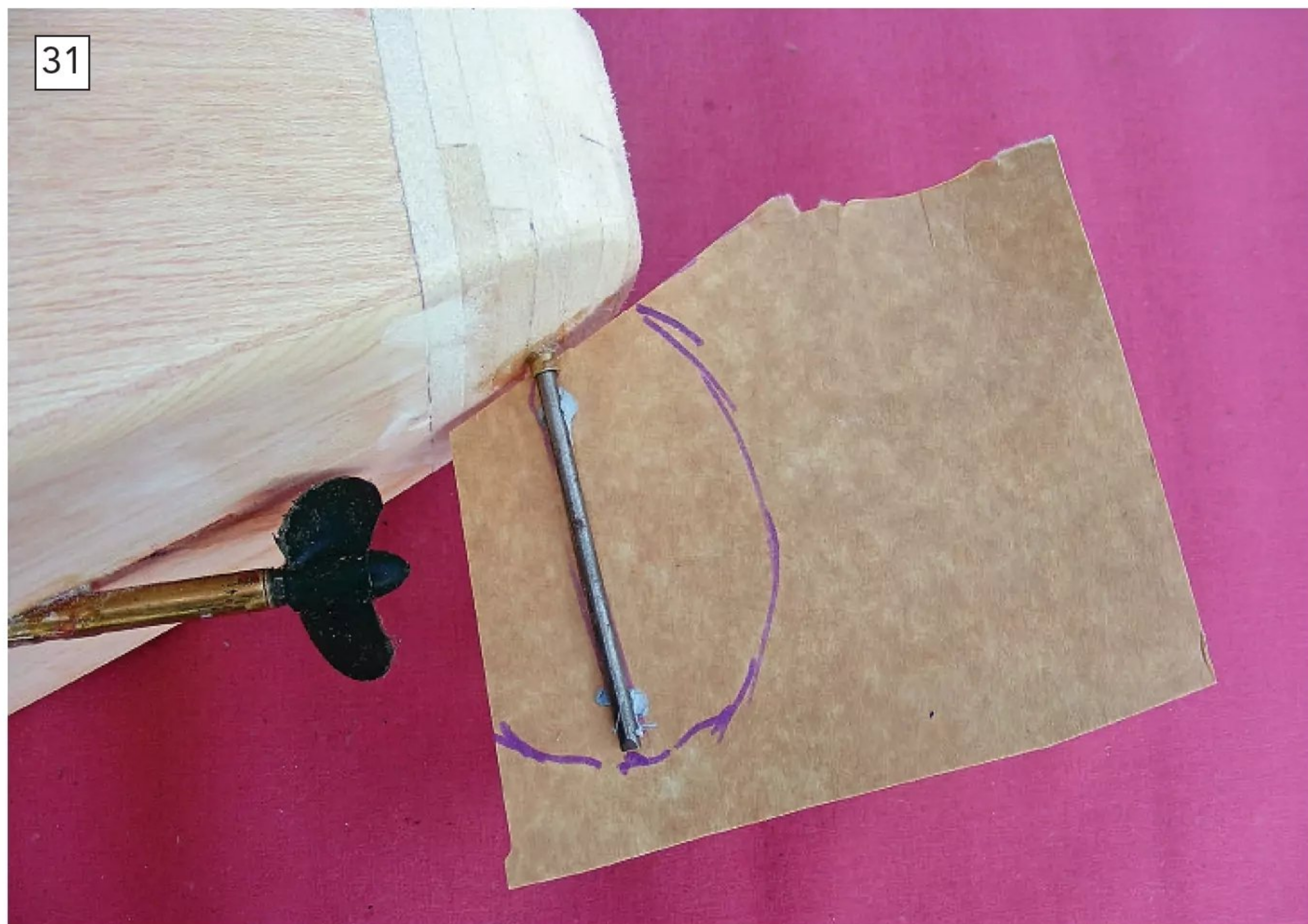
“This is another messy job best done outside”

Steering items

This was going to be a hefty model; it would need a steering system to match. It's unlikely you'll be able to find a commercial rudder assembly to suit this model, but it's not a hard task to make your own.

The steel rudder shaft ran inside a brass tube that fitted through the stern block with a double-sided tiller arm above deck level (see **Photo 28**). This in turn required the rudder servo to be mounted with its output arm above deck level. I did this by gluing two pieces of wood to the underside of the deck at the rear of the access opening (see **Photo 29**). These made a gap into which the servo could be slipped and screwed in place with its arm on the hull centreline. The use of a 'closed loop' linkage between tiller and servo arms allowed for the rudder to swing through large angles with no fear of it going over centre and becoming jammed (see **Photo 30**). Grooves were made in the deck coaming to allow the two wire links free movement.

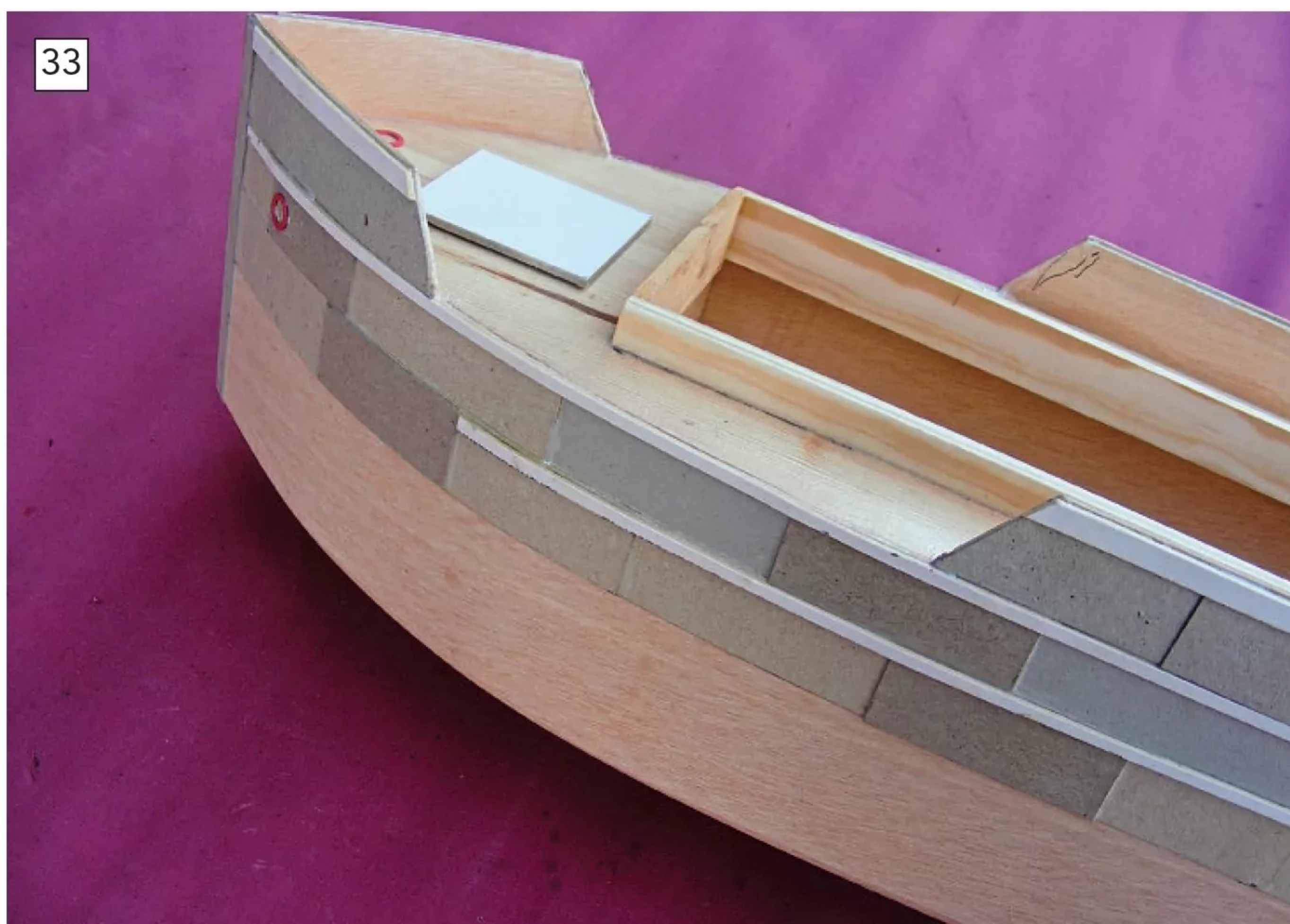
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To get the right shape of rudder, a piece of card was fixed to the shaft and a suitable outline drawn (see **Photo 31**). A semi-balanced shape was used to ensure a maximum amount of the propeller wash would be intercepted. A piece of thin aluminium sheet (you can guess where it came from!) was flattened and folded over, then the desired rudder shape cut out. This was stuck to steel shaft with epoxy (see **Photo 32**). To ensure a strong bond, the portion of the steel shaft inside the rudder blade was abraded with a file and the inner surfaces of the rudder rubbed with coarse sandpaper. This created clean, rough surfaces and gave the epoxy something to grip.

Finishing the hull off

These vessels would have typically had a riveted steel plate hull construction. I couldn't honestly face adding hundreds of rivets to the hull, and even my 'hull plating' was to be limited to above the waterline. At least it would avoid an unrealistic 'glass smooth' finish – appropriate for a millionaire's plaything maybe, but not a model based on a hard-working vessel.

Card was used to suggest the hull plates; at this scale, something like that often found on the back of writing pads (about 1 mm thick) is ideal. I used a contact type of adhesive to secure the card to the hull. This will work on bare wood, but sometimes a couple of light coats of sealant, rubbing down after each, produces a better surface for the adhesive to bond with. For this model, I used clear acrylic sealant on all the external surfaces of the hull.

Photo 33 shows the effect I was aiming for. I figured that noticeable rubbing strips would feature on a vessel that would be continually scraping in and out of harbours. Also shown in this photograph is the card rectangle glued to disc cut from the deck sheet. This covered the hole and formed the base for the winch I was planning to add. The external hull surfaces were then treated to more coats of sealant. Card, being porous and readily absorbing water, must be totally covered, especially along its edges.

I always try to give my creations a trial float in the garden pond as soon as possible to determine the ballasting requirements, plus a check on stability and R/C operation. If I am to be totally honest, my enthusiasm can dip halfway through a project and the sight of the partially built model afloat is usually the spur needed to make me complete it. No problems were encountered, and it seemed very novel to see a model boat steaming around our garden pond. One handy discovery was that I could

34



35



get the model into sailing trim with just ballast added to the bow and stern compartments. This would leave the 'engine room' between B1 and B2 free of ballast.

During these pond trials, there was never any problem with moisture getting into the open compartment aft of B3 which contained the receiver and its battery. I could see that this might become a problem with the superstructure in place,

though. The solution was to make a 'lid' from aluminium foil that loosely covered this opening.

First painting

It may seem logical to finish off the building of a model before starting to paint it. Some time ago, I found that this often leads to difficulties, like working around fittings and getting into awkward spaces. Trying to paint a completed

model can also result in extra damage you really do not need. Therefore, the bare hull was painted at this stage, in rather drab colours but ones very appropriate for these vessels. The decks and inner surfaces of the bulwarks were sprayed with red oxide primer, the hull sides painted black and below the waterline was dull red. Not having the right shade for the latter, I mixed bright red and green gloss paints together to be pleasantly surprised at what resulted (see **Photo 34**).

One final addition to the hull were the railings across the gaps in the bulwarks. Appropriate commercial items can be difficult to source and sometimes expensive. This model's railings were made from the solid copper wire found in domestic house wiring. Stripped from its insulation, it is easy to straighten with a good pull. Holes were then drilled along the edge of the deck and the stanchions epoxied into them. The horizontal rails were fixed with a combination of epoxy to the bulwarks and soldered to the stanchions (see **Photo 35**). A coat of white paint finished them off.

Part 2

Next month, we'll be looking at the work required to complete the superstructure, finishing and detailing, plus, of course, what to expect in terms performance on the water. ●

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HMVS Cerberus

John Parker maps the career of this Jarrow-built warship and considers the challenges she presents to R/C modellers...



The remains of the Cerberus (Wikipedia).

Less than 200 metres off the Victorian coastline at Half Moon Bay, 19 kilometres south east of the Melbourne CBD [Central Business District], lies a forlorn shipwreck. Two decaying circular structures either side of a what appears to be a funnel are about all that remains above the waterline, but the outline of the hull can be traced in the shallow water. Incongruous though it now seems, the safety of the colony of Victoria was once vested in this ship, insurance against a possible invasion coming from another hemisphere.

A naval defence

By the 1850s Victoria had become the world's largest producer of gold, and to protect it, in 1866, the Victorian government ordered an advanced warship. The principal threat was an attack by Russia, a scenario that first arose as a possibility during the Crimean War of 1853-1856. The warship would be stationed at Port Phillip to provide coastal defence, supplementing the shore-based fortifications until Royal Navy ships could arrive from their base in Sydney.

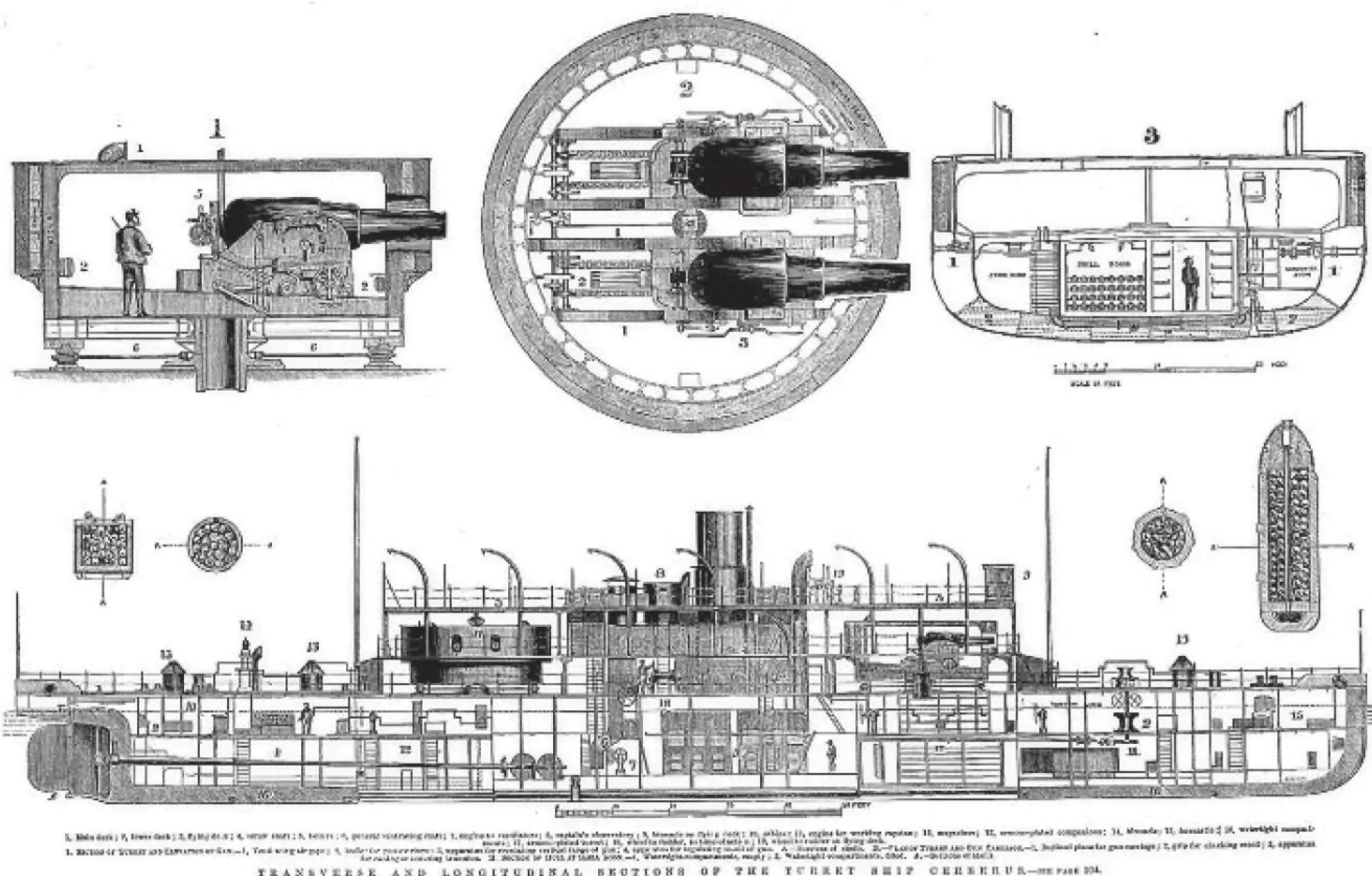
The chosen builder was Palmers Shipbuilding of Jarrow-on-Tyne in the UK, and the ship was to be the first of the so-called 'breastwork monitors', having the novel feature

"By the 1850s Victoria had become the world's largest producer of gold, and to protect it, in 1866, the Victorian government ordered an advanced warship"

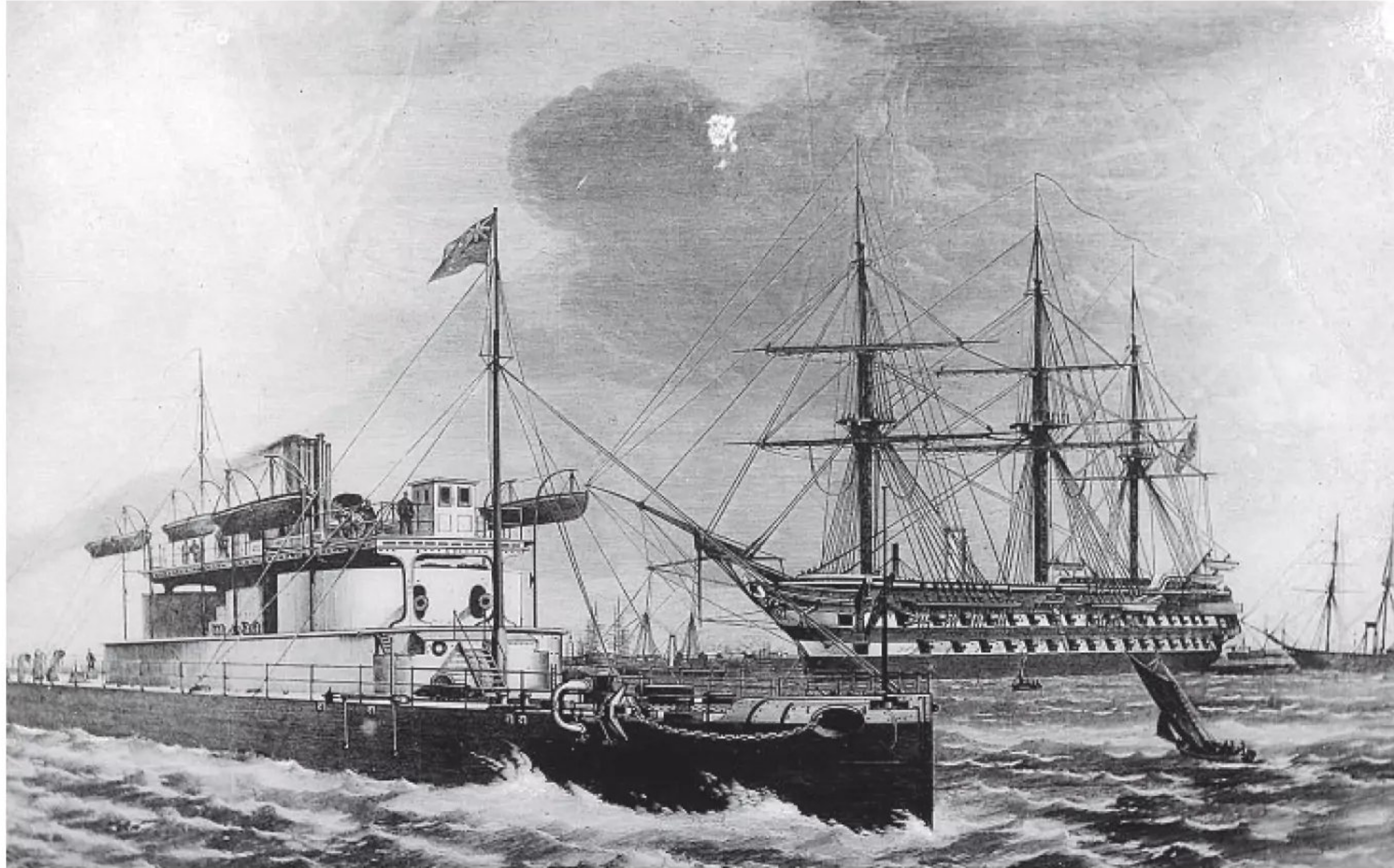
of mounting its main armament of four 10-inch guns in circular rotating turrets on a superstructure raised above the

deck. The first solely steam-powered British warship, she had two twin-cylinder double-acting engines that supplied 1,639 horsepower (1021kW) to twin shafts, with 12-foot (3.7m) propellers that enabled a maximum speed of 9.75 knots.

The hull had the typically low freeboard of a monitor, only some 4ft (1.2m), which could be reduced even further by taking in water in ballast tanks until just the breastworks and



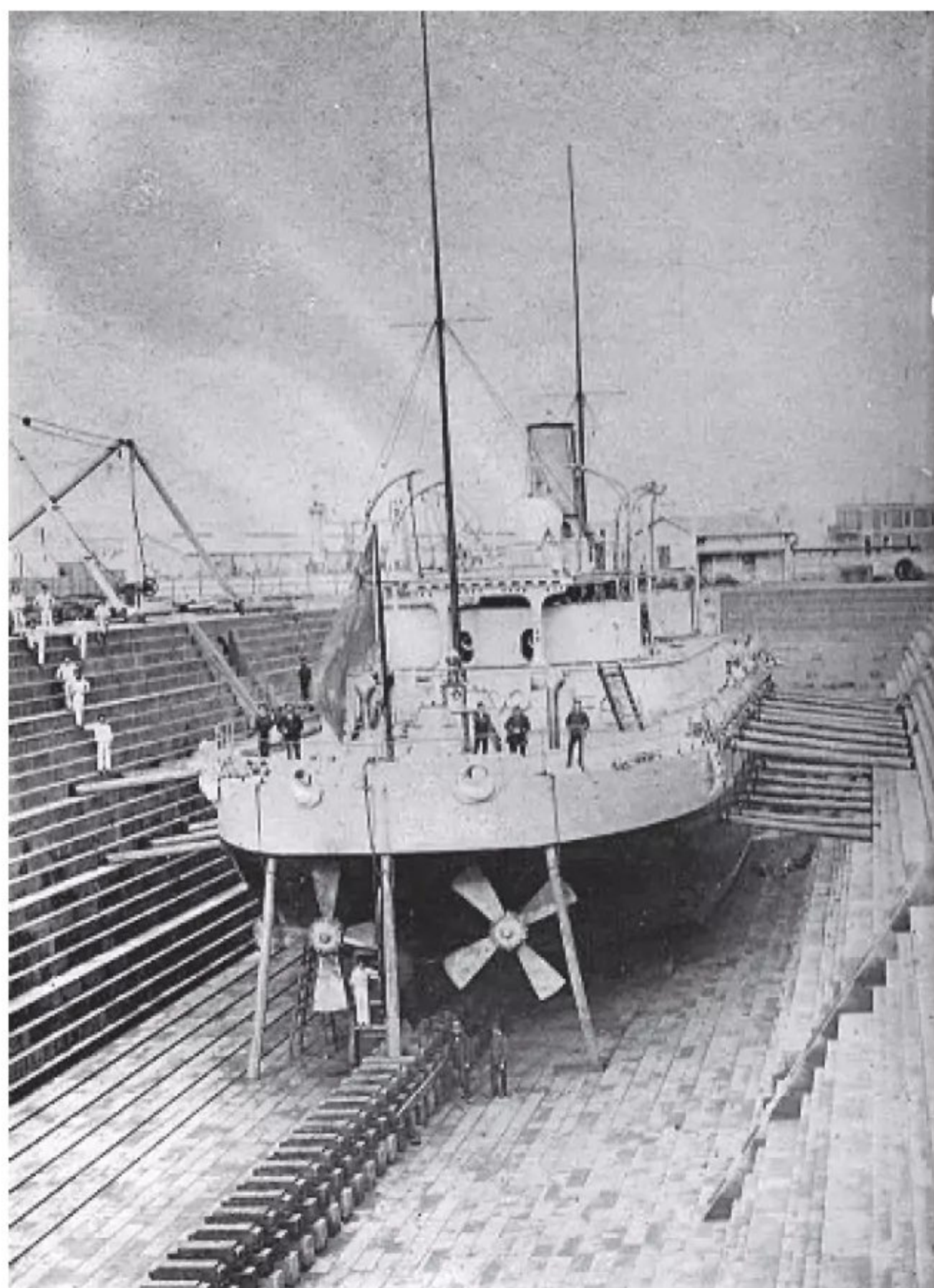
Transverse and longitudinal sections, 1871 engraving (Wikipedia).



Cerberus and the training ship Nelson (State Library of Victoria).

“The chosen builder was Palmers Shipbuilding of Jarrow-on-Tyne in the UK”

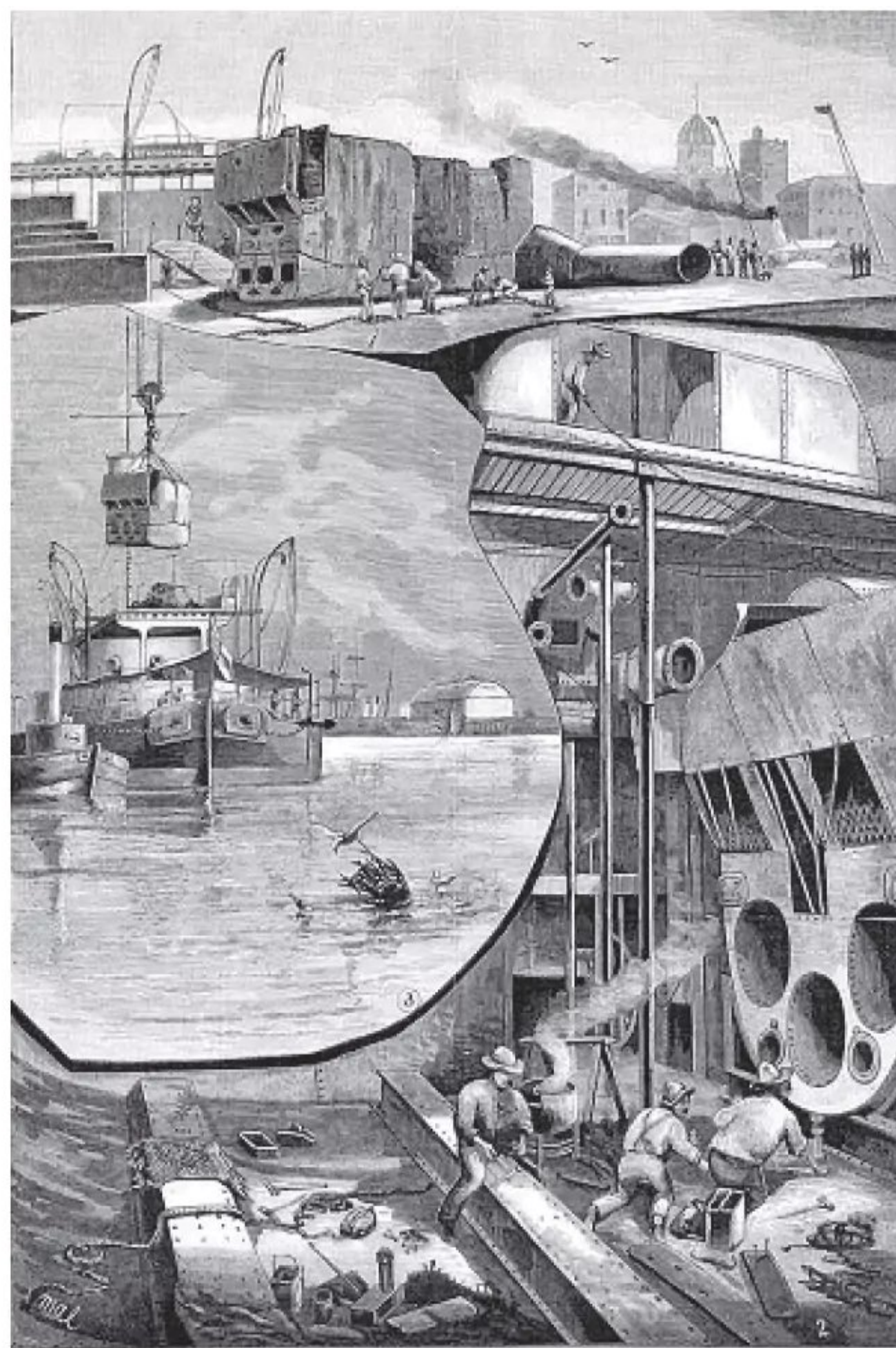
turrets were visible. Composite armour of iron and teak extended to the armour belt, breastwork, gun turrets and deck. The main guns were muzzle-loaded and could fire a 400-pound (180kg) shell once every three minutes out to 4,000 yards (3700m). Laid down in August 1867, she was launched in December 1868 and completed in August 1870, taking the name *Cerberus*, after the three-headed guard dog of Hades in Greek and Roman mythology.



Cerberus in the Williamstown dry dock for its annual scraping, 1874 (State Library of Victoria).

Delivery voyage

Getting the *Cerberus* out to Australia was always going to be a challenging task as the monitor was never intended for ocean travel. To prepare the ship, the sides of the hull were built up to the height of the breastwork and every space within the ship was crammed with extra coal to extend her range. She set off in October 1870 under the command of Captain W.H. Panter, RN, but soon ran into bad weather and had to turn back, her broad, flat bottom having contributed to making her almost uncontrollable in rough seas. Three temporary masts and sails were then fitted to improve stability and



Renewing the boilers, 1883 (State Library of Victoria).



A commemorative stamp of the Cerberus, issued in 2021.

provide engine back-up for a second attempt made in November of that year. This was ultimately successful, the vessel arriving in Melbourne on April 9, 1871, having faced many hardships on the voyage, including extreme temperatures of up to 60°C in the machinery spaces, and mutinies of the merchant seaman crew.

Service history

After removal of the temporary masts and bulwarks, *Cerberus* became the proud flagship of the Victorian Navy and spent the whole of her career within the confines of Port Phillip Bay, her minimal draught being well suited to the shallow waters. For a brief time, she was the most modern and powerful warship afloat in her part of the world but, it must be said, was not always appreciated by the local population. They suffered shattered windows during practice firing of her guns and considered her monumentally ugly, calling her the ‘floating gasometer’ because of her prominent circular turrets. Apparently, the only time her guns were fired in anger was at a flock of approaching seagulls that had been miss-identified one evening in the fading light.

As fears of a Russian attack faded and technology moved on, her status and condition began to suffer. She

“Getting the Cerberus out to Australia was always going to be a challenging task as the monitor was never intended for ocean travel”



Card kit of the Cerberus to 1:250 scale.



Cerberus model at the Heritage and Learning Centre, HMAS Cerberus. The portrait behind is of Midshipman Henry Panter at age 12 or 14.

“Apparently, the only time her guns were fired in anger was at a flock of approaching seagulls that had been miss-identified one evening in the fading light”

was renamed HMCS Cerberus when transferred to the Commonwealth Naval Forces following The Federation of Australia in 1901 and subsequently became HMAS Cerberus in 1911 when the Royal Australian Navy was formed. During World War 1 she became a guard ship for the Port of Melbourne and later was used to store munitions, by which time her main armament was inoperable, and her boilers no longer provided enough steam to propel her. In 1921, she was towed to Geelong on the western side of the bay and renamed HMAS Platypus to act as a submarine tender for the six J-Class submarines that the RAN had been gifted by the RN. The submarines were quickly decommissioned in the prevailing economic hardship of the 1920s, and the renamed Cerberus was soon to follow.

Scuttling

In 1924, Cerberus was towed to the Williamstown Naval Dockyard for removal of valuable items and then sold to Sandringham Council, who scuttled her at Half Moon Bay in 1926. There she remains to this day, providing a breakwater for the Black Rock Yacht Club. Her exposed decks were long used for sunbathing and picnics while divers could explore the confines of her hull, but a major structural collapse in 1993 made this too dangerous and a 100-metre exclusion zone has been placed around the wreck.

Several items from the Cerberus, such as the ship's bell and wheel, can be seen at the HMAS Cerberus Museum and the name has been preserved as that of the training establishment HMAS Cerberus, both at Westernport, Victoria. Because of the unique surviving nature of the Cerberus as the first of the solely steam-powered iron warships carrying her main guns in turrets, a true ancestor of the modern warship, various efforts have been made to restore or preserve her. She has been listed in the National Heritage Register and work has been done to stabilise the wreck, placing the guns alongside to ease strain on the superstructure and providing electrolytic protection against corrosion. But the dream of seeing her raised and restored remains unfulfilled, while she continues to sink into the sandy bottom of Half Moon Bay at the rate of 16mm per year.

Modelling the Cerberus

A developing collection of scanned original drawings of the Cerberus is available from Friends of the Cerberus at <https://www.cerberus.com.au/plans.html>. If these do not (yet) provide the required detail, a set of eight A3 sized *Three Headed Dog* plans may be purchased from the organisation's shop (<https://www.cerberus.com.au/store/store.html>), which also lists Web

“To any scratch builders who might be considering an R/C powered model of the Cerberus, bear in mind that she is a monitor whose freeboard is only some 13mm (half an inch) at 1:96 scale, making her suitable only for very sheltered waters”

Warship plans on three sheets to a scale of 1:96.

A card model by David Hathaway is available from Friends of the Cerberus or PaperShipwright at <https://www.papershipwright.co.uk/product/hmvs-cerberus/> which has 500 parts on five sheets at 1:250 scale, making a model of approximately 270mm x 70mm. There is even a simplified non-coloured version of the kit that is available as a free download. Resin models of the Cerberus are available from Combrig Models of Russia (<https://combrig-models.com/>) in 1:350 scale (product code 7096) and 1:700 scale (product code 3514).

To any scratch builders who might be considering an R/C powered model of the Cerberus, bear in mind that she is a monitor whose freeboard is only some 13mm (half an inch) at 1:96 scale, making her suitable only for very sheltered waters, lest her fate emulates that of the full size Cerberus and she becomes a miniature breakwater for models moored nearby! ●



Ship's wheel of the Cerberus at the Heritage and Learning Centre.

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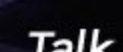
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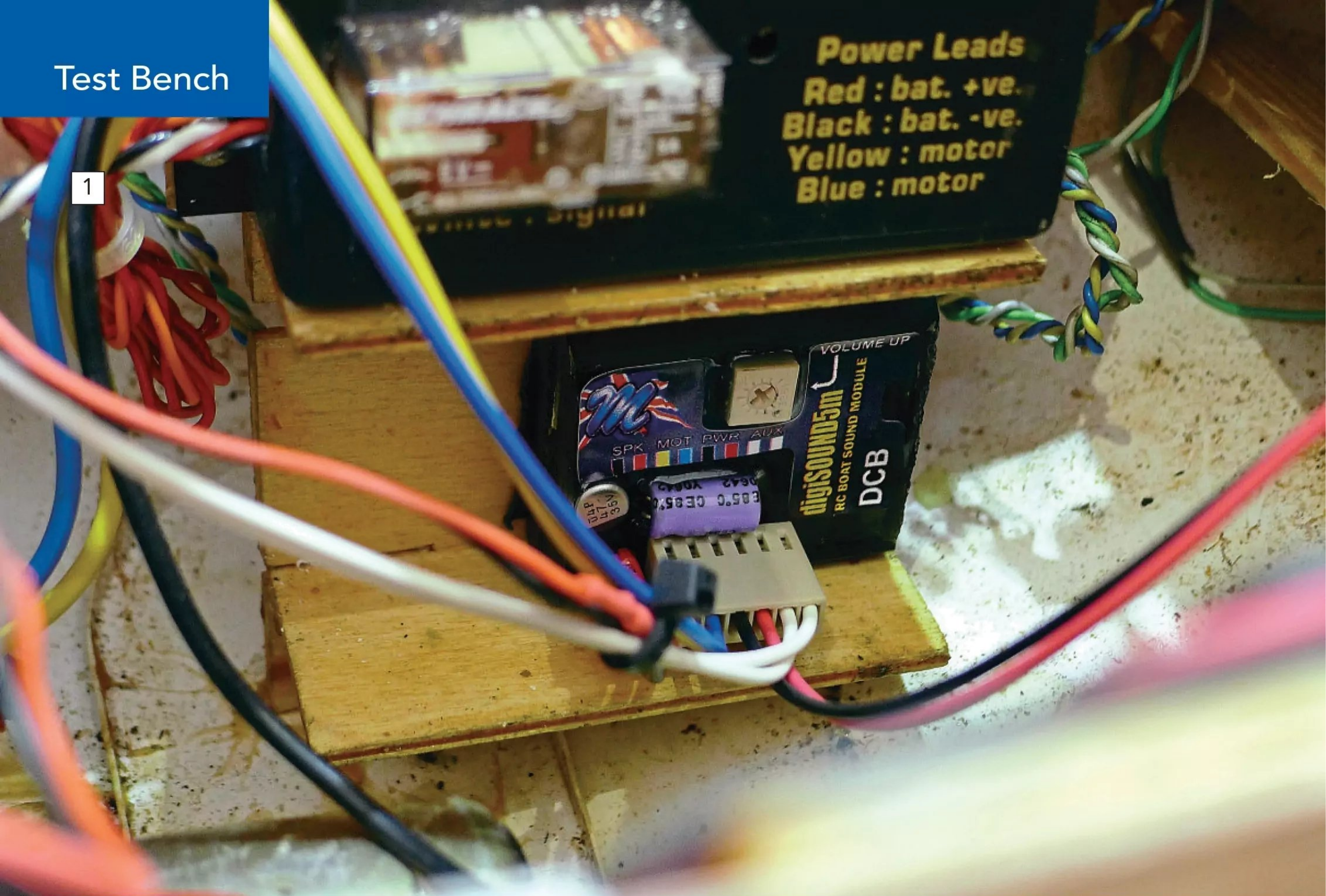
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The original version of Digisound, fitted to Richard's Ton 96 Trawler. This had an identical plug layout as the Digisound 6D and the same functionality.

Wired for sound

Richard Simpson reviews Mtroniks Digisound 6D Sound Unit

I think most of us have had an Mtroniks Electronic Speed Controller in one of our boats at some time or another over the years and I know they are usually my first port of call for such a device in any new build. The ESCs are renowned for their reliability and those in the Viper range for marine use have a reputation for being robust, waterproof, light and easy to install; they also include a power switch for a battery elimination circuit, thereby allowing your main propulsion battery to also supply the receiver.

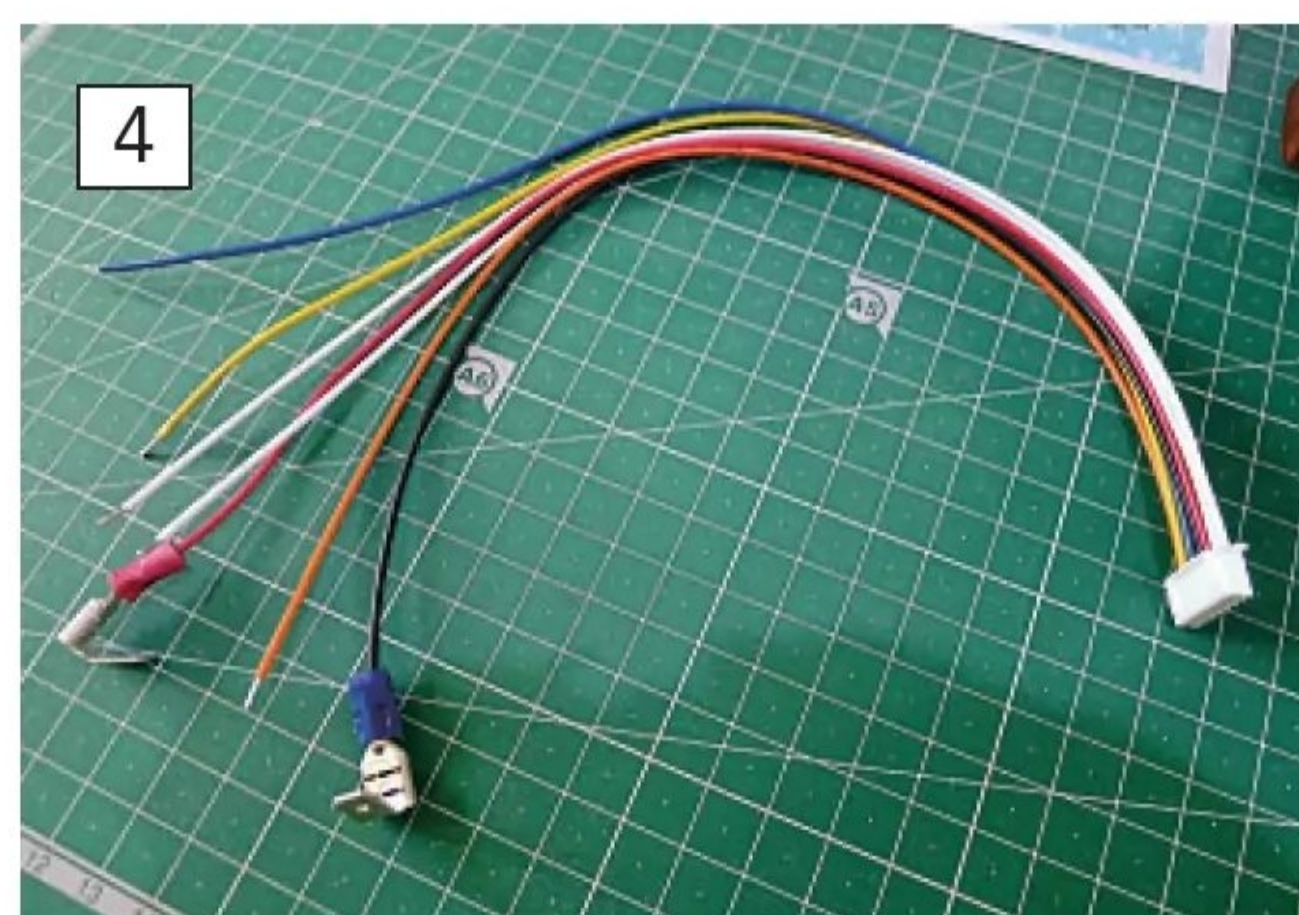
It was relatively recently though that Mtroniks first ventured into the arena of sound, with a device known as the Digisound engine sound system. This unit was a totally sealed small solid-state unit, supplied complete with a speaker and a wiring harness to connect everything up quickly and conveniently. I fitted one in a fishing boat model to provide a small diesel engine sound some years ago now and it still works perfectly (see **Photo 1**).



The Digisound 6D bits and pieces as they arrived. Almost all the weight was taken up by the speaker, which is a substantial piece of kit and is robust and waterproof.



The actual Digisound 6D control unit. At 22g it can probably be squeezed into a very small model with an appropriately sized speaker.



The wiring loom makes connecting things up extremely easy and does away with the need for soldering to the pins on the unit. The spade connectors were added by Richard to connect to a separate battery.

brushless motor, so covers quite a wide range of applications.

The unit comes pre-installed with a choice of different engine sounds, including small diesel, large diesel, Napier diesel and canal boat diesel. To ensure you make the right selection for your model, sound files can be sampled on the Mtroniks website. The unit tested for the purpose of this article is the SDT, the Small Diesel Sound.

The wiring loom

The wiring loom is pre-fitted into a matching plug, which in turn plugs directly into the row of pins on the control unit (see **Photo 4**). One thing that may cause concern is that the third wire on the loom used to supply the third wire on a brushless motor is orange, whereas it is shown as green on the instructions and the unit. That aside, just follow the instructions to see how the wires are connected to the various components. The use of a loom makes for very easy connection and does away with the fiddle of

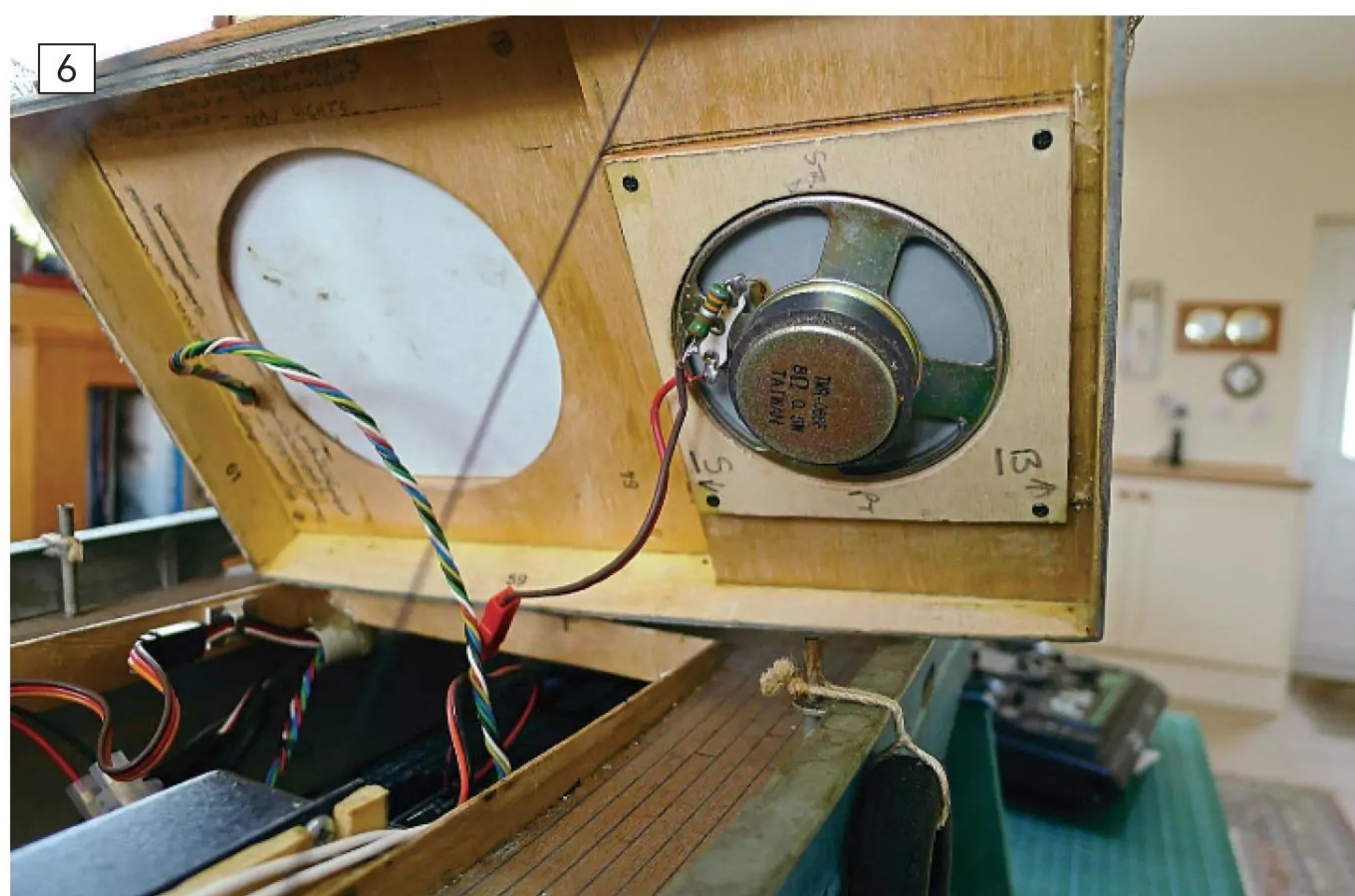


The speaker could be a bit more limiting, especially in a small model and particularly if mounted high in the hull, weighing in at just under 250g.

soldering wires to the pins on the control unit.

The waterproof speaker

The speaker measures up at 85mm x 85mm x 30mm and weighs just under a shade below 250g, so is a pretty hefty lump (see **Photo 5**). This might restrict its use in some smaller models, but there's no reason why you can't swap it out for a speaker of a more suitable size and weight, as I did with my fishing boat installation (see **Photo 6**). Some may actually prefer to fit a speaker of their own choice rather than having to swallow the cost



Richard's trawler model was fitted with a slightly smaller speaker to enable it to be mounted in a recess just below a piece of deck machinery, but any suitable resistance speaker could be used.

So, why the Test Bench article? Well, Mtroniks has now upgraded the original Digisound unit to the Digisound 6D, this promising to provide even more realistic sound for R/C boats and meriting a closer look.

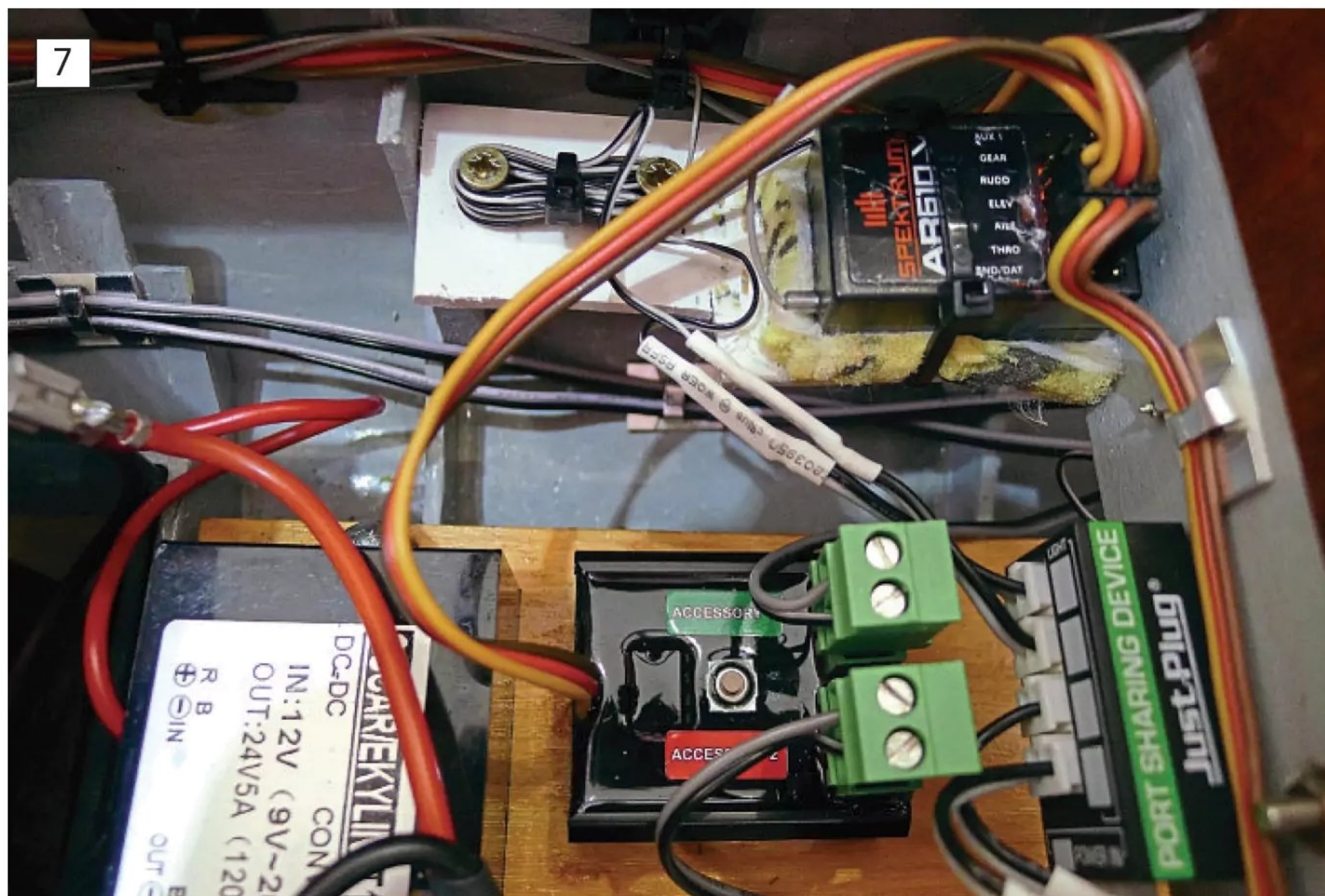
On delivery, the weight of the box is surprising (more on this in a minute). Once opened contents (see **Photo 2** for parts as laid out by me) include:

- The Digisound 6D control unit fitted with pins ready to accept the plug on the wiring loom and the speaker
- The wiring loom ready fitted with the matching plug for the control unit, with the wire ends pre-soldered.
- A waterproof speaker
- An instruction sheet.

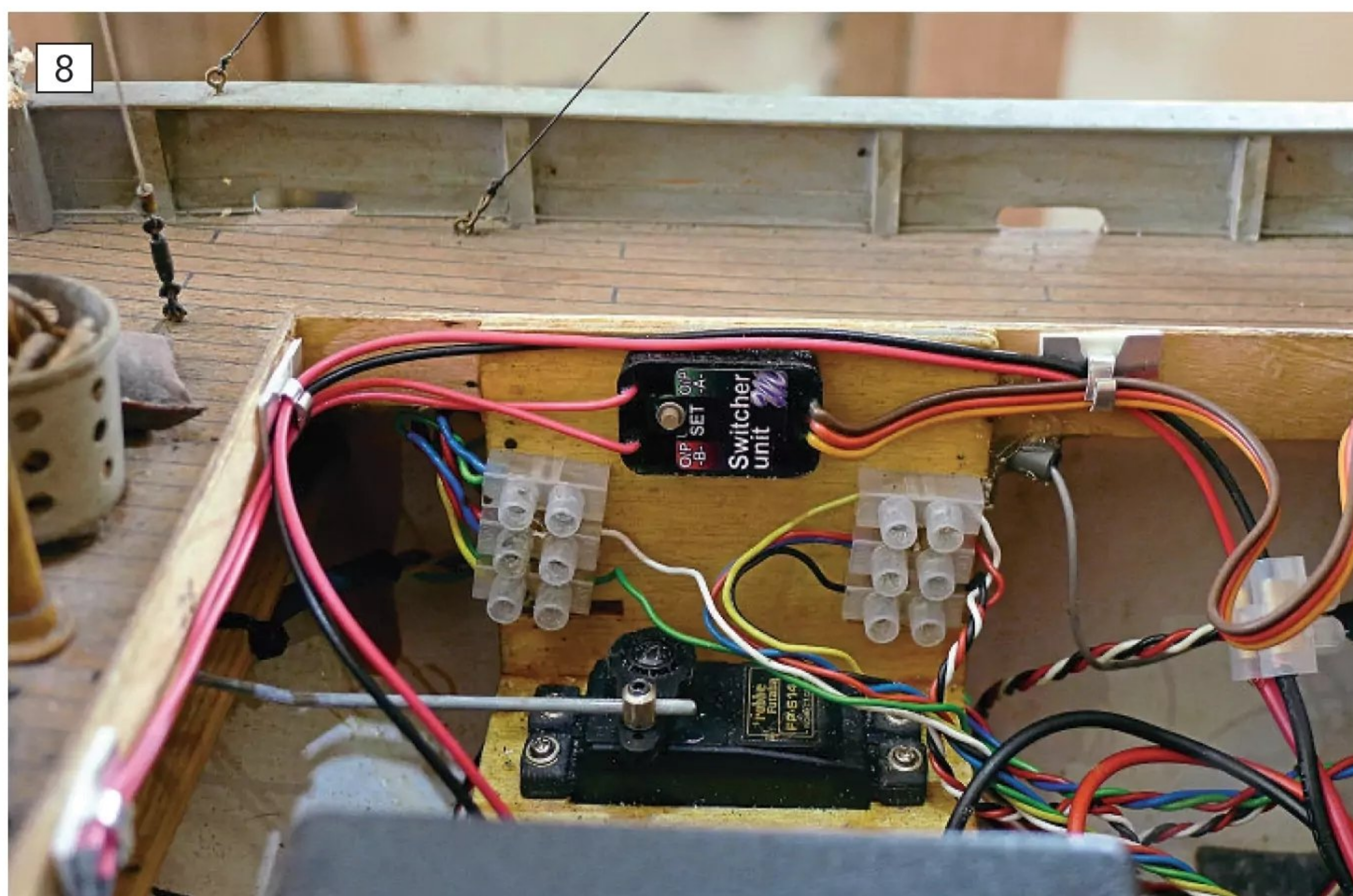
The control unit

A slightly different shape to the older version, this new unit is long, flat and narrow, measures 85mm x 25mm x 10mm without the screw tabs and weighs just 22 gm (see **Photo 3**). It is fitted with pins ready to accept the wiring harness plug and the speaker plug, and a volume adjuster. The casing features two screw mounting holes for if you prefer to fit with screws.

The improvements over the original unit are not just the sound quality but the fact that the unit can now accept any voltage between 6v and 12v, making it that bit more flexible for a variety of model boats. It's also suitable for fitting to either a brushed or a



An HP Switcher unit used to control two independent lighting circuits, one for navigation lights and one for cabin lights. Both circuits are controlled by a single proportional channel on the transmitter, in this case the right-hand stick up and down.



The Digisound unit in the trawler is controlled by a micro switcher unit. This operates in precisely the same way as the HP switcher but has a lower capacity and is a much smaller and lighter unit.

of the one incorporated within the overall price, but there will be many others who'll appreciate a speaker that simply plugs into a couple of pins on the control unit, and one designed specifically to work with this sound unit, and is waterproof, too, so well suited to model boat use.

The instruction sheet

The instructions are well worth reading through before connecting anything together, just so you avoid (hopefully) making any mistakes.

Test run

For this review I simply plugged everything together to get a feel for

the components and how everything works ahead of fitting it permanently into a model boat.

The first thing to decide is how you're going to switch the two main functions on and off on the unit. This is done via the two white auxiliary wires, with Auxiliary Wire 1 controlling the engine stop and start and Auxiliary Wire 2 controlling the horn. You therefore need two transmitter operated switches, one must be latching, for Auxiliary 1, and the other must be non-latching, i.e., momentary, for Auxiliary 2. You can buy relay switches online that plug into your receiver; these will control the unit but could end up requiring the use of

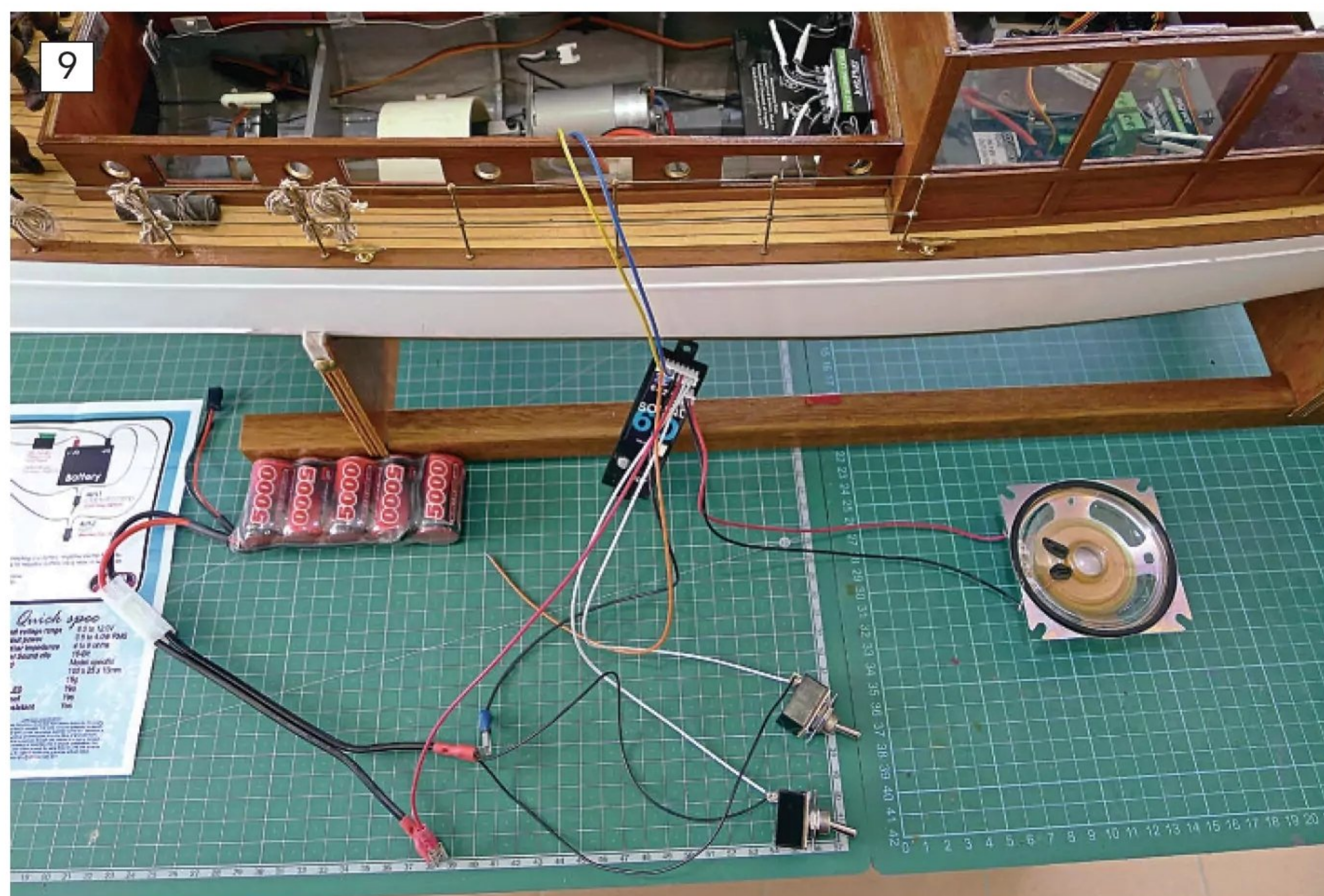
two additional channels on your radio set to control them. A particularly neat and convenient solution is to purchase an Mtroniks Switcher Unit. This plugs into a single channel on your receiver and uses a single spare proportional channel to control two switched functions. The switches can be set up to be either latching or momentary and are then simply switched by pushing the transmitter stick one way or the other way to repeatedly operate them. Mtroniks supply two of these units, the larger Mtroniks HP Switcher and the smaller Mtroniks Micro Switcher. I use one of the larger units to control two separate lighting circuits on a model boat by using the spare up and down channel on the right-hand stick (see **Photo 7**). They are both set up to be latching. I also use a Micro Switcher on my trawler with the older Digisound unit (see **Photo 8**), so I know they both work well as long as you have a spare proportional channel available.

For the sake of the test, two manual toggle switches were used, while a separate Nimh battery was employed to power the unit – although, of course, this could be powered from the main propulsion battery. The motor connections were wired into a spare model boat so I could control speed and test the sound function. Note the instructions show a fuse in the circuit, which I didn't fit for this test but would in a permanent installation (see **Photo 9**).

With everything connected, I gave the system a test run. Sound quality was extremely good, with a nice round diesel rumble emitted from the speaker. The sound was further improved by mounting the speaker temporarily in a box to give some bass reverberation. Switching the horn temporarily gives a nice sharp 'toot', but turning the toggle switch for the engine on permanently gives a realistically lengthy starting up sequence for the diesel engine, before it then settles down to a steady tick over. When the engine is running, I particularly like the way the sound slightly lags the throttle movement in precisely the same way as it would on a real installation, providing a very authentic audio effect when maneuvering the model. Then, on turning the sound toggle switch off, the diesel engine goes through an equally convincing shutting down procedure. You can't help but smile at this!

Conclusion

Mtronik's new unit gives a rich, realistic sound that follows the engine speed accurately. It's extremely straightforward to install and set up and involves no



Everything connected up for a test run. Assorted boxes were tried out with the speaker, making quite significant differences to the sound quality. This will have to be played around with when the speaker is mounted in the model to give the best sound reproduction.

programming or messing around with computers to get operational. It really is 'plug-and-play' at its best. The control unit is light yet robustly made, but the speaker's weight might restrict its use in smaller models.

The Micro Switcher Unit currently costs £22.99 and the Digisound 6D £77.99; while this may initially seem pricey, you have to balance that against the simplicity of installation, the quality of the sound and the

convenience of operation. It's also worth noting that Mtroniks gives superb after sales service. For instance, the first time I tried to connect my HP switcher unit I couldn't for the life of me get it to work. Five minutes on the phone soon identified that I had my negative and positive wires mixed up! It's highly unlikely you'd get that kind of instant resolution after buying from a foreign supplier.

My trawler has been fitted with an original Digisound unit for a good few years now and it still works perfectly (see **Photo 10**), so I look forward to getting the same results from this new Digisound 6D. ●

MTRONIKS CONTACT DETAILS

Address

Mtroniks Ltd, 41A Ilkley Road, Otley, West Yorkshire, LS21 3LP

Telephone number

01943 461482

Fax number

01943 468335

Website

<https://www.mtroniks.net/>



Richard's trawler has been fitted with a Digisound unit and a micro switcher for a few years now, and they continue to work perfectly. The startup and shutdown sequences in particular draw favorable comment at pondside.

BOILER ROOM

Richard Simpson reveals what's in the Boiler Inspector's toolkit, and why...

I'm sure the majority of people reading this will be aware of the slow but noticeable decline we are seeing in most craft-based hobbies today. This seems to be across the board and is even being felt in such popular stalwarts as model railways, where certain shows are struggling to make a worthwhile profit and even one of the largest suppliers in the business has only recently ceased trading. This would appear to be the result of the older generations passing on and younger generations not being as attracted to such pastimes. We see this also in the model boat world and, particularly, in the steam side of the hobby, where added expense, rules and regulations, and a certain aptitude for being able to operate a model steam plant in a boat on a cold winter's morning takes a particular type of commitment.

I was therefore pleasantly surprised recently to have had an enquiry from



2
An annual steam test is easily conducted at the pondside and, if the plant is in a boat, it can be dropped into the water for a run. In this case, the engine is simply running down the pressure to close the safety valve which has successfully lifted.

a fellow steam enthusiast regarding the ins and outs of what is required to set up a Boiler Inspector in a model boat club. I did actually cover the requirements of the Boiler Inspector in the January 2022, but a follow-on question was then, "So what sort of equipment do we need to consider buying for the inspector?" What an

excellent question! Consequently, I thought I'd share what my own toolkit consists of, and why, and how I use it as easily and conveniently as possible. I'm a great believer in keeping things as simple as possible.

The requirements

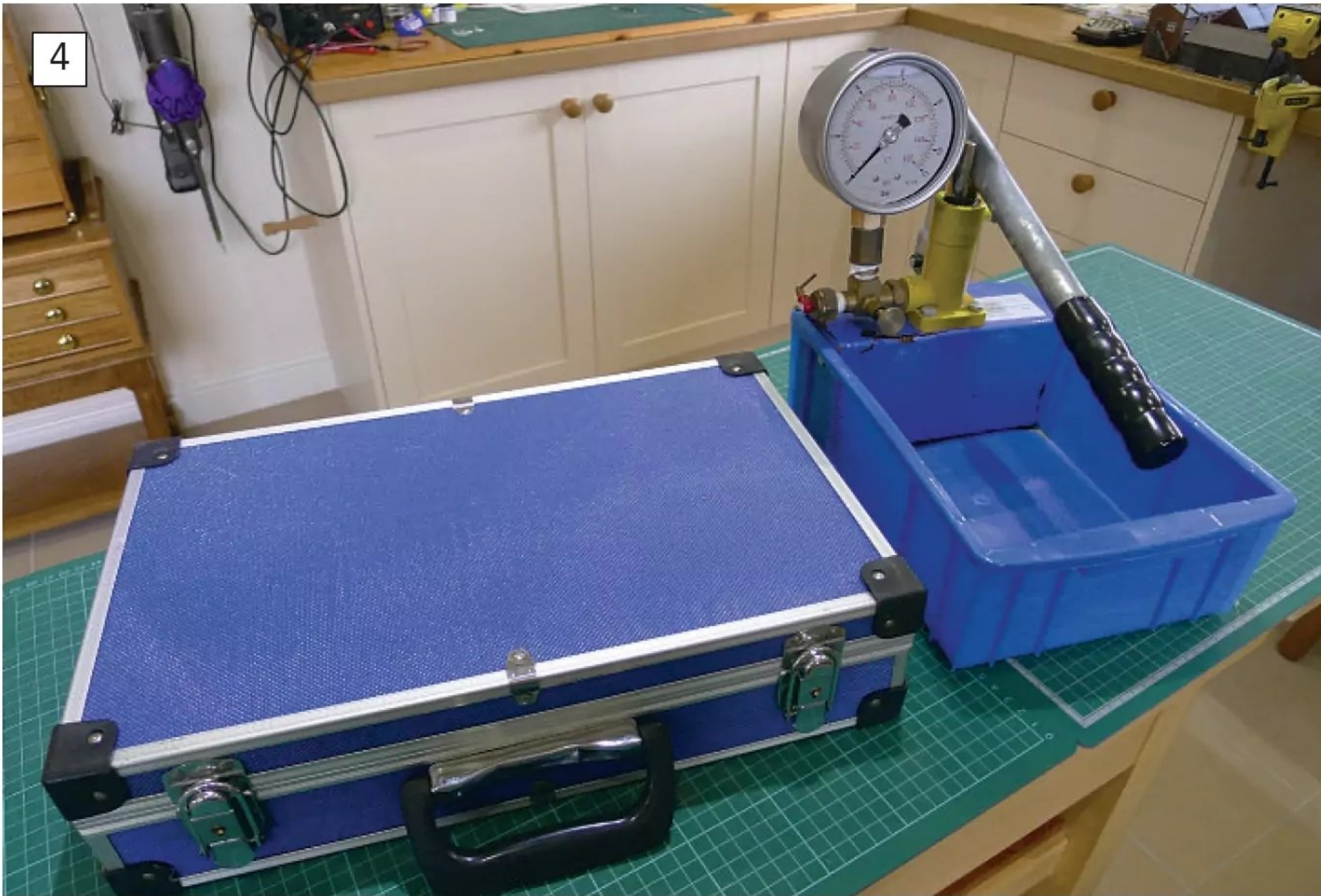
As we are all by now well aware, the current rule book we must adhere to is the *Boiler Test Code 2018*, commonly known as the 'Orange Book' under its current guise. I'm not going to say anything about the rules; as I've done that so many times in past articles, I'm sure there will be some amongst you getting fed up with it. Suffice to say that whatever size your boiler is and whatever working pressure it operates at, there are still only two basic tests that a Boiler Inspector has to perform. I'm not going to include Volume 3 – LPG tanks under 250ml at this point, but I'll mention it at the end. These two tests are either the annual steam test or the initial or repeat hydraulic



1
There's no point in checking the safety valve lifting pressure if you can't rely on the pressure gauge, so the first step is always to check that the gauge on the boiler is reading correctly. Richard takes it up and down in increments, twice.



3
Sometimes Richard is asked to simply conduct a brief test to determine whether it's worth setting up properly for a certificated test. In this case, sadly, the boiler had a number of leaks that were not considered as economical to repair.



The rig and the carry case ready to go. The only other item the Boiler Inspector requires if he wants to be completely equipped is a bottle of water.



There's not a lot of space left when everything has been packed into Richard's carry case, but it does contain everything he needs to conduct annual steam tests at the pondside.

pressure test. I'm sure there will be as many procedures as there are Boiler Inspectors for conducting these tests but, after many years of doing this, I've found the following procedures work well.

● The Annual Steam Test

The process I like to follow is to first remove the pressure gauge and check it against a calibrated and certificated test gauge (see **Photo 1**). When I am happy that the pressure gauge is telling the truth, or at least an approximation of it, it is replaced on the boiler and the owner is asked to raise steam with the steam outlet

valve closed. I then watch the pressure gauge rise up to working pressure and observe the safety valve lift. I leave the safety valve lifted for around two to three minutes, to ensure that the pressure does not rise beyond 10% of the working pressure, before asking the owner to open the steam outlet valve. This will usually drop the pressure enough to close the safety valve. I then ask to see the engine operate so I can check for anything of concern such as leaks, make sure the sight glass looks clean and legible and the level follows a tilting of the model, and then, if everything looks OK, let the owner put the model on

the water for a spin while I write up the paperwork. If the plant is not in a model boat, the engine is run for a while to bring the pressure down again (see **Photo 2**). This test obviously lends itself to being done at the pondside. While I generally carry out a large number of tests on the club's annual steam day, I am also happy to conduct pondside tests by appointment if an owner is not able to attend the steam day. The total time for the test, assuming everything has been pre-checked by the owner and things go smoothly, can be in the region of 10 to 15 minutes.

● The hydraulic pressure test

This is a different proposition altogether, whether it is an initial test at twice working pressure or a repeat test at one and a half times working pressure. I've even been asked to simply check whether an old boiler is worth considering for proper testing and certification. As an example, sadly, the one shown in **Photo 3** didn't even merit fitting a pressure gauge, as sadly the leaks verified it was not worth conducting a proper test.

To conduct a hydraulic pressure test the boiler is usually removed from the model, stripped of all its fittings, and plugs put in the threaded bosses. While the rules state that cladding and lagging should be removed, if I can clearly see all silver soldered joints and penetrations with some cladding left in place I don't consider that a problem.

To conduct the test the boiler should be filled with water and then carefully vented to ensure there is no air inside the shell. The boiler is connected to the pressure test rig and an additional pressure gauge fitted to the boiler. This doesn't have to be a calibrated gauge as you are checking it against the calibrated gauge on the test rig. Once everything is tight, the pressure is taken up to the appropriate level for the test with the pump. Invariably there will be a leaking plug somewhere, so pressure will have to be dropped again and that attended to. With everything tight once again, the pressure can be taken back up and, when the boiler is at the appropriate test pressure, the isolation valve on the test rig can be closed and the vent valve on the pump opened. The boiler is now isolated and at test pressure, so you can observe the boiler mounted pressure gauge over a period of around five to ten minutes. Once the test has been successfully completed, the boiler can be disconnected, the contents poured out into a measuring jug to verify the total internal volume, and the paperwork completed.

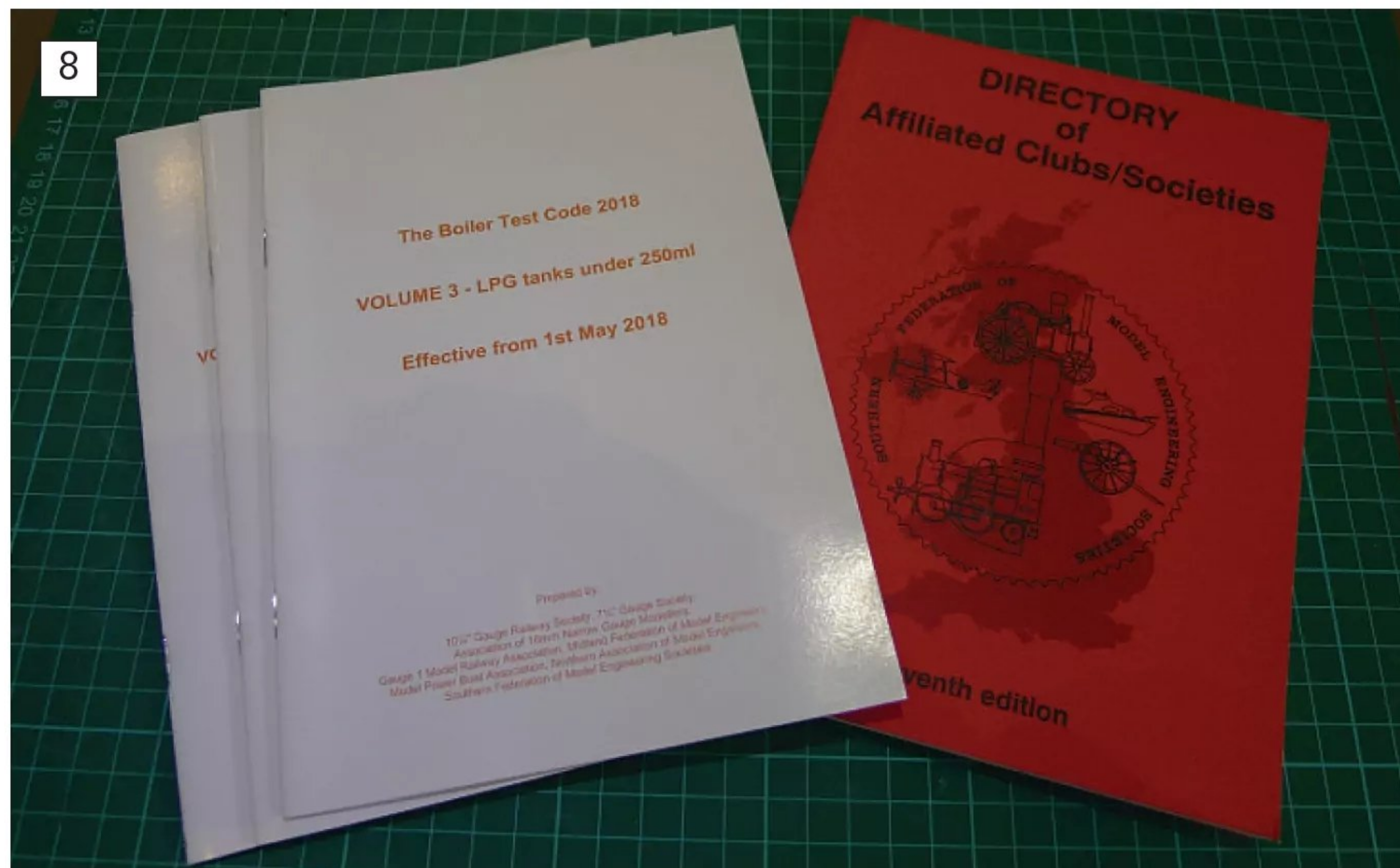


Richard's first little plastic box contains frequently required bits and pieces, such as safety valves and plugs. The safety valves are just emergency stand by units, because if a valve was changed out for a steam test the boiler would need retesting again if it was replaced. Richard is happy to let them go on long term loan if necessary!

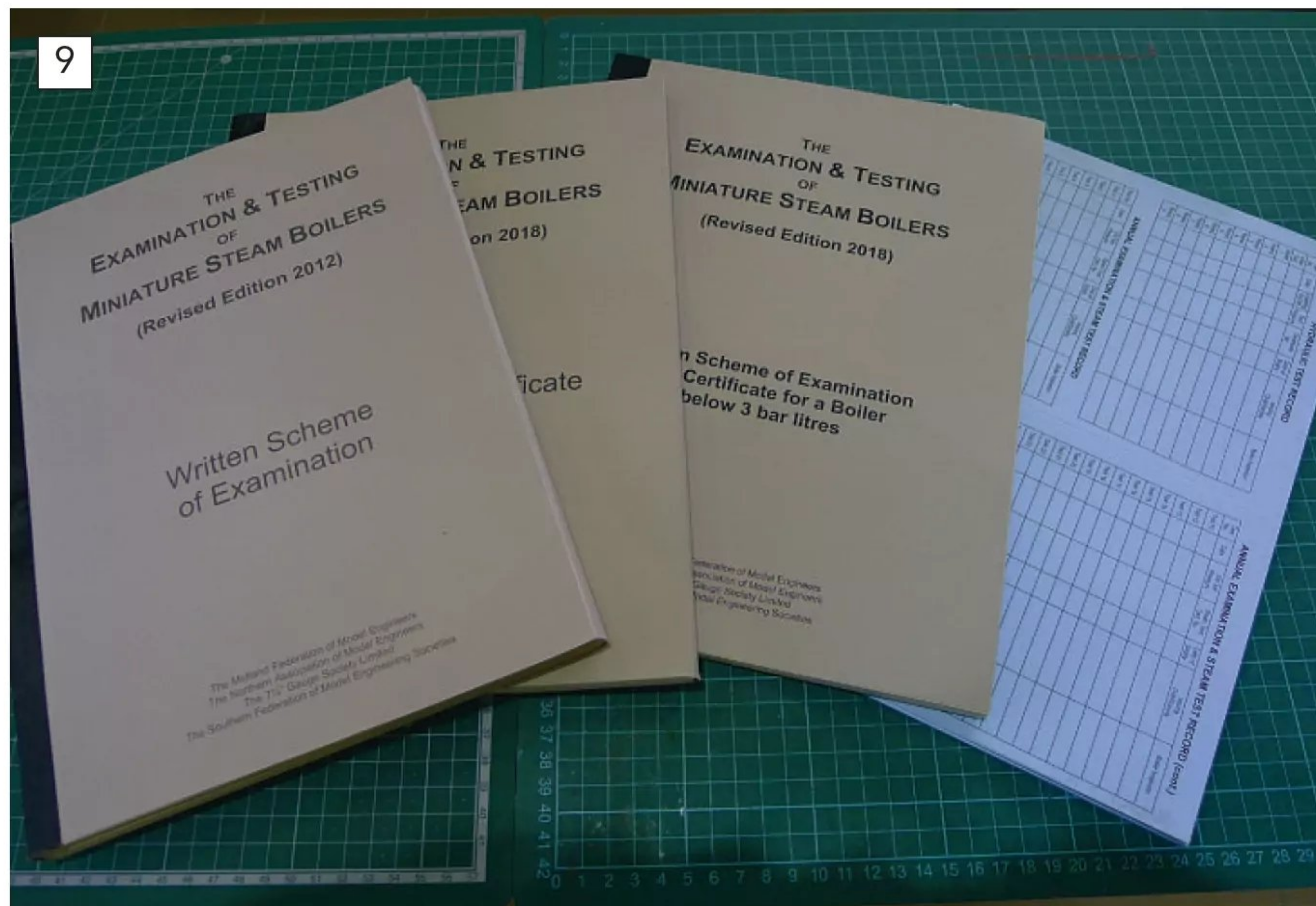


Richard's other box contains a number of spanners, PTFE tape and an assortment of pipes. Owners frequently make use his spanners to remove pressure gauges when they've forgotten to bring their own with them.

This is obviously a far more involved test, and with one or two issues to attend to during the process it can easily take up to an hour. It is, therefore, not something I would normally do at the pondside; either the owner brings the boiler to my workshop, or he hands it over to me at some convenient meeting.



As everything is written up in the Boiler Test Code, it makes sense for owners to have a copy. Copies can be downloaded but hard copies are still popular, so Richard keeps a couple of spare sets on him for anyone who wants them. Sometimes it is handy for owners to know if there are other testers closer to where they live.



The certificate books and some spare blue record cards take up a fair chunk of the room in Richard's carry case. You may notice the Written Scheme of Examination book is dated 2012 but, as Richard does so few of them, the book still isn't finished!

Undertaking these tests in the workshop means I have all the facilities I need to hand when I come across some small challenge or another. I even have the opportunity to silver solder up a union to enable two different threads to be fitted together, which I've done in the past.

The equipment

So now you have a better idea of what the tests entail you will also have a better idea of what Boiler Inspectors need to perform them. I basically have a mobile kit, which includes the pressure test rig, fitted with a calibrated and certificated pressure gauge, and an aluminum case that

has all the other bits and pieces I might need at the pondside. This makes carrying the gear to the pond quick, easy and convenient, and the equipment can still be used in the workshop with other items available to support it as required. The only addition to this is a bottle of clean water (see **Photo 4**).

The carry case

The contents of the carry case (see **Photo 5**), are as follows:

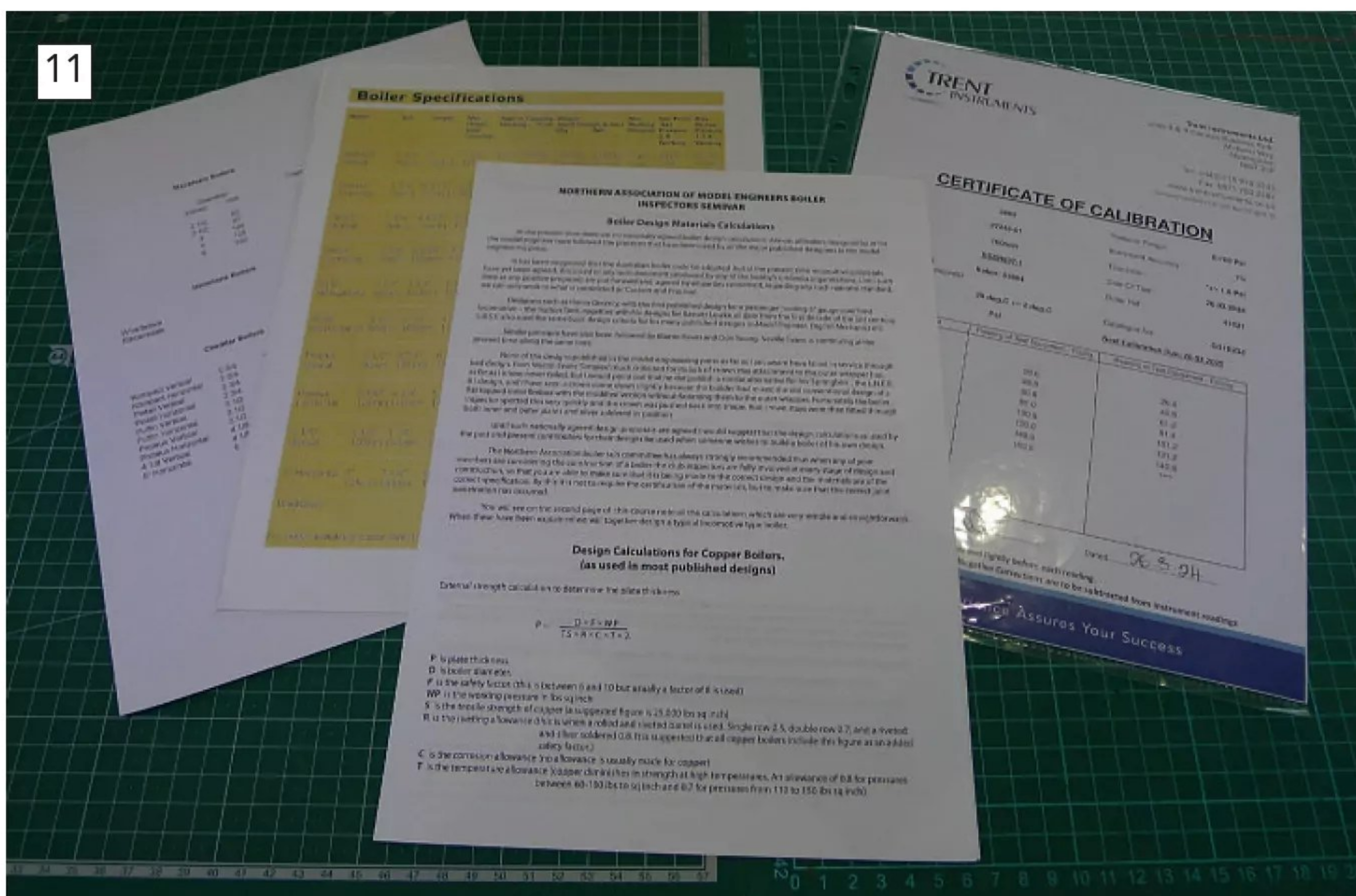
- A couple of plastic boxes, the first of which contains a selection of spare safety valves, a selection of plugs for various commonly found threads, and the most common pipe to connect

10



A calculator is always handy when doing any sort of calculation, and indeed when converting psi into bar and working out the bar-litre number! Fittings collected over the years are worth having to hand just in case.

11

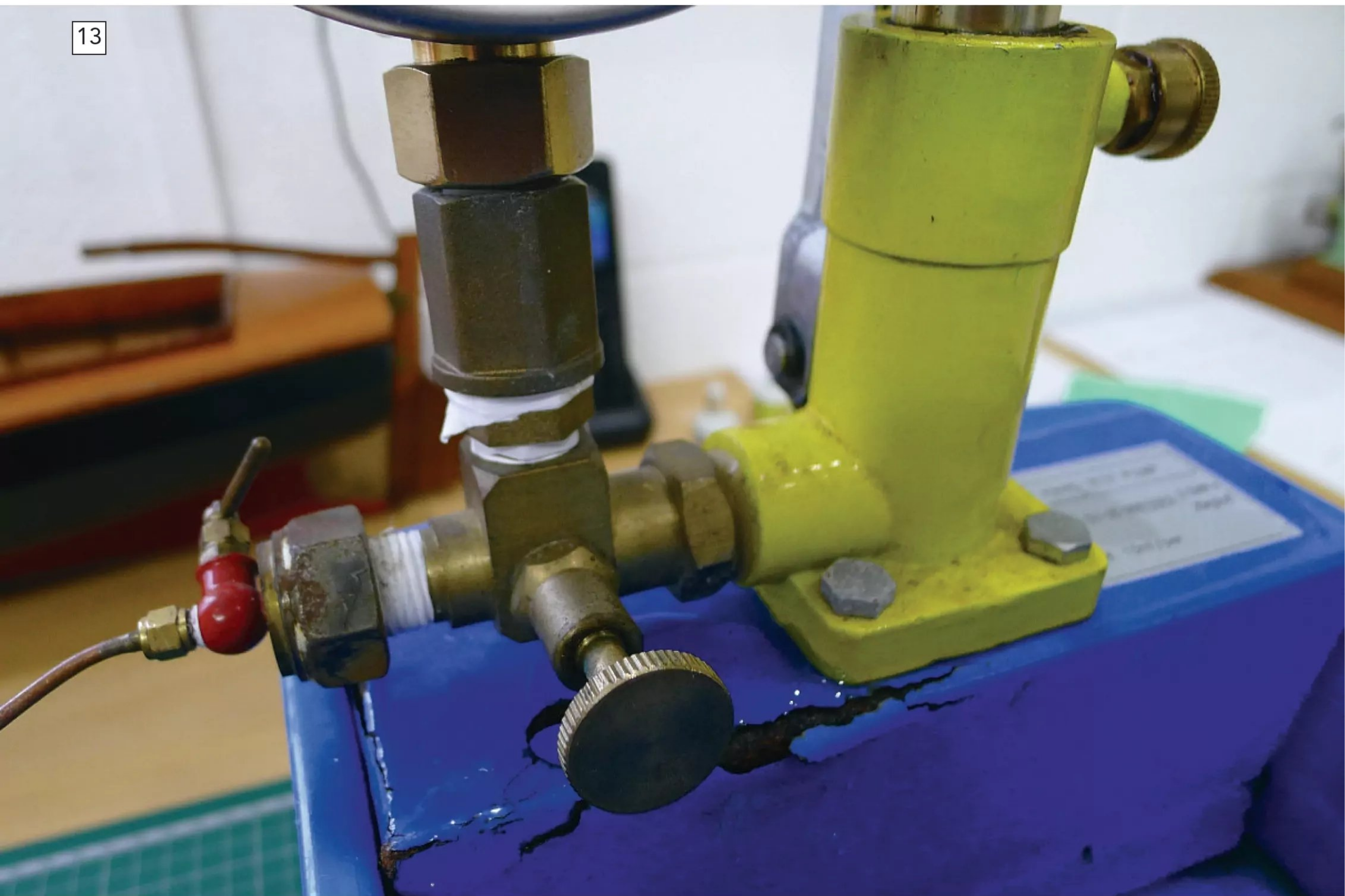


Richard has also collected a variety of useful documents handed out at seminars over the years, along with manufacturer's specifications taken from old catalogues and price lists. The pressure gauge calibration certificate is well worth having to hand.

pressure gauges to the test rig (see **Photo 6**).

- The second plastic box contains a few more bits and pieces of pipe with differing threads – useful for connecting the test rig to various threads on boiler fittings, a set of BA flat open ended spanners, a set of BA box spanners, a couple of adjustable spanners, a roll of PTFE thread tape, and a couple of fittings that I have found useful in the past (see **Photo 7**).
- A couple of sets of the three current *Boiler Test Code* booklets and a list of affiliated clubs and societies from the same publishers (see **Photo 8**).
- The three certificate books and a few spare blue record cards to give out to anyone who hasn't got one (see **Photo 9**).
- A few pens, a calculator and another collection of plugs, fittings and unions collected over time and found to be useful (see **Photo 10**).
- I also keep with me the pressure gauge calibration certificate in case

13



The pump should have a vent valve so that you can vent the pump while doing a hydraulic pressure test and then vent the boiler once the test is complete without needing to open a fitting and get sprayed with water.

12



Exactly the same pump as Richard's can still be obtained. This is rated at 725 psi, so is more than capable of covering everything you might need.

anyone wishes to view it, and a few pages put together over the years that contain other useful info, such as manufacturers' boiler specifications and design calculations, kept from

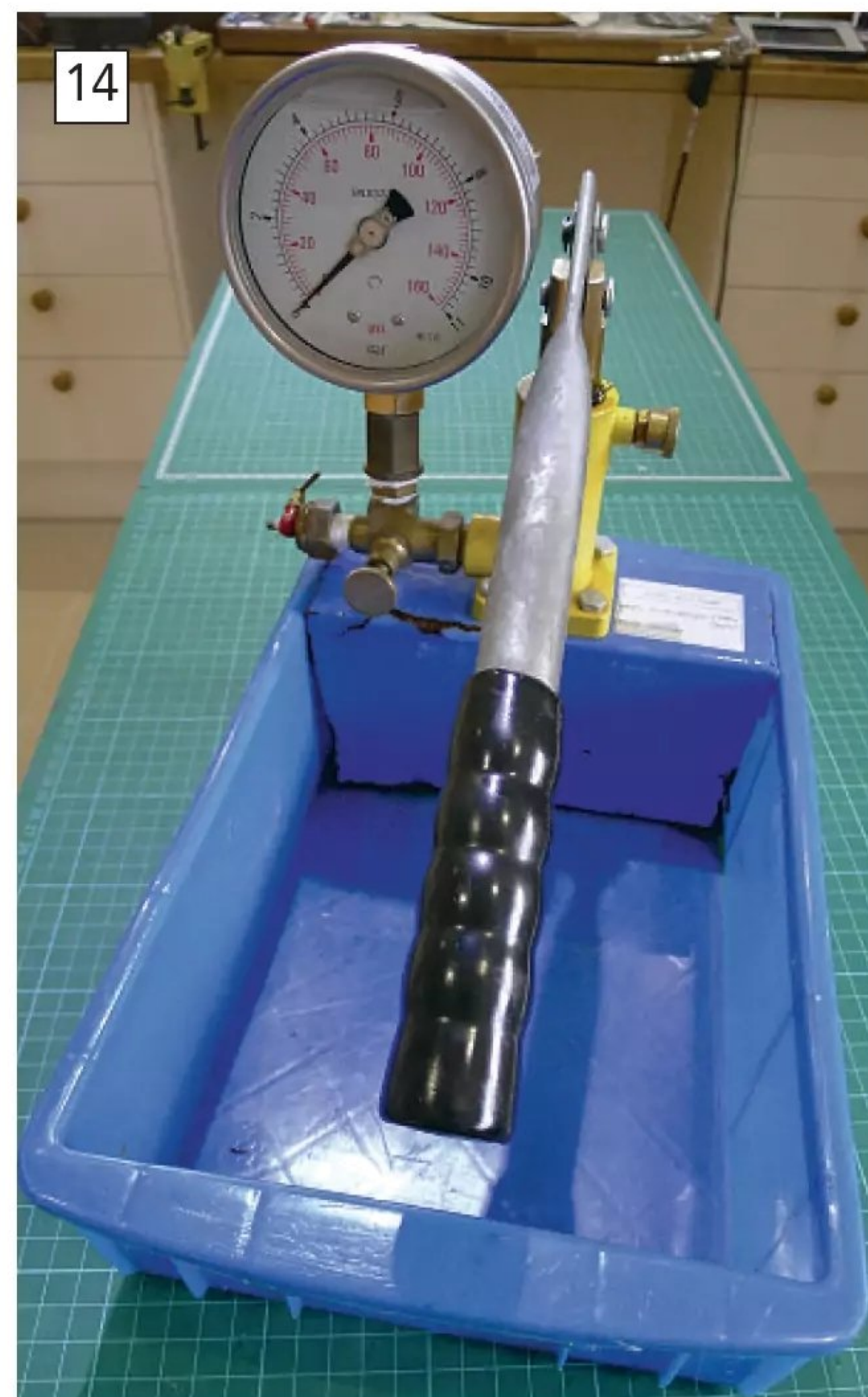
boiler inspector annual seminars (see **Photo 11**).

The contents of my carry case have proved more than adequate to cover all the needs of annual steam tests at the pondside, as well as a handy source of many frequently used fittings for hydraulic pressure tests in the workshop.

The test rig

The test rig is nothing more than a hydraulic pressure test rig, which can be purchased from Machine Mart, Amazon, or any other machinery equipment supplier. It doesn't have to be a high-quality unit; it must simply be capable of generating the required levels of pressure needed for the tests. The rig shown costs just over £34 at this moment in time and uses exactly the same pump as my set (see **Photo 12**). These will usually consist of a manual positive displacement piston type pump sat on a fluid reservoir tank, with a pressure gauge on the discharge and a vent valve (see **Photo 13**). The vent valve is required for testing purposes.

14



Richard's rig as he's used it for many years, with an additional isolating valve on the outlet to enable isolation of boilers when under pressure and the calibrated and certificated pressure gauge in place of the provided gauge.

I removed the supplied pressure gauge so I could fit the calibrated gauge in its place and fitted an additional valve to the discharge line (see **Photo 14**). This fits the thread found on 90% of model boiler pressure gauges. Any other fittings that might be required for hydraulic pressure tests are then also fitted to this valve. My pump has a grease pot attached to the side of the cylinder, and a spot of grease every season has kept the pump working reliably for all this time (see **Photo 15**).

A pressure gauge is best purchased from a reputable pressure gauge supplier, preferably one that also does recalibrations. It pays to go for a good quality gauge, I went for a glycerin filled one, which should last for a good few years. I have only once had a gauge fail a calibration check in the 20 odd years I've been testing, so that required a replacement gauge. Buying the gauge from a supplier who can also perform

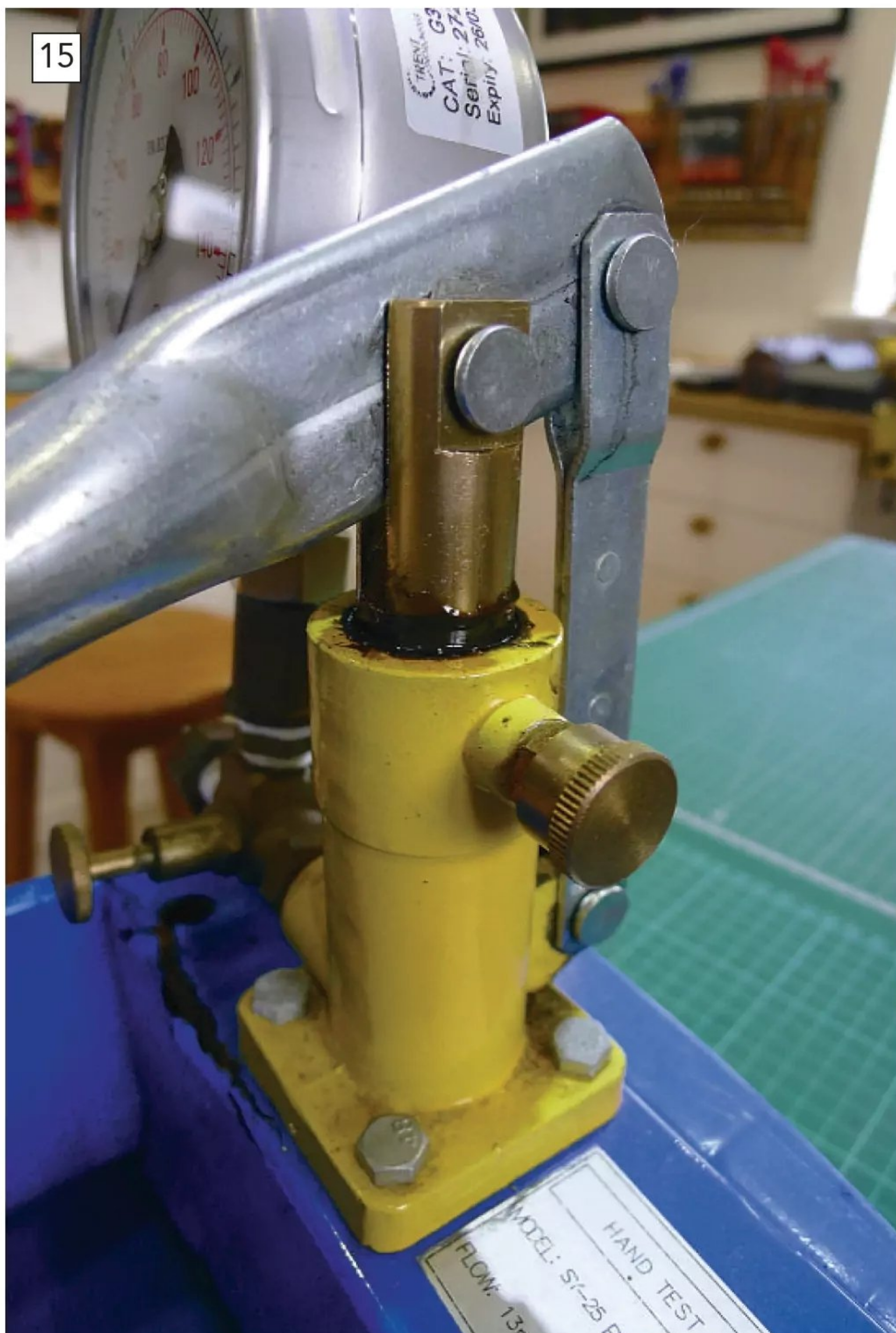
the recalibration and certification means it is easy and convenient in case of a failure to let them supply a replacement (see **Photo 16**). I buy my pressure gauges from, and have them calibration checked by, Trent Instruments at <http://www.trentinstruments.co.uk/>

Conclusions

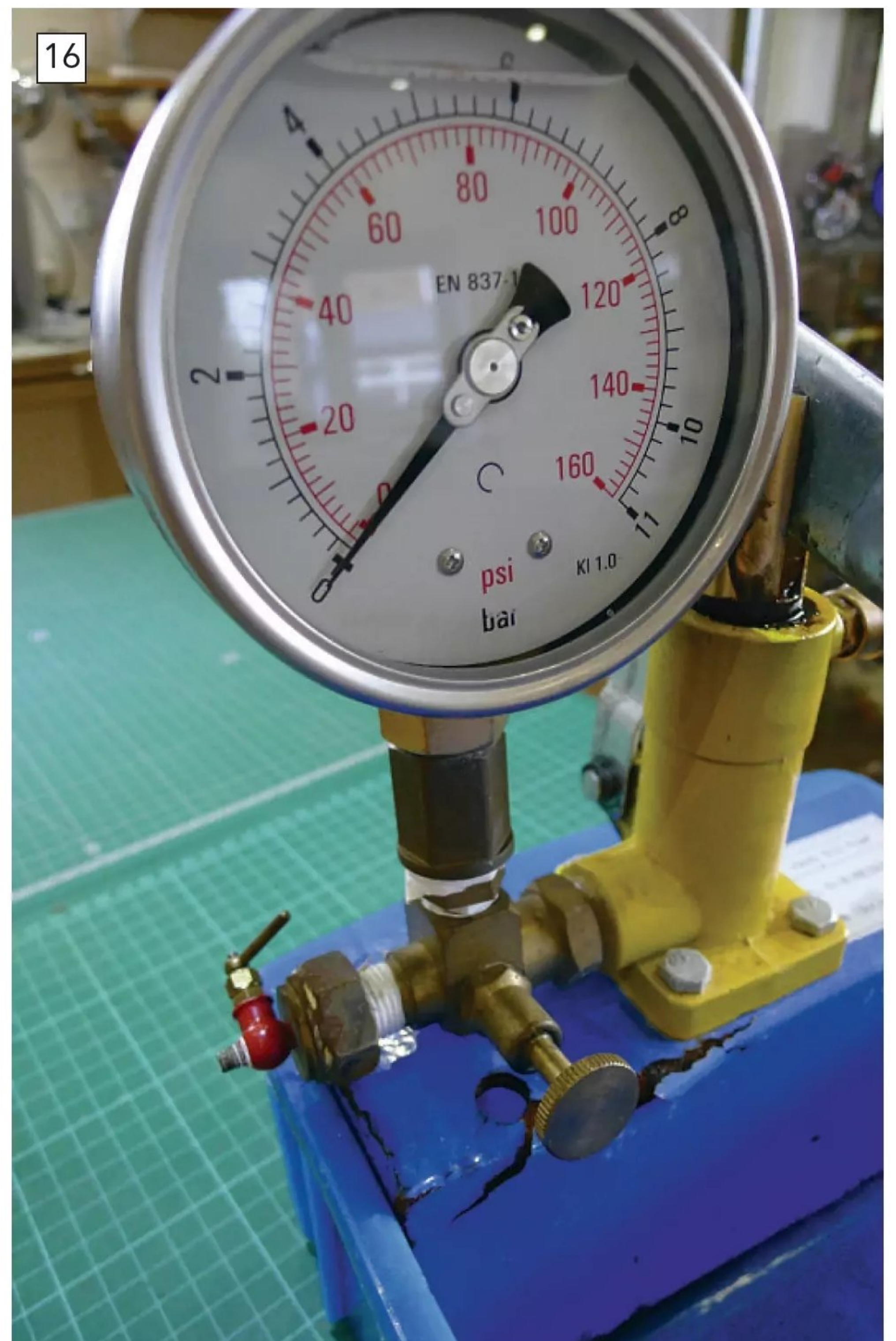
As you can see, the majority of stuff needed to be able to complete annual steam tests is pretty straightforward. On a club annual steam day, I usually compete around 12 to 13 steam tests, with everything running smoothly, as long as owners have done their own checks and tests the night before to be sure that everything works. Hydraulic pressure tests can be equally as straightforward but, invariably, I will come across unusual threads that might require an out of the ordinary fitting, or even one where a fitting needs silver soldering together. Not

only do I need to connect the boiler to the test rig, but I also need to be able to fit a pressure gauge to the boiler. As long as the original pressure gauge can be taken up to the relevant test pressure, that can be left on the boiler for the test.

The only remaining thing to consider is the testing of gas tanks according to *The Boiler Test Code Volume 3*. As yet I haven't been required to do a hydraulic test on a gas tank, which is just as well. Should this be required, while my pump is capable of generating the required 400 psi for the test, I would need to buy another calibrated pressure gauge that goes up to this pressure. Whether many clubs would consider this as an expense they would want to go to for the sake of testing the very low numbers of gas tanks that require a hydraulic test is up to them to decide. My advice is to stay with a gas tank type that does not require hydraulic pressure testing. ●



The only maintenance Richard's pump has ever received is a small shot of grease before every season. This has kept the pump working perfectly for many years. The grease is simply standard motoring grease.



The pressure gauge is the most important and the most expensive bit of kit. Richard likes glycerin filled ones, as he finds they tend to be more reliable and more robust. Don't be tempted by cheap ones – they have to be accurate and certificated!

RADIO POT-POURRI (PART 1)

Dave Wiggins shares details of a bevy of vintage radio items, all of which can be purchased for very small sums...

If you're reading this, then chances are you're a fan of, or intrigued by, retro radio-control gear – and if it's the latter, then you may be interested to learn that you can start a little collection or dabble with putting items back to good use even on a modest budget...

Skyleader

Let's start with Skyleader. From his very first set, Skyleader's owner, Mr Uwins, imported servo mechanisms from the United States, as these were simply so far ahead in digital technology then. The first two radios (I own neither) used early mechanisms made by Bonner or by F&M, but Uwin's big break came with the radio that he called the 'SL'. In every way, the Skyleader SL4 or 6 looked and handled much like Kraft's famous 'Gold Medal', but the servos offered with the first few SL outfits were sourced from either E/K Logictrol or Orbit Electronics, both of the USA (it was a long time ago!), to purchaser's choice. Here, I show samples of both (that is, of Orbit's black cased PS3-D and of the red Logictrol MM).

Just like Kraft's Gold Medal, the top line Skyleader SL (Super Light), made in Croydon on the old airport site where SRC was based), proved to be a pivotal product for the company and met with a ready acceptance with competition flyers, setting the new enterprise on a sure footing.

Uwins quickly built upon this by then also offering a less expensive 'Clubman' line, which proved to be very popular with club flyers and boaters on a budget alike, being sold, at first, with British made Horizon mechanisms to keep cost under control. However, while the Clubman (and the later 2-channel Clubmate for boats) were less expensive, it should be noted that in the 1970s, R/C equipment was never cheap, with credit often being required by those purchasing it.

The SL was replaced by a slightly improved top model called the SL-X. This model was offered, at first, with Kraft KPS12 mechanics bought in from California, which back then was the smallest servo available worldwide. By this point, however, British moulding concerns were emerging and beginning to offer British-built servos, and Skyleader's very well-known SRC-1 servo is a fine example of the move into fully UK engineered radios. I show examples of both the American KPS12 and British-built SRC1 here.

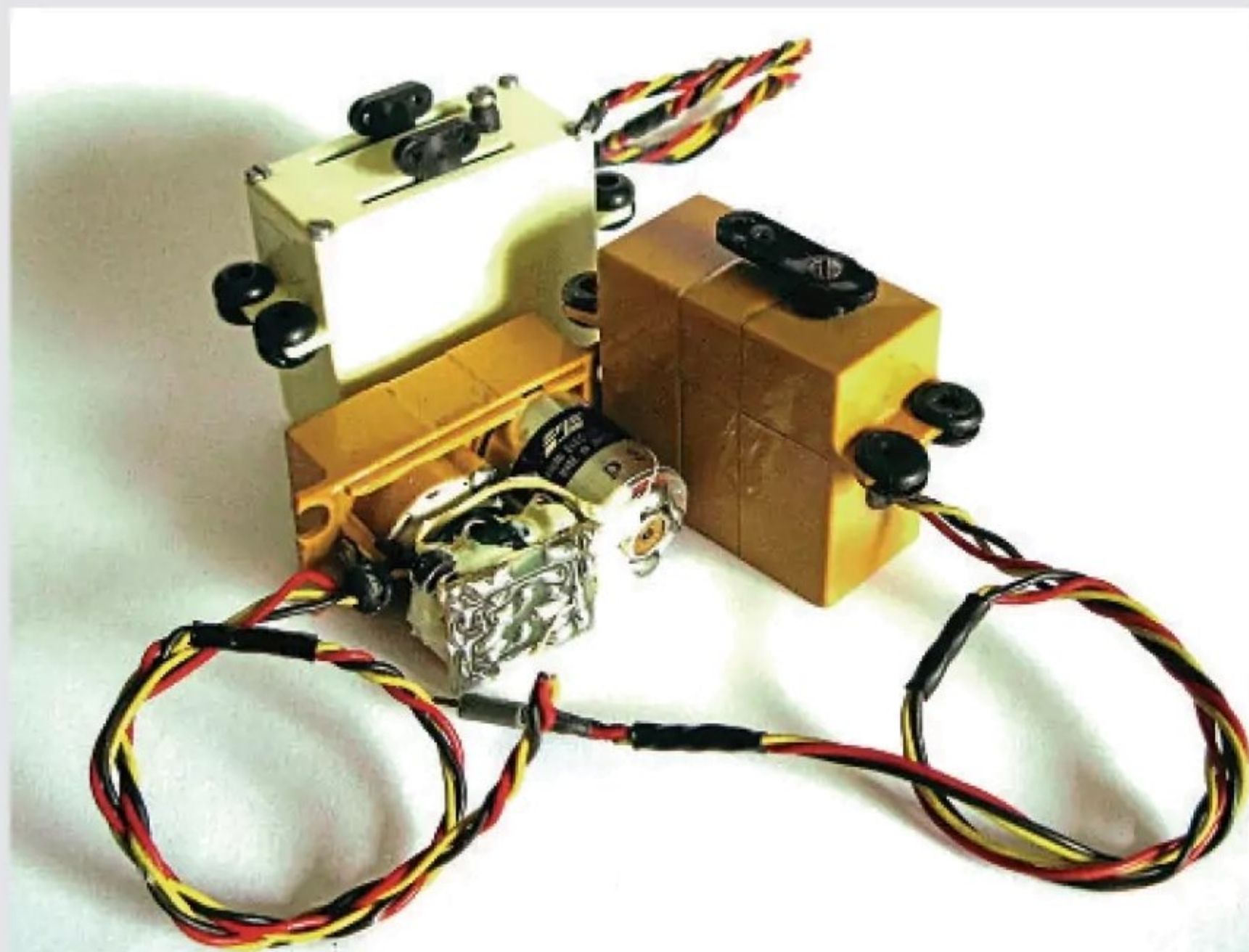
Skyleader's receivers also kept up with

"In the 1970s, R/C equipment was never cheap, with credit often being required by those purchasing it"

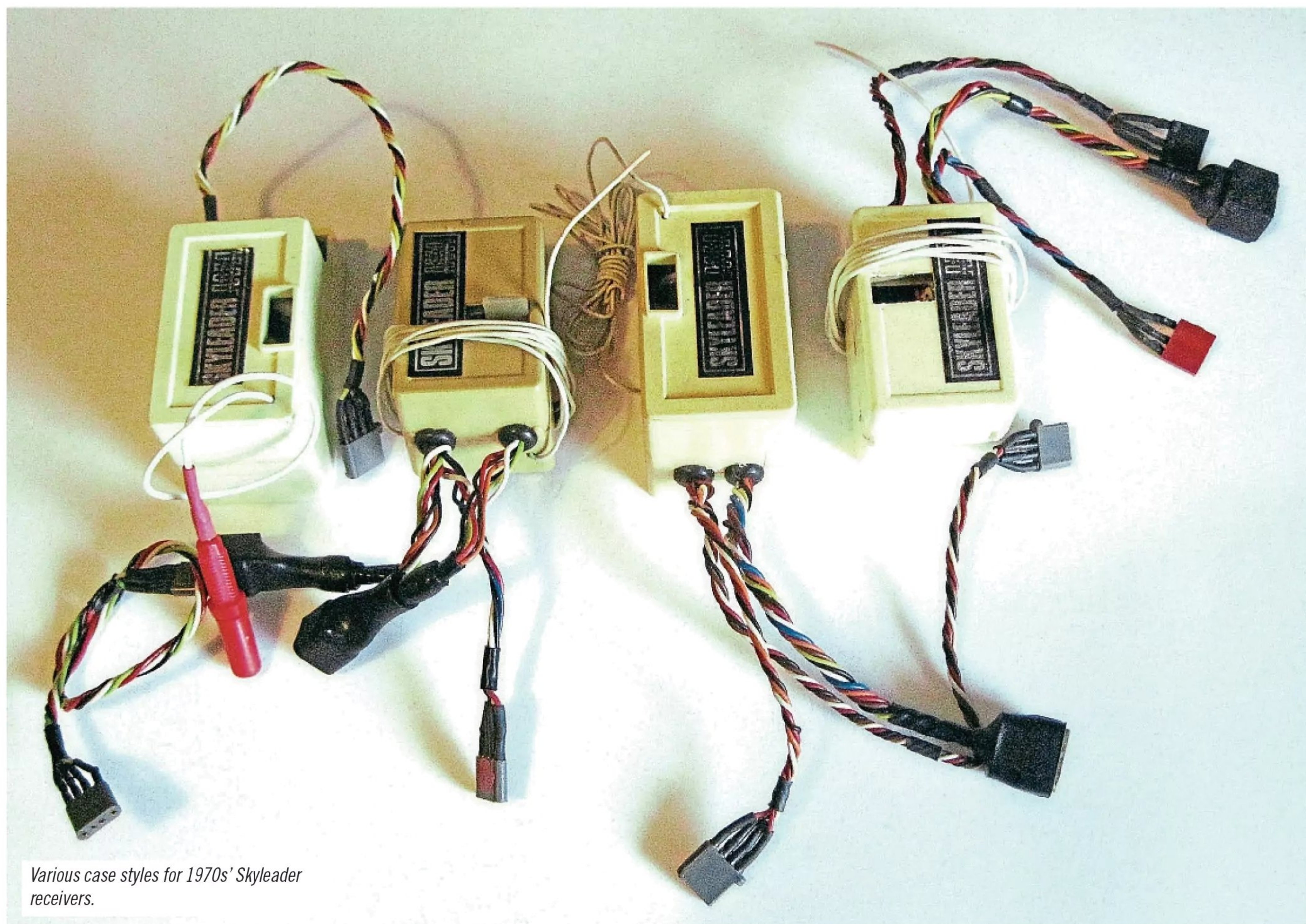
progress as R/C electronics advanced year by year, and my other Skyleader photo group shows a variety of SRC receivers, the only model I do not own being the very first 'SL' receiver. There were two main plastic cased types; these being those with conventional wired connectors (i.e., with the sockets soldered onto trailing cables) and those with the connectors mounted directly to the decoder circuit board – the so-called 'Boot' style receiver, first trialled by the firm on the Clubman. As to connectors, the very first examples of the 'SL' used the 'Brunner' block connectors also used by Kraft on its Gold Medal sets. Skyleader then adopted, with success, a 4-pin gold-plated range made by British firm SLM of Cheltenham, before changing, in its last 'Courier' sets, to yet another 3-pin connector style.

'Reeds' and Orbit

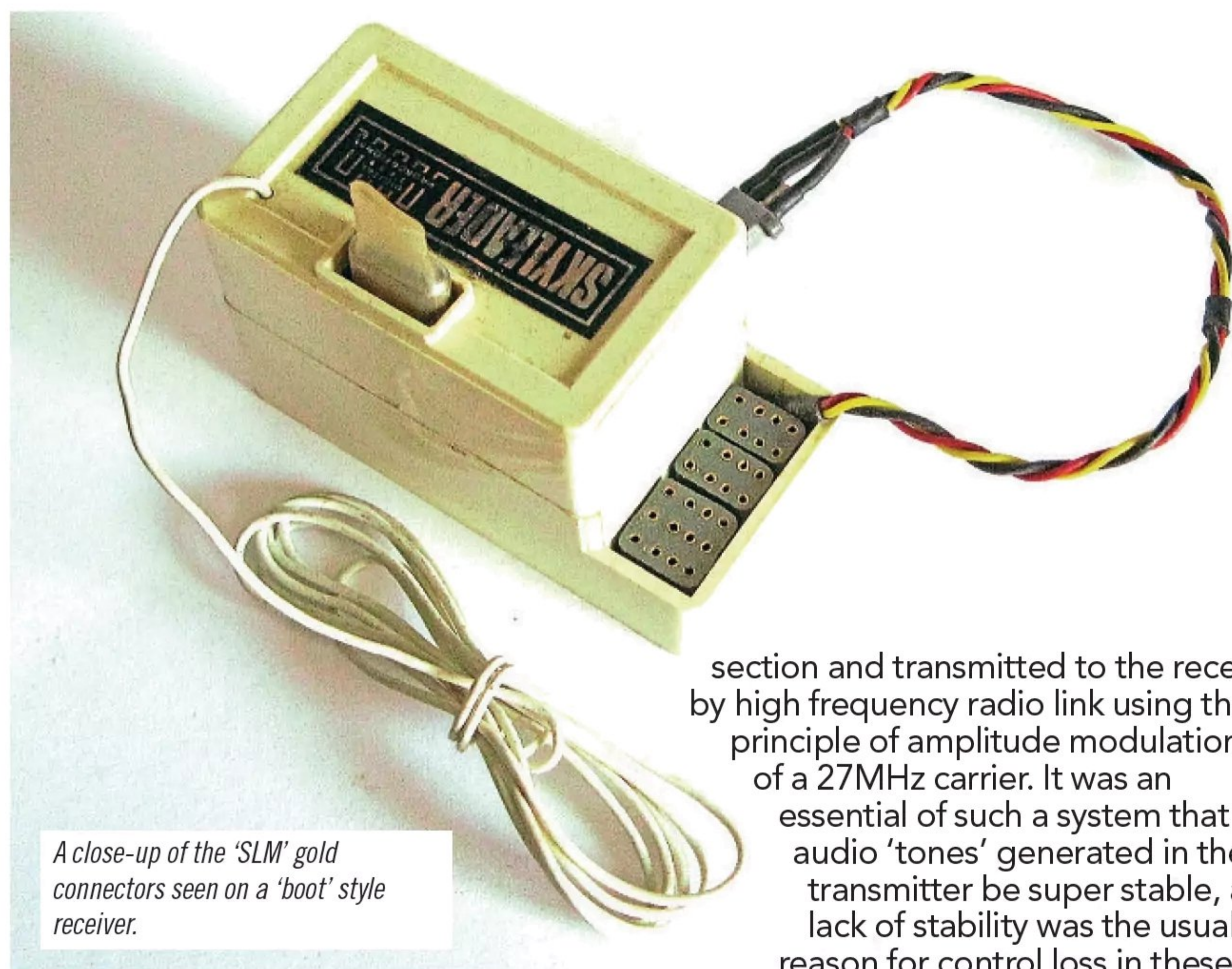
Now to something totally different, vintage fans: ye-olde reeds! The first, really practical, multi-channel R/C sets employed the principle of resonant, vibrating steel reeds making intermittent contact with adjustable fixed screw tips, the intermittent contact being smoothed out by capacitors. The receiver's reed-bank coil was driven by simple audio amplifiers, at first employing high voltage radio valves (tubes in the USA)



The main choice in 1970s, Skyleader servos were either its own SRC1 or Kraft's KPS12.



Various case styles for 1970s' Skyleader receivers.



A close-up of the 'SLM' gold connectors seen on a 'boot' style receiver.

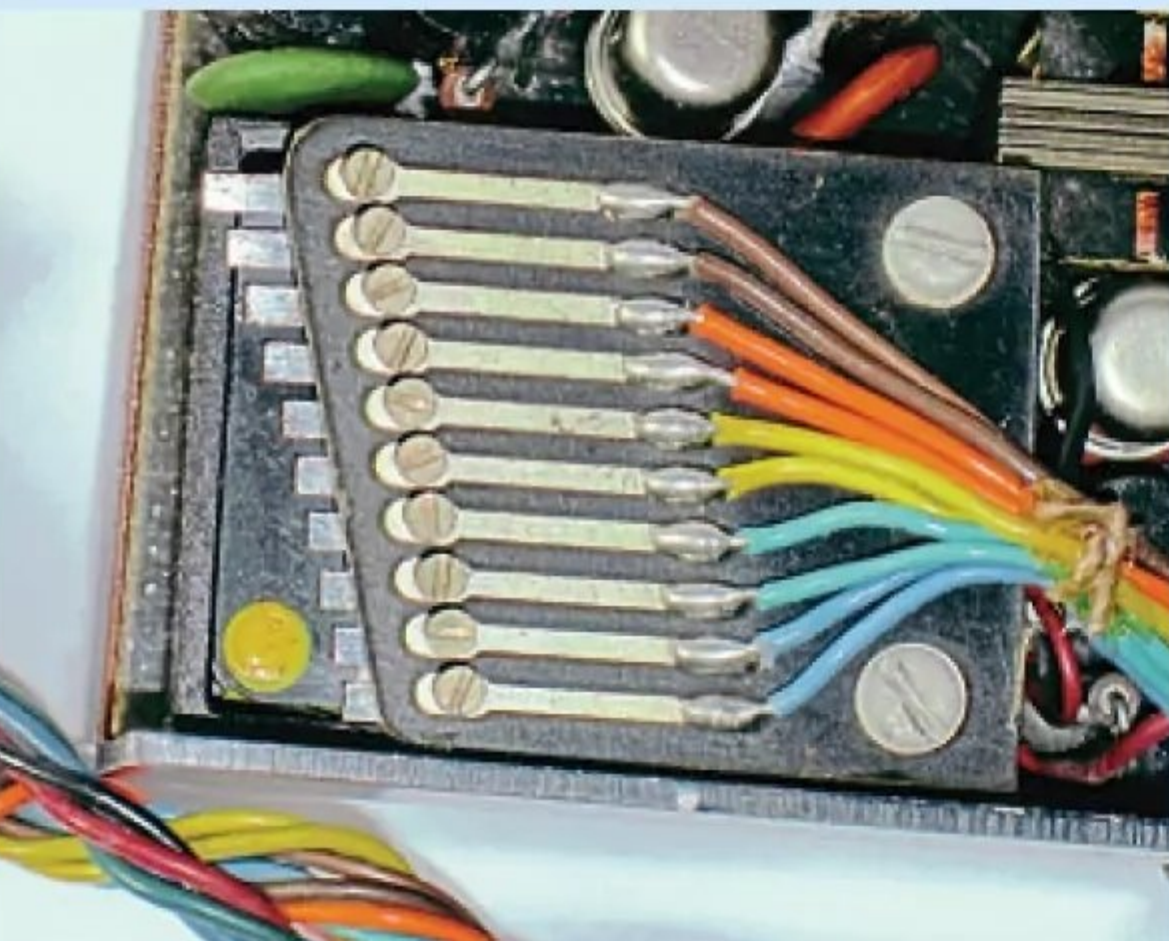
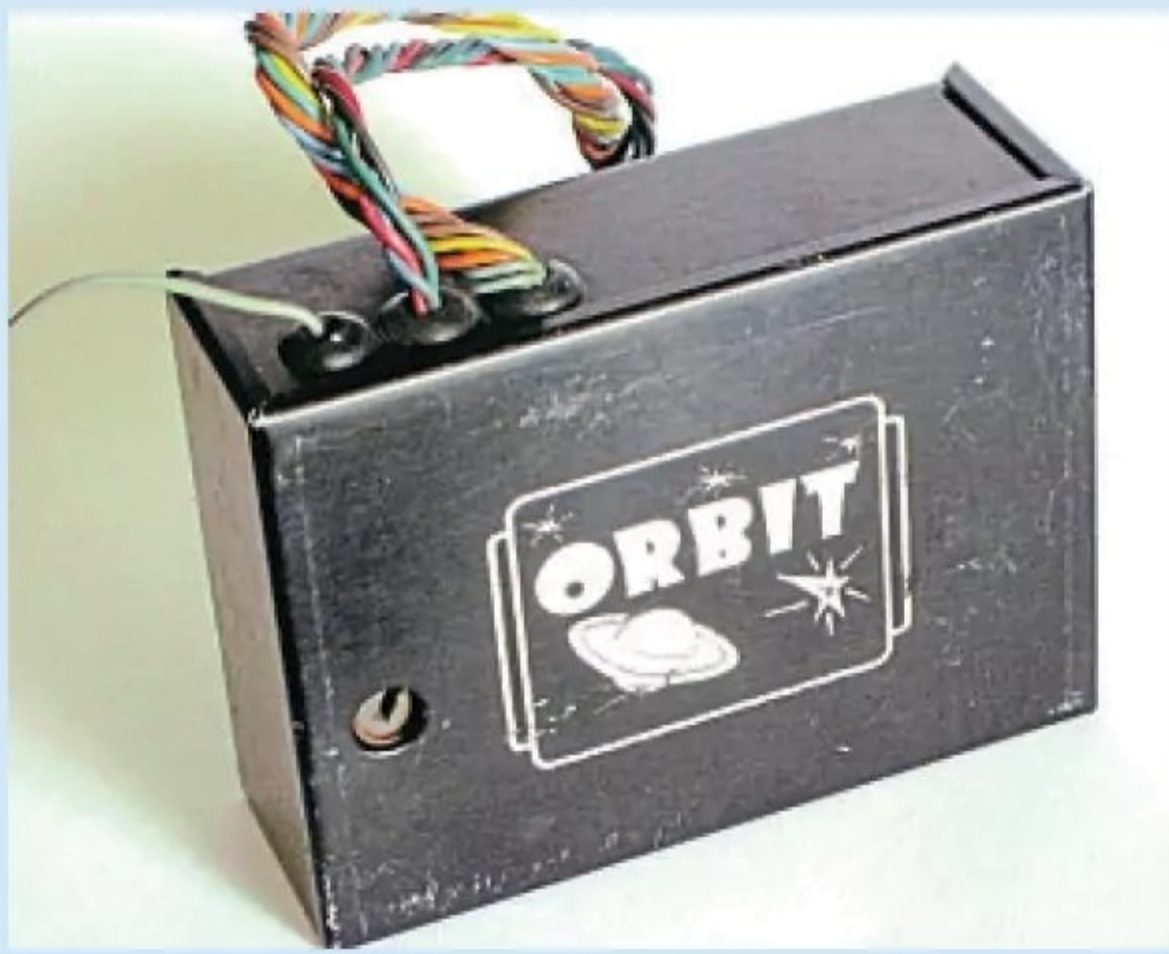
section and transmitted to the receiver by high frequency radio link using the principle of amplitude modulation of a 27MHz carrier. It was an essential of such a system that the audio 'tones' generated in the transmitter be super stable, and lack of stability was the usual reason for control loss in these early reed systems.

Here in Britain the first makers of reed radio sets were the famous old company of ED Ltd, using the design skills of George Redlich, who later left the firm and went on to found his own enterprise,

"To sum up reed control, one could say that the reliability of any reed R/C set depended on two things: the stability of the audio tones generated within the transmitter and the mechanical rigidity and quality of manufacture in the reed unit"

REP (Radio & Electronic Products), making blue cased sets like the 'Sextone' & 'Octone', using valve technology. George later designed a final reed set under the name Aerial, but later, and making much more modern reed sets all round, was the firm of RCS (Radio Control Specialists) Ltd of Hounslow, with a line of popular radios like the Inter-6 and Competition-10 (which I will cover in more depth later in a future instalment of Memory Lane). It's impossible to over emphasise the importance of George Redlich in getting multi-channel reed radio off the ground in the UK just after the war, but my bet is that RCS Ltd sold more radios than ED and REP added together, for the simple reason that the market for R/C had become

and then by the first generation of low voltage semiconductor transistor devices as here. The appropriate audio frequency for excitation of each reed was generated in the transmitter's audio



A trio of shots of an Orbit 10-channel 'reed' receiver c.1960 – back then, simply the very best.

much more active by the 1960s onwards, plus the equipment had become very much more reliable and affordable as the transistor replaced the old style radio valve in all electronic systems.

Overseas, a pioneer in reed radios of superb quality and high audio stability (even with valves) was Orbit Electronics, operated by the Dunham family out in the USA. An Orbit reed set was the marker of top quality R/C for some years during this era. I could only have but dreamed of owning an Orbit back then but am pleased to be able to illustrate an Orbit-10 channel reed receiver this month. Still in amazing condition, my three photographs show a product that really was the very best that money could buy for the well-heeled 1960s' aero-modeller. In my photo, the quivering plated reeds and contacts can be seen in close-up, as can the quality of the general assembly, including super neat wiring. In those days, all radio-control took place in the 27MHz waveband, and this top-end American receiver is, of course, a Superhet'; in this case, operating on yellow frequency (27.145MHz), one of six 'spots' then on offer.

To sum up reed control, one could say that the reliability of any reed R/C set depended on two things: the stability of the audio tones generated within the transmitter and the mechanical rigidity and quality of manufacture in the reed unit. That's a pretty safe statement to make. In both these areas Orbit radios excelled, although the reed units fitted were not made by the company itself but by American specialists like Deans or Medco, who should certainly share the praise.

"It's probably difficult for modern R/C fans to appreciate just how mercurial radio and engine design advances really were as the 1960s progressed to the '70s"

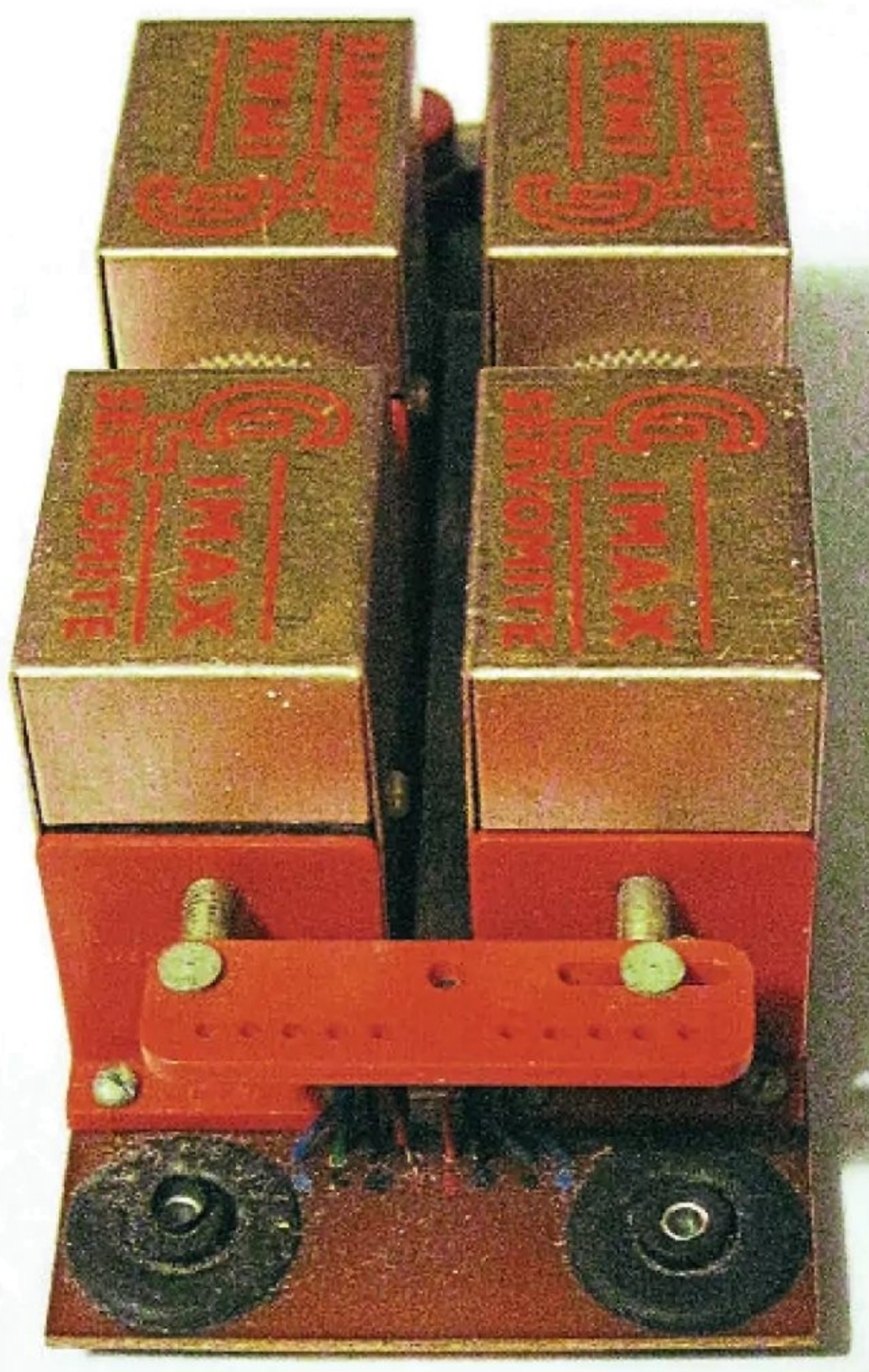
To go with my (or any) reed receiver, I illustrate a neat package of British made multi-channel reed actuators: the well-regarded 'Servomite Pack', an all-in-one installation unit manufactured by Climax – C&L Developments Ltd – (Peter Cabrol) of Weybridge, Surrey. Most Orbit gear sold in the UK would have been partnered by such a unit, whereas, if sold in America, Orbit gear was almost inevitably partnered with Howard Bonner's famous Trans-mite for 'relay-less' operation.

Radio Control Manuals

My last picture this month shows a complete set of the once famous 'Radio Control Manuals' published by MAP. These books were invaluable, as they enabled us enthusiasts to keep up with advances in the state-of-the-art year after year. It's probably difficult for modern R/C fans to appreciate just how mercurial radio and engine design advances really were as the 1960s progressed to the '70s, for nothing like it has occurred since, other than for some improvements in electric power and for the introduction of frequency hopping 2.4GHz technology to R/C.

Pot-pourri Part 2

The next instalment of Memory Lane will feature some (I think) interesting examples of the very first Spreng-Brook radios, so please tune in again then! ●



A total installation package of actuator power for the American Orbit-10 Rx – British 'Servomites'.



A complete set of the Radio Control Manual books, which reported R/C progress year on year.

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

'Mickey Mouse' build

I have at last completed this model, for which you helped me find a kit following my appeal published in the May 2024 issue. I make no excuses for the standard of finish. I am a 'beginner' and just cannot achieve the very high standards demonstrated by your regular contributors. I hope, however, that you will publish my letter and pictures as this may encourage other newcomers to the hobby.

The Sirmar Fittings kit proved a real challenge, as it turned out to be very minimal and didn't include any decking, superstructure, plans or instructions. The accessories sent were not complete, contained many discrepancies and were mostly attached to white plastic bases which had to be cut away. I did eventually manage to obtain a plan in the correct scale, but this was lacking in a lot of text description and details of construction.

Nonetheless, I really enjoyed this build and constantly thought about my uncle, who once commanded a minesweeping vessel of this class, working 12-hour shifts (mostly at night) from a very exposed bridge structure, in waters where all navigational aids had been removed. Apparently, the Royal Navy has now commissioned three fully automatic catamaran minesweepers that can be operated from on land with no crew on board. This, it would

seem, recognises the truly hazardous nature of minesweeping in wartime.

Prior to and during the build, I had to do a lot of research into what some components included with the kit actually were. It would appear that some of the details aren't strictly authentic, but I appreciate, of course, that details could vary from ship to ship.

I also learned a great deal about modelling at this scale, although clearly still have a long way to go before I can claim I've mastered the art. I found the railing around the bridge deck very difficult to construct. In retrospect, I realise I should have constructed it on the bench to ensure all uprights were vertical before installing it in lengths. I also had a major problem with glueing. I use a superglue which is described as cyanoacrylate. This comes in a small container with a fine spout and yet it still always seems to stick my fingers and any tools I am using but not the parts I am actually trying to glue! The setting time is indicated as 5-10 seconds, but, in my opinion, this can't be correct. Perhaps there are special techniques or tools used to tackle this problem, so I'd be very interested to learn from the experts how they do it.

When I look at the photos of the models in your magazine I am astounded at the precision and neatness of all parts, as well as the perfect paint finishes. Is it possible for you to tap the brains of your expert model readers and do a series of

articles on simple techniques for beginners?

**JEFF WARE
EMAIL**

OK, firstly, Jeff, as an editor rather than a model boat builder – and one who struggles with the assembly of flat pack furniture, at that – I have to say that I, for one, am massively impressed by what you've managed to achieve with your first build. I love the 'working', as opposed to pristine, finish you've given the vessel and the almost cartoon-esque crew (apologies if that wasn't the look you were going for, but I genuinely find them charming and super fun).

I am also in total awe of the incredible skills shown by so many of our more experienced contributors and readers, but, like you, they were all novices at one point, too.

By sheer coincidence, we are, courtesy of Glynn Guest, running a feature on railing in this very issue, which I hope may be of assistance. But, yes, I am very keen to include more articles explaining the basics and how things are best done. Being a niche title, we are, as I've pointed out many times in the past, very reliant on those in the community submitting material for publication. So, if anyone reading feels able to contribute articles that will help those new to the hobby get to grips with some of the basic skills and techniques, please get in touch. Ed.



Jeff's Motor Minesweeper built from the Sirmar Fittings kit.



Challenger 2

Following my build of the Virgin Atlantic Challenger 1 from a plan in the Jan/Feb issue of *Radio Control Boat Modeller*, which was featured in the September '22 issue of *Model Boats*, I was on the lookout for a kit or plan for the Challenger 2. Initially, my search proved fruitless, until, thankfully, last June a fellow member of the Potteries Model Boat Club offered me what was vaguely described as 'an Atlantic type boat'. Expecting this to be a lifeboat type craft, you can imagine my delighted when it turned out to be a 28" model of the Challenger 2! However, although clearly having been built to a good standard by its original owner, the model was now crying out for a full restoration.

So, I slowly began work, at which point knowing nothing about the boat's origins, and still being unsure of whether I was looking at a kit build or a model scratch built from plan. Until, that is, another member of the club casually asked if I'd seen

the *Atlantic Challenger* on a certain internet auction site. A quick search revealed not a boat but a listing for the issue of *Model Boats* (July 1995) that included the plan to which my boat had obviously been built. It really does pay to be a member of a club!

The restoration now had a renewed impetus, and I enthusiastically set about removing all internal and external fittings, along with several coats of paint. As received the boat had a very long prop shaft (virtually to the stern), and a conventional rudder mounted behind that which looked quite ungainly. However, when I received the plan (purchased via the listing on the auction site mentioned above) all became clear; the boat didn't have a conventional rudder but a propeller cowling around the propeller, as per the full-size craft, hence the exceptional long prop shaft (more on that later). Thus, a 1400KV brushless out runner was installed, replacing the original 540 sized motor. The correct type propeller cowling was crafted from aluminium

sheet, further fittings were added as per the plan, and a new paint job and decals completed the rebuild.

Unfortunately, the initial sailing trials proved to be quite disappointing. Although there was no shortage of straight-line speed, the propeller cowling created quite a lot of turbulence and drag, while also not providing the turning ability I'd expected. Hence, sacrificing scale appearance for performance, I shortened the prop shaft by 25mm. This facilitated the fitment of a conventional rudder, and I also doubled the suggested size of the trim tabs (as the boat tended to roll to starboard), all of which greatly improved matters.

It will be nice to see both boats sailing together, which of course the real craft never did!

**ASHLEY COOPER
EMAIL**

Always lovely to hear from you, Ashley, and what a superb restoration! Ed



Ashley's magnificently restored model of the Virgin Atlantic Challenger 2.



Ashley is now the proud owner of both Challenger 1 and Challenger 2.

Star of Seelight

On reading the article by John Corah about his recollections of *Hobo* (May 2025), I couldn't help thinking about a similar story myself. Back in the 1990s we owned a motor-sailor called *Star of Seelight*, a Miller 'Fifer 35'. She was built in 1964 by the James Miller & Sons boatyard in St Monans, Scotland. They were a very well-respected builder of fishing boats used on the east coast of Scotland and the North Sea. We kept our boat in Brighton marina and enjoyed many trips along the south coast. Unfortunately, owning a wooden boat comes with a major

drawback – maintenance! I spent many months completely revarnishing all the mahogany woodwork, both inside and out. I used a polyurethane varnish called Coelan, which was very expensive, but was stated to last up to 25 years, so it was well worth the effort.

Fast forward to 2024, I was looking around for some inspiration for my next model project. I had just completed a model of a Castle Class Corvette at 1:96 scale, so when a colleague at Selsey Model Boat Club suggested I look for a subject which could be built to a larger scale, I thought a model of *Star* would do just fine.

Having decided to build to 1:12 scale, I searched around for drawings and other information. The only drawing I could find was of a Miller Fifer 33 to a smaller scale, not a 35, which differed in that it sported a raised fore deck (the 33 is flush-decked). There was only one thing for it; I had to produce my own set of drawings and hull lines.

To cut a long story short, the finished model turned out very well, even if I say so myself. She is largely scratch-built and uses a geared down 800 brushed motor, running off a 12Ah 6-volt SLA battery. The radio is a Graupner mz-12, sadly no longer available, where I've used four channels – namely, rudder, throttle, sail control, and a halyard winch for the mainsail. This was quite a challenge before it was successful, but it works just fine now. I can raise or lower the sail whilst underway (pointing into the wind, of course) depending on the wind strength at the time. This is quite important as *Star* has no external keel, relying wholly on internal ballast, just like the real boat. Again, just like the real thing, she does not sail into the wind at all well, but the sails offer a substantial boost when motor-sailing off the wind.

All in all, this was a very rewarding project, and I hope you enjoy the pictures.

Bye the way, love the magazine, so keep up the good work!

**RICHARD HOARE
SELSEY, WEST SUSSEX**

She's truly gorgeous, Richard. I'm very envious of the fact you once owned and sailed the *real thing*, too. Ed.



Elephant

I am relatively new to model boat making, especially those not made of plastic. I have nearly finished a project that in hindsight I was not experienced enough to easily follow. However, I am nearly there and thought you might like to see what I have achieved.

This is a model based on the pre-dreadnought HMS *Lord Nelson*. I am calling mine HMS *Elephant*. Even though I am a bit of a newby, I have taken some liberties. First you can't help but notice the Victorian black and white livery. I know she should have been Battleship grey, but I don't care because I think it looks beautiful.

Secondly, I have given her a proper bridge. HMS *Lord Nelson* did not have one, and it wasn't until later that her sister ship *Agamemnon* received one, but I think the ship looks more complete with this.

Thirdly, I really thought the two butterfly-like davits that stick out from just below the mainmast were ugly, so, as I have no crew to cater for, I left them out.

This was not a kit, but the hull was fibreglass and there was a pack available with many useful fittings. I called my ship *Elephant* because I had deviated from the *Lord Nelson* model;

I pretended she was a new addition to the class. I named *Elephant* after one of the ships commanded by Nelson.

I have loved making this model and would like to make another, but I have several hours of negotiation with management before I get to that stage!

I live in Somerset near Minehead, and I cannot find anywhere to sail her. Can anybody help?

**DAVID BURRELL
CARHAMPTON, SOMERSET**

Bravo for stepping outside your comfort zone, David. It looks like you are doing a splendid job and I, for one, can't wait to see *Elephant* finished and on the water.

I am hoping that your fellow readers will come forward with some

suggestions on potential sailing venues here as, so far, I have. Over to you, chaps! Ed.



Work in progress on HMS *Elephant*. Can anyone reading recommend a sailing venue within easy striking distance of Minehead for her on water debut?

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**

Keeping warm & cosy

I really enjoyed Nev Wades thought provoking article in the June edition of Model Boats magazine. I'm sure most of what was outlined by Nev resonates with many of us struggling with the problems associated with 'shed dwelling'.

Much as I admired what he had achieved, particularly with reference to tidiness, I am surprised no mention was made of insulation.

When I built my doghouse, sorry I meant shed, my priority was to make it as comfortable as possible, particularly when it comes to warmth.

On cold winters' nights having voluntarily chosen to go to my shed, or indeed having been evicted from a cosy cottage, warmth is most welcome.

I therefore lined the floor, walls, 'ceiling' and door of my shed with 50 mm Celotex insulation. This foil covered insulation comes in various sizes and thickness, is easy to cut (I use an old

bread knife) and can be stuck onto the inside shed panels. On the floor, this was just loose laid and then covered with interlocking floor panels as used in lofts.

To make it feel a little more like home, the walls were covered in plasterboard, which I duly painted in a fetchingly coloured emulsion paint.

Heat is provided by a small oil filled electric radiator, set on its lowest temperature setting, and left on day and night for possibly eight months of the year. The running cost is minimal as, once the fabric of the shed, the equipment and cupboards are up to temperature, warmth is easily maintained.

So, from my experience I would suggest when building or updating your shed, buy as large as possible and insulate it well. This includes secondary glazing.

Regarding tidiness, I am at a loss for what to say or do. I have repeatedly tidied my shed, putting stuff away in boxes, drawers and cupboards, but

then when I come to look for certain items, tools or materials they can never be found. That's actually not quite true, because having gone out and bought replacements, they turn up!

Consequently, I am a great enthusiast for untidiness. Everything is to hand, and I know where everything is!

A most enjoyable article. Thank you.

**JOHN MILESON
EMAIL**

Glad you enjoyed Nev's article, John, and thank you so much for flagging up another very important thing that needs to be factored in when setting up a workshop in the shed – nothing worse than being cold!

I hugely admire those who are incredibly neat and tidy, but, shamefully, like you, my workspace is more 'organised chaos' than 'a place for everything and everything in its place'. Ed.



Thanks to good insulation and an oil-filled electric radiator, John shed is kept nice and cosy all-year-round.

Dundee MBC

I am sharing some photos from a recent event held to celebrate the 140th anniversary the Dundee Model Boat Club, of which I am a member. We had a fantastic day. While the original intention had been to get 140 model boats on the water, we actually exceeded that figure, with 250 boats being sailed. We also put

on a large display of static models and managed to raise £92 for the two charities we support.

**NIALL THOMAS
DUNDEE MODEL BOAT CLUB**

Congratulations on the anniversary, and what a fantastic achievement, Niall! Thanks so much for sharing these fab photos. Ed.



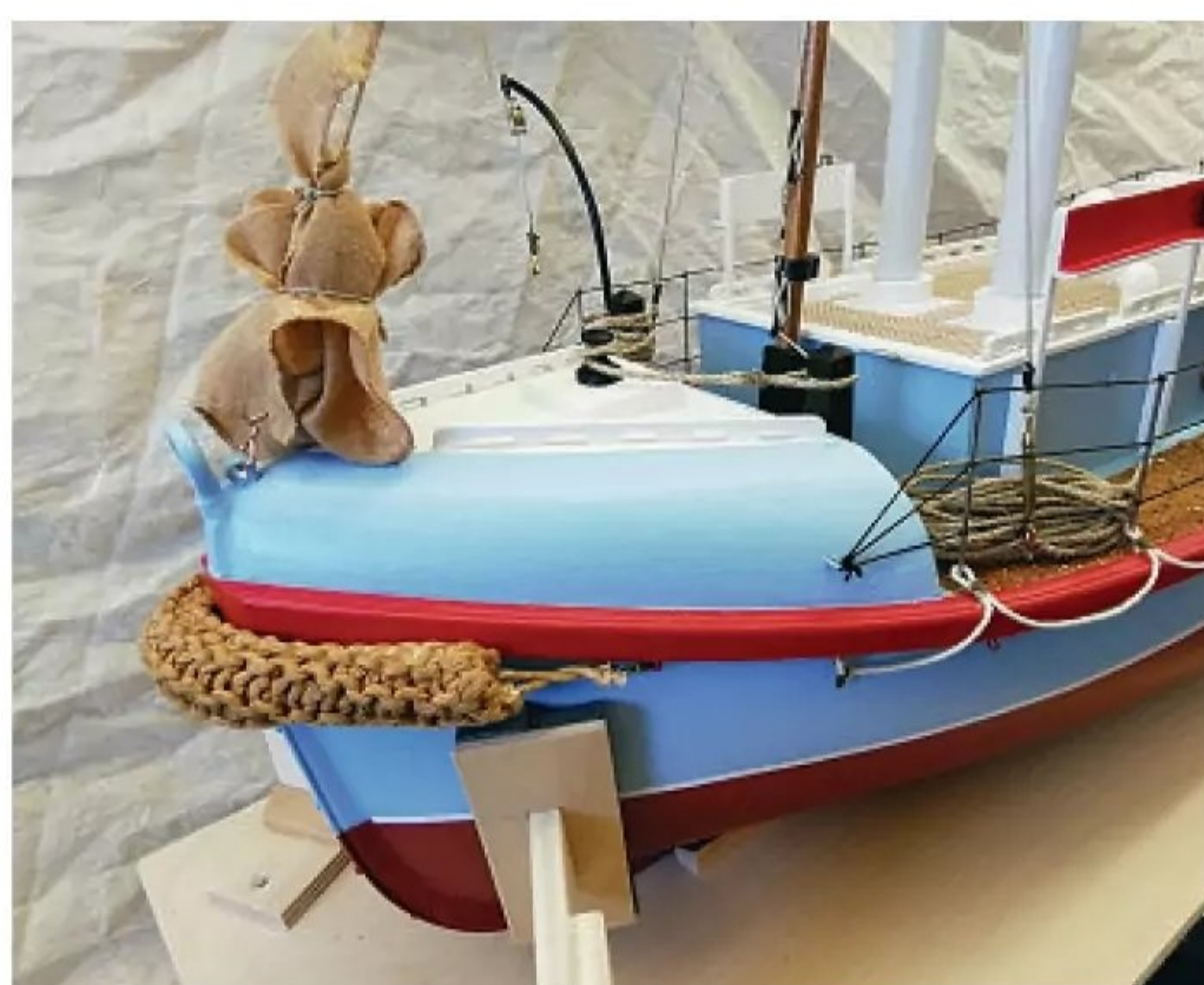
Next month in **model Boats**

In the August 2025 issue, on sale from Friday, July 18, don't miss...



▲ The flying bus

The tricky art of recreating a 1930s' magazine cover star



▲ "But they all look the same..."

A defiant scratch build of one of the RNLI's more unusual historic lifeboats

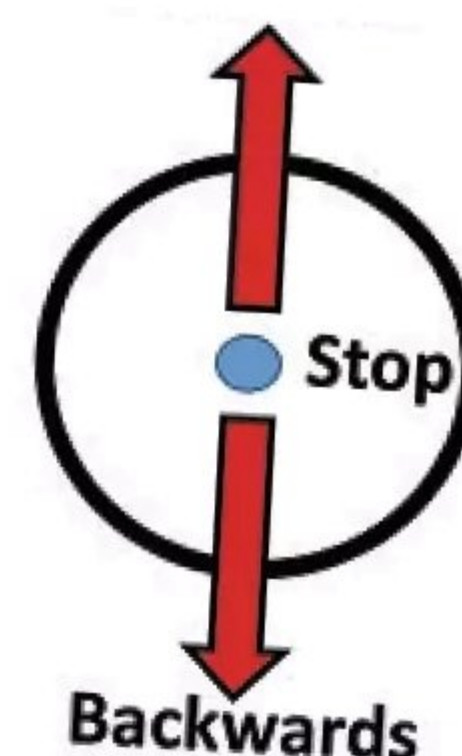


Figure 1 The usual Throttle Stick operation

▲ Self-centred?

Some helpful guidance on a frequently discussed pondside topic

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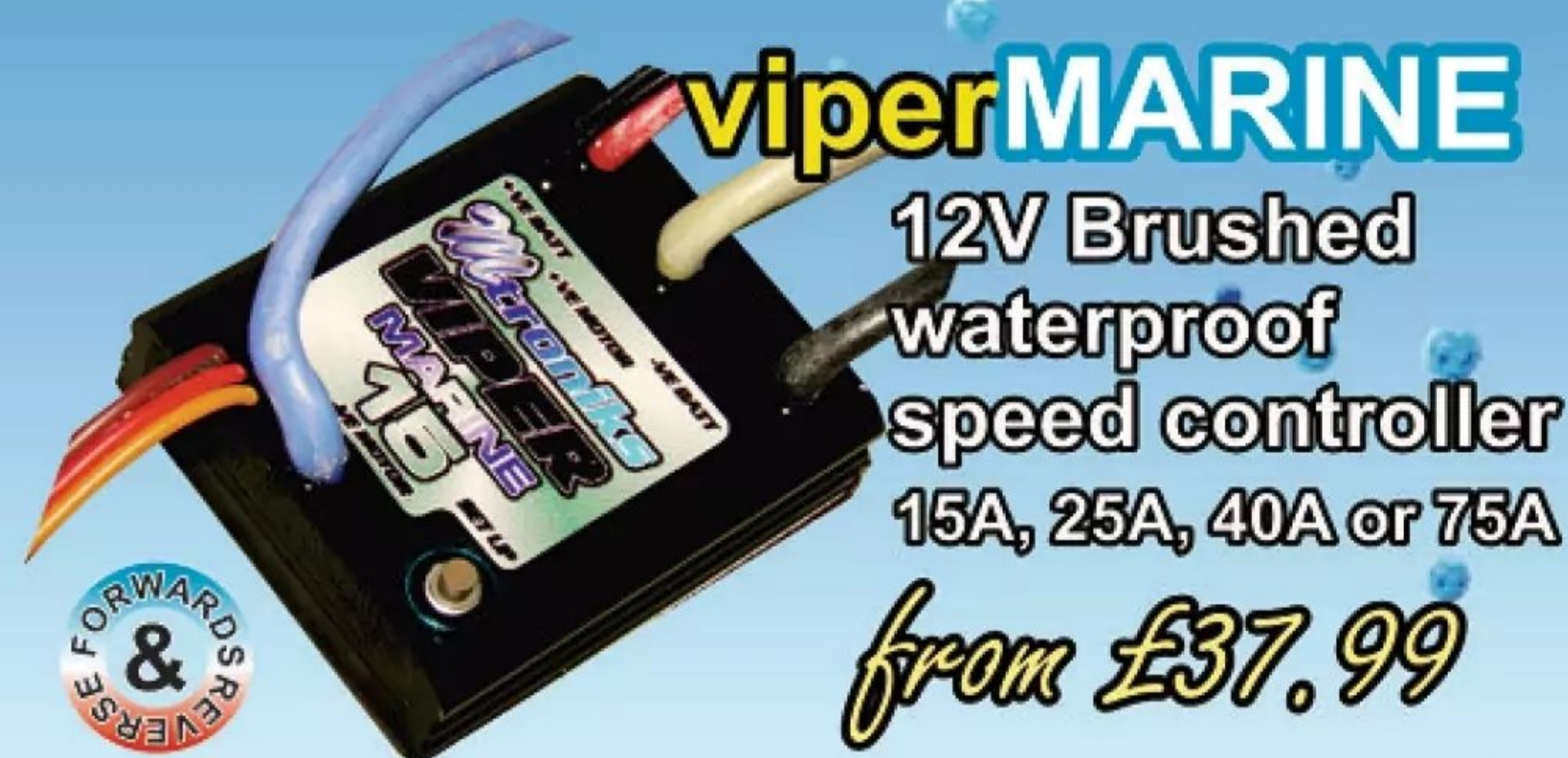
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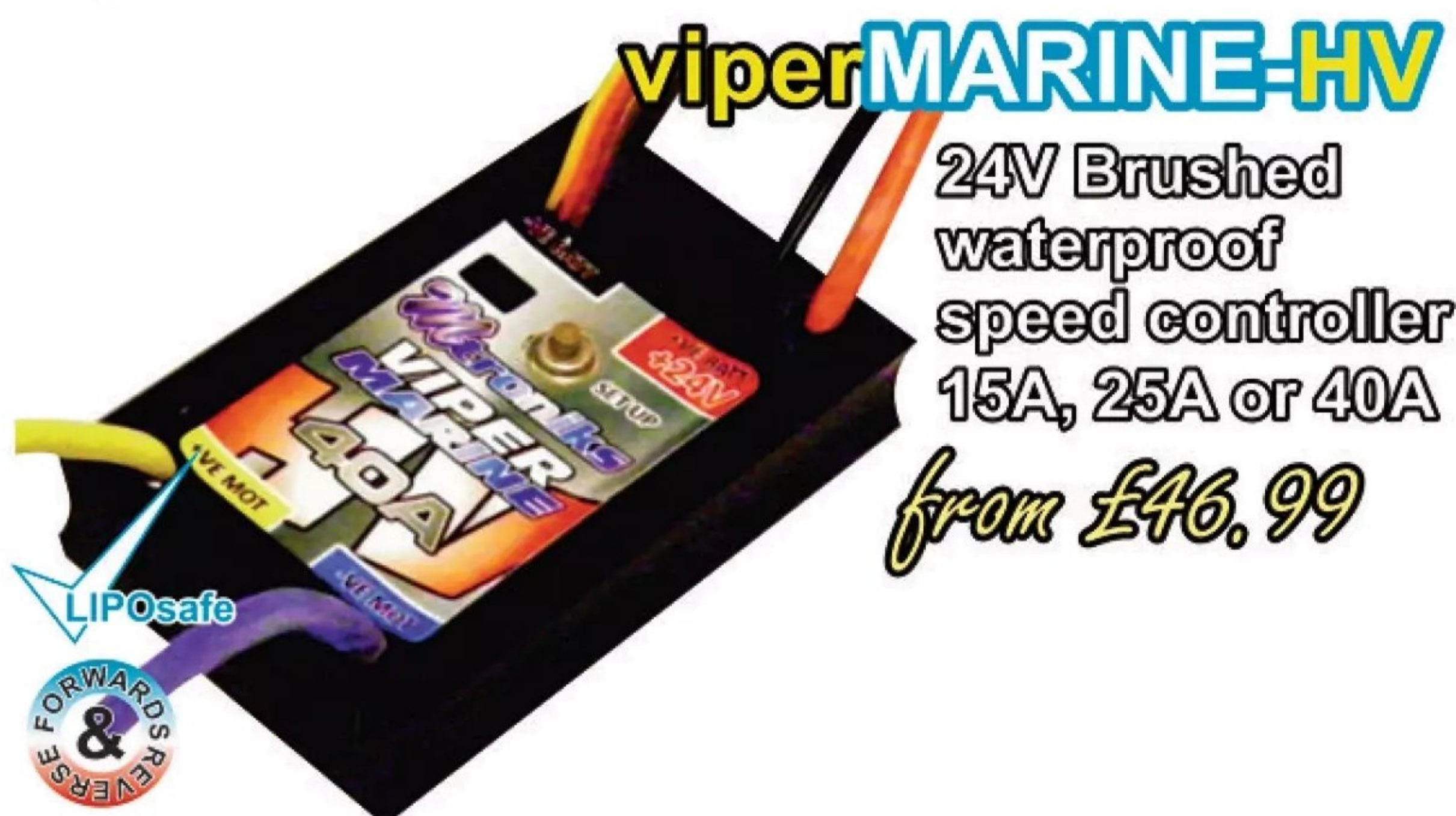
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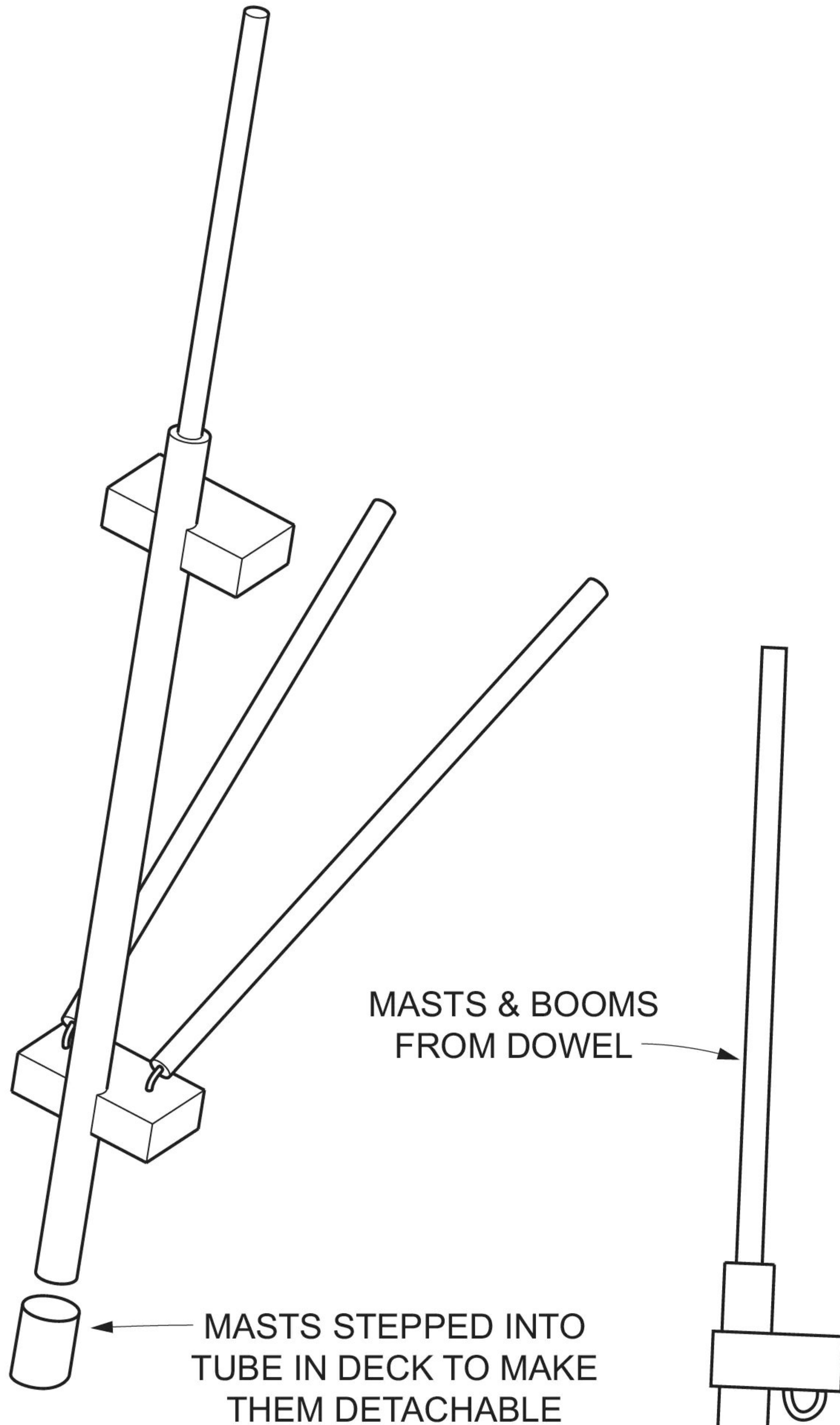
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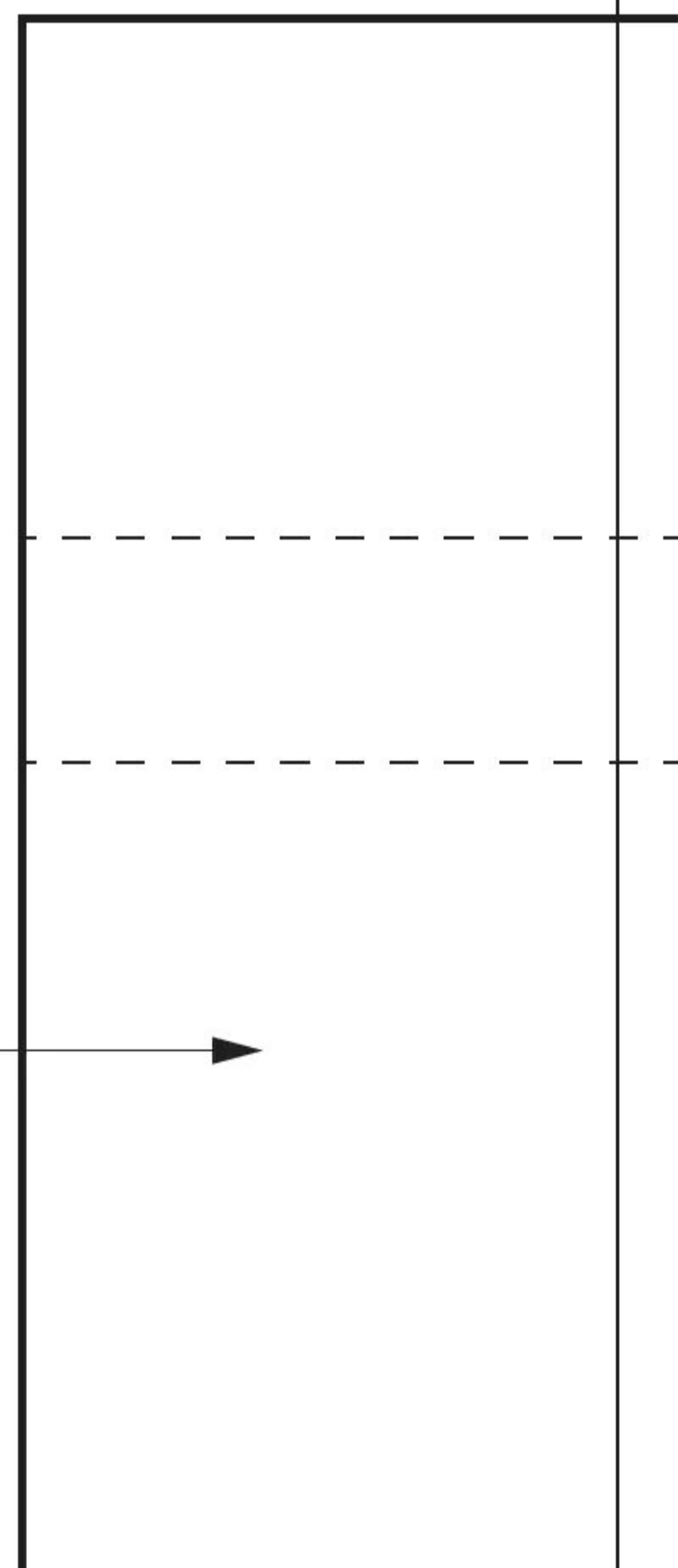
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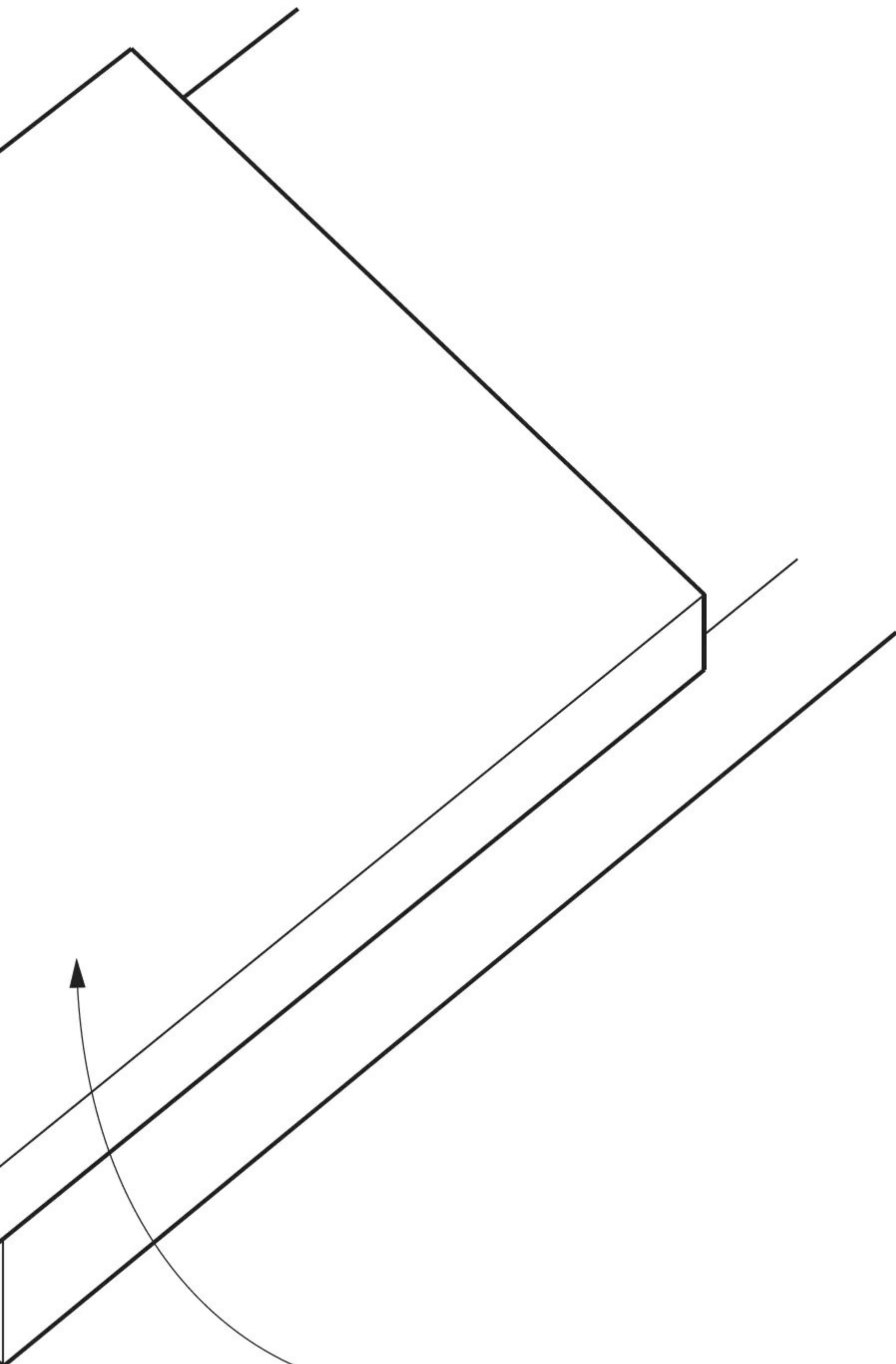
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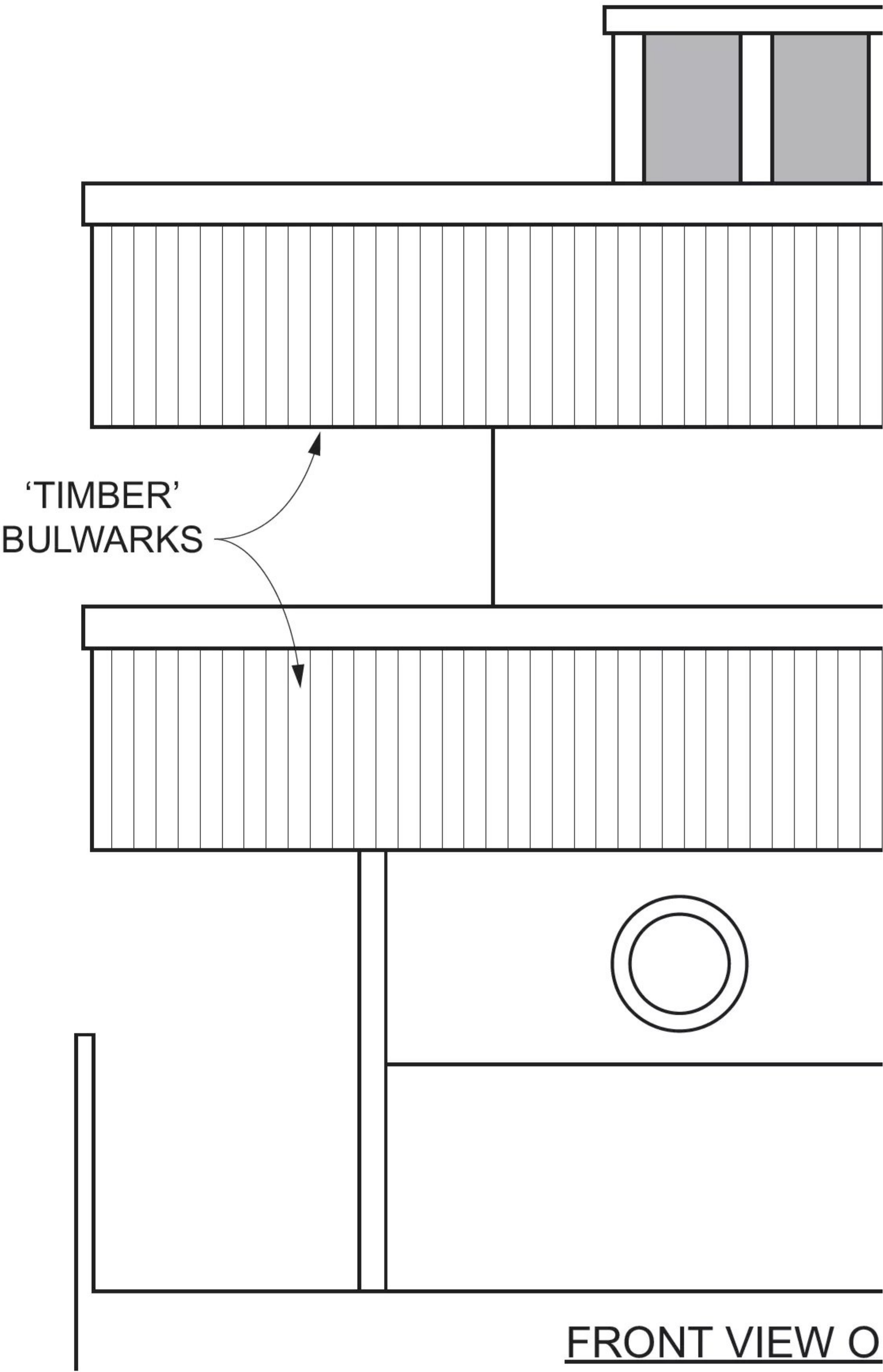
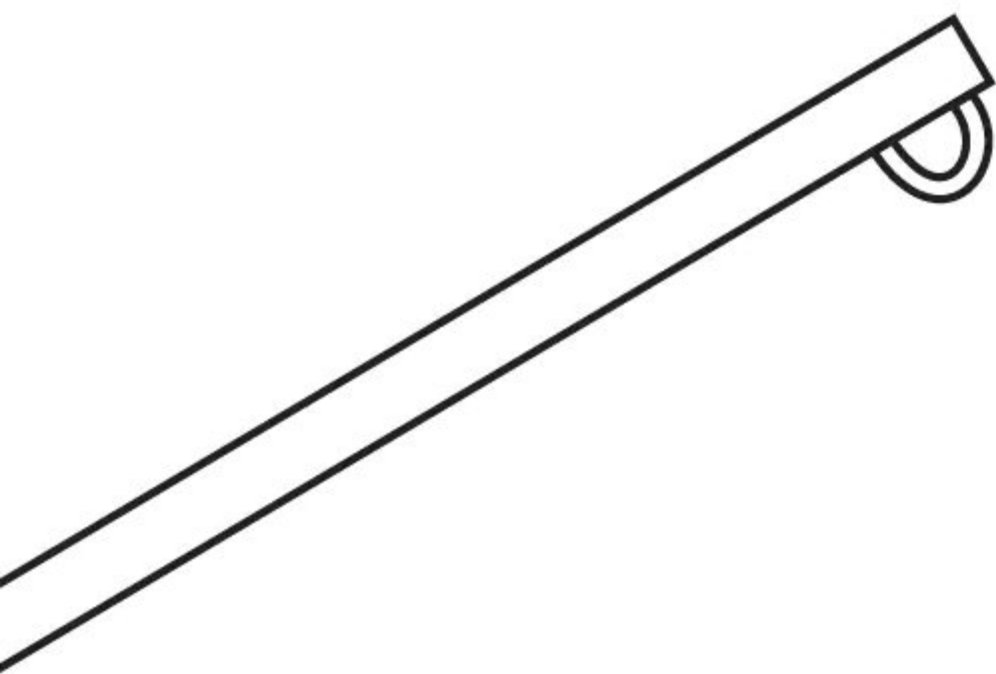
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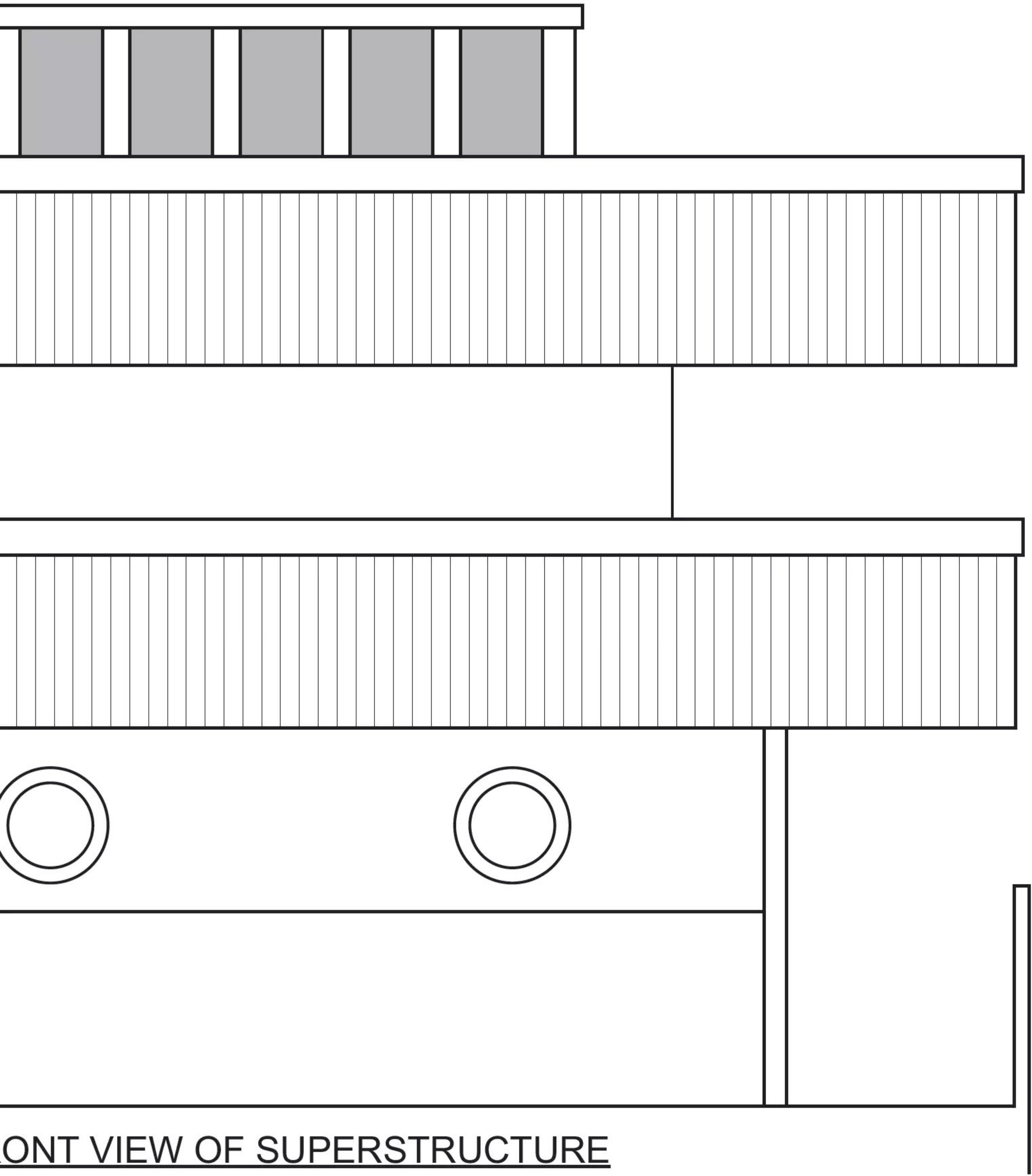
CUT OUT & JOIN
THIS PART
OF THE BOW ON
THE LINE X-X TO
GIVE FULL LENGTH
SIDE VIEW



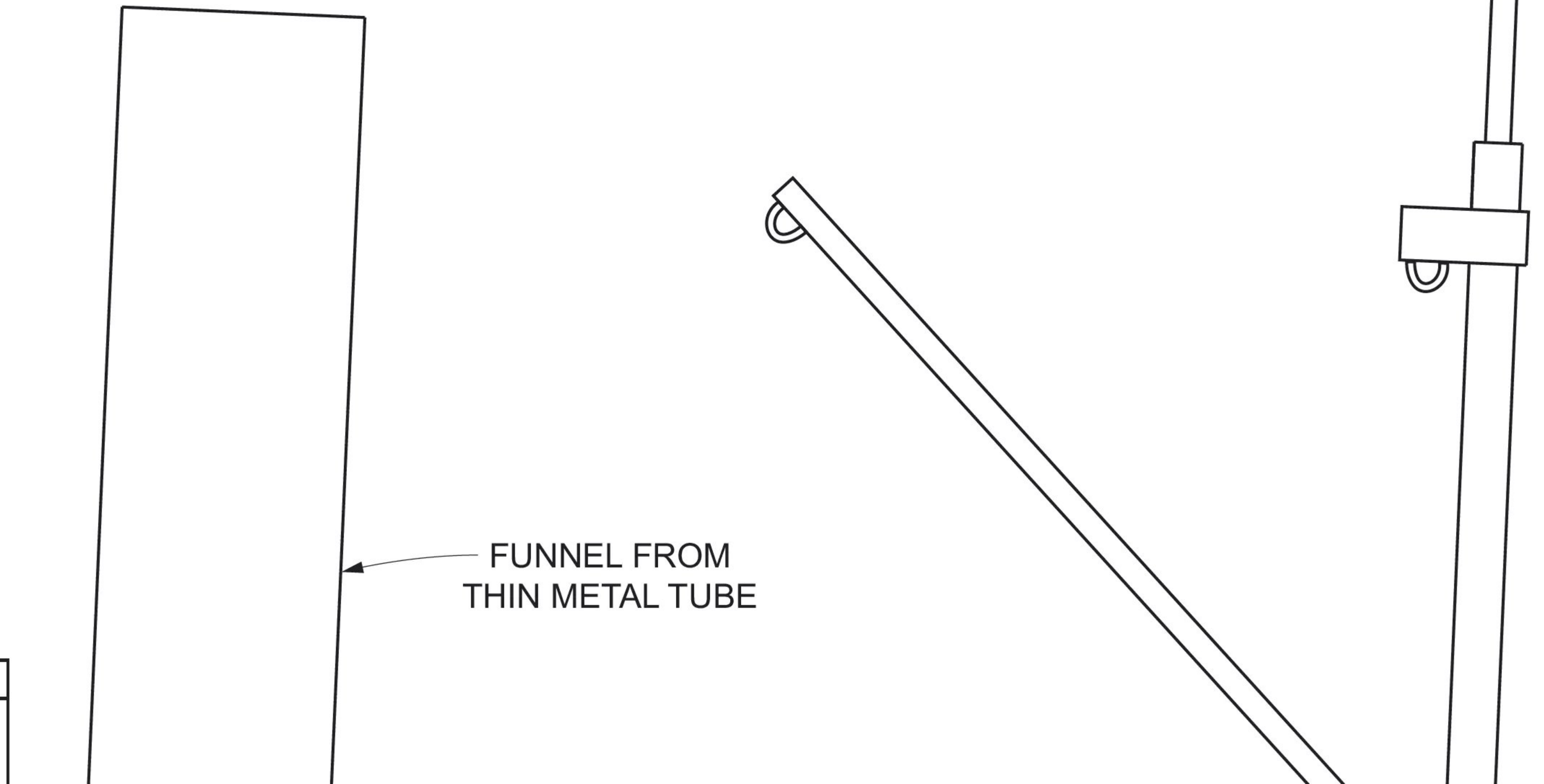


REMOVABLE HATCH COVER
FOR EXTRA VENTILATION
IF NEEDED





ONT VIEW OF SUPERSTRUCTURE



Boats

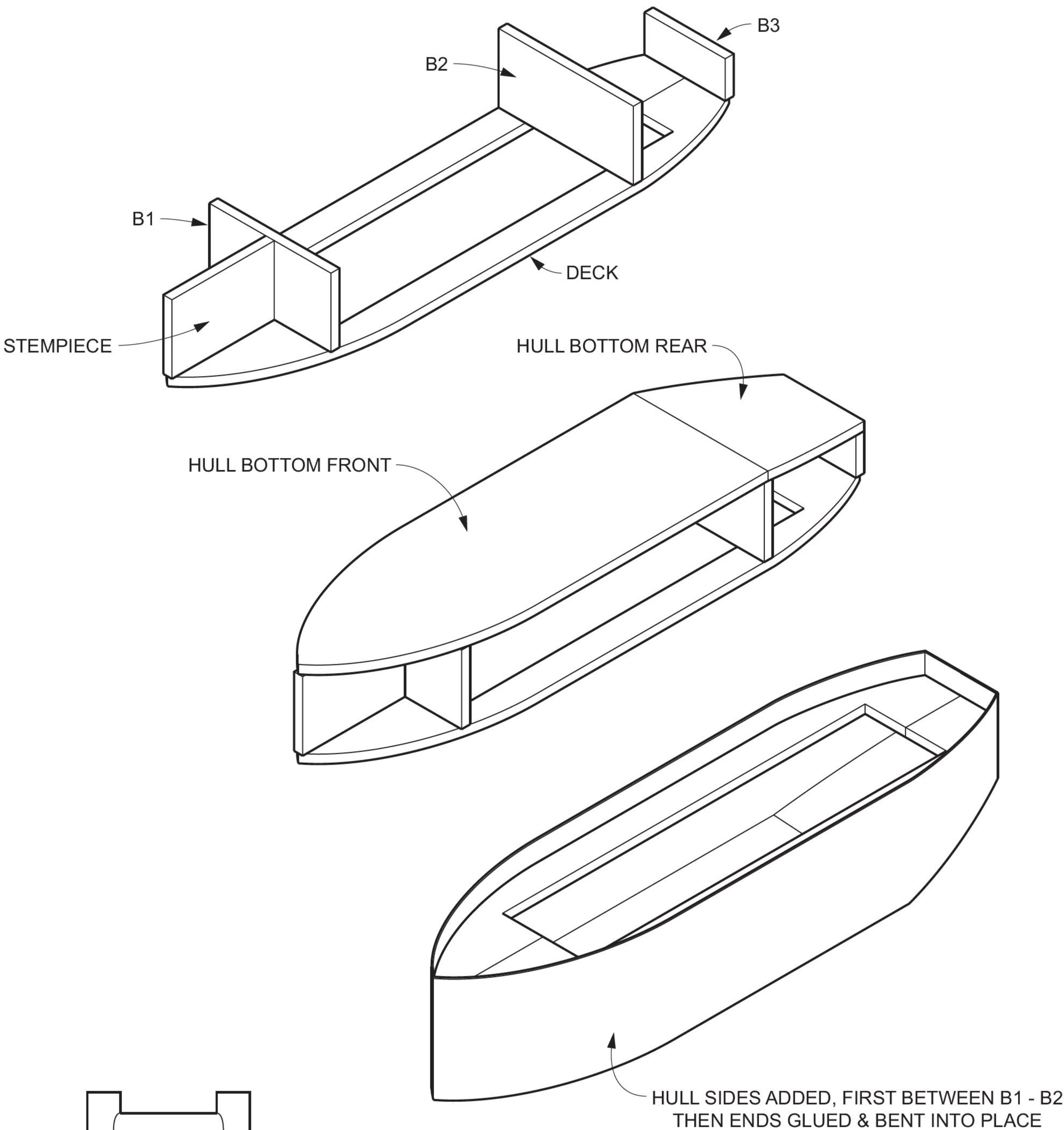
VAGABUNDO

A SEMI-SCALE TRAMP STEAMER

BY GLYNN GUEST

PLAN No: MM2181	No. OF SHEETS: 1 OF 2	First published in Model Boats July 2025
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SUGGESTED HULL CONSTRUCTION SEQUENCE



CUT OUT & JOIN
THIS PART
OF THE BOW ON
THE LINE X-X TO
GIVE FULL LENGTH
SIDE VIEW



200

X

X

100

STEMPIECE

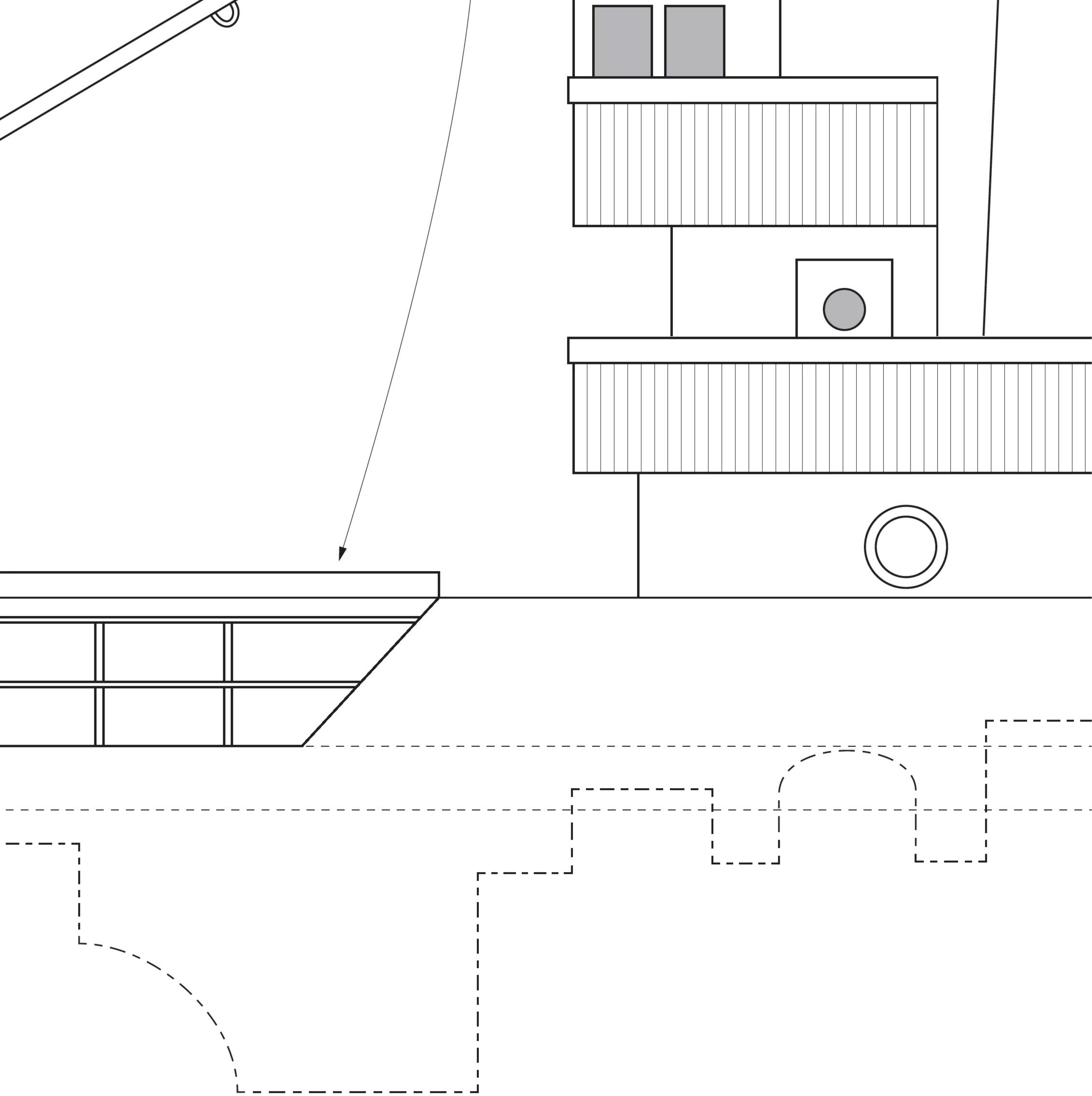
B1

X

SCALE
MM

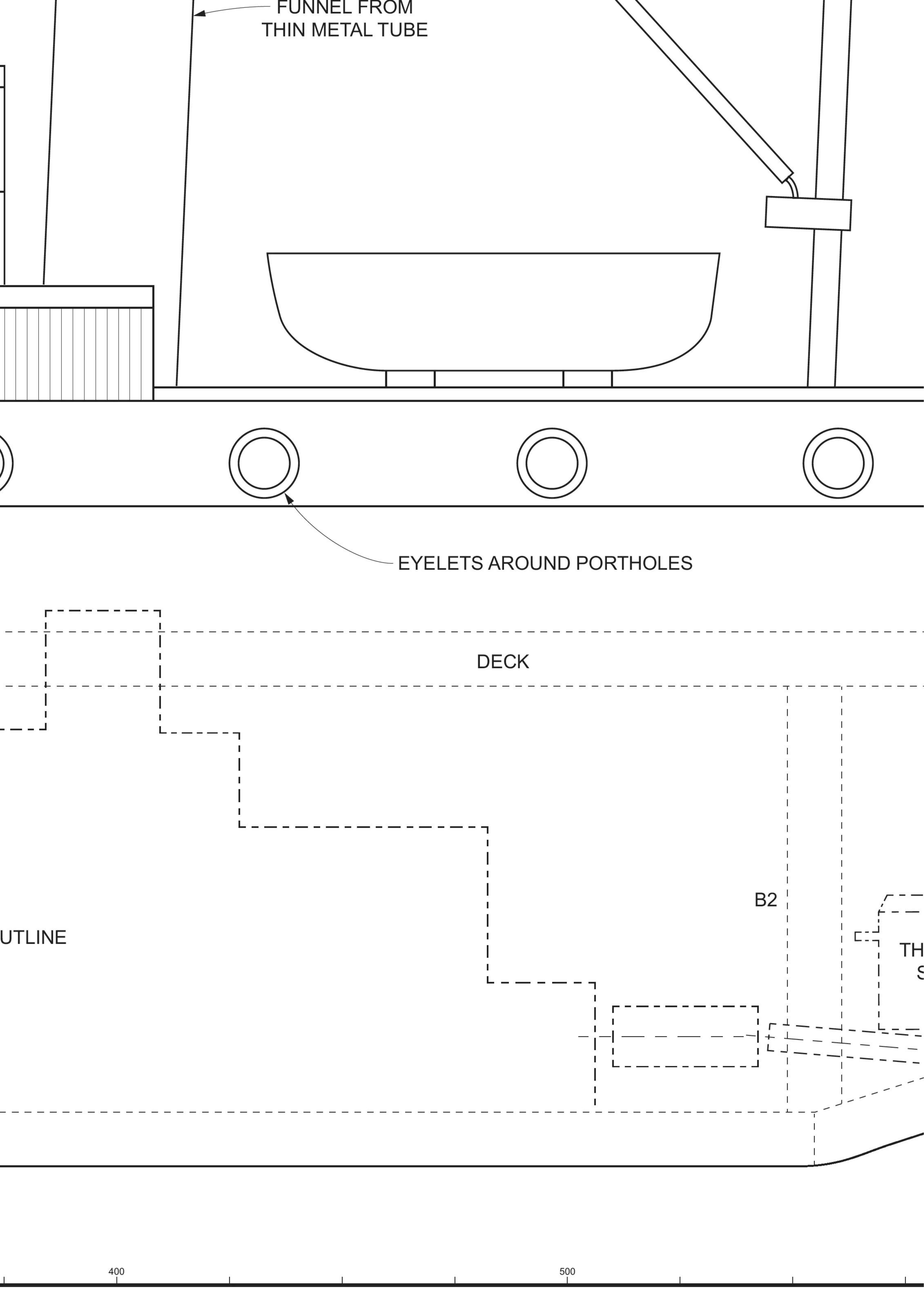
100

2



STEAM PLANT OUTLINE

HULL BOTTOM FRONT



FUNNEL FROM
THIN METAL TUBE

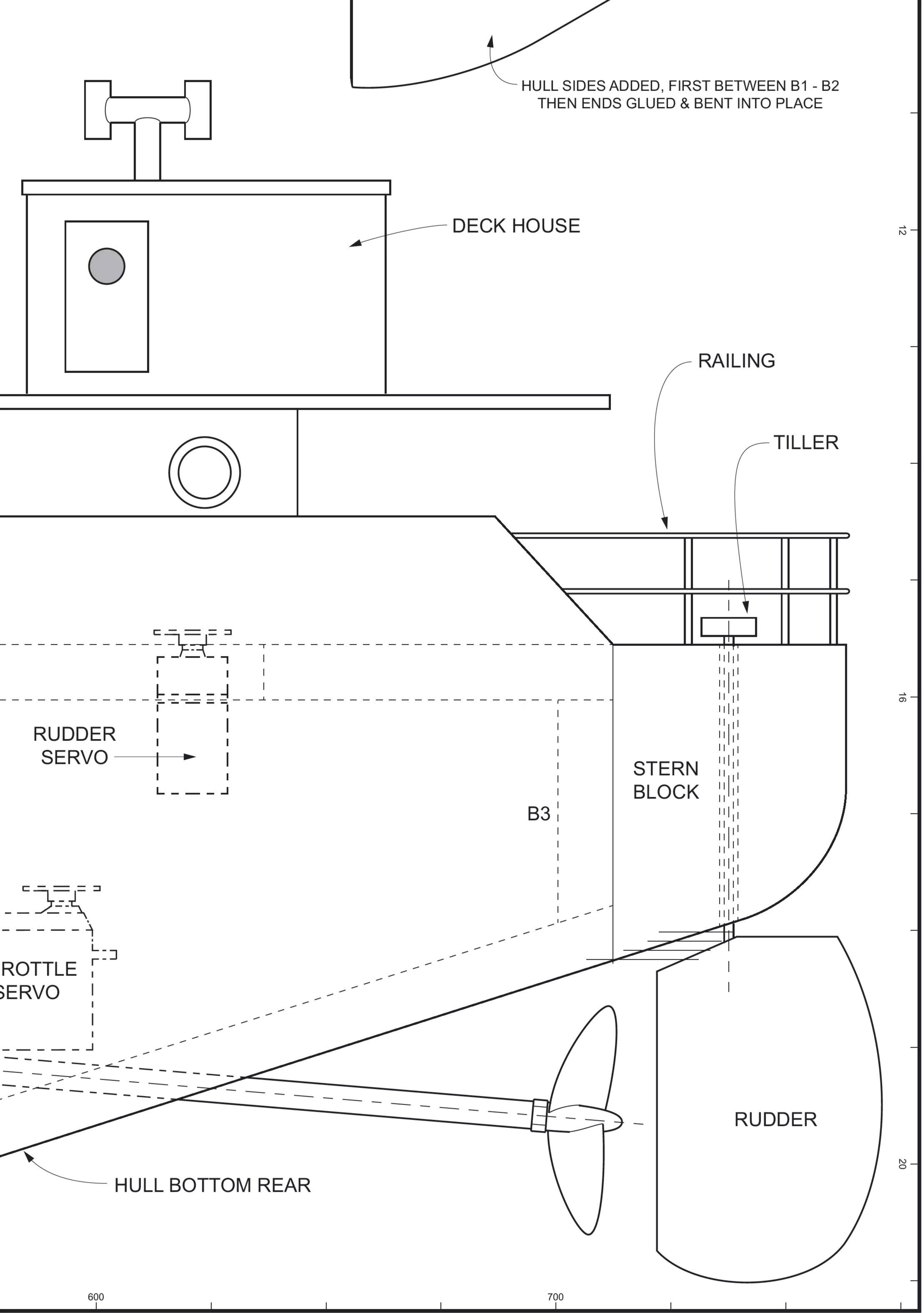
EYELETS AROUND PORTHOLES

DECK

B2

OUTLINE

TH
S



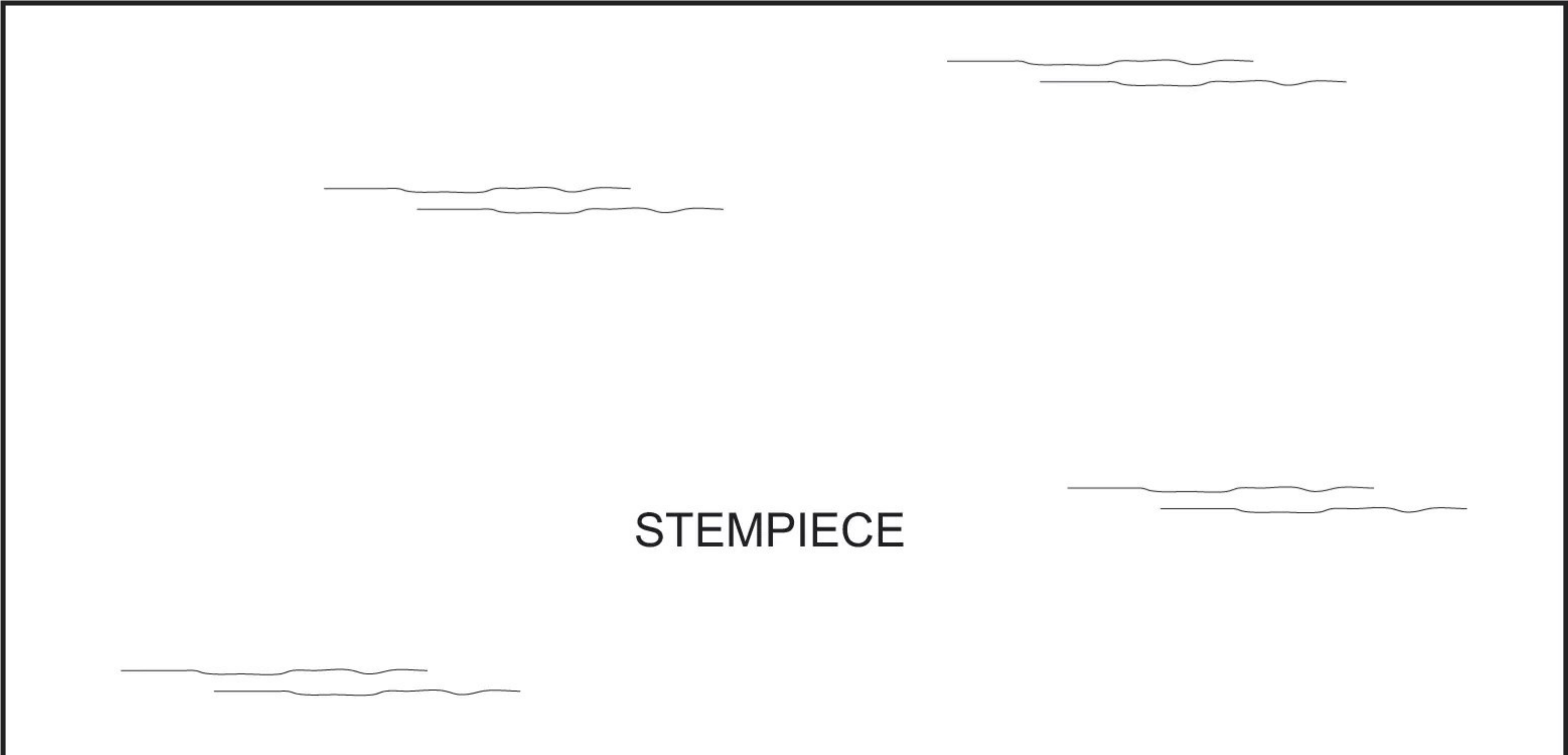
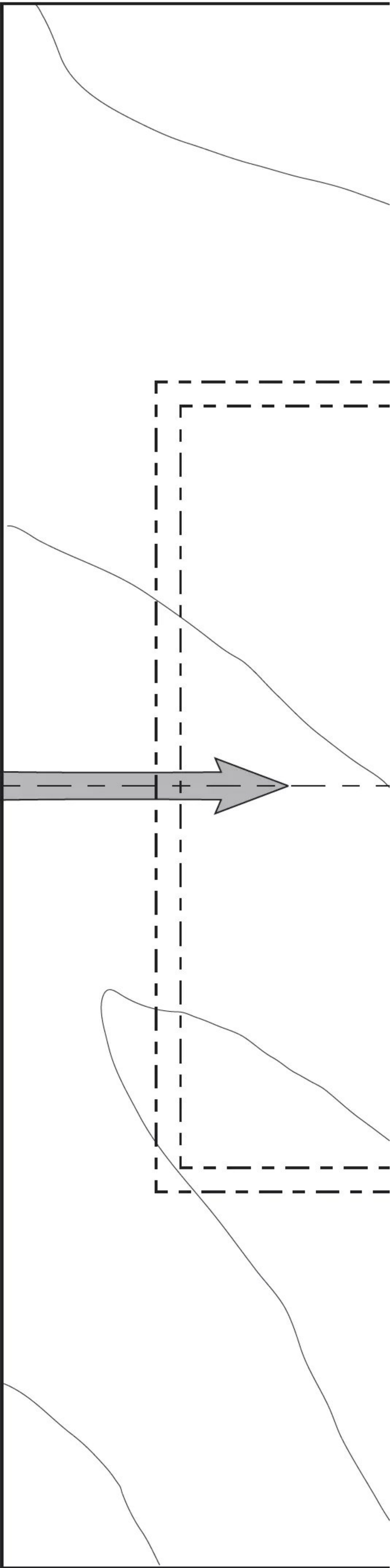
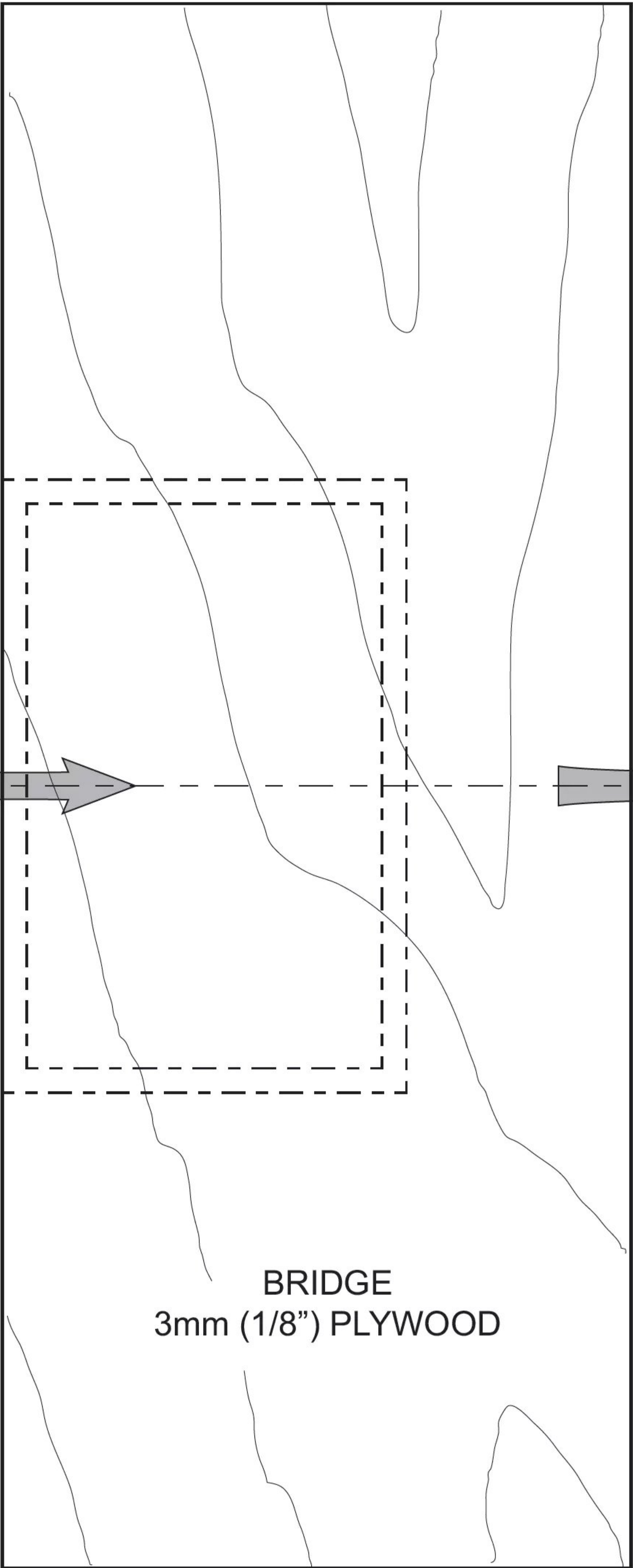
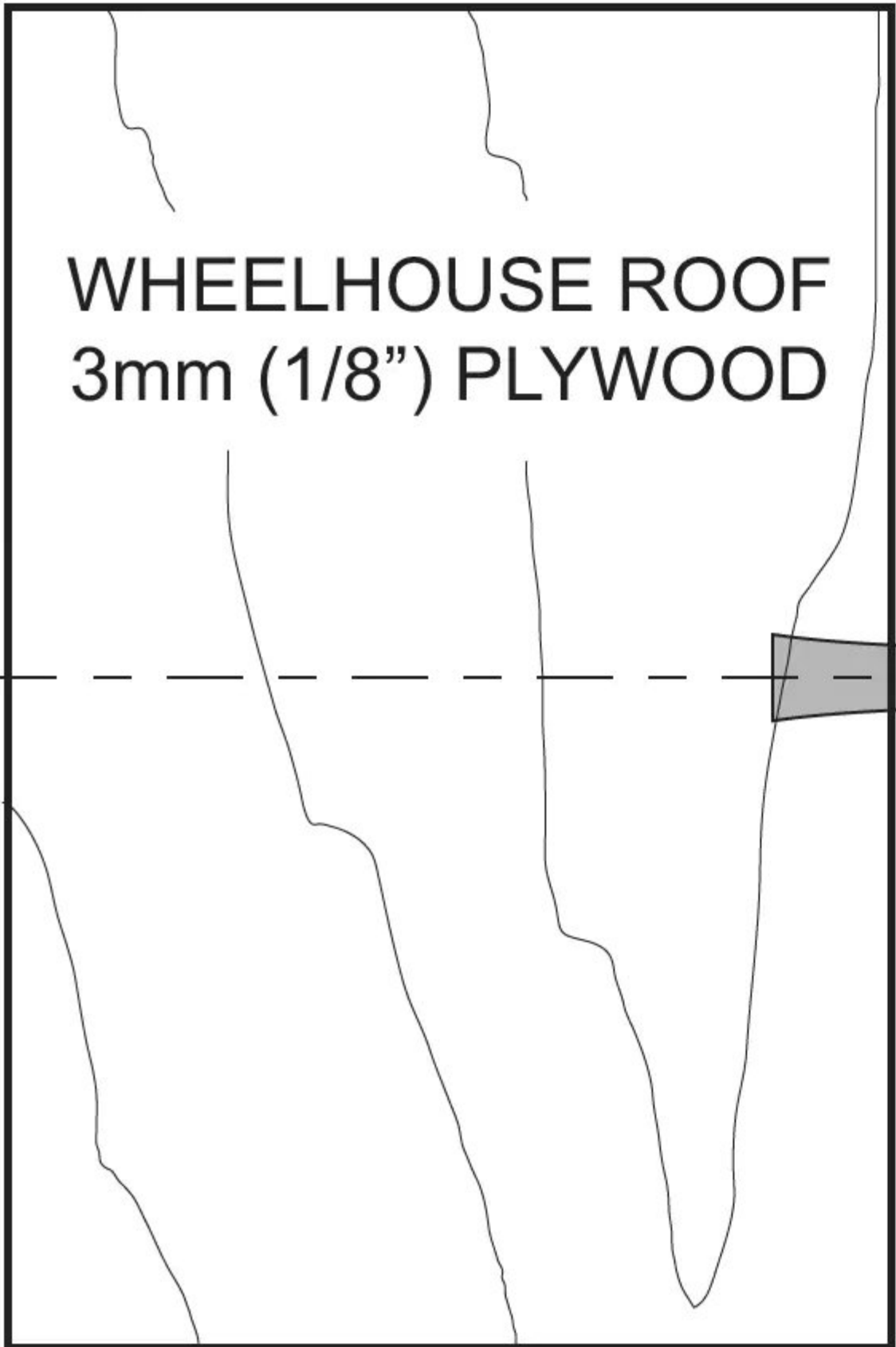
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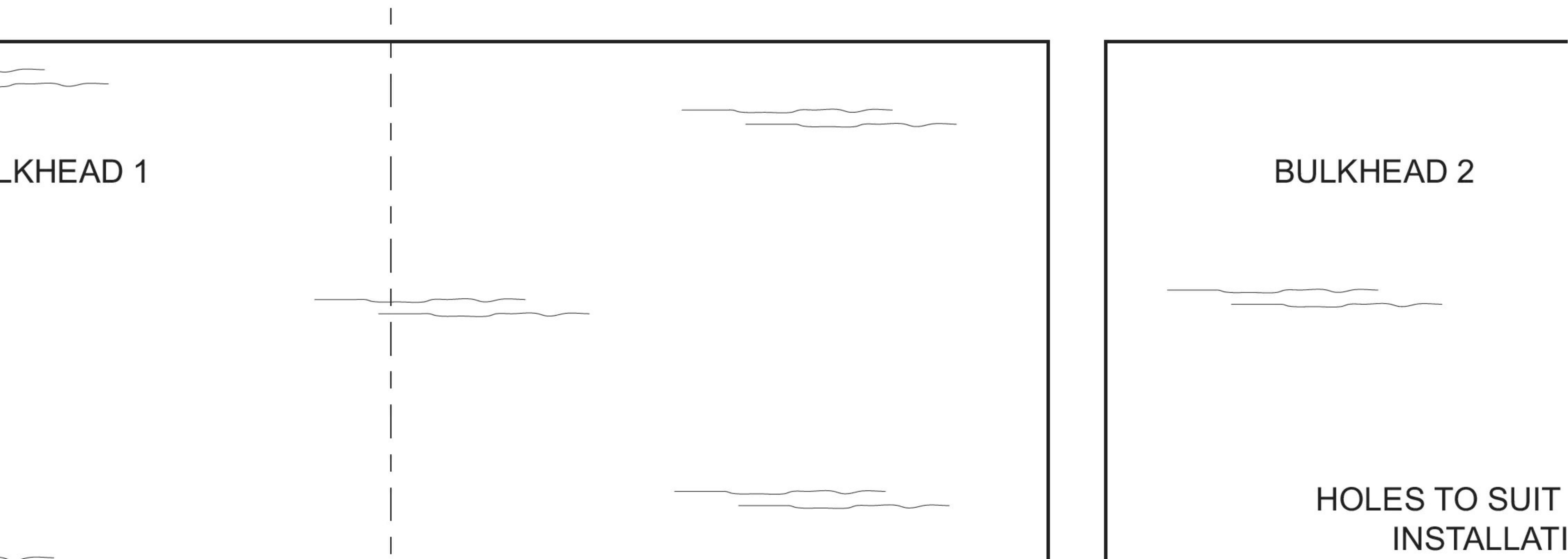
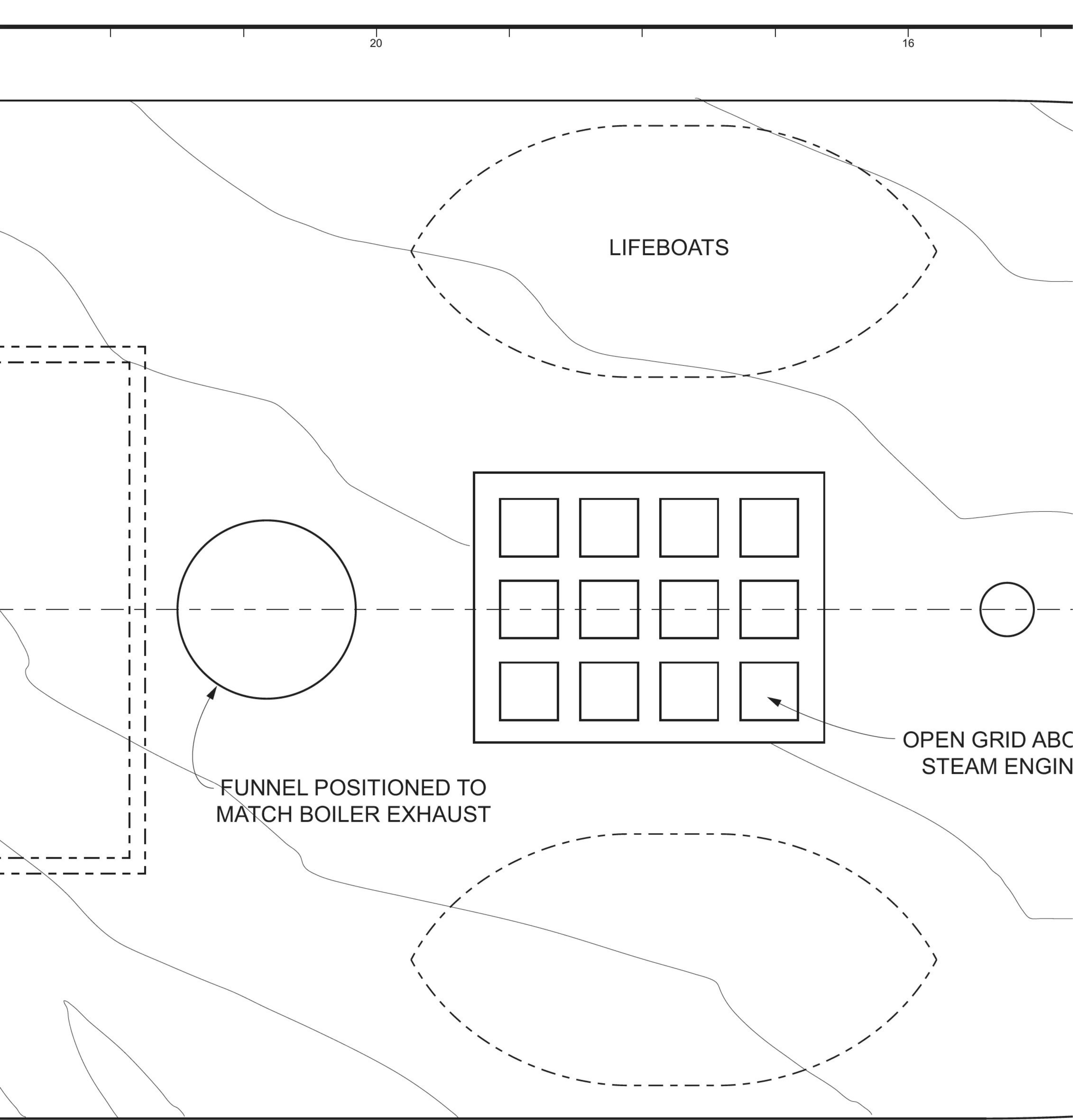
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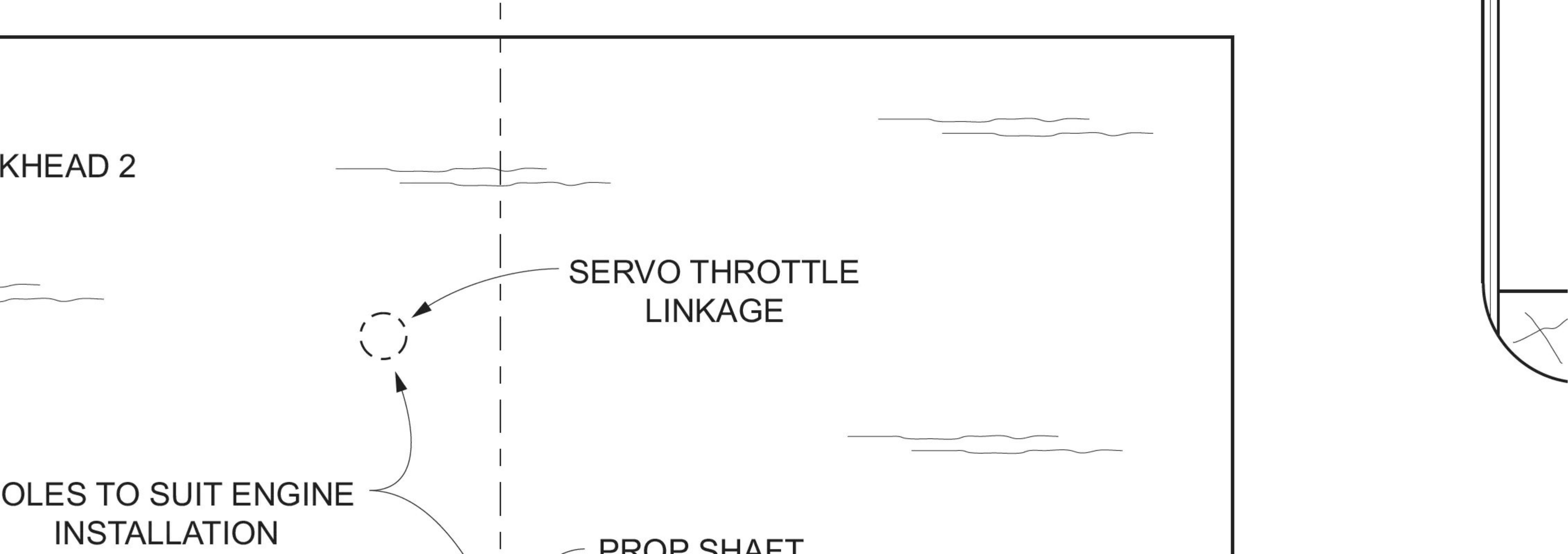
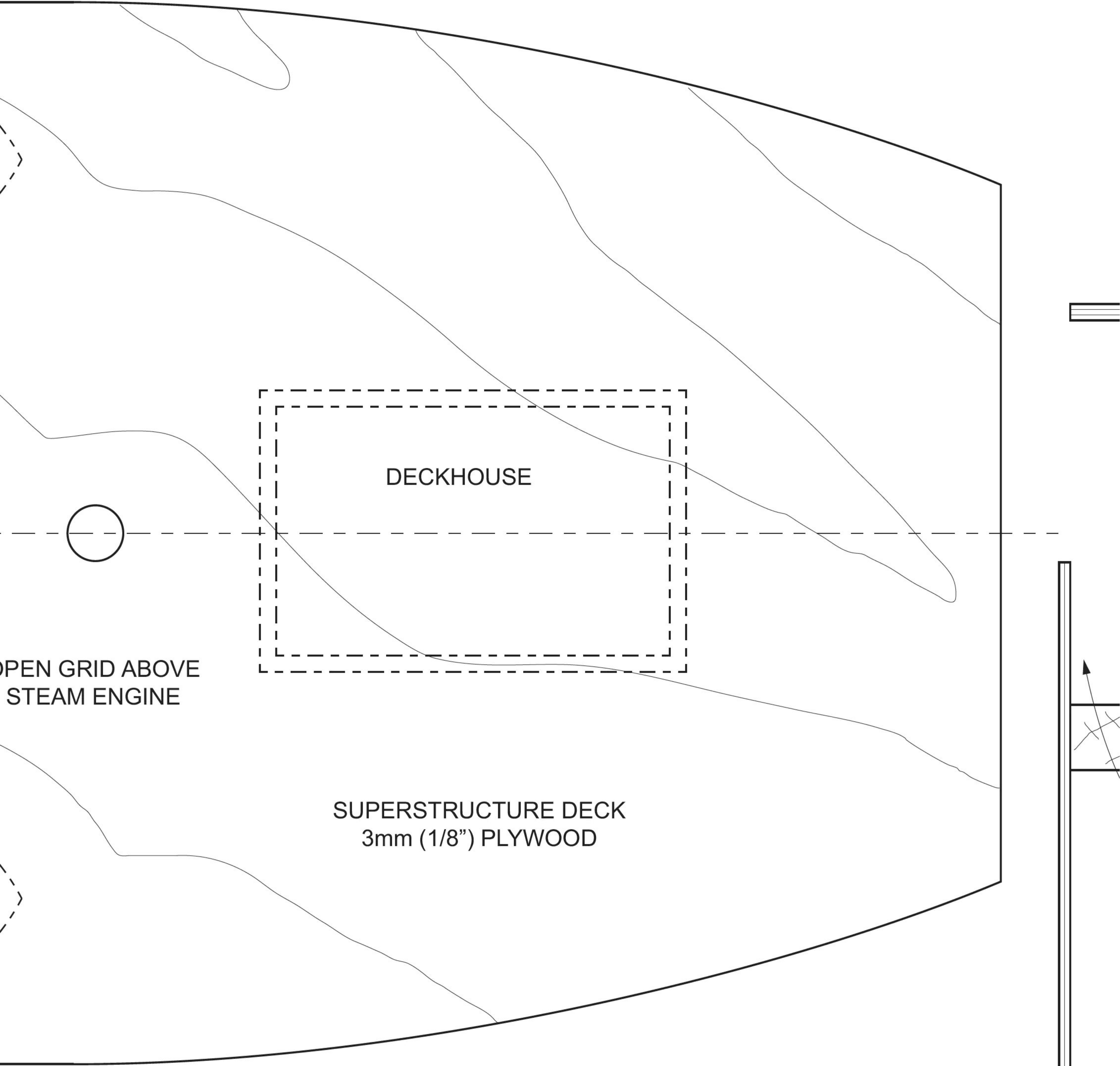
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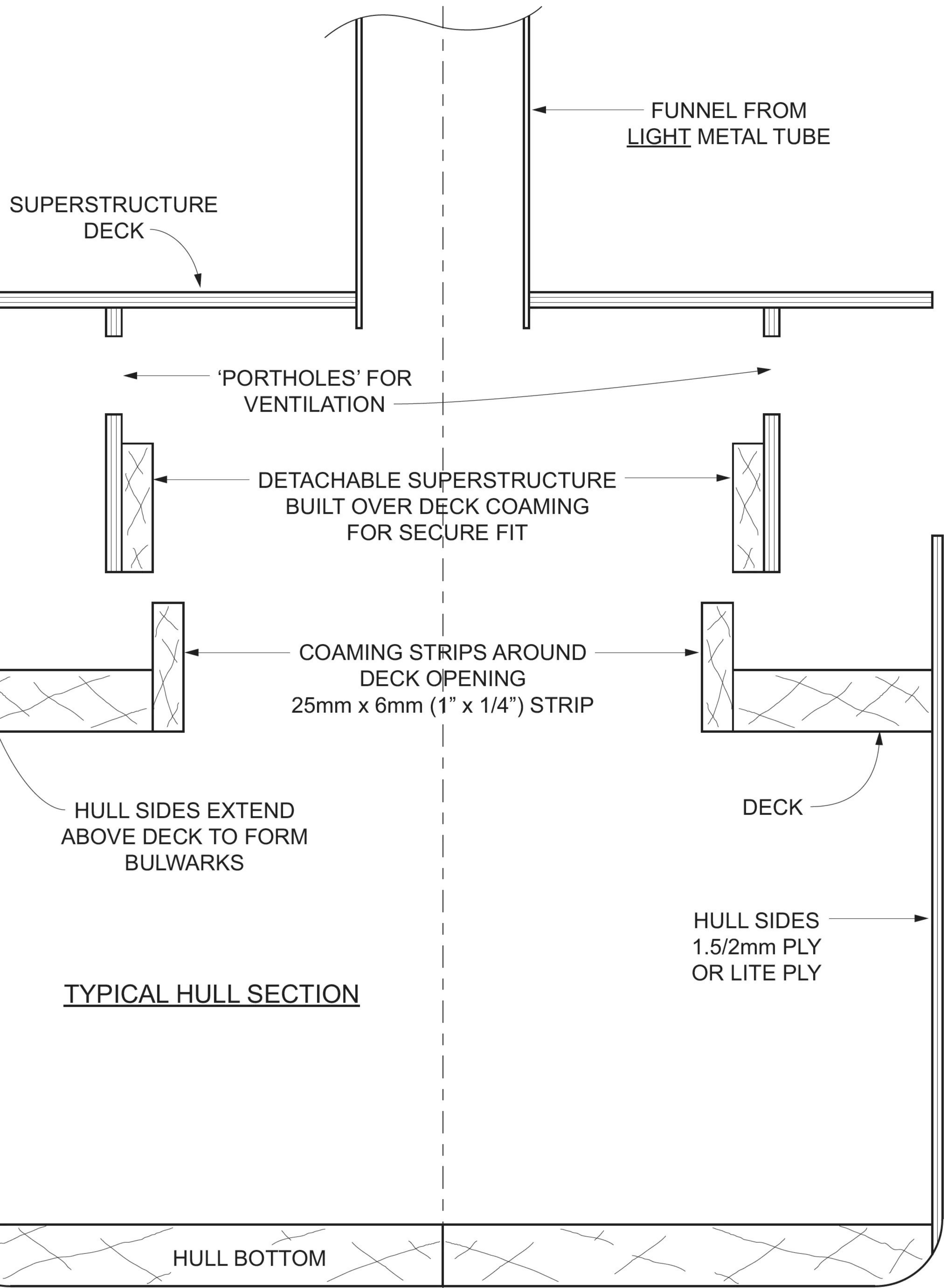
400

300









TYPICAL HULL SECTION

STEMPIECE

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BOW COMPARTMENT
ACCESS

MAST

B3
VAC
A SEMI-S

PLAN No: MM218

SCALE
MM

100

2

HOLES TO SUIT
INSTALLATION

HULL DECK
2 REQ'D

DECK ACCESS
MAKE AFTER JOINING THE

HULL BOTTOM FRONT
2 REQ'D

Model Boats

boats

GABUNDO

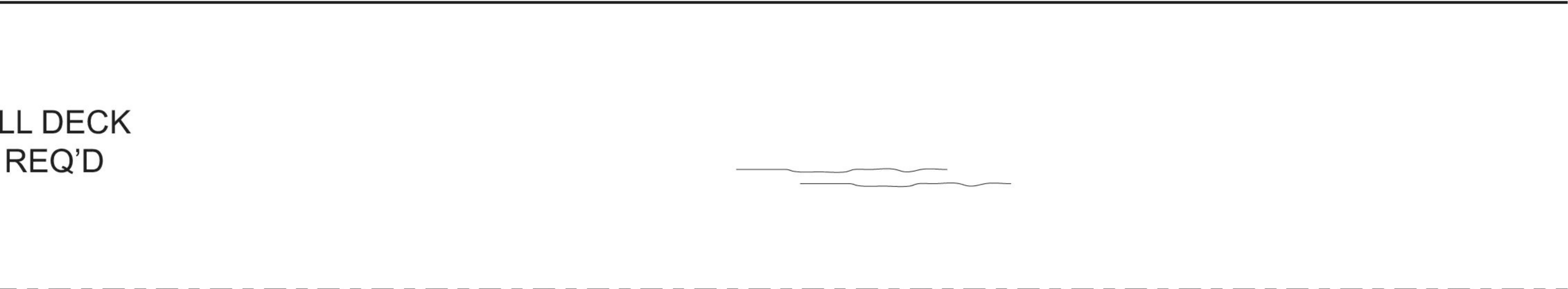
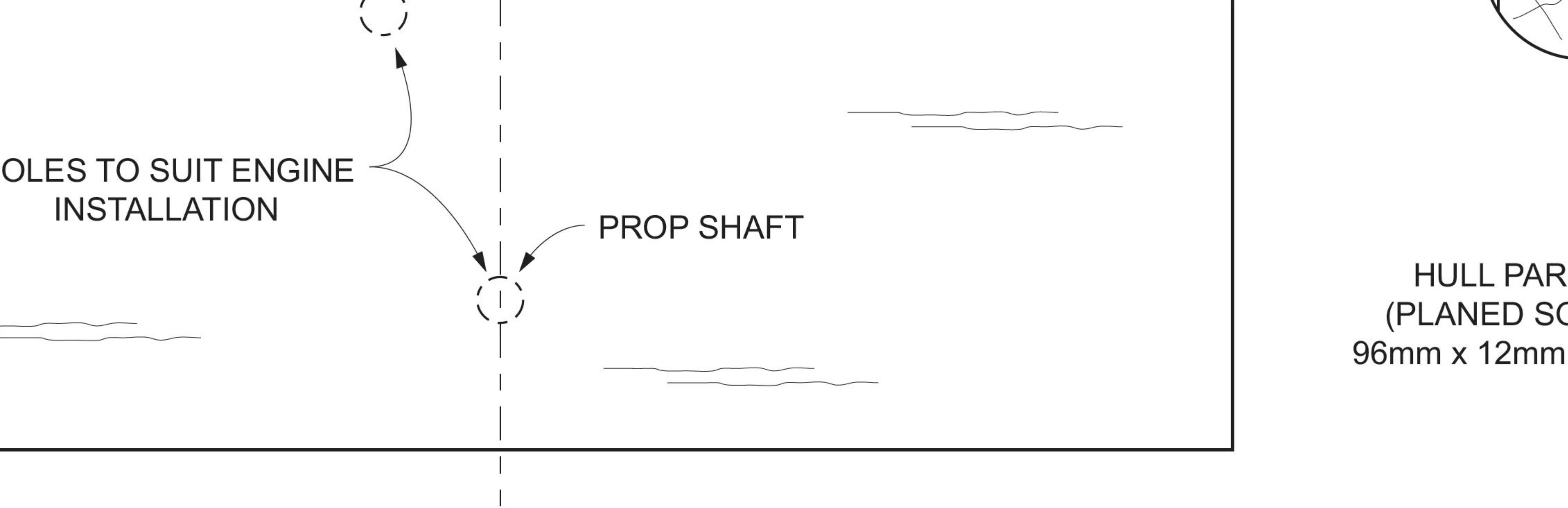
SCALE TRAMP STEAMER

BY GLYNN GUEST

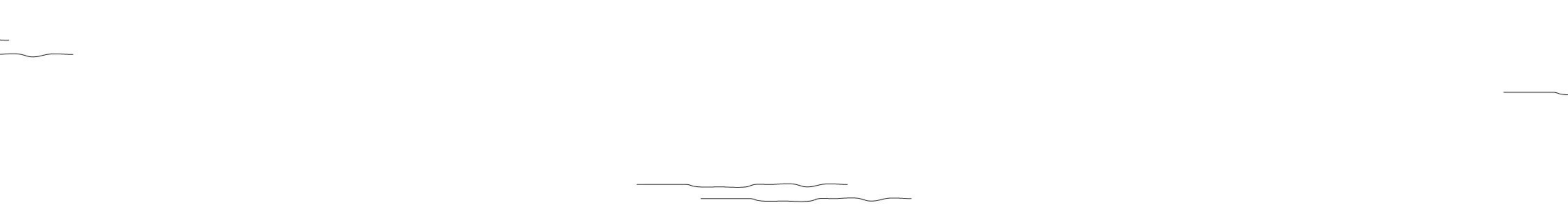
1

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DECK ACCESS CUT LINE
AFTER JOINING THE TWO DECK PARTS



BOTTOM FRONT
REQ'D



400

500

