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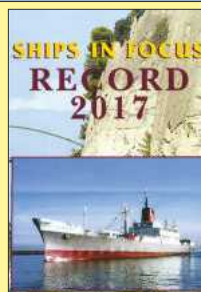
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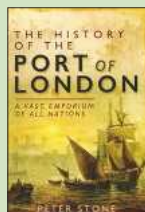
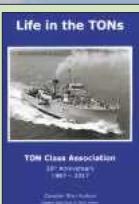
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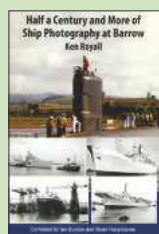


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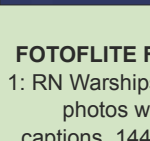
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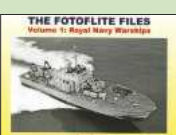
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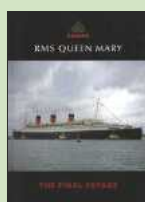
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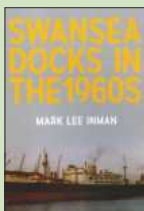
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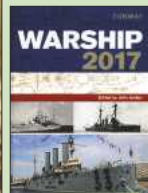
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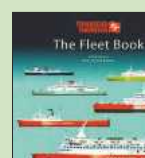
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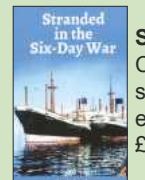
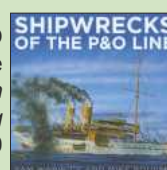


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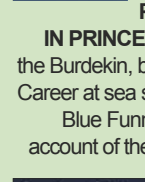


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Battleships in action and at anchor – as Chris Drage explains, there's a story behind every seascape

This feels just a little surreal. Those who've rubbed shoulders with me over the last few decades will be all too familiar with my aeromodelling history and my tenure of RCM&E magazine from 1996 to 2015. Many, however, won't be quite so well acquainted with my exploits in the model boating world. You see, model boating is where it all started for me. From the moment dad and I sat together (some 40 years ago) building my first proper balsa boat (a free-running 16" long Keil Kraft Neptune) I was hooked and longed for the day that I could afford a set of two-channel radio. This came two, possibly three years later when my late uncle (Louis Jefferys) donated his prototype Police Launch, christened Bobby. Bobby, as a handful of the old guard may faintly recall, was given away as a free plan in Model Boats (July 1977) and, as its published designer, my uncle Lou' became my new hero. Sporting Futaba Medallion radio and a Bob's Varispeed Motor Control Board this cracking little combination was all the inspiration I needed to launch into R/C boat builds many and varied, from the Aerokits Sea Hornet (complete with O.S. 10 Marine) to the Graupner Pegasus III, numerous tugs, a Duplex 575 yacht, a Thimble fast electric, one or two Glynn Guest designs, a Revell Titanic plastic kit conversion and many, many more. In all my years of R/C flying I've never been without a boat (or three) and as the new editor of this sacred ink-on-paper institution I can't help feeling that I've arrived back home. Truly, it feels great to be here and I'm massively excited about everything this new challenge has to offer.

For the last month Paul and I have been working together on the handover of the magazine which, I'm delighted to say, he's left in superb order. For his own, very personal, stewardship of Model Boats – in what has undoubtedly been the toughest decade in publishing since an inky-fingered John Bull sold his first Printing Outfit – Paul has kept the magazine right where it should be, leading the field. When you next see him, shake him by the hand, it's the least he deserves and, as such, I and all the crew here at MTM wish him a long and happy retirement. Once he has a cruise or two under his belt I've told him he has no choice but to come back and write for us. So, between you and me, I'm hoping we might see just a little more of Paul's outstanding workmanship in the weeks and months to come.

That's it, I appear to be out of space so, for now, I'd like to thank you for continuing to support the magazine and look forward to bumping into you at, or near, a lakeside sometime very soon.

Graham Ashby

Compass 360

Our news round-up from the model boating world

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FULL AHEAD

A note from MB's editor emeritus on the 2018 Haydock Park Convention. Do stay tuned for more information on this event in the new year.

"There has been mention on some model boating forums that this annual event, held at the Haydock Park Exhibition Centre in late-August of each year, might

be scaled-down for 2018 and onwards. This is not true, but as always the committee (which includes myself) welcomes whatever support local clubs and their members can give us. The event is run and supported by volunteers (and their partners), and more help is always welcome and appreciated." – Paul Freshney, Vice President, Model Boat Convention Committee.

HUNTRESS HICCUP

Those who saw our *Winter Special* and were taken with Dave Milbourn's Fairey Huntress 23 might have noticed a small problem with the wiring diagram in that half of it is missing. Sincere apologies for this. If you'd like to see the bottom half of the illustration, detailing the Component Shop V3 ESC wiring installation (with battery isolating switch built-in), then visit www.modelboats.co.uk, type 'Fairey Huntress' into the Forum search box and all will be revealed.



MEX 2018

The London Model Engineering Exhibition is to be held, once again, at Alexandra Palace, from Friday 19th to Sunday 21st January 2018. The show attracts over 14000 visitors and although primarily focussed on model engineering also includes a healthy model boat section plus gadgets and many other model disciplines, including trucks, aeroplanes, helicopters and robots.

Over 50 clubs and societies will be present displaying their members' work and in total, nearly 2000 models will be on show. Many leading suppliers will also be attending to showcase new products and there'll doubtless be many special show offers up

for grabs. Events such as the Model Engineering Exhibition offer hobbyists an excellent opportunity to see and compare products under one roof, indeed the savings that can be made can easily cover the ticket price, and some!

So, a great day out for all the family and an opportunity to spend some (if not all) of that Christmas money. Opening times are:

Friday – 10:00 to 17:00hrs
Saturday – 10:00 to 17:00hrs
Sunday – 10:00 to 16:30hrs

Offering a slight discount, tickets can be purchased in advance by visiting the website: www.londonmodelengineering.co.uk or by calling 08713 861118.



DEAN'S OPEN DAYS

If you're looking for a bit of pre-Christmas retail therapy – of a model boat kind – then the Dean's Marine Open Weekend is not one you should miss. Mark the 16th and 17th December on your calendar and make a beeline for Ron Dean's scale R/C boat emporium where you'll find all the 2017 new releases on display and masses more. Mind you, this needn't be a shopping-

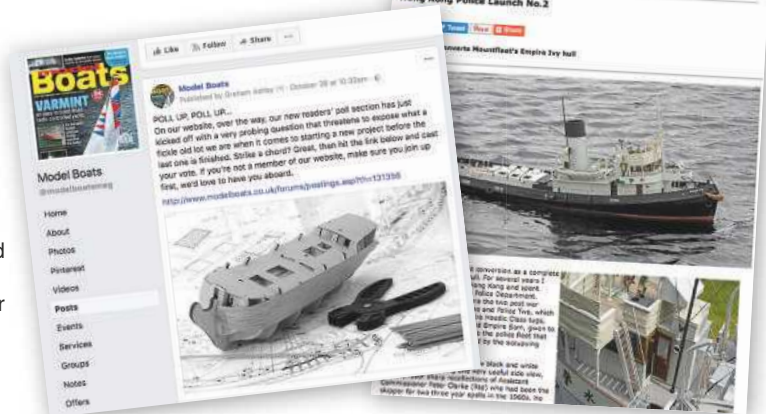
only trip; if you fancy bringing a model and having a sail you're more than welcome to do so. Tea, coffee, festive pies, funny hats and a full showroom of the Dean's Marine range will keep you fuelled and entertained for a good few hours, possibly more if you bring a boat.

For further information call 01733 244166 or email deansmarine@yahoo.co.uk.

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great way of keeping in touch. Modelboats.co.uk, meanwhile, takes things one step further by offering full feature articles, a friendly forum, links to key advertisers, an archive of past issues (for both print + digital and digital-only subscribers) and lots more. Registration takes a matter of minutes and we guarantee it'll add enormously to the value and enjoyment that you get from reading Model Boats.



POLL UP, POLL UP!

Log on to modelboats.co.uk and you'll find that we've recently introduced a new readers' poll section, hosted by the forum. In truth, it's nothing more than a bit of fun although we do plan keep you posted on the results and

some of the comments made alongside. To kick things off we asked a probing question that threatens to expose what a fickle old lot we are when it comes to starting a new project before the last one is finished. In answer,

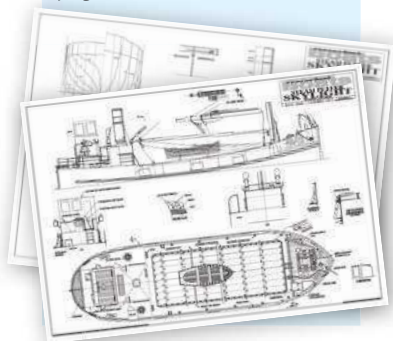
then, to the question "How many unbuilt boat kits and unfinished build projects do you have?" the response was:

1 kit / project	10%
2 or 3 projects	27%
4 or 5 projects	30%
6 or 7 projects	7%
8 to 10 projects	10%
11 to 15 projects	3%
21 to 30 projects	3%
30+ projects	10%

To which we can only say: You folk who have just the one project on the go really need to try harder, and you folk with 30+ should consider seeking help. Maybe from the first 10%? Of all the comments posted the one that made us chuckle was: "When the weather dies down I will go to the sheds [plural] and count them."

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The Plans Service is expanding all the time and offers over 3000 plans for model builders of all persuasions taking in aircraft, boats, locomotives, traction engines, steam and i.c. engines. See and buy all of these from Sarik Hobbies – page 64.



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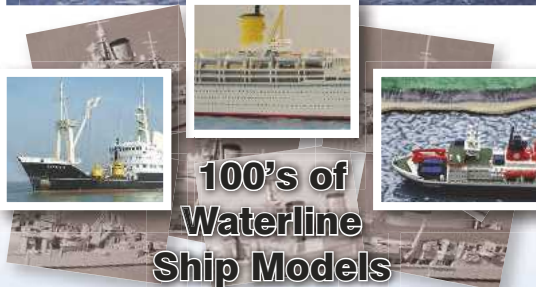
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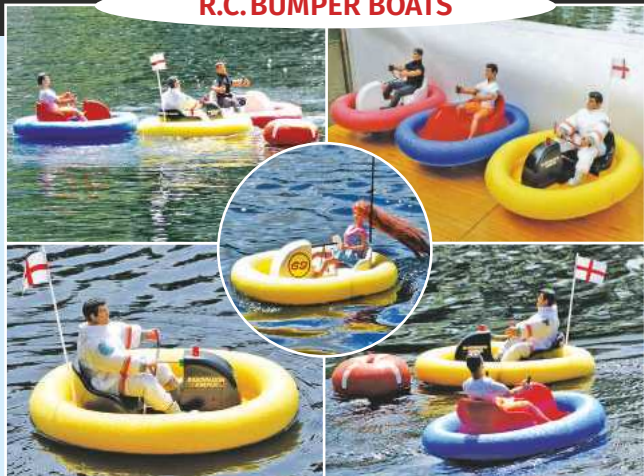
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FREE PLAN

Skylight

James Pottinger presents a Free Plan for a traditional Clyde Puffer



The West Coast of Scotland steam puffer has long been a favourite subject for modellers, with a number of kits and freelance models appearing in the marketplace. Since the history and development of this somewhat unique type – which has a well-deserved place in Scottish folklore – has been well documented previously, only a brief introduction is included here.

With the proven efficiency of the screw propeller and steam engine it was inevitable that these would be married to hitherto unpowered hulls, and it was in 1856 that the Forth and Clyde Canal Company fitted out one of its iron hull barges, at a cost of

£320. A boiler, engine, shafting and propeller were fitted in the dumb lighter 'Thomas', this signalling the birth of the steam puffer. With a ready supply of fresh water in the inland canals, the loss of water due to the lack of a condenser on the early vessels was not a great disadvantage. And so, with a lack of mechanical efficiency, the exhaust from the steam engine was sent away 'puffing', thus the term 'puffer'.

The sizes of these early craft were circumscribed to a length of 66ft 6ins by the dimensions of the locks on the Forth & Clyde Canal which limited the size of boats that could traverse this narrow neck of Scotland, which they did to avoid the vagaries of wind

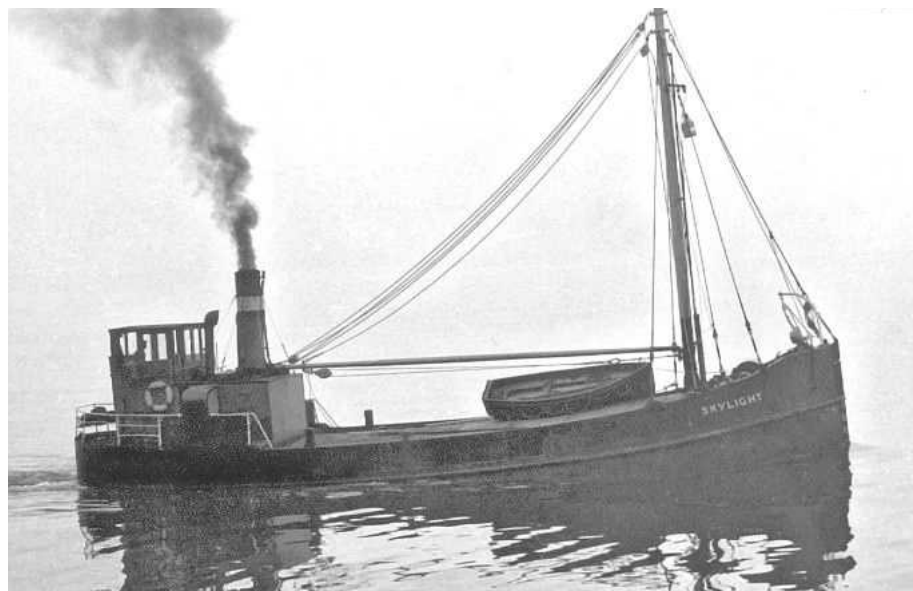
ABOVE: Skylight shown unladen and a cable laying ship in the background.

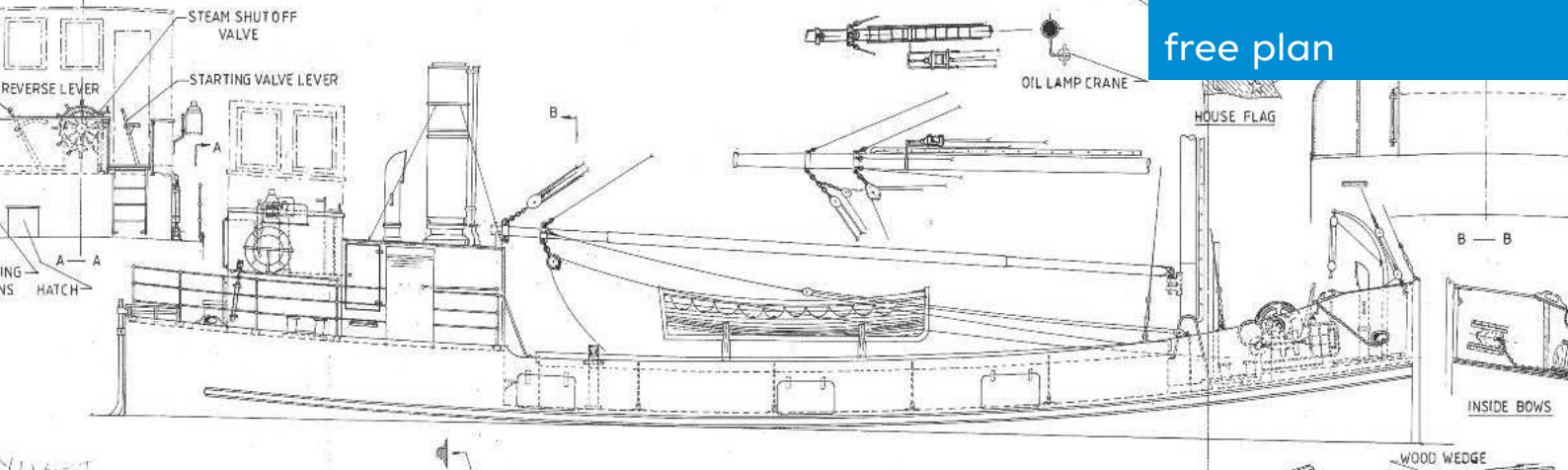
and tide going around the Mull of Kintyre via the Crinan Canal. A limit was thus imposed to suit the lock dimensions of 88 feet. These considerations were instrumental in the development of two classes of vessel, designed to suit the limits noted above.

The 'Inside' boats were a development of the dumb horse drawn lighter and were only used for canal and harbour work. The 'Outside' boats meanwhile (introduced from about 1870) were designed for estuarial and outside (sea) passages and, consequently, had more freeboard, better hatch coamings

LEFT: Skylight passing Greenock on a calm day, hence the reflection.

BELOW: Sitka, very possibly formerly the Skylight, on Adams' slip at Gourock. This shows the quite fine lines of the stern in contrast to the VIC class, the white circles indicating points where thickness checks were being taken in connection with a proposed, but ultimately unsuccessful, preservation scheme. (Photo from the public domain).





and covers, higher bulwarks, plus wheel steering. These craft were then able to make the sea passages to serve the numerous exposed small harbours and ports around the Western Highlands and Islands. Their size however, precluded them from using the Forth and Clyde Canal. It should be remembered that prior to 1864, the Clyde was unsuitable for navigation on its upper reaches and Greenock and Port Glasgow, literally the Port of Glasgow, were the main shipping ports on the river.

The firm of Ross & Marshall were predominant from the earliest days until the ultimate demise of the trade in 1993. Combining their interests of lighterage, haulage contractor and stevedoring, Alexander Ross and James Marshall formed a partnership in 1872 with offices in Greenock.

They had their own slipway at Greenock just west of the James Watt Dock for repair and maintenance of the fleet, although fourteen vessels and yachts were also built there. The availability of other local specialist builders resulted in the slipway being sold to



Scott & Sons in 1925 to be incorporated as part of its Carlsdyke Shipyard. This Carlsdyke yard was later exchanged with the Carlsburn section, then owned by Greenock Dockyard, to give Scott an unbroken frontage to be known as the Carlsburn Shipyard.

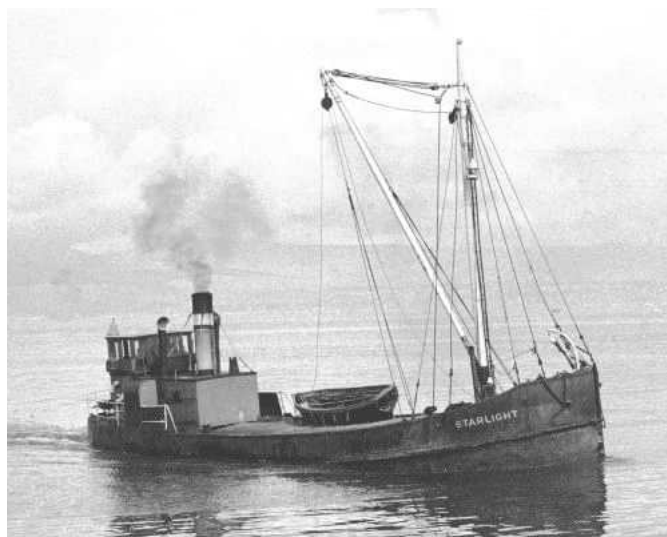
Interestingly, Ross & Marshall formed a subsidiary known as the Light Shipping Company Ltd. to operate two larger 865 dwt coasters named Raylight and Arclight, built by J. Samuel White at Cowes. Able to operate within the Elbe-Brest limits they entered service in 1921 and were sold in 1933, and from that time onwards the firm concentrated on the inshore business.

ABOVE: Foredeck view of Mellite. The deck arrangement is more or less identical to that of Starlight and Skylight.

From the earliest times Ross & Marshall used '-light' ending names, but also '-ite' and '-yte' when running out of the preferred choice. The company was sold in 1963 becoming a subsidiary of the Clyde Shipping Company and J. & J. Denholm. However in 1968 with the amalgamation with Hay-Hamilton, this saw the formation of Glenlight Shipping Ltd. With the withdrawal of Hay and Hamilton in 1976, Ross & Marshall soldiered on until the cessation of all services on 6th January 1994.

BELOW LEFT: Starlight (Skylight's sister) approaching Greenock fully laden. Note the shovel (stowed along the casing) for scraping the coal down the bunker hatch and the small boat laid on the hatch cover. At this time, Starlight had been fitted with an enclosed glazed wheelhouse, however the navigation sidelights are still carried at the lower level.

BELOW RIGHT: Mellite: This boat was built as a canal dumb barge as far back as 1873 and fitted with a Plenty & Son compound engine in 1880. She operated as a water carrier at Loch Ewe in World War One and similarly at 'Tail of the Bank' in World War Two. She was still in service on the Clyde with the same engine in the 1960s.





Starlight & Skylight

Starlight was built by Ferguson Brothers at Port Glasgow in 1936, Ship No. 312, her sister Skylight, this featured Free Plan, having been built as Ship No. 308 the previous year. Built at a cost of £4300, they were typical 'Canal' (or 'Inside') boats with the following dimensions: 66ft. 6ins x 18ft 3ins and 8ft 6ins moulded depth.

I have not been able to establish definitely the fate of these two vessels but some accounts have Starlight as being broken up in 1967, and her sister later being re-named Sitka. Built originally with a hinged funnel, these boats differed only in detail from those built fifty years earlier, the design having been established due to evolution irrespective of the owners or builders.

In contrast to the more boxy VIC type boats (see our Gallery feature herein - Ed.) which were commissioned by the Admiralty in World War Two – based on the design of the Anzac and Lascar built by Scott and Sons of Bowling for J. Hay & Sons Ltd., – the lines of Starlight and Skylight show a more finely lined vessel, especially at the stern. The VICs, on the other

BELOW: A model of Starlight built by Andrew Green from this original model plan.



ABOVE LEFT: Cumbræ Lass was built by Scott of Bowling in 1923 as Pibroch(I) carrying the 'water of life' from the White Horse distillery of Lagavulin for 34 years before being replaced by a motor vessel of the same name.

ABOVE RIGHT: Mellite, Starlight and Moonlight are the three puffers berthed in East India Harbour, Greenock, clearly showing the contrast in the bow shapes of these three types of craft. Moonlight was built by W. J. Yarwood at Northwich in 1952, and being 88ft LOA was too large for the Forth & Clyde Canal. Note the horns of the two boom defence vessels in the adjoining Victoria Harbour.



ABOVE: Toward Lass was one of the VIC class boats, having been built by Richard Dunston at Thorne as VIC 12 in 1942. This photo shows clearly her much heavier stern.

hand, carried the straight sections of the counter down as far as the waterline, but on the earlier boats this only extended as far as the lower edge of the bulwarks.

Plans

The body plan and lines show a hull which is by no means ugly, with a fairly large radius at the bilge and a solid bar keel and wooden rubbing strake with two half round protective bars further down the side of the hull, but please note that only the upper bar is shown on the plan. The arrangement of the engine and boiler is also shown for your interest.

The short foredeck is dominated by the steam winch, which would normally exhaust direct to atmosphere through a pipe led out through the bulwarks, instead of being led back to the main condenser. This, then, would give the characteristic plume of steam issuing from the bow when in use. This is because when working (moving) cargo, the main engine would be stopped and the condenser water circulating pump would not be operating as it was normally driven by extension rods from the engines HP or LP connecting rods.

This feature can also be noted on earlier larger cargo ships, whereas later practice was to fit an auxiliary condenser with its own circulating water pump, wherein all such auxiliary exhausts would be changed over from the main condenser when necessary, and when there was the possibility of the main engine being stopped for a length of time.

The anchor is stowed inside the bulwark with the chain led in over the bulwark and down via a navel pipe to the chain locker below. Please note the sliding cover, to shut off the hawse hole in the bulwark, and the davit which was provided to lift the anchor when required. Wooden decking is fitted on the foredeck, with a cowl ventilator and single glazed deadlight to illuminate the crew quarters for the three men below, which is accessed by the companionway, a steel water tank being carried on the starboard side as shown on the



RIGHT: Sitka now lying in a sunken condition at James Lamont drydock at Greenock.



LEFT: Invercloy was built by Scott at Bowling in 1935 and was one of the first to be converted to oil firing in 1948. Broken up in 1967 she was one of the last of the 66ft boats

plan. The long hatch cover has conventional style coamings, as detailed separately on the second sheet, and is closed off by hatch beams, boards and a tarpaulin cover secured as shown. In most cases, the small clinker planked work boat would just be laid on top of the hatch without any skids being used. Given the low freeboard when fully loaded, the large hinged freeing ports on both sides in the bulwarks are very necessary.

The plans show these boats as built, i.e. with a hinged funnel and without an enclosed wheelhouse, although this was fitted later as the photos reveal. Access to the engine room was via the doors on each side of the casing, with flush hatches leading to the coal bunkers below and the toilet, with its cambered roof, on the starboard side.

Engine control from the bridge was very simple, levers being provided to actuate the reversing gear and starting valve, with an extended spindle to the steam shut off valve.

The boiler was placed very slightly off-centre as can be seen on Sheet Two, possibly to offset the weight of the condenser which is on the port side. In consequence, the funnel was similarly slightly offset but on this plan

I have shown it on the centreline as this will avoid arguments at the pondside! Steering was manual with chains being led via sheaves to the short tiller under the wood grating at the stern. The small hatch with a wood cover aft of the casing led down to a store in the after peak space.

The steel mast is carried in a tabernacle to allow it to be lowered for passing under the bridges at Glasgow, tensioned in the 'up' position by a bottle screw at the lower end of the forestay and with double purchase blocks for lowering. The mast is supported by double wire shrouds on each side, again tensioned by bottle screws. Please note the arrangement of the derrick hoist, with an additional single purchase block being shackled to the main blocks at the masthead. This was unique to Starlight, as her sister had a more conventional arrangement.

The oil steaming lamp was hung from a lamp crane offset to starboard, the downward projecting prongs from the crane being designed to fit in lugs on each side of the lamp casing, thus steadying it when it was hoisted into the operating position. Guide wires were suspended from the prongs to

steady it when it was being hoisted, a 'down haul' being fitted for retrieval.

You choose

As is usual with my plans I am not recommending a particular style of construction, although whichever you choose, weight should not be problem particularly if it's of wood using the bread and butter or plank on frame method. Either way, there is sufficient information on the plans to copy the hull lines, although the tight curves bow and stern might mean the use of wood blocks rather than totally planking over frames, if that is the option chosen.

Colour scheme

- Black upper hull, tabernacle, bollards, fairleads, wood hatch covers, aft ventilators outside, anchors and their chains, and mast below the bell.
- White for the inside of all the cowl vents and the guardrails around the quarterdeck.
- Light brown superstructure, inside bulwarks, wheelhouse, forward cowl ventilator, hatch coaming and small boat.
- Dark brown for the steel deck areas.
- Lemon for the mast above the bell.
- Natural canvas hatch cover and plain wooden deck forward.
- The funnel from its top is: Black, white, black and bright red, with a black flange at its base.
- House flag: See plan for more information.
- The name and registration letters on the hull: Yellow or gold.

Photos: These were all taken at Greenock in the 1960s by the author, unless noted otherwise.



Polizeiboot WSP 47

Andy Cope builds the Krack kit in just 20 hours, start to finish

Recently I was asked if I could build a model boat for fellow a member of the Buxton Model Boat Club. He wanted a small model as storage space is limited, and after thumbing through MB, we agreed on Krack's Polizeiboot WSP 47. The kit promises to be a quick and easy construction project, whilst delivering a nicely detailed, albeit small, model to 1:20 scale – 600mm long with a 200mm beam.

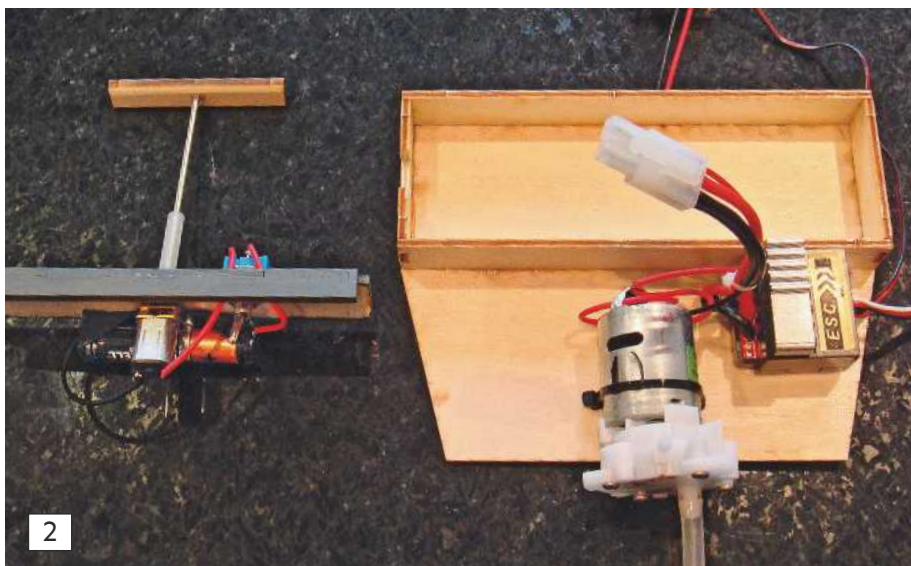
Photo 1 shows the finished model and the box. The kit includes the option of having a working fire monitor and a rotating radar aerial, which appealed to us as extra features, so the orders were all duly placed.

Costing in the region of £145 the package comprises a one piece ABS plastic hull with most of the deck, motor mount and cabin parts, laser-cut from plywood. A 400 size brushed motor and a comprehensive set of fittings is included, leaving the builder to source the radio gear, paints and adhesives. As you might expect from a German manufacturer, the instruction manual supplied is very clear

and easy to follow, utilising both photographs and text to good effect.

When it came to the construction of the model, I decided to reject the supplied 400 brushed motor in favour of a larger Mabuchi 500 standard size unit. This was to ensure the model had more than enough power, and while not strictly necessary, a fellow

club member who has built Krack's Lisa M (which has a similar, if not the same, hull), has found a 500 motor gives a better on the water performance. Helpfully, Krack supplies an optional 500-size motor mount in the kit, so this was fitted with the advantage being that a 600 size motor should also be an easy future upgrade, the two sizes sharing the same





mounting dimensions. The kit is obviously designed around a standard 7.2V six cell buggy-style battery pack, which was used alongside an inexpensive speed controller, in conjunction with a sprung self-neutralising twin stick two channel radio. I'm sure, though, that a brushless motor, ESC and LiPo battery combination would also prove suitable for those with a mind to go the extra mile.

The second consideration, as already mentioned, was whether to fit a fire monitor pump and rotating radar motor, which are cheap to install at less than £12 for both. Anyway, we thought it a pity to miss them out. The radar drive motor is a mini-output geared unit (48rpm at 3V) and rotates at a nice scale speed on a 1.5V supply. This was installed with its own AAA battery and switch. I also decided to link the fire monitor pump (a 360-size geared item rated at 3 to 6V) in parallel with the main drive battery via the electronic speed controller, **Photo 2**. Activation is by a microswitch, using an extended rudder servo linkage to complete the electrical circuit, **Photo 3**. As you can see, the end of the arm operates the switch on full port rudder

movement. Personally, I would have installed electronic switches to the receiver to operate the pump and radar, but as the model was going to be fitted with only a simple two channel receiver, the microswitch solution seemed to be the best option.

Construction notes

The kit instructions suggest the correct adhesives to use for construction of the model and this is important, since gluing combinations of wood, metal and ABS plastic is not always straightforward. UHU's Acrylit two-part adhesive was used to bond the wooden motor mounts to the ABS hull. This glue can stick most things and remains slightly flexible giving excellent impact resistance. I admit I had to look up on the Internet how to mix this glue, as the supplied instructions were in German. Note that two-part epoxy adhesive might fail to bond to ABS plastic, so please don't be tempted to use it on this kit. Resin can be successfully used to help support the propshaft tube, by filling the keel well at the bottom of the hull.

Thin and thick superglues were used to bond the deck to the hull, and standard wood glue was chosen to construct the remainder of the laser-cut wooden cabin, **Photos 4 and 5**. This is all straightforward and simple stuff, the parts all fitting together very well.

The whole kit went together quickly, although I should mention that the deck stanchions and railings are a bit fiddly. I was expecting the vertical stanchions to be made of metal, but they're laser-cut from wood. These require very careful removal from their sprues, and then a delicate hand to thread them with wire. And yes, I managed to break more than one of them. I suspect Krick anticipated this problem as, fortunately, there are a few extra provided. The railings were assembled on the model, then glue applied to the wood/metal joints, before removal from the deck for painting, **Photos 6 and 7**.

Painting

This required two approaches. First, the ABS hull was washed in hot soapy water (to remove any mould release-agent), after



which it was given a very light sanding. Finally, it was primed and sprayed with Humbrol acrylics, **Photo 8**. The wooden deck and cabin, on the other hand, were sanded and filled as necessary, before being given a coat of oil based yacht varnish and finished with Humbrol enamels.

There are no means of actually illuminating the supplied mast, searchlight and navigation light fittings, so a selection of blue, white, red and green 3 and 5mm LEDs, commonly used on R/C cars and aircraft, were installed. Since these plug directly into the receiver for power, there's no need for extra batteries. This method also saves wiring, but will of course draw a very modest amperage from the receiver, **Photo 9**. Finally, to give the model and its supplied stand some extra visual appeal, I splashed out on some additional 'Polizie' decals, **Photo 10**. Looking at this police launch in more detail, **Photo 11** is a starboard bow view and **Photo 12** is of the cockpit area. As you can doubtless see, there's plenty of scope for additional detail, not to mention a crew.

Electrics and water...

The completed internal arrangement can be seen in **Photo 13** with the battery box in front of the motor and that extension of the steering linkage to operate the fire monitor's microswitch. With this, it was into the bath for ballast and leak tests, where I was pleased to

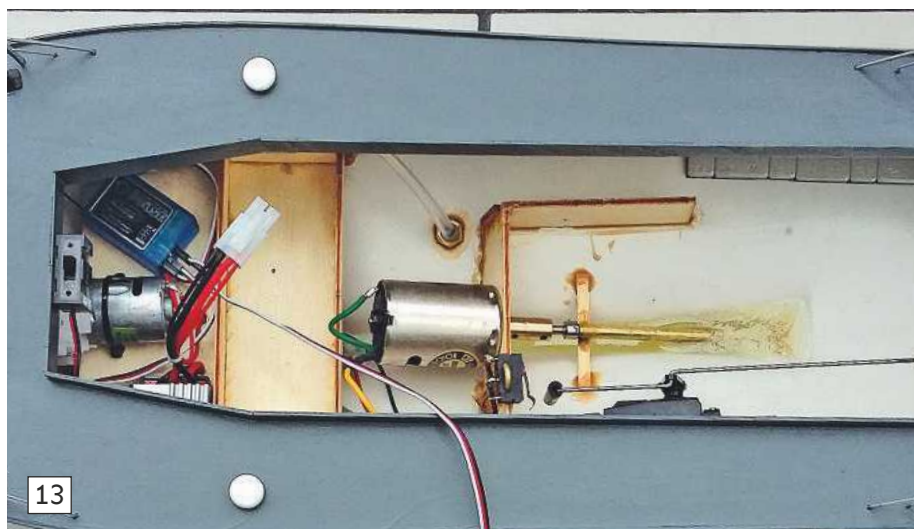


note that, despite the disconcertingly forward position of the battery box, only a few grams of ballast towards the stern were necessary for it to float on an even keel, port to starboard and bow to stern, **Photo 14**. Self-adhesive car wheel balancing weights are a neat solution to final ballasting of any model, the self-adhesive sticky bit being really good.

The fire monitor pump was also tested in the bath, which was both a positive result

and a mistake; a mistake in as much as the adjacent bathroom wall received a good soaking, yet positive in that the pump proved to work a little too well.

On the water, Polizeiboot WSP 47 performed very well first time out, feeling balanced and stable despite its relatively small size and weight, **Photos 15 and 16**. It had an acceptable scale speed but little power in reserve, which I suspect is due in



part to the fine pitch of the supplied plastic propeller, which was also out of centre. A better quality brass propeller with a true centre and a more aggressive pitch was duly ordered to improve things, and frankly this model deserves it.

The fire pump's motor also performed a little too well as the in-bath experiment had suggested it might. With a range of several metres, the pump was drawing the full 7.2V main drive battery power it was connected (in parallel) to. If pointed forward, the pressure of water was more than sufficient to push Polizeiboot WSP 47 backwards, so some work is still required on this fitting!

Conclusion

At around £145, the Krick Polizeiboot WSP 47 represents good value for money. In my honest opinion anyone building it should install the optional radar motor and fire monitor pump, wherein the total cost to get the project on the water will be about £230. As for the build time? Well, it took me just 20 hours from start to finish. Krick kits always seem to build well and this, I found, was no exception. Best of all, the boat's new owner is delighted with it.

For a short video of this kit's construction, type 'Buxton Model Boat Club 106' into the YouTube search box.



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The ship's crest painted on the hangar door of the flight deck.

Range Finder

Dave Wooley gets back aboard the General Tadeusz Kościuszko, then returns to the workshop to fettle the launch tubes of his OSA 2 missile boat project

As a reminder, last month we concluded our tour on 01 deck adjacent to the exhaust uptake. We now continue further aft to the hangar roof where the replenishment at sea receiver is situated and, slightly further aft, the unmistakable shape of the Phalanx Close in Weapon System (CIWS), **Photo 1.** In **Photo 2** the CIWS can be seen from what you could call the 'business end' with its multi-barrel Gatling gun. I recall some years ago being out at sea on HMS Mersey and 800 metres or so astern of HMS Liverpool, when the latter fired her port Phalanx CIWS.

Photo 1. A single Phalanx CIWS is mounted above the hangar.

Photo 2. The Phalanx CIWS entered service with the US Navy in 1980 mounted on the aircraft carrier USS Coral Sea, having been in development since the early 1970s.

There was a second or more of a loud 'brrrrrr' sound, a bit like a typewriter gone mad, but the real surprise was the range as it was all quite short and close to us.

Moving on to the flight deck we have a good look at the hangar doors. ORP General Tadeusz Kościuszko, as with all of the class, has two separate hangars unlike other warships of a similar size. I suspect one of the advantages of this arrangement is that if one hangar is damaged in combat, flying operations may be able to continue using the





Photo 3. The Oliver Hazard Perry class frigate has two separate, and quite cramped, aircraft hangars.

Photo 4. FLYCO or Flying Control is sited between the two hangars with a clear view of the flight deck.



Photo 5. For 24-hour flying operations, flight deck illumination and its control lighting is mounted above the hangar doors.

other. **Photo 3** shows both doors with the crucial FLYCO compartment set between the two and clearly visible above deck level.

Flying Control (FLYCO)

A vital function on many warships nowadays is aviation support and associated with the hangar and flight deck is Flying Control, usually a small dedicated compartment with a clear view of the flight deck. These are usually located close to the hangar's front and on *Generał Tadeusz Kościuszko* the unit is in the centre, **Photo 4**. Above the hangar doors are a series of shaded lights for illuminating the flight deck and just over the centreline to starboard is a 'traffic' light used for flying operations. All, you'll note, can be seen in **Photo 5**.

Hangars

Both port and starboard above the hangars are the arms used as part of the replenishment at sea operations, **Photo 6**. **Photo 7** shows the SH-2G Super Sea Sprite anti-submarine warfare helicopter which,

powered by two 1723shp (1285kw) General Electric T700-GE-401 turboshaft engines, is a comfortable fit in the hangar.

On the inside wall of the port hangar space is a fire hose reel, **Photo 8**. Remaining in

Photo 6. These tubular frames positioned on the top of the aircraft hangars are associated with the replenishment at sea equipment.



the same hangar, but now moving over to its right side which is on the centreline of the warship, we have another view of its general arrangement with a fuel line to the right of the picture, **Photo 9**. Incidentally, each hangar door is a combination of a main roller shutter, together with a single vertical section containing a crew access door, which folds into the hangar's side bulkhead when opened, with the rest of it all rolling up into the roof void, as seen here in **Photos 10 and 11**.

The type and style of crash barrier surrounding a flight deck tends to vary from one navy to another but essentially it usually consists of individual frames having either radiused or sharp corners, all covered with some form of netting and usually being collapsible. **Photo 12** shows the type fitted around the flight deck of ORP General Tadeusz Kościuszko. Our final picture for this feature shows the flight deck barriers and the distinctive lines of the Oliver Hazard Perry Class frigate as the ORP General Tadeusz Kościuszko leaves Liverpool and sails down the River Mersey, **Photo 13**.

Conclusion

Although this class of frigate may be a little outdated nowadays they are still considered handy warships and with the Super Sea Sprite, plus effective sonar devices, they remain an effective part of the NATO anti-submarine warfare fleet. To recap (October Issue) this example is over 35 years old, having entered service on 28th February 1980 as USS Wadsworth. In June 2000 she was commissioned into the Polish Navy (on the 80th Anniversary of its establishment) and, when photographed in 2013, had changed very little.

For those interested, a 1:96 scale semi-kit can, at the time of writing, be ordered from Sirmar, website: <http://sirmar fittings.com/perry.html>.



Photo 7. What you would call a 'comfortable fit' for the Super Sea Sprite helicopter.

Photo 8. Looking down the inner face of the port hangar. The fire hose is hard to miss.

OSA 2 Type 205U Fast Missile Boat

PART 10

Finishing the missile tubes

In this issue we're continuing construction of the large surface to surface missile launch tubes, **Photo 14** being of a typical OSA 2 boat equipped with them. In the recent November issue it was mentioned that there are no specific drawings of an OSA 2 205U craft, so what you see here is an amalgam using my own rough sketches and reference photographs similar to the picture shown here.

Having fixed the bands around the tube and the forward support legs (see November), we can now move to fixing the rails which run full length on the upper part of the launcher tube.

External rail supports

Each rail is from Evergreen No. 292 angle section. This is set into place using Evergreen No. 165 2 x 2.5mm box section, cut to create an angled support that matches the curve of the tube and allows the rail to rest on their upper surfaces. Initially the location of the rail was marked on each tube and a simple jig then made to allow the Evergreen box section to be cut to an angular shape, **Photo 15**, to match the tube and support the rail, with seven such parts needed for each side. The fore and aft supports were fitted first to the tube and then with the rail in place, the





Photo 9. The port hangar's starboard side and the dividing panelling with a connecting fire door to the matching starboard hangar.



Photo 10. Looking up towards the roller shutter in its retracted position, but with the side vertical panel of the entire door folded against the inside of the hangar.



Photo 11. Another view of a retracted roller shutter.



Photo 12. Around the flight deck are these safety barriers which fold down during flying operations.

Photo 13. ORP General Tadeusz Kosciuszko leaving the River Mersey.

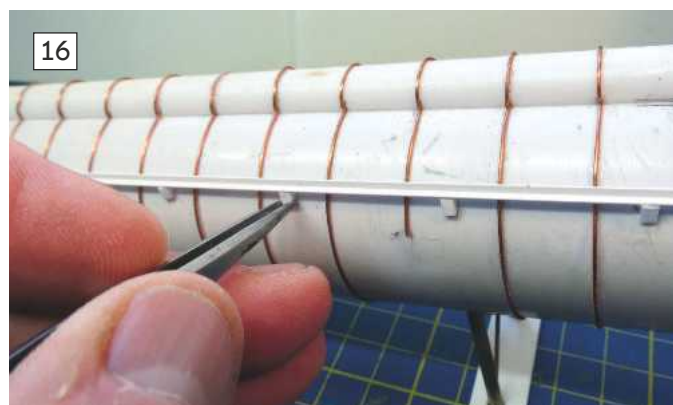


Photo 14. An aerial view of a typical OSA 2 type 205U fast missile boat.

Photo 15. A simple jig makes for consistency when cutting the angled supports for the side rails.

Photo 16. Fixing each angled rail support piece into place after the rail has been attached.

remaining supports were added, as can be seen in **Photo 16**.

Aft support legs

In the aforementioned November issue, provision was made for the after support legs of each missile tube. These are shorter, but have a larger diameter than

the front ones, and have a series of rings attached to each leg. The reason for these is unclear, but offering a guess they may well be strengthening bands as the forces generated within the launcher's tube during a missile's firing would be substantial. Illustrated here in **Photo 17**, these rear legs have been reduced to their component parts which, to clarify, are:

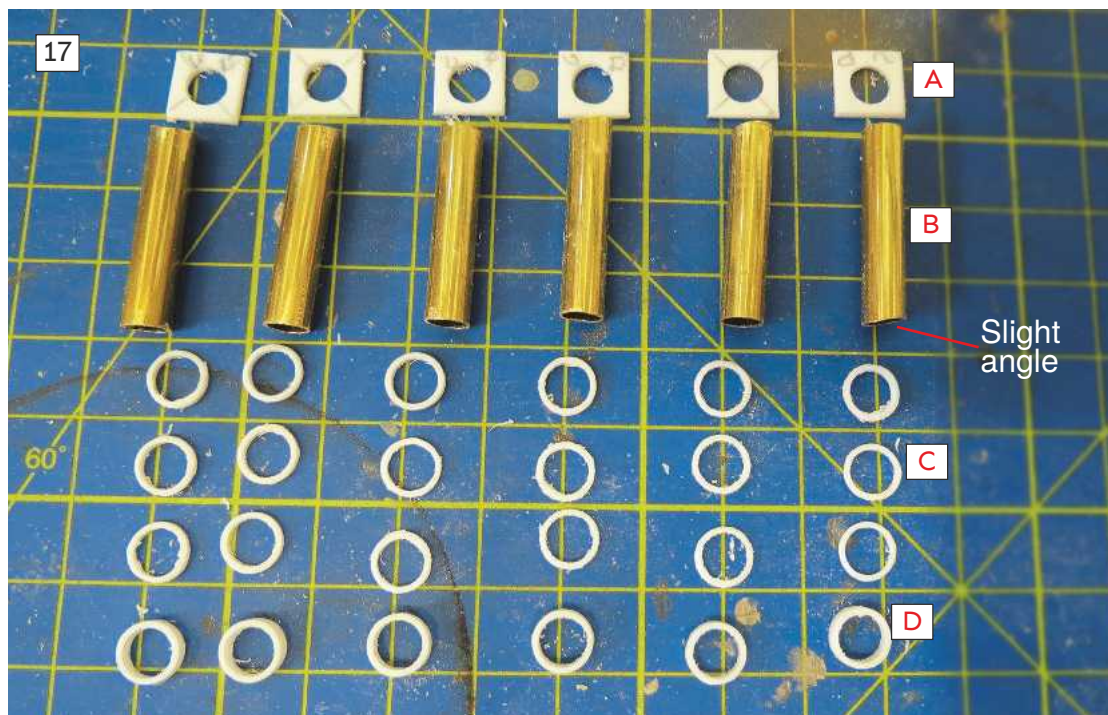


Photo 17. All the component parts for the rear support legs - see text for legend.

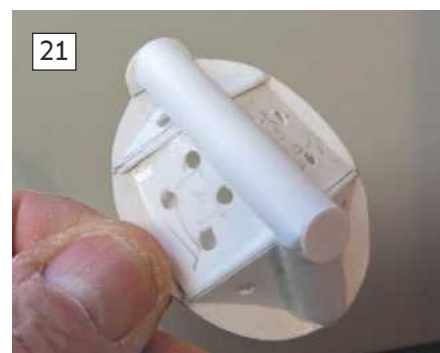
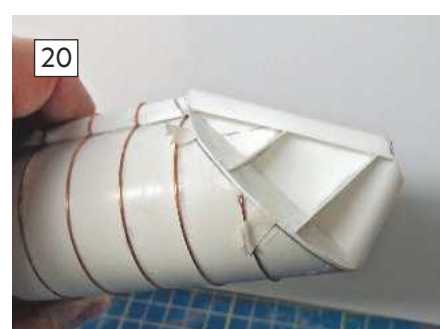
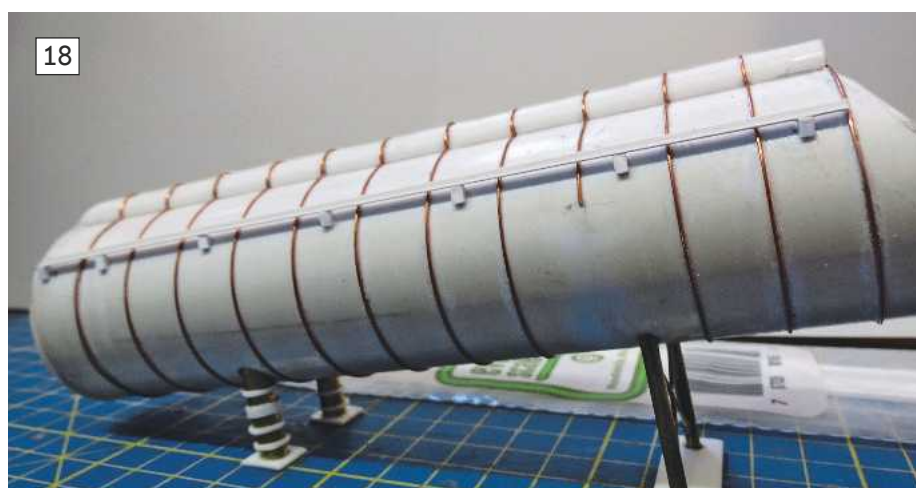
Photo 18. The rear support legs fitted to the tube.

Photo 19. The basic parts for the four launch tube outer doors.

Photo 20. The side support and the rounded top and bottom of the launch door have been added.

Photo 21. To reduce the weight and volume of filler needed, the voids between each angled fillet support have been partially covered.

Photo 22. Filler has been applied over the door's framework, then shaped and sanded smooth.





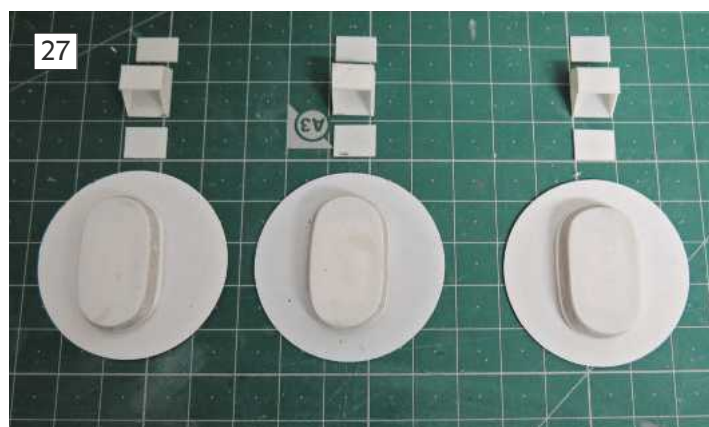
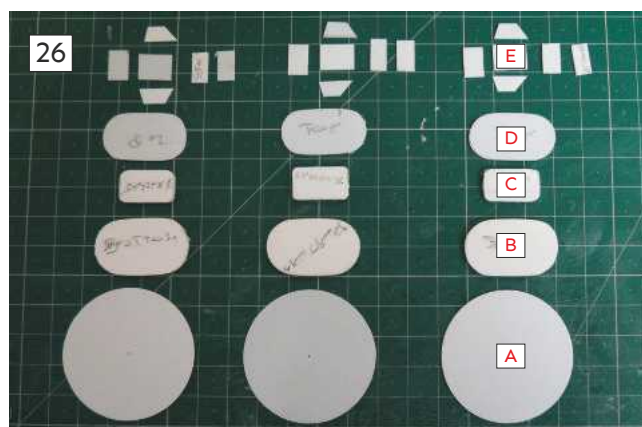


Photo 26. The parts that make the rear door of a launch tube (see text).

Photo 27. Three rear doors being made, the fourth was already complete.



Photo 28. This highlights the guide rods still to be added to the outer door and tube.

Photo 29. The guide rods and their component parts, ready for assembly.

I followed suit and proceeded by cutting a large single disc to match the outside diameter of the missile tube, albeit 0.5mm oversize. The parts that make up the flat panel and its blast-proof door are pictured above in **Photo 26**.

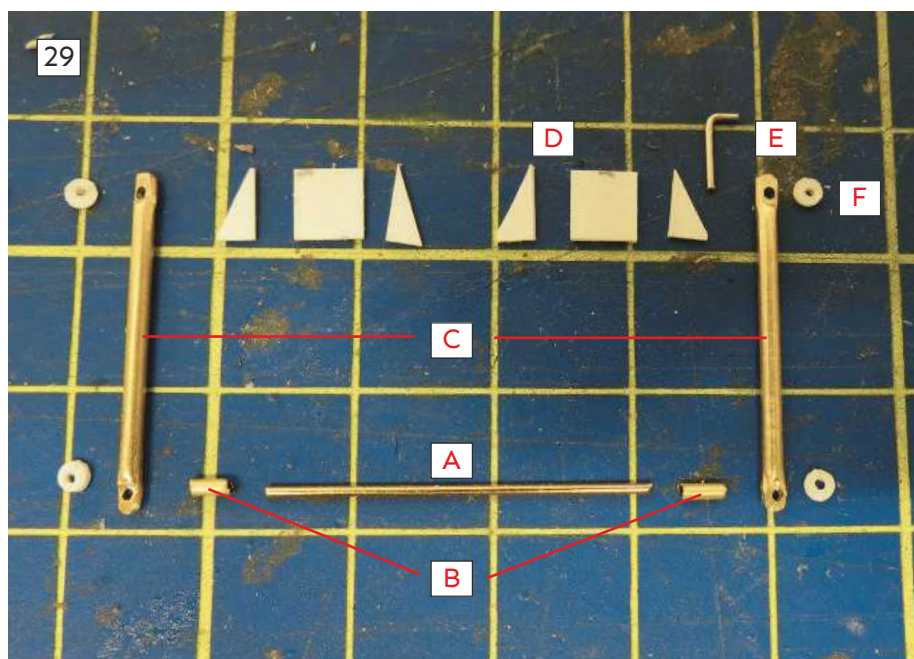
A is the large disc to cover the end of the tube.
B is the 2mm thick lower section of the door.
C is the door's spacer piece.
D is the door's 1mm thick upper piece.
E is the 1mm styrene angled box fitting mounted on the top of each door.

Filler was applied to the narrow void separating the upper and lower parts of the blast door. The reason for this becomes clear when viewing the shape and thickness of this door in **Photo 27**.

At the top of each missile launcher outer (front) door and connected to either side of the main tube are guide rods, the actual opening and closing quadrant being hidden inside the tube. These two arms can be seen clearly in **Photo 28**, ringed in red.

The first task was to prepare each of the sixteen component parts that make up these guide rods and these are in **Photo 29**. Here's a rundown of the components:

A is the common linkage connecting left and right sides of the launcher tube's door.



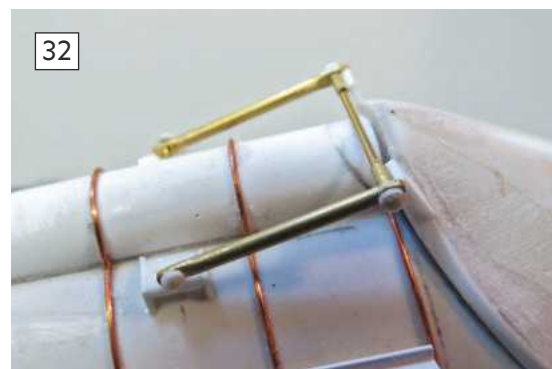
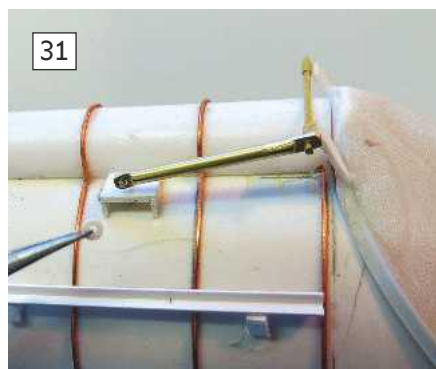
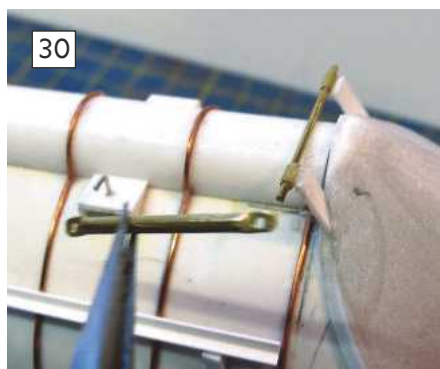
B points to the bushes that are fixed to the top of launch door into which a common linkage is threaded.

C (left and right) are the two guide rods drilled at each end.

D is a flat fixing point on the launch tube to secure each common linkage.

E is the 'L' connector for the common linkage.
F is the cover disc.

The first step is to fix the common linkage and bushes to the door, followed by the two flat fixing points and the L-shape connector. With these in place, the guide rod can be



added and, finally, the cover discs, **Photos 30 and 31**. The completed door guides are now in place and appear as in **Photo 32**.

Finally, we have a rear view of an almost completed missile launch tube with the blast door in place at its rear and gas discharge panels fitted to the outside of it, **Photo 33**. In the final picture of this sequence we are looking at it now from the front. Note here the extra detail at the point where the front legs enter the tube, **Photo 34**. This missile tube as a whole is something that on initial

inspection seems to be very complicated, but once broken down into smaller components is not that difficult to make. The final picture for this issue shows an OSA 2 of the Indian Navy launching one of its SS-N-2 missiles, **Photo 35**.

Right, that's all from me for the time being. Next month, in the January 2018 issue (yes, it will soon be another year), we'll take a look at the preparation and laying of the steel deck plates and fashioning the weld lines between them. Until then...

Photo 30. A bit fiddly, but patience won the day.

Photo 31. With the guide rod in place, a security disc is being added to both ends of the rod.

Photo 32. A completed guide rod assembly.

Photo 33. An almost complete surface to surface missile launcher tube.

Photo 34. Note the additional fittings around the top of the forward support leg.

Photo 35. An SS-N-2 missile is launched from an OSA 2 205U boat of the Indian Navy.



References, suppliers and acknowledgements

Oliver Hazard Perry-class FFG refs:

Combat Fleets of the World, 15th Edition, pages 911 to 913.

Ships and Aircraft of the US Fleets by Norman Polmar, pages 162 to 166.

Also: Special thanks to Russ French of Task Force 72 in Australia for his advice and assistance concerning the Oliver Hazard Perry-class.

ORP General Tadeusz Kościuszko (ex-USS Wadsworth) ref:

Combat Fleets of the World, 15th Edition, pages 560 to 570.

OSA 2 refs:

Fast Attack Craft, Brassy, pages 96 to 98.
Guide to the Soviet Navy, Second Edition, Breyer & Polmar, pages 238 to 241.

S.S. Mullogh

Phil Button's totally scratch-built model of an early sailing and steam powered ship

PART 2

The November 2017 issue described the planning stages for this model and my start on the basic construction of the hull and its skinning. This month, then, we'll pick up where we left off and discuss what to do with the complicated stern area of the model.

The original vessel had a counter stern, something which is curved every which way, both inside and out, and can be a real challenge to model in miniature. The intention was to make this awkward shape using the time honoured 'bread and butter' method

where the shape is created from several layers of wood, each layer being cut to roughly the right shape, both inside and out, before the layers (the bread) are glued (the butter) together, before carving and sanding to the final shape, inside and out.

Bread and butter

With the hull still on the building board, several 'slices' of softwood were cut and fitted against the aftermost bulkhead as in

Photo 1. Please note that at this stage, the pieces were not glued in any way at all. Next, all the layers were glued to each other – not to the hull or the building board – and held together with weights until the adhesive had set, **Photo 2.** The external shape of the stern was then roughly carved using a chisel and craft knife, followed by a series of stages involving filling the hollows with car body filler, sanding down and re-filling the low areas until something near to the final external shape was achieved, **Photo 3.**





This stern piece was then removed from the building board for internal carving using a Black and Decker Power File until the shape was close enough for hand finishing using progressively finer grades of sandpaper, **Photo 4**. This was a messy job, so performed in the garden rather than in the workshop



and for Health and Safety, I was wearing a face mask. Now came the moment of truth, as the completed hull was removed from the building board and turned right side up for the first time and the stern piece glued in position, **Photo 5**. Amazingly, the hull came away from the board in one piece and held together

well, indeed the building process seemed to have produced a very strong and stiff, but comparatively lightweight structure. The open area in both sides of the hull skin, just forward of the stern, was deliberately left uncovered for planking after fitting the aforementioned carved stern piece.



Hatch work

With the hull now placed right side up, work could continue on fitting the 6mm plywood hatch coamings in the prepared slots at the top of designated bulkheads. In **Photo 6** we can see the engine room hatch coaming being glued in place and quarter round strengthening fillets being added to its inner corners. The 6mm plywood coaming for the main hatch was built in a similar fashion and **Photo 7** shows both of them completed. Incidentally, the solid bulkhead and increased bulkhead height part way along the main hatch was designed-in from the outset to provide a certain amount of sealing between the hot and wet boiler and engine room aft and the radio control equipment space in the forward section.

A platform to carry the funnel and later the mainmast step, was made from 6mm plywood and fitted between the main hatch and one of the bulkheads forward of the engine room cover, **Photo 8**. The plywood platform forward of the main hatch that would eventually be used to locate the foremast was also added, **Photo 9**.

Bulwarks

Installing the 1.5mm plywood bulwarks was next on the list of jobs. These were made from several 12 inch (300mm) lengths of plywood, cut across the sheet so as to make bending to the curves easier. As with the hull skin pieces, each section was first of all fashioned in card, where it is much easier to get the shape right, then offered against the bulkhead extensions above the hull side plating, not forgetting that the bulwarks do not go all the way to the top of the extensions to allow for the sheer on the hull. When each piece of card fitted correctly, the shapes were marked on the plywood, cut out and glued in place. **Photo 10** shows some of the port side pieces being held in place with numerous clamps whilst the glue dries, whilst **Photo 11** shows the end result after removing the clamps, but before final trimming.

Finishing the hull

Having now added the missing pieces of hull skinning ahead of the stern unit, my attention turned to filling any gaps and sanding to the correct hull shape as in **Photos 12 and 13**.

This involved plenty of car body filler (where would we be without it?) and lots of sanding, a face mask being essential. Then came a personal disaster in the form of a fall that broke my left wrist and seriously curtailed model making activities for the best part of six months, what with a plaster cast followed by physiotherapy. What, you may ask, was I doing to prompt the unfortunate fall? Well, I was roller skating and, yes, it has been suggested that I should know better at my age.

After the enforced lay-off, work recommenced on the hull with yet more filling and sanding, this before starting any further work. All areas inside the hull which would become inaccessible after fitting the deck were given a coat of polyester resin to both waterproof the wood and provide some extra strength, **Photo 14**. At this point, another glitch in my drawing was discovered, in that all the bulkheads forward of the main hatch were each around 3mm too tall. How that happened I have no idea, but they were definitely wrong. As the error would have resulted in a step in the deck, they all had to be reduced in size using a cutting disc



in a high speed rotary tool, which explains the scorch marks seen in this last picture. The rotary tool also voiced its disapproval at cutting so much 6mm plywood by emitting a cloud of smoke and that lovely smell of cooked electrical insulation as it finally gave up the ghost.

When the hull appeared to be as smooth as repeated filling and sanding would allow, it was given a coat of white paint with a semi-gloss finish as in **Photo 15**. As usual, this highlighted all the areas that needed further attention, so yet more filling and sanding was demanded. Mind you, since the plan was to cover this plywood skin with imitation plating to mimic the appearance of the full-size ship, a perfect finish was not required, just a sanded finish that would provide a decent key for the adhesive that would be used for the plates.

The plates were going to be made of thin card, cut from cereal packets. Constituting zero additional expense, these definitely come at the right price. I'm sorry to say that marking the hull in pencil to show the plating layout was a 'best guess' exercise as no plating drawings for the full-size vessel had been found. Also, it was a best guess as to the size of plate available in the mid-1850s and around 9 feet long by 2 feet wide seemed to be about right, scaling at 1:15 to a card size of approx. 7.2 x 1.6 inches (180mm x 42mm).

Photo 16 shows the marked hull fitted with some of the plates and **Photo 17** shows the Technicolor cereal box hull with the plating of

one side almost completed. **Photo 18** is of the completed port side plating in primer after fitting a hardwood stem post and a plywood false keel. Those of you with sharp eyes may have noticed that I forgot that the hull was upside down and the port plates are marked with an 'S' for starboard – sorry!

Plating commenced from the stern, up against the keel, so that each plate of each row going toward the bow could be overlapped by 4mm over the front edge of the plate behind it, and each row of plates was overlapped by 4mm on top of the preceding row. In all, around 200 card plates were fitted. At one point, consideration was given to adding the rivets, but I decided against it as they would probably have come out way over scale, plus there would be 1000s of them. I may be keen, but not 'that' keen.

All the plates were fixed using Alpha Thixofix contact adhesive which allows for some movement of the card piece to get it into the right position before it sticks for good. To ensure that all air bubbles were pressed out from under the card and to make a neat job of the overlapping edges, a piece of polished wood was used as a sort of squeegee device over each plate.

A pair of hardwood bilge keels were glued and screwed to the bottom of the hull for it to rest on in lieu of making a fitted stand for the model, **Photo 19**. Since the bottom of the hull is fairly flat, but would need some sort of protection from the hard concrete surround





surfaces that it might be rested on at the lake, the bilge keels and main keel were later reinforced with 1.5mm diameter stainless steel wire, partially set into their bottom surfaces.

Running gear

The propshaft was built from 10mm o.d. aluminium tube with a 5mm diameter stainless steel shaft, with ball races for free running. Since the propshaft would be around 2 inches (50mm) below water level with the model at its normal waterline, a lip seal was installed at the propeller end of the tube to keep the water out. The propshaft tube was then epoxied in place in a drilled hole in the stern, **Photo 20** showing the installation before the shaft was threaded for the propeller and the seal fitted. The inboard end of the propshaft tube was held in place using a wad (block) of car body filler between the aft hull formers.

A stern frame was needed to carry the rudder at the after end of the hull. This was cut from 6mm thick brass using a hacksaw,

chain drilling and much filing to shape.

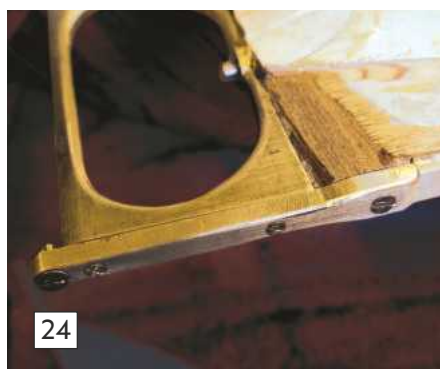
Photos 21 and 22. A hole was drilled through the hull to carry the rudder spindle and its bearing tube. After filling a half-round channel along the after edge of the stern frame to carry the rudder spindle, it was epoxied in place on the hull and fitted around the propshaft, **Photo 23.** The frame was held in the correct position using masking tape and a steel rod through the rudder tube whilst the glue dried.

The eagle eyed amongst you will have probably noticed that the stern frame does not extend down to the bottom of the keel. This is to allow for a piece of 3mm brass to be screwed to the keel and the lower edge of the stern frame to act as the bottom bearing for the rudder and to enable the future removal of this if it ever became necessary, **Photo 24.** The rudder itself is made from brass rod and 3mm brass sheet, all silver soldered together, **Photo 25.** The top of the rudder spindle is carried in a brass tube bearing in a drilled hole through the hull above the stern frame, **Photo 26.**



Decks

It was now time to turn one's attention to fitting the deck. I'd already decided to fit a 1.5mm plywood sub-deck and to clad this with 7mm x 1mm lime planks. Fitting the sub-deck followed the now well-trodden path of making card templates for each section before marking out, cutting and fitting the plywood piece itself. With this, the cut wood pieces were glued to the top of the bulkheads using epoxy. The sub-deck was cut out in fairly small areas simply because it was much easier to get a good fit with small pieces



which, of course, were going to be covered with the planks anyway. **Photo 27** shows some of the card templates in place on the hull. In some areas (especially around the sides of the deck coamings) it was necessary to fit additional deck supports like that seen clamped in **Photo 28**.

Now, before finally gluing the sub-deck in position, it was necessary to think about the routing and installation of the plastic guide tubes that would be required for the sail sheets (the lines that control the sails) since fitting these once the deck was in place would be difficult, if not impossible. Three sail sheets would be needed:

- One to the foremast jib, coming out part way along the forecastle deck.

- One to the foremast mainsail, coming out at a split in the main hatch cover.
- One to the mainmast mainsail, coming out aft of the engine room cover.

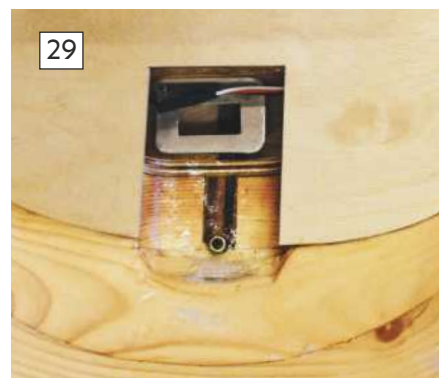
The two tubes going to the foremast could be routed just about anywhere beneath the deck, but the one going aft to the mainmast would have to be positioned as close as possible below the sub-deck, and up against the hull side to avoid the boiler and engine. It was difficult to photograph these tubes owing to their positioning within the hull, but they do show in some of the later pictures so bear this in mind during future episodes.

An area of deck that gave particular difficulty was the aftermost section inside the carved stern. The plan was to fit the rudder servo beneath this deck, but there was very limited space so a micro servo it had to be. In order for this to fit, it needed a hole of the right size, carved using the aforementioned Power File, then installation of an aluminium bracket for the servo with an access opening through the deck. A servo extension lead would also need to be threaded through holes in the after



bulkheads before fitting the covering deck as it would be virtually impossible to access this once this was fitted. Our final image, **Photo 29**, shows the pre-installed servo bracket and the end of the necessary extension lead.

Right, that's all from me for the time being. Let's meet again in the January issue and continue construction with planking the deck and making a start on the rigging. Until then...



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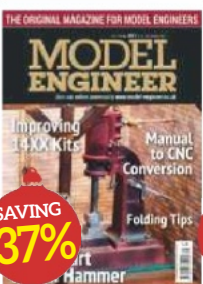
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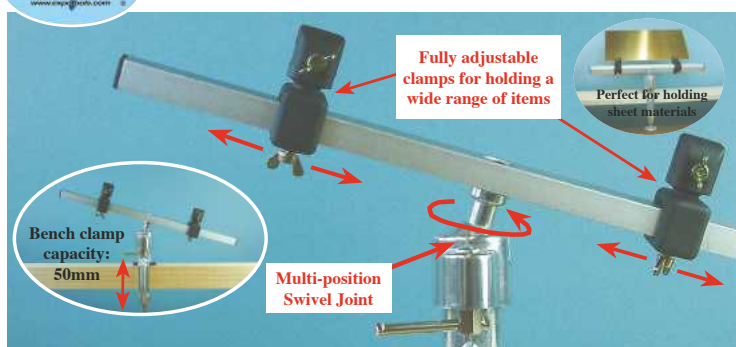
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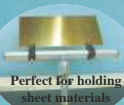
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VIC 56 Puffer

This is an 85 feet long steam ship built in 1945 as part of the wartime shipbuilding program and now preserved in working order by a small group of volunteers. She's moored at Chatham Historic Dockyard on the River Medway in Kent, and is operated in steam a number of times each year, usually around the Thames Estuary area. For most of her working life, VIC 56 was used in Rosyth naval base as an ammunition vessel and was due to be disposed in September 1978, but was bought for preservation by J. H. Cleary, her present owner.

The Chatham Historic Dockyard on the River Medway is home to many fascinating ships and buildings, including the destroyer HMS Cavalier, submarine HMS Ocelot and the Victorian sloop, HMS Gannet. VIC 56 is now usually berthed on the riverside between HMS Cavalier and HMS Ocelot and takes part in many events in and around the River Thames and the Medway, plus the East Coast ports.

VIC 56 is actually a 'steam coasting lighter' or 'puffer' as we know them, and is one of the 98 victualling inshore craft built to the orders of the Ministry of War Transport between 1941 and 1945. Photographed here in 2017 when at Gravesend she's well worth a look if one is able, particularly as she's a living and working example of a sea-going steam-powered puffer.

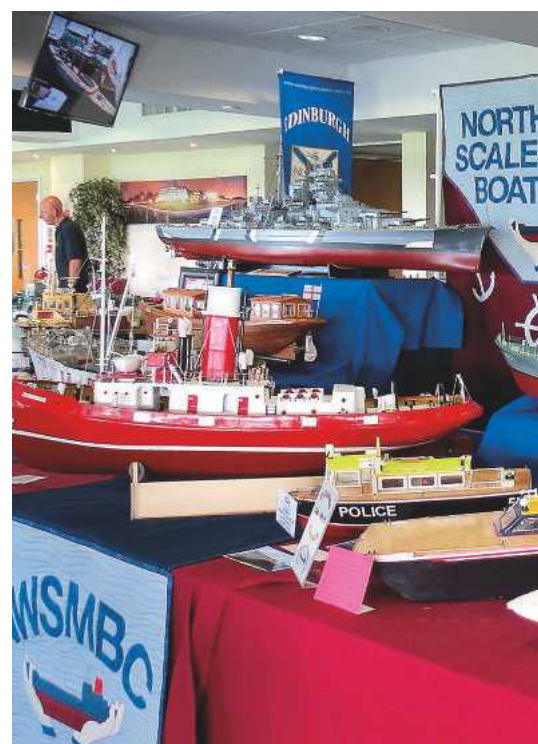
Visiting times, plus details of open days and events can all be found on the VIC 56 website at www.vic56.co.uk, along with photos, plans, a video of her underway and much more. Also, check out the ship's Facebook page at Steamship VIC 56.







ABOVE: Peter Farrow, right of picture receiving the prize of a Shannon Class lifeboat kit for Best Lifeboat in Show from the Guest of Honour, Brian Thompson MBE (left) and Adrian Gosling of Speed Line Models (centre).



were well used, with a varied program of activities, however it would be nice to have even larger pools.

The Model Boat Convention 2017

Dave Wooley reports from Haydock Park

Held on the 26th and 27th August of the Bank Holiday Weekend, this is an established annual event, run by modellers for modellers. It always has a theme which generates interest and with it comes new ideas, new models and fresh appeal. For 2017 the theme was lifeboats, and this really did generate a large number of models for display. As is customary, the Model Boat Convention invites a Guest of Honour with a link to the theme and for 2017 this was Brian Thompson MBE, the retired Coxswain of the Holyhead RNLB Kenneth Thelwall and RNLB Christopher Pearce.

BELOW: The fantastic 1/144 scale totally scratch built model of the aircraft carrier USS Midway.



The venue

The event is held within the exhibition centre beneath and behind the grandstands of Haydock Racecourse, close to the M6 and Aston-in-Makerfield. There's plenty of free parking, carpeted floors in the main exhibition rooms, loads of seating, good economical catering, excellent natural and artificial lighting, plus an intelligible public address system. An outside temporary small pool for have-a-go models and a larger one for our normal craft are also provided. These

BELOW RIGHT: The superbly detailed 15 inch bow chaser gun fitted to the USS Alarm built by John Hollis. Looking closely at the drive system, this represented an early form of Voith Schneider drive, it being a horizontally feathering paddle wheel that dispensed with the need for a rudder.



Clubs and displays

For 2017 there were 23 clubs attending and five individual displays, plus one workshop. The theme was lifeboats and the clubs rose to the occasion and presented a number of well thought-out displays. Runcorn MBC, in particular, presented a working diorama depicting the rescue of the crew of a stranded coaster. All the emergency services were in action, including a helicopter, breeches buoy and two lifeboats. This excellent diorama gained the club the prestigious President's Award and the John Fulton Cup.

Also on the top of his game was Isle of Man resident Howard Quayle who received an award for his individual and diverse display of models. Most of the clubs entered into the theme of the event, exhibiting a number of really fine examples of model lifeboat construction. Another that caught my eye



ABOVE: The Northwest Scale MBC were one of the many clubs attending this year.

was that of Knightswood MBC, this including a slipway launch from a lifeboat station, the entire display duly receiving the Best Themed Stand award.

Equally interesting was the 'work in progress' 1:72 scale model of the Italian heavy cruiser Zara, being built by Colin Vass. Many will have seen his magnificent HMS Warspite around the UK previously, and this cruiser is shaping-up to be equally exceptional. Where does he find the time one wonders?

The models

2017 was a vintage year for the quality of the models on display. It is hard to single out a particular model as they were all well executed and all I can say is that the judges had a hard time separating the top three in each of the competition classes. As is always the case, there were many more top-notch models on

the club stands that were not in the competition classes, and what I personally look for is not just the quality of build, but the character of the model. Here, then, I was very much taken by the River Mersey vehicle ferry Perch Rock on the Hoylake MBC stand, showing how vehicles were transported across the Mersey from Birkenhead to Liverpool prior to the construction of the Mersey Tunnel in the early 1930s.

Looking at the list of winners there were a number of models that had this extra quality of character, as well as being well-built. A good example was the Free Enterprise V by Howard Quayle, built from a Linkspan kit. Not only was the model superbly made, but if you looked closely into the car deck you could see

BELOW LEFT: The River Mersey vehicle transporter Perch Rock has been scratch built by Clint Nichols. The original vessel operated prior to the construction of the tunnel crossing.

BELOW RIGHT: Built to a high standard is this 1:96 scale model of the Free Enterprise V, built by Howard Quayle using the Linkspan kit.



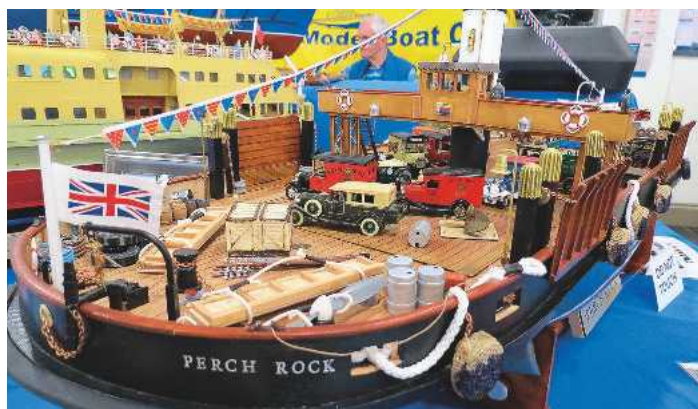
TOP: The complex and highly detailed island superstructure of the USS Midway circa late-1990s.

ABOVE: Brian Cowell of the Scottish Model Warship Association has constructed this very good MFV 237.

that a number of vehicles were showing their brake and tail lights, a nice touch and very appropriate for this model.

Best in Show

This award and the Robin Woodall Memorial Trophy is not judged in the formal way by the official competition judges but by the exhibitors themselves and the overwhelming choice was the aircraft carrier USS Midway by Paul Bannon. Even at a scale of 1:144, this model is huge by any standards and a large amount of super-detailing has gone into every corner of the hull, including fully working side elevators, rotating radars, and lighting. Eventually the air group will also be added to make this superb model truly stunning.





LEFT: Part of the impressive working diorama especially built by the Runcorn MBC as their contribution to the theme of the 2017 Model Boat Convention.

ABOVE: Seen on the Runcorn stand was this refreshingly unusual model of the barge for transporting the Airbus A380 wings down the River Dee from the factory at Broughton, for shipment to Toulouse in France for final assembly.



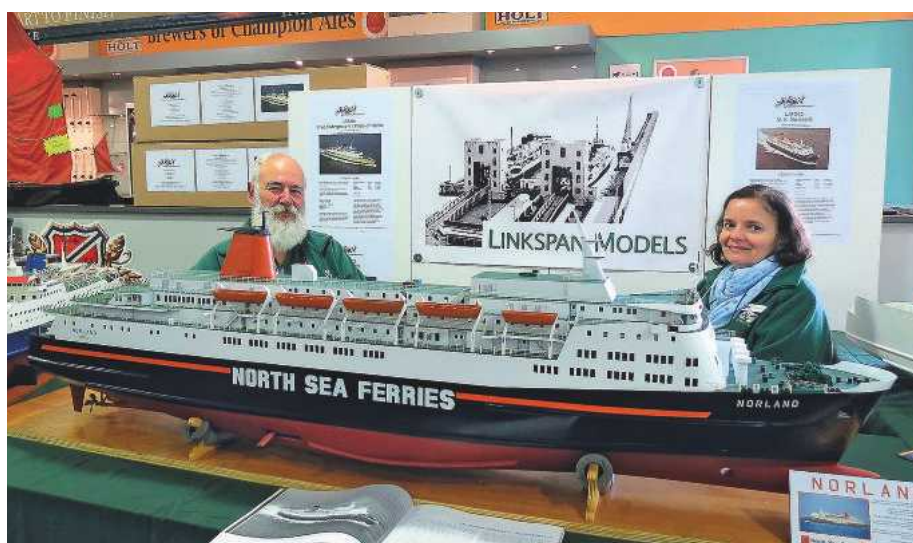
ABOVE: A finely crafted model of the Windermere steam launch Branksome by Allan Ravenscroft of The Ship Modelling Society.

BELOW: A 133 modified kit of the Danish SAR boat Emile Robin, built by G. Garside.



ABOVE: An unusual in progress model of the Polish SAR boat Halny by Josef Szydlowski.

BELOW: Linkspan Models presented its impressive new 1:96 scale Norland ferry kit.



Best lifeboat in show

For this class, the models presented for consideration were all outstanding and the judges had a hard time separating the first three which were all totally scratch built. In the final analysis only one could be declared the winner and take the coveted first place and a Speedline Shannon lifeboat kit kindly donated by Adrian Gosling, the proprietor and designer of this manufacturer. The honour went to Peter Farrow of The Model Ship Society and his magnificent Clyde Class RNLB Charles H. Barret.

Trade support

One of the main attractions of events such as the Model Boat Convention, is trader participation. For 2017 there were sixteen traders who covered just about all the requirements of our hobby. From books to steam plants, to kits, building materials and

tools. With a lack nowadays of local model shops, events such as this are vital for many of this magazine's readers, as not everything can be practically purchased online, particularly wood, for example. Two of the regular traders were unable to attend owing to illness, one did not arrive even though confirmed for the event, and Adrian Gosling, who has been ill but is now recovering well, only came on the Sunday to present the lifeboat prize. However, at the time of writing this, less than one week after the event, I understand that some trade and club bookings for 2018 are already confirmed.

Conclusion

The Model Boat Convention has expanded over the years to warrant having bigger and better facilities, and Haydock Park is ideal.

These facilities do come at a price and the basic costs have to be covered, one way or another, hence an admission fee. The organising committee, ladies on the door, judges etc. all do their work for nothing and deserve our thanks, particularly Jean Barlow (Secretary) and her husband Arthur, the Treasurer. He is, of course, no mean lifeboat model builder himself, having won numerous awards over the years. The 2017 Model Boat Convention was, as far as the standard of modelling goes, a cracker and the best yet, with many top class exhibits and an enthusiasm by the attending clubs that was second to none. The 2018 event is planned for the same late-August weekend, with a theme of World War One Ships, which should produce, yet again, some super models. I fear though that the Guest of Honour may not be a World War One veteran!

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Flotsam & Jetsam

John Parker delves into the archives

57: Battery Technology

Most of the powered model boats that have ever been made have relied on electric propulsion, a trend that is likely to continue due to the environmental and safety concerns surrounding fuel-powered boats. A prerequisite for the dominance of electric power has always been the availability of a suitable battery; one that is small and light enough to be carried by the model, affordable and sufficiently powerful to drive the model at a scale speed, or better in the case of fast-electric craft, and all for a reasonable duration. Over the last one hundred years, several battery types have been employed in this role.

Primary batteries

An illustration from the Stevens's Model Dockyard catalogue of 1928 shows the only primary, or non-rechargeable, battery then available that was capable of giving the several amps of current needed to supply a hungry electric motor, namely the Bichromate Battery (Product No. 899). This really belonged to the previous century and was more at home in a science laboratory. Corrosive fumes emanated from its open bell-mouth jar containing a mix of Sulphuric Acid and Potassium Dichromate as electrolyte, and the action of the battery continued even without a load, necessitating removal of the electrodes from the electrolyte and this fiendish device produced about 1.8 volts per cell.

To the right in the same illustration is Product No. 900, a wet-cell 1.5 volt Leclanché battery. This was more benign but was only capable of a limited output that rapidly fell off, then recovered between uses – the origin of the '9-lives' slogan of the Eveready brand. Please note that a dictionary check shows the spelling in this text as correct, but the advertisement

has the accent on the 'e' the other way round. From the wet-cell Leclanché was developed the familiar dry cell (Product No. 902) in all its types and sizes, until recently the most common type in use. It was never really suited to heavy drain applications, but that didn't stop it being used as such. In the 1960s, Taycol was recommending its Supermarine motor be run from four 6 volt lantern batteries connected in series-parallel, a very expensive way to achieve short-term performance.

Looking the same as the carbon-zinc dry battery, but using a different chemistry was the so-called alkaline (or manganese-alkaline) battery that came on to the market in the 1970s. Having the same nominal voltage of 1.5 volts it was interchangeable with existing dry cells, but offered much greater capacity and a longer shelf life, soon making it the dominant type of primary battery and accounting for some 70% of total sales. From this was developed a rechargeable version capable of a limited number of charge and discharge cycles, but this proved less successful.

Secondary batteries

More serious model marine propulsion required a battery that could be recharged time and time again and be capable of sustaining a heavy current drain. Fortunately, such a battery, once often known as an accumulator, did exist in the form of the Gaston Planté lead-acid type which was

invented in 1859. It was the first type of rechargeable battery made and gave 2 volts per cell. Those made for model boats featured largely in early supply catalogues and advertisements such as the ones shown here. They were typically supplied in a transparent celluloid case of a squat shape to keep the centre of gravity low, with screw terminals on the top and made into 4 volt or 6 volt batteries. By modern standards they were not a high-performance battery and were very heavy, but compared to the feeble dry batteries of the day they offered a reliable and relatively cheap source of energy, their considerably higher initial cost being offset by a cycle lifespan that was the equal of hundreds of sets of dry batteries.

By the 1960s, this type of battery was being offered in a neat form by Matsushita of Japan; its 6V 4Ah type is shown. Interestingly these were supplied dry and required filling with dilute sulphuric acid before use. My example has never been activated and despite its 50 years of age, it should only require filling and a long charge to be fit for duty. For those requiring a larger capacity, motorcycle batteries could be used. Development of the sealed lead acid and valve regulated lead acid battery (SLA or VRLA type) in the 1960s has enabled this very old battery design to remain competitive today as a low-maintenance and low-cost unit that can be mounted in any position.

The nickel-iron (NiFe) battery was an early competitor to the lead-acid battery that was credited to the inventor Thomas Edison. Very rugged and heavy, it was also expensive and gave only 1.2 volts per cell, but it saw some



ABOVE: A vintage laboratory-type lead acid accumulator.

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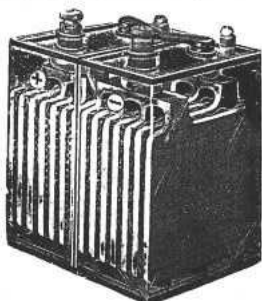
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The storage batteries here described are made by one of the best known English manufacturers. For general purposes including model power boat work they are unsurpassed, and they possess the advantage of being as light as efficient construction will allow them to be. Overall dimensions have been kept as small as possible in view of the fact that the average boat model does not allow very much space when the power unit has been fitted. The sizes given below do not comprise the full range of accumulators which we can supply, but we have picked out the capacities and voltages mostly in demand. Increased voltage or amperage can always be obtained by coupling up two or more batteries in series or parallel, as circumstances may demand. All batteries are sent out unfilled and not charged.

Volts.	Amp. Hrs.	Length.	Width.	Height.	Weight.	Price.
4	4	3 1/2 in.	1 1/2 in.	2 1/2 in.	17 ozs.	7/6
4	6	3 1/2 in.	1 1/2 in.	3 in.	1 lb. 3 ozs.	8/-
4	10	4 1/2 in.	1 1/2 in.	3 1/2 in.	2 lb. 2 ozs.	10/-
6	10	4 1/2 in.	2 1/2 in.	3 1/2 in.	3 lb. 3 ozs.	15/6

Packing and Carriage extra.

ABOVE: Accumulators for model boats from the 1930 Bassett-Lowke catalogue.

RIGHT: An advertisement for Excelo boat accumulators from 1920.

ECONOMIC



**THE
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Can be used either as 2 or 4 volt; a convenience when fitted to a Loco. or Boat. Well fitting CELLULOID VENTS. Top wholly of Celluloid. Non-Corrosive Terminals, etc. Greatest capacity in smallest possible space.

No.	Volts.	Amp. Hrs.	Wght.	Size over all.			Price.
				H'ght.	L'nth.	Wdth.	
78/42	4	5	16 oz.	2 1/2"	3 1/2"	1 1/2"	10/-
78/43	4	6	17 oz.	2 1/2"	3 1/2"	1 1/2"	12/-
78/44	4	10	28 oz.	2 1/2"	3 1/2"	2 1/2"	17/-

application in model boats when surplus batteries appeared in disposal stores.

Silver-zinc

The search for a higher performing secondary battery led to the silver-zinc design, promoted in the UK by the manufacturer Vanner in the 1950s and 1960s. The use of silver for one of the electrodes made them expensive, but enabled the manufacturer to claim they were half the size and one third the weight of a standard (presumably lead-acid) battery. They saw application in missiles and aircraft because of their light weight, but penetration of the modelling market was limited by their high cost, despite being welcomed by the practitioners of the rapidly developing fast-electric competition classes in the late '60s.

A Vanner Type H105 silver-zinc cell, by way of example (second smallest in the illustration), was rated at 1.5 volts and 1.5 amp-hour, measured 51 x 29 x 16mm and weighed 32 grams. Its cost in 1965 was

23s/6d (twenty-three shillings and sixpence), about £22 in today's money. This was for just one cell and you needed eight for a 12 volt capacity battery. Silver-zinc cells were found to have a short life in terms of the number of charge-discharge cycles before they showed a deteriorating performance, effectively making them even more expensive.

Nickel Cadmium

The nickel cadmium (NiCd) battery first became popular in the 1960s as a small capacity (150 to 500mAh) sealed button cell produced by the German company DEAC (Deutsche Edison Akkumulatoren Company). Assembled in a plastic-wrapped stack, they provided a rugged 6 volt, 12 volt or centre-tapped 4.8 volt supply, and were extensively used to power radio control equipment, particularly receivers and their associated servos. The nickel cadmium battery provides

a fairly constant 1.2 volts throughout its discharge even at high currents before falling away rapidly at the end.

Later the sealed nickel cadmium battery was produced in the same popular sizes as primary dry cells using a 'Swiss Roll' type of internal construction. It could not always be used as a direct replacement for the same size of dry cell due to its lower voltage, which for example required ten cells to make a 12 volt battery as against eight 'dry' 1.5V cells. The market for these batteries expanded greatly in the 1970s with the development of high-discharge, quick-recharge versions that made possible the era of the cordless appliance. Battery packs based on the sub-C cell became almost universal, initially offering around 600mAh or so, but steadily developed to give 2400mAh by the 1990s. The larger market brought increased production which drove down the cost of both the batteries and high-power motors, to the great benefit of model boat builders.



ABOVE: Wet-cell (left) and sealed lead-acid batteries.

RIGHT: Front to Rear: Compatible size Nickel-Cadmium (NiCd), Nickel-Metal Hydride (NiMH) and Lithium Polymer (LiPo) battery packs. These batteries are all the same physical size, matching the conventional R/C car 'buggy' pack installation.



BELOW: Vanner Silver-Zinc Accumulators, from the book 'Power Model Boats', 1956.



Fig. 66.—A selection of Vanner Silver-Zinc Accumulators suitable for model use

Nickel Metal Hydride

Good though the nickel cadmium battery was, it had disadvantages which included the use of the toxic heavy metal cadmium in its construction and led to concern about the amount ending up in landfill. This was addressed by the development of the Nickel Metal Hydride (NiMH) battery in the '90s, using a similar chemistry to the Nickel Cadmium battery (NiCd) but doing away with the need for cadmium.

Nickel Metal Hydride batteries offer a higher capacity than Nickel Cadmium batteries and freedom from the memory effect, but on the other hand, they suffer a higher rate of self-discharge. They have largely replaced nickel cadmium batteries,

manufacture of which is restricted or banned in several countries, and have been used in large numbers of hybrid electric vehicles. The capacity of a sub-C NiMH cell, popular in power tool and modelling applications, has risen from 3000mAh to 5000mAh over the last 20 years.

Lithium batteries

The various types of secondary lithium batteries – Lithium-Ion (LiIo), Lithium-Polymer (LiPo), Lithium-Iron Phosphate (LiFePO 4) etc. – have become the dominant high performance battery in recent years, following their introduction in the early years of this century. They have the highest energy



BELOW: C, D and AA size Nickel-Cadmium (NiCd) cells.

BELOW: DEAC Nickel-Cadmium battery sizes, 1964.

DEACs (NICKEL-CADMIUM)							
TYPE 225 — .25 A/H				TYPE 500 — .5 A/H			
No OF CELLS	1	2	3	4	5	6	
VOLTS	1.2	2.4	3.6	4.8	6.0	7.2	
225 LENGTH	.36"	.7"	1.1"	1.45"	1.8"	2.15"	
WT. OZ.	.5	1	1.5	2	2.5	3	
1" DIA. PRICE	6/8	14/8	21/8	28/8	35/8	42/8	
500 LENGTH	.39"	.75"	1.15"	1.5"	1.9"	2.3"	
WT. OZ.	1	2	3	4	5	6	
1.35 DIA. PRICE	10/-	22/-	33/-	44/-	55/-	66/-	

The indestructible sealed cell, now in improved version with press-stud end terminals. Matching press-studs. Capped 3/- pr. Standard 1/4 pr.

density of any battery type, not surprising perhaps as lithium is the lightest non-gaseous element. It is also highly reactive, producing a voltage of 3.7 volts per cell (3.4 for the lithium iron phosphate type). Some are capable of a 25C continuous discharge, that is 25 times the nominal capacity or some 135 amps for a 5.4 amp hour battery, with a short-term peak allowed of 35C equating to 270 amps! The truly amazing thing about them is that this level of performance comes at a price that is very competitive with other battery types.

The average marine modeller, unless he is serious fast-electric man, does not need this level of performance and may prefer to stick with a Nickel Metal Hydride (NiMH) or the SLA battery type, since weight is seldom critical and the latter don't require the same precautions to ensure safe operation. If combined with a brushless motor, however, a lithium battery can provide the performance of an internal combustion engine, which must seem utterly unbelievable to the modellers of yesteryear.

Boiler Room

Pipe Bending & Tools

When a critical club membership inspects your new steam plant all eyes will be on the pipework. Best get it right, says **Richard Simpson**



A friend of mine has just started along the path of building his first steam powered model and it's been very interesting to see just what sort of questions he's coming up with, and hence, what sort of areas he needs a bit of help with. I think one of the steepest learning curves he's going to experience at the moment is that of 'Pipe Bending'. I've discussed some of the aspects of this topic as parts of other articles over the years, but thought it might be time to include it here in Boiler Room.

I think pipe bending is arguably one of the most significant processes in the fabrication your steam plant and is something that can either make or break it. This being the case it's definitely worth having a look at what's involved to try and help us all make a slightly better job of it.

A small low pressure steam plant can get away with silicone piping, particularly on the exhaust side, however some may want the appearance of nice shiny polished copper, and if using higher pressures these will require copper pipes, **Photo 1.** For this article we'll consider copper as the pipe medium and how we can create a steam plant to be proud of as in **Photo 2.**

The layout?

At the moment I'm going to assume that all the considerations of access, ergonomics, ventilation and ballasting have been taken into account and that you've now fixed the layout of the major components of your model. This should, of course, include not just the boiler and the steam engine, or

even the more obvious accessories such as gas tanks and separators, but just as crucial the battery pack, electronics, servos and any control devices like attenuators and steam control valves. As we make the decisions which will ultimately dictate where all these items go, we should also consider what pipe runs will be required to join them together, so the layout of these is also part of the design process. As an example, a very long run from the engine steam outlet to the separator, or a long run from the separator to the funnel, can lead to excessive condensation being created in the pipework and possible challenges with flow or excessive discharge of moisture with the exhaust. Good lagging will help to reduce this, but short pipe runs are

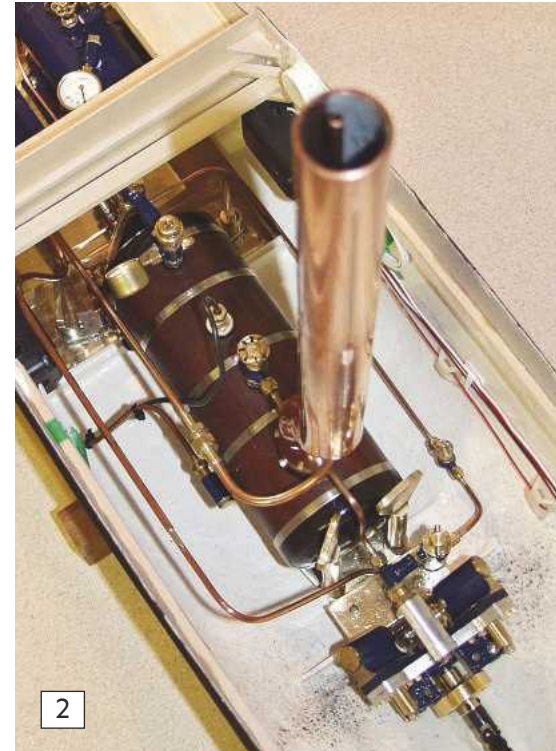


Photo 1. Well-made pipe lengths are essential for reliable, safe and easy operation of the plant. It's certainly worth taking a bit of time to find out how to do the job properly.

Photo 2. An enclosed hull demands the best pipe runs you can design and can be especially challenging. You really don't want to burn the back of your hand every time you open or close the main steam valve!

Photo 3. A typical range of burners, both gas and petrol, should cover your pipe bending requirements. These burners should also cover you for silver soldering pipe fittings, so they're a worthwhile investment.





Photo 4. Vermiculite is very light, an effective insulator, and readily available from model engineering suppliers. Avoid brick, concrete or anything else you may find in the garden if you want to prevent hot shards of brick flying around.

an advantage. Access to valves for operation, bearing in mind the proximity of hot surfaces, may also determine pipe runs, but again I will assume we have taken all these relevant considerations into account and we are ready to join the bits and pieces together.

There are one or two specialist tools that you may find useful for your pipe bending which we'll deal with when we discuss the three main processes: heating, bending, and cutting.

Heating

If you're serious about steam plants you may already have a suitable form of heat generation available which, of course, you'll need for silver soldering pipe fittings. However, as with so many things you might just need to expand your inventory. When heating pipe for bending, you need to be able to get the area of the bend to a cherry

Photo 5. Proper pipe bending tools are the best option and should last you forever. The springs on the left of this picture can be a bit of a challenge and seem, to me, not the most effective tool for the job.

Photo 6. Any sort of former can be used to bend pipe but it will not prevent collapse of the tube being curved so you're limited to large diameter bends and the smaller diameter pipes.



red, so basically the larger the pipe, the greater the heat source you will need. Small 1/8 inch diameter pipe can be successfully heated by small petrol burners or even on a gas cooker ring, but large pipe diameters will require something a bit more substantial.

Plumber's gas torches should be more than enough for our purposes, but do not fall into the trap of using too much heat for small pipes. You can burn the copper with over enthusiastic heating, so reaching a cherry red is more than enough. **Photo 3** shows a range of suitable heating tools.

It's also important to consider where you are going to heat the pipe, and for this it's well worth getting your hands on a few bits of Vermiculite. This is available though many model engineering outlets or even wood burning stove suppliers. My own large piece was a wood burning stove lining that arrived broken, and so it promptly got whisked away to the workshop, **Photo 4**. Do not make the mistake of thinking that bricks or concrete, such as that from the domestic garden, will do, as they have the ability to absorb moisture. This will then convert to steam when heated, which has the potential for propelling small shards of brick and concrete across the workshop as the material fails under pressure. I would, therefore, strongly



end up opening the bend to remove the spring and then having to close it again without it fitted, risking a 'kink' in the process. I tried, without success, to use them regularly but gave up in the end and have since confined them to the bottom of the tool drawer.

Miniature pipe bending tools

These are by far the best way to bend a piece of pipe, however it can be a bit of a challenge to find a set that will do the really small diameter pipes. That said, they are easy to use and tend not to 'kink' small bore copper pipe. I have a couple of these tools which cover most pipe sizes found in model steam plants and while they took a bit of finding they'll never wear out. So, as long as I don't lose them or lend them, they should easily outlast me!

A former?

Don't forget that you could simply use a former as in **Photo 6**. A very useful tool, anything you have to hand of an appropriate diameter and shape could prove useful but it will tend to allow the pipe to flatten as it's bent. This being the case it might be best used only when bending larger diameter pipes.

Cutting

The last main consideration is 'cutting' and again there are a couple of possibilities. For small diameter pipes it is surprising how effective a Stanley Knife can be if used correctly, **Photo 7**. There are still those who use the electrical cable side cutters found on pliers, and then try to open out the crimped end of the pipe by compressing it the other way in a vice. This is never going to end up with a neat and square cut, and various means of further hacking the end of the pipe will be required to try to get the fitting onto it. Not unsurprisingly, I strongly advise not to cut any pipe this way. Another means of destroying the end of the pipe – that will almost certainly require more time to implement and rectify than you might have saved by doing it properly – is by using a saw. No matter how fine it may be my recommendation is to avoid this.

The best way to cut a pipe is – surprise, surprise – with purpose made pipe cutters, **Photo 8**. These leave a neat and square cut end without deforming the pipe and ensure it is prepared to fit straight into whatever brass fitting you are going to solder to it. The only challenge is that they might be too big for the very small pipe diameters we tend to use, but in conjunction with a Stanley Knife a proprietary cutter should cover just about every situation that you'll come across.

Back in a bit

Next month we will look at the operations involved in pipe bending and how to achieve the neatest bends, as well as looking at one or two useful 'cheats' along the way.



recommend Vermiculite, which you should keep safe and secure in a dry location.

Bending

There are a number of bending tools available, although do note that some are more effective than others. There are also those who may advocate filling the pipe with sand and blocking off the ends before bending, however in small bore pipes this is very limited in effectiveness and again there's the potential for something unpleasant happening if the sand isn't completely dry. The main tools for bending are usually springs as displayed in the left of **Photo 5**, and to the right of the same picture is a miniature pipe bending tool.

Photo 7. Stanley Knives are surprisingly effective for cutting pipe if used correctly and for very small diameter pipes such as 1/8 inch they are basically the only option.

Photo 8. Proper pipe cutters do the job correctly and give the best finish to the end of a pipe. Their roller blades do eventually start to get blunt (and may require replacement) but if used properly, should last for many years.

Springs

These simply slide over the pipe and support the diameter of the curve while you bend it. The problem with them is that the diameter has to be a perfect fit on the pipe to be effective, however when they are a 100% fit, you cannot get them off again after you've completed the bend! Consequently, you can

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The easy way back

Ron Rees describes a Simple manual switching device for reversing a forwards-only brushless speed controller

I read with interest the Mooring Post article by Barry Martin in the July 2017 issue of Model Boats. Reversible brushless speed controllers for model boats, especially the higher amperage ones, can be very expensive, whereas 'forwards only' ones are quite reasonable and easy to buy. This, then, is why Brian's practical article caught my eye. After some thought, another cheap and relatively easy and efficient way to 'switch' a brushless motor came to mind, this by using a 40p on/off switch such as the standard DPCO (Double Pole Centre Off) switch (22 x 13 x 8mm) from the Component Shop. However, and this is a major note of caution, one must be mindful of the likely current to pass through such a DPCO switch, the terminals of which may only be rated at 0.5 amp and 50 volts. A similar system is used to switch lights on and off at the top and bottom of your domestic

stairwell. It's called 'two way wiring' and uses three wires instead of two, but, of course, the mains switches are rated for 220V and usually for around 400 watts or more.

We rarely use all six terminals on our switches, but in fact each side is separate from the other and they can be configured to do more than just switching on and off a circuit. Preferring to call this double-crossover switch wiring, it allows you to reverse the polarity of two wires by sliding the switch from one side to the other, a task that can easily be done using a servo and the Auxiliary or Retract switch on your transmitter, assuming that it has one. This article uses a combination of photos and diagrams to show the device and how it works.

Making the switch

Using cable of 14swg (mine is from the Component Shop), follow the sequence described here to carefully solder the switch contacts and crossover wires. A protective dollop of hot melt glue over the wiring at the end will help it all stay safely in place, but I do recommend you test the wiring with a digital meter before installing it in your boat to make sure nothing is touching something it shouldn't.

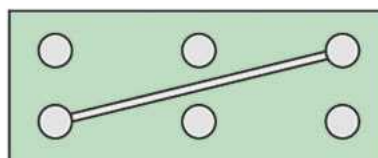
Operation

The forwards only speed controller set-up will normally need the throttle lever on the transmitter at the bottom for 'stop'. So the action is to bring throttle lever to 'stop', flip or press and hold the Auxiliary or Retract switch to activate the servo to reverse the power supply to the motor and then bring up the throttle stick for thrust to be resumed, all rather like the real thing if we think about it. In truth, this switching device may also have other applications in our model boats.

The major caveat with this switching method is that you must consider the current that will be passing through the switch contacts when the brushless motor is running. You must also check that the switch specification and its rating is suitable for your motor and its power demands. For me, using as I do, small low wattage brushless motors in small lightweight boats, the 40p DPCO switcher has been fine, but please bear this last caveat in mind.

I hope you find the device useful, my feeling is that it must surely have other uses, perhaps in the operation of functioning davits or capstans? I look forward to seeing what you come up with.

PHOTO 1

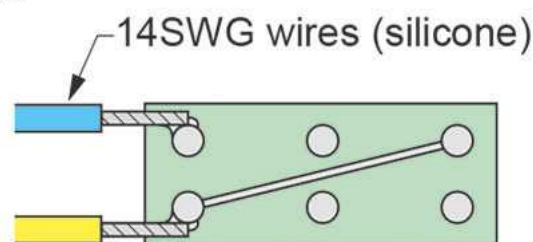


1. Solder bridge

Photo 1

Using the bare copper core from 1.5 twin household cable, solder a bridge diagonally across from one end switch terminal, the other end of the bridge at the opposite end and side, (**Diagram 1**). This must not touch the centre pins of the switch and keep it as low down as you can on the terminals, or you will not have enough space.

Prepare and tin the ends of two pairs of different colour 14swg silicone insulated cables each about 4 inches long, plus one length of a third coloured cable of about 9 inches in length. This last cable is the continuous line and is used to help insulate the two sides of the switch. Solder the two different coloured wires to the outside of one end pair of terminals (**Diagram 2**).



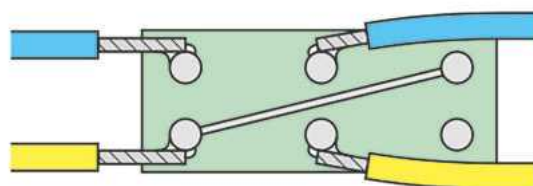
2. Solder 2 wires to one end

Photo 2

Solder the other two different coloured wires to the outside of the centre pair of terminals trailing off in the opposite direction to the first pair; sort of, in and out wires, if you like (**Diagram 3**).



PHOTO 2



3. Solder 2 more to centre pins

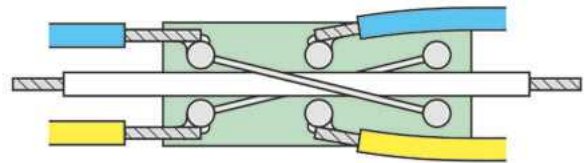
Photo 3

Lay the third, longer, different coloured wire through the centre of all the terminals (**Diagram 4**) and solder the second bare bridge wire over the centre one and connect it to the last two bare terminals at each end of the switch (**Diagram 5**). This locks in the

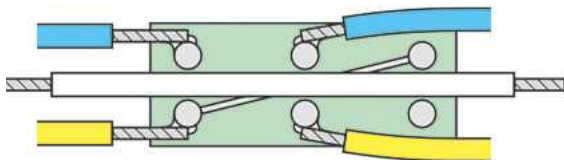
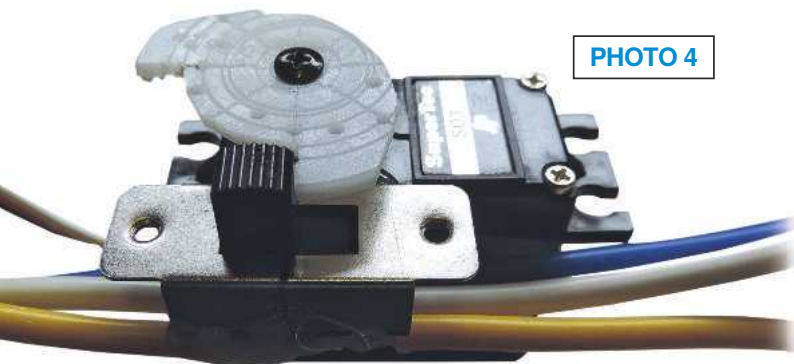
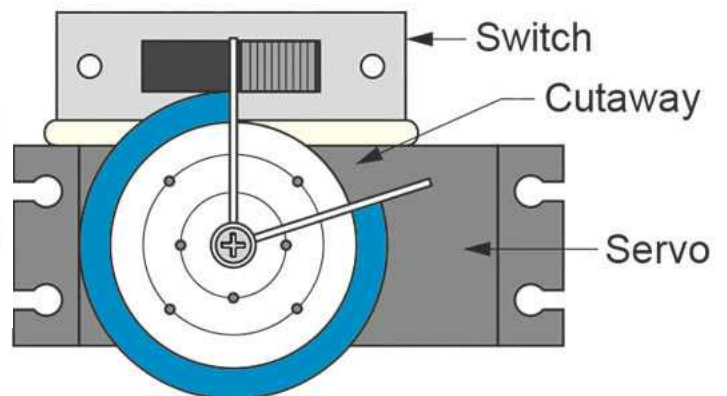
centre wire and, of course, should not touch any of the other terminals.

Examine all the soldering and ensure there are no hairy bits or excess solder anywhere it shouldn't be. Test the switch; a simple battery and small motor can be used if you do not have a meter. When the switch

is operated the motor should turn the other way, a bit of coloured tape on its output shaft may help. Once conformed that it all actually works, coat all the terminals with hot melt glue for added security and do not get any of this inside where the slider and contacts are located.

**PHOTO 3****5. Solder 2nd bridge & fill with hot glue**

Without centre wire can be used to reverse brushed motors - bow thrusters, turrets etc. It doesn't matter which way round it goes, motor or ESC wires can be connected either way.

**4. Put 3rd wire through between terminals****PHOTO 4****PHOTO 5****6. Glue to servo (hot glue) & fit large disc with cutaway to match movement****Photos 4 & 5**

Using a normal (cheap) servo with its largest disc, mark the disc where the throw of the servo starts and finishes, and cut away the waste between them leaving a flat surface at the end of each cut to contact the switch toggle. Test the servo, disc and switch before gluing them

together and trim away any further excess if necessary. The test switch was glued straight to the side of the servo using hot melt glue (**Diagram 6**) and the two photos show how the servo output disc moves the switch toggle. Finally, fit terminals (plugs) to match those where the ESC normally joins to the motor wires.



Ellesmere Port Model B

Dave Wooley reports from Hooton Park Aerodrome

This club has a new operating facility at Hooton Park Aerodrome, which is very close to Ellesmere Port in Cheshire. I was asked if I could go along to their new water in September 2017 and also record the Centenary Commemorations for this aerodrome. Hooton Park was established on 10th September 1917 for the Royal Flying Corps and today it is the home of the Hooton Park Trust, which was formed in 2000 to preserve the Grade Two listed hangars, surrounding buildings, aero engine workshops and the small aircraft museum. The occasion was celebrated by the unveiling of a plaque by the Mayor of Ellesmere Port, Nicole Meardon.

The club

After nearly 25 years it became necessary for the Ellesmere Port MBC to relocate from the Waterways Museum, although this new venue couldn't be better, it being only a very short distance from the previous site – by the M53 – just up the road. The club has been allocated space close to one of the hangars, on which the members have built a temporary pond, but also have permission to expand the size of it in due course. The simple and effective expedient of bales of hay with a good pond liner have been used to create this and whilst this is early days, with the co-operation of the Hooton Park Trust the club hopes to establish a more permanent facility in the near future.

Ellesmere Port MBC has seen a rise in membership recently, this due in no small part to the fact that the new pond and site offer excellent access for models and much easier launching facilities than the previous site. As you'll see from the photos herein, even on this relatively small pond the club is able to use its huge tows not least a 12ft container ship and similar size tanker. The site has good parking

BELOW LEFT: Somewhat unusual, this radio controlled skip (complete with Bob) is exceptionally good at manoeuvring.

BELOW: On the Hooton Park Trust site is this RAF High Speed Launch (2552), now being prepared by owner Chris Millar for full restoration to its original appearance. The hull was recovered in 2012 from the Leeds to Liverpool Canal.





LEFT: The new pond is a decent size and will probably be expanded in due course, the gazebos and humans(!) give an idea of its current volume.

RIGHT: After unveiling the 100 year commemorative plaque, the Mayor of Ellesmere Port, Councillor Nicole Meardon, together with Graham Sparks, Director of Hooton Park Trust, visited the newly established pond.



RIGHT: Whilst tugs are popular in this club, all types of model are actively encouraged, large and small.

oat Club

adjacent to the pond and, of course, can boast the other facilities of Hooton Park.

The future

Hooton Park has four hangars, one of which can be used for exhibition purposes. This is a vast open space with the added bonus of excellent access and a 'drive in – drive out' facility. It is hoped that in the near future, Hooton Park Trust and its now resident club will be in a position to host model orientated open events. For the present though, the club is working hard with the Trust to establish a valuable presence that will not only help themselves, but be a positive asset when promoting the activities of the site as a whole.

Ellesmere Port MBC and Hooton Park Trust

Steve Clubbe, Secretary Ellesmere Port Model Boat Club
Email: ministeve72@live.co.uk

Hooton Park Trust
The Hangars, Airfield Way, Ellesmere Port, CH65 1BQ. Tel: 01513 273565
Website: www.hootonparktrust.co.uk

Director of the Hooton Park Trust
Email: gsparkes@hootonparktrust.co.uk



RIGHT: Steve Clubbe (right) is Secretary of the Ellesmere Port MBC and is always happy to chat. If you're looking for a friendly club in the local area, do drop him a line at the email address below.



BELOW: Although temporary, the pond is of sufficient size to accommodate the large tows that were a popular feature of events at the Waterways Museum. Little wonder there's a large interest in tugs!



Auld Reekie

The Calverley Puffer

Bryon Calverley's interpretation of the classic coaster is a feast for the eyes

Readers will doubtless remember Bryon's Elbe 1 in the November 2017 issue of Model Boats and this is another of his fantastic models. Many years ago he visited the local model boat club hoping to be inspired and to complete his transition from R/C model aeroplanes to boats.

On arrival he met the club president, a gentleman in his senior years with a distinct Scottish accent and an obvious passion for the hobby. He was sailing a small Clyde Puffer and Bryon was immediately attracted to the model. Sensing Bryon's enthusiasm, the suggestion was made that this might be a suitable project, as good plans were readily available.

Bryon gratefully accepted and after sailing for a time, they spent the better part of an hour discussing the history of the Clyde Puffers, small cargo vessels which operated for almost a century. The design dates back to the 1890s when they transported a variety of cargoes to local populations along the River Clyde and in later years to the communities in the Hebrides. The Royal Navy also found that these Clyde Puffers were ideal support craft and employed them during both the World Wars of the early 20th Century.

Bryon was now highly motivated and started planning his project, which was to be a much larger version than that seen on the pond. Four short months later it was ready, whereupon the model was duly launched with the club president in attendance. Sadly,

he passed away soon afterwards, but Bryon owes a debt of gratitude to him for starting his now in-depth interest in the model boating hobby.

On the basis that pictures tell a 1000 words, Bryon hopes the accompanying images convey to you some of the external features of this fine R/C model and he extends a big 'Thank You' to John Callin for the photographs and his support with this and other projects.

Potted history

One of only three surviving 66ft steam puffers in Britain, Auld Reekie was launched in 1943 as VIC 27, the VIC (Victualling Inshore Craft) designation being applied to the W.W.II derivative of the Clyde-built puffer that proved to be the lifeblood of communities on the Scottish west coast. After the war VIC 27 became a youth training vessel, was named Auld Reekie – a nickname for Edinburgh that originates from the once pungent mix of





sewage stench and smog in the Old Town – and enjoyed a period as a TV star in the 1994 series *The Tales of Para Handy*. Following TV stardom her fortunes turned and she was left to rot in the Crinan basin. Fortunately, after one failed attempt to save her she now resides at the Crinan Boatyard in Argyll where restoration is well underway.

If you'd like to keep abreast of developments you can see more on the supporters website at: <https://vic27.co.uk>.





MOORING POST

Glynn Guest is back with more tips 'n' tricks for modellers

The case of the cracked... er... case

Whilst selecting a rudder servo for a new model, I noticed something odd as one servo was missing the mounting lugs at one end of its body. Closer examination showed that the upper part of the servo, which featured these lugs, had fractured in a brittle fashion. In essence the lug had separated into two halves, each of which contained one of the rubber mounting grommets plus a couple of slivers of plastic. It was a brittle fracture because all the parts could be refitted to the servo to create the original shape with no sign of plastic deformation. This was both worrying and puzzling at the same time. You see, my servos generally lead a sedate life as rudder linkages are installed with the aim of achieving smooth and free movement. Also, this servo has never been subjected to excessive force that high powered models or accidents might create, plus I was sure it was never removed from a model in this damaged state.

Using a magnifying lens, the lug on the other end of the servo was carefully examined and fine cracks could be seen at both sides of

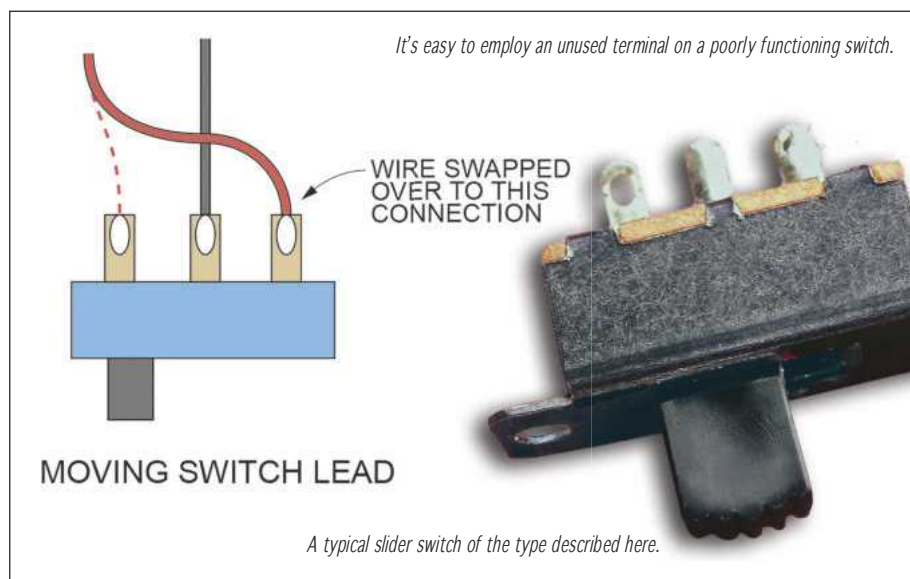
this lug too. A second identical type and make of servo was quickly checked and this too displayed fine cracks in both servo lugs. Then followed a session of checking all the servos in stock which came from a wide range of manufacturers. Thankfully no further signs of cracked mounting lugs could be detected.

I'm not sure when these two servos were bought, maybe 10 years ago. Even so, their age ought not to be a factor since servos two to three times this age are still perfectly sound. As mentioned before, neither servo had been subjected to abuse, so all these factors are leading me to suspect the plastic material used to make the servo cases. It does appear to be more glossy and perhaps harder than the rest of my servos.

I'll admit that the two offending articles were not supplied by one of the large and well established R/C manufacturers. I'm not going to name the brand since it could well be a one off incident, indeed other servos from this source have given flawless performance. Whatever the cause of this mounting lug failure, it is another thing to be aware of and check. Luckily, most of my rudder servos are securely fitted into wooden mounting blocks or between rails and the screws in the mounting lugs have very little to do.

The failed 10 year old servo case. Since a replacement servo can be bought nowadays for half the price of this one, this is not a financial disaster, but from an installation point of view, it's well worth checking the case of an old, otherwise satisfactory, unit.





by the grandson, dad and granddad. Anyway, he recently brought it with him on a visit, saying, 'Granddad can you mend it'? Luckily it was just the stabilising bars that needed straightening, but whilst testing it I noticed that the ON/OFF switch was erratic in operation. It was a simple slide type switch and, knowing that several were to hand – well somewhere to hand that is – I persuaded him to leave it with granddad to fix.

Yes, I had quite a few slide switches, but all were too large for direct replacement. I was just about ready to improvise something when a flash of inspiration hit me. The switch was of the type with three connections, the centre one being common that could make contact with either of the end connections. If it was the end connection that was dodgy, then it was only necessary to swap the wire over to the other, previously unused contact. A few minutes with a soldering iron had the job done and it worked perfectly. The switch, meanwhile, was turned around when refitted into the helicopter so that its operation still matched the ON/OFF markings.

This switch repair idea could be useful on any R/C model, possibly also in other areas with appropriate care. As always, though, if you don't fully understand what you're dealing with, don't do it!

Now we've just got to master making the helicopter fly where we want it to go. The dream of flying it on and off the flight deck on a model warship is still a long, long way off.

About turn

Having failed with our two daughters, I'm now trying to get our grandson interested in an engineering career. So far it seems to be working and making something in granddad's workshop is a regular activity when he comes to stay.

When he asked for an R/C helicopter as a Christmas present, one was promptly ordered. I did not want to buy one of the ultra-simple toy helicopters but instead selected a robust looking model and, I'm pleased to say, so far it has resisted the abuse inflicted

Glass cloth – OTT or Belt & Braces?

It seems to be quite the rage nowadays to finish off a wooden hull with an application of glass cloth and resin. This can produce a beautiful smooth finish that's perfect for some models and I'm thinking of those that have a superb high gloss planked hull and deck to display. Of course, there's no denying that such hulls would be more resistant to the accidental dings, dents and scrapes that can be inflicted on R/C models when sailing and to be completely honest, some of us can cause such damage when we are working on or transporting our models under supposedly safe conditions. All that said, I can't help but think that sometimes this is all just extra

work added on a 'belts and braces' principle. I've heard people claim that this extra coating will strengthen the model but most are already overbuilt to some degree. Unless you plan to ram a concrete landing stage at full speed, little extra strengthening seems to be needed.

Making sure the hull is watertight is another reason given for the glass cloth and resin coating, but I'd feel happier if the basic hull were sound and watertight to start with. It seems better to develop good building skills and techniques rather than rely on a final top coat to keep the model safe.

On the flip side, I'm sure we've all had a model which hasn't quite worked out the way we would like and some recovery work

has been needed before it could be safely sailed. In this case GRP could easily be your saviour and much better than jumping on the offending item!

So, I'd advise anyone who's thinking of applying a glass cloth and resin finishing coat to ask the question; 'Does the model really need it'? If not, then the conventional wood preparation, sealing and finishing method may be good enough and possibly quicker and cheaper too. It is also worth pointing out that whilst a good glass cloth and resin finish can enhance the appearance of a model, a poor one could spoil the appearance and lead to a lot of hard rectification work.

Lighten up

Over the past few months I've been following some readers' problems with models based upon full-size high speed launches. The difficulties have been that the models are not as fast as expected, run quite dirty with spray thrown all over the place and have other handling problems. Spray strips added along the edges of the

hull chines have been suggested and can usually make the hull run cleaner too. Spray strips may also ameliorate the other two problems, but they are at best a palliative rather than a true answer to the problems of these models.

The poorly performing models sit low in the water and when accelerating from rest clearly struggle with pushing water out of the way rather than smoothly rising on to the plane. This is all characteristic of models that are overweight. Yes, given enough power

they will plane, but at the slightest loss of speed such as when entering a tight turn, they drop off the plane, start to wallow and maybe do a few other naughty things.

Light weight has to be designed and built into such a model at the start as trying to remove excess weight from a completed craft is significantly more difficult. Models ought to be just strong enough for their purpose, remembering that what you do not put into a model, does not weigh anything, cost anything and cannot fail.

OUR MONTH

An occasional peek into the dusty back rooms and darkened corridors of Model Boats magazine



Darkness descends

Given that we're based 'down south' one of our local boating spots is Mote Park in Maidstone, home to the Cygnets Model Boat Club and, in recent years, a rather tidy Lottery-funded regeneration project that's tidied things up no end and given the club a new enclosure. Anyway, on the 29th October, on the night the clocks changed and the cold winter nights were ushered in, the Cygnets' scale cognoscenti gathered for a twilight sail. Sadly, earlier rain dampened the turnout however those who braved the weather were rewarded with an impressive spectacle and flat-calm conditions. Pictured at anchor is Jonathan Atkins' tug Chienne Noire. Actually, we'd like to thank Jonathan for his patience and delicate throttle control while snapping this particularly long exposure shot – www.cygnetsmbc.org.

Weapon of choice

In light of the huge popularity and growth in the DF racing class our new editor decided that he ought to take a closer look. So, reasoning that there was no better way to 'look' than to actually 'do', he went out and bought himself a DF95, screwed it together one weekend, then joined the newly-formed East Kent Radio Sailing Club, whose chosen weapon, it should be noted, is the DF95. Anyway, to cut a long story short, he's been having a ball and has clearly fallen on his feet with the EKRSC, a friendly, welcoming bunch of chaps led by Andy Gower, who's put a lot of work into securing a cracking bit of water and getting the club off the ground. There's a tale or two to tell here which, Graham tells us, he intends to scribble for a future issue.

ABOVE: Members of the newly-formed East Kent Radio Sailing Club (Ashford) – A great bunch of lads.



Membership of the EKRSC is rising all the time and currently stands at 11.

Shop 'n' sail

It wouldn't be right to mention Ray Wood's Freeman 22 (opposite page) without thanking the ladies and gents of the Chantry Model Boat Club who couldn't have been more accommodating of our fussy photographer. Special mention must go to chairman Dave Best, for allowing us sail right through till kicking out time, and also to Roger Flaherty who very generously handed us the transmitter of his lovely three mast schooner, Soaring Eagle. To say it sails well is something of an understatement. If you live in the vicinity of the Bluewater Shopping Centre in Kent you really ought to consider joining the Chantry crowd at their small but perfectly-formed pond. Tugs and sailing boats seem to be a speciality of this club, but that's not to say a good mix of other craft weren't evident. Good parking, good access and some great club facilities add to the attraction, as does the opportunity to let the family shop while you sail – www.chantrymodelboatclub.co.uk.



Soaring Eagle is Roger Flaherty's own-design three mast schooner – take our word for it, she sails beautifully.



Plastic fantastic

On Sunday 5th November we packed the editorial Fairwind III and Mk.1 Brownie and made our way to the Chantry Model Boat Club. Mission: to photograph Ray Wood's new Freeman 22 cruiser. Ray has a habit of designing endearing model boats and this one certainly didn't disappoint. Anyone who's familiar with the late '50s glass fibre Freeman class will instantly warm to the soft lines of Ray's 22" long 1/12-scale recreation. We love it and we're going to give you the plan, for free, in the first half of the new year. Might we suggest a subscription so you don't miss out? Just a thought.



TOP: As Ray recounts in his build article: "My first boating holiday experience was on the River Medway with my parents and sisters back in the '60s aboard a hired Freeman 22 cabin cruiser."

ABOVE: Keep an eye out for the FREE plan in the first half of the new year.



ABOVE: Since Sea Breeze is so relatively easy to build it's supplied sans plan with a simple set of instructions for guidance.

A gentleman's launch

A household name in the model aeroplane game, SLEC Ltd. has recently taken on the Vintage Model Boat Company range and seems to be doing really rather well with it. These are good-old traditional ply kits that, apart from an update in manufacturing technique, haven't changed in decades. Laser-cut interlocking keel and bulkhead parts, chine stringers, ply skins, you know the score. Anyway, we've stolen a few for review the first of which will be the classic Sea Breeze which, as you can see, is taking shape rather nicely. Stay tuned and we'll bring you the full review soon – www.slecuk.com.

BELOW: Our review sample taking shape.



PHOTO COMP



In a recent Facebook post we threw it open for you to send us photos that depict your favourite model on the water, the idea being to feature the best shot on our Facebook cover spot for a period of weeks and award a free subscription to the winner. Well, the response was really rather good, a host of images were posted on Facebook and to the website forum link and at time of writing we're genuinely scratching our heads to see if we can pick a winner. As you'll see from the shots here, it ain't an easy job. When we've picked a winner, you'll be the first to know.

Test Bench

A round-up of all the latest kits, books and blingy bits

FREE LUNCH!

Test Bench is a service that we provide free of charge to manufacturers, distributors and retailers of model boat-related product. Covering all disciplines, anything from books to balsa is accepted for these

pages. To submit material, email the editor via editor@modelboats.co.uk and make sure to include all relevant text and pricing information along with high resolution images. That's all there is to it. Don't let anyone tell you there's no such thing as a free lunch.

3.5" Vertical Boiler

It is always a good start to a day by receiving something interesting through the post, such was the case when this lovely boiler arrived. This particular version is a 3.5 inch vertical boiler and is an example of Pendle's new and rapidly expanding range of model boilers, extending from a 2.5 up to a 5 inch version, all manufactured in both horizontal and vertical configurations.

Boilers can be supplied as fully equipped with fittings – referred to as 'mountings' in the full-size marine boiler world – or completely bare, enabling the modeller to tailor the boiler to his or her own tastes. The example received came without fittings, but was fully furnished with the required bushes to accept whatever configuration you choose. Most bushes are 1/4 x 40 tpi with the safety valve bush on the top being 5/16 x 26 tpi to make it easy to accept most readily available fittings. The great beauty with Pendle is the fact that, not only will they fit bushes of whatever thread you prefer, they are also prepared to fit the bushes in exactly whatever location you require. Even the

bare boilers come complete with proprietary burners and nozzles, which do not use the normal ceramic inserts to distribute the gas but rely instead on drillings in a brass disc with the air administered through fine slots in the burner walls.

Inspection of the boiler reveals a very neatly manufactured silver-soldered shell with very clean solder fillets around the bushes. This boiler feels heavy to hold, which will obviously be increased when mountings are added, so would be best suited to a large open hull with a good reserve of buoyancy. Looking closely inside, the flue reveals a considerable number of cross tubes, which should help with good heat transfer and the burner sits on a good size fire box.

Contrary to normal practice with ceramic burners, i.e. where the burner sits in the base of the fire box, the Pendle item



ABOVE: The gas is distributed through drillings in a brass disc in the burner so replacement of the ceramic is not going to be required.

is mounted on the side of the fire box so the flame is directed across the box rather than through the tubes. It will be interesting to see how it performs and how effective the burner is in use. Current prices as of October 2017 are shown below:

Please note the boilers are not lagged nor is there any paint on the end plates so the

modeller must decide how the external surfaces are to be finished. All boilers are supplied with pressure test certificates. Pendle also offers a complete bespoke boiler design service, based on a modeller's projected preferences, enabling a perfect match to a hull, propeller and engine requirement. This service comes at no additional cost making them extremely flexible and cost effective.

For further information Pendle Steam Boilers can be contacted on tel. 07452 875912 or found online at www.pendlesteamboilers.com – **Richard Simpson.**

3.5 inch vertical boiler:	£385 (fully fitted)
	£285 (no mountings but including the burner, jet and holder)
2.5 inch horizontal boiler:	£285 (fully fitted)
5.0 inch vertical boiler:	£599 (fully fitted with twin flue and burners)

Wartime Standard Ships

In the two World Wars, there arose a pressing need for merchant tonnage, both to supplement existing ships and replace those that had been sunk by enemy action. The key to the Allied strategy was a massive programme of merchant ship building; this gave rise to a series of standard designs with increasing emphasis on prefabrication and progression towards welded hulls. In this new book, the author, Nick Robins, tells the remarkable story of the design and construction of the many vessel types that not only contributed to their country's war efforts, but were also responsible for a cultural change in world shipbuilding that would lay the foundations for post-war industry.

The story begins in the First World War with the National cargo ships which,

of course, were the first examples of prefabricated construction. However, the best known of all wartime standard vessels were the Liberty ships of World War Two and their successor, the better equipped Victory ships, both built in the United States. Some 2700 Liberty ships were launched and this incredible achievement undoubtedly saved the Allies from losing the war. Germany and Japan also introduced standard merchant shipbuilding programmes and these are also covered in detail.

In this, the first single-volume history of these ships, the many different types



and designs, together with an appropriate technical, political and military background, are all explained, while the design criteria, the innovative building techniques and human element of their successful operation at sea are also covered. Thoroughly recommended reading for cargo ship modellers and enthusiasts.

Written by Nick Robins. Hardback, 177 pages, 254 x 195mm, 190 mono photographs, line drawings, and shipyard plans ISBN: 9781848323766, price (RRP) £25.00. Published by Seaforth Publishing. Tel: 01226 734222, website: www.seaforthpublishing.com. Available direct from the publisher or through the usual retail outlets – **John Deamer.**

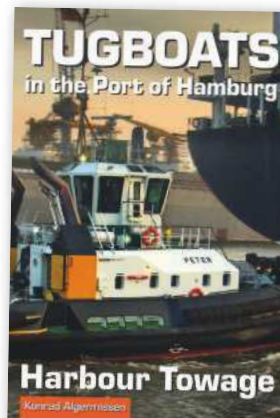
Tugboats in the Port of Hamburg

The writer, illustrator, tug modeller and enthusiast Konrad Algermissen, has published a number of books and model plans on and for the harbour and mooring tugs that operate on the River Elbe and in the Port of Hamburg, in his native Germany. This, however, is the first of his books that have been translated into English.

In this fascinating work, Konrad features some 46 vessels, the majority being harbour tugs with some mooring tugs (and even an Emergency Rescue Tug, the Nordic), operated by companies like Buggsier, Fairplay, Kotug, Lousis Meyer, Lütgens & Reimers and Petersen & Alpers.

Throughout the book there are photographs of each of the featured tug's

handling vessels of varying tonnage, from the new Cunard Queen Mary to car carriers and container ships, with accompanying text describing how the various tows are successfully accomplished. He then takes us on a photographic tour of each tug, from the wheelhouse to the engine room (including the workshop), from the towing winches, to the galley and crew accommodation, with detailed close-up views of the machinery, equipment and controls, as well as describing what life is like for the crew of a modern harbour tug. Each 'tug feature' concludes with a 'Key-Data' section which details the technical specifications of the tug and its equipment, together with a scale



drawing of the vessel's full profile, both above and below the waterline.

In conclusion, this truly is a book written by a tug modeller and enthusiast for tug modellers and enthusiasts. With hundreds of photographs, illustrations, diagrams, maps and data sheets, it is, without a doubt, one of the most interesting 'tugboat' books I have ever read! Thoroughly recommended.

Written by Konrad Algermissen, softback, 192

pages, 230 x 155mm, over 480 photographs, illustrations, diagrams and maps in colour and mono. ISBN: 9781537546063. Price £26.95 (UK) \$35.90 (US). Published by only by Amazon: www.amazon.co.uk or www.amazon.com (US) – **John Deamer.**

US Navy Escort Carriers 1942 - 45

Escort carriers made an enormous contribution towards the Allied Victory both in the Pacific and Atlantic theatres of World War Two. Rather than relying on size or speed, it was sheer numbers that made them effective. Indeed, the Casablanca class of escort carrier was the most-produced aircraft carrier in history. US Navy escorts played an important part in Allied anti-submarine efforts in the Atlantic and in 1943 were instrumental in irrevocably turning the tide of the war against the U-boats. In the Pacific, they provided air cover for a series of amphibious operations which, by 1945, lead to the shores of Japan. In this role they faced Japanese air, submarine and kamikaze attacks, and in the famous battle

off Samar in October 1944 they fought a heroic action against a powerful Japanese surface fleet.

This new volume by naval historian Mark Stille, with illustrations by Paul Wright, details the evolution in design, war history, weapons, aircraft and tactics of the US Navy Escort Carriers. In total, 86 of these vessels were built and commissioned from 1942 to 45. They included the Long Island Class (2), the Bogue Class (11), the Sangamon Class (4), the Casablanca Class (50), and the Commencement Bay Class (19).



This is another, reasonably priced and extremely informative book from Osprey in the New Vanguard Series (251), that shines a new light on these unjustly overlooked workhorses of the US Navy. It will certainly appeal to both warship modellers and naval historians alike.

Written by Mark Stille and illustrated by Paul Wright. Softback, 48 pages, 248 x 185mm, 53

photographs and illustrations in mono and colour. ISBN: 9781472818102, price £10.99. Published by Osprey Publishing Ltd., UK, 44+ (0)1865 727022, website: www.ospreypublishing.com. Available direct from the publisher or through the usual retail outlets – **John Deamer.**

S.S. New Fawn

Based on a glass fibre hull with plating and port detail moulded into the surface this brand-new kit from Dean's Marine features laser-cut 1.5 and 1.0mm high impact plastic sheet deck and cabin parts, plus a full set of fittings in cast alloy resin. Add to this vacuum-formed ship's boat hulls, a full-size plan, prop and prop shaft and, of course, a comprehensive set of instructions and this 1/48-scale 860mm long Cargo / passenger vessel should be a joy to build.

The S.S. New Fawn was built in May 1923 by Fullerton's of Paisley to replace her predecessor the S.S. Fawn, which was struggling to cope with the increased post First

World War excursion traffic and cargo volume from England to the Channel Islands. With her bluff hull she had no pretensions as to speed and could manage 10 knots on a coal consumption of 6 tons per day. She had a saloon for 50 first class passengers, while her Board of Trade Certificate No. 2 (winter service) permitted the carriage of 168 people. Certificate No. 3 (summer service), meanwhile, increased this to 200 people. In addition she had a cargo capacity of 10900 cu. ft.

S.S. New Fawn was used extensively in the evacuation of the Islands at the outbreak of W.W.II in May and June 1940, before sailing to England for the



duration of the conflict. She did not return and it is believed that she spent most of the war years in the Clyde area. She was broken up in 1954.

With a release price of £255.00 the S.S. New Fawn is available from Dean's Marine on tel. 01733 244166 or via www.deansmarine.co.uk.



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Vortigern	MM1264	£12.50
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Pibroch	241852	£18.99
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Looking for a Christmas gift?

Here's a selection of Wood Pack and Parts Sets, plus some interesting plans for a relaxing New Year build (lifeboats, ferries and puffers). If you want something for under a tenner, our books and DVDs make ideal stocking fillers!

WEE NIP

Designer: Graham Bantock



DVD

Code: DV504

£7.99 + p&p

Plan

Code: MAR2966

£17.50 + p&p



Laser Cut Wood Pack

Code: WP2966

£31.50 + p&p

SAVE

Plan, Wood Pack & DVD Set

Code: SET2966

£52.50 + p&p

PILOT BOAT

Designer: Richard Webb

630 mm long by 190 mm beam



Plan

Code: MAR3062

£17.50 + p&p

Laser Cut Wood Pack

Code: WP3062

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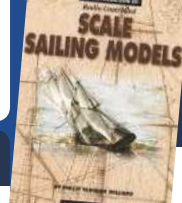
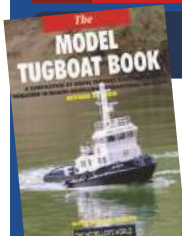
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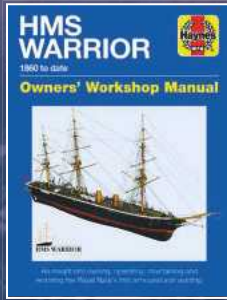


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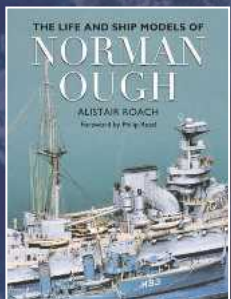
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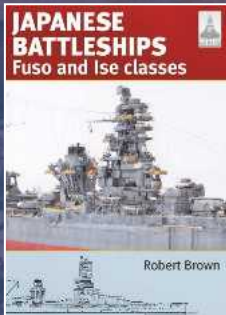
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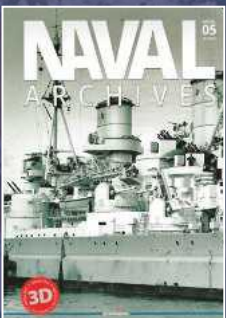
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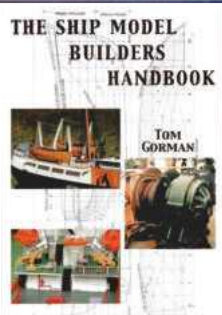
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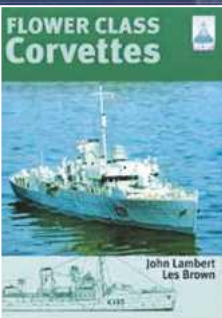
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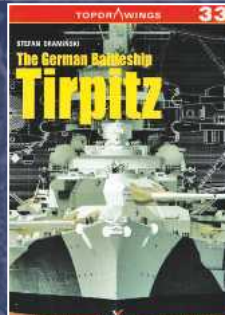
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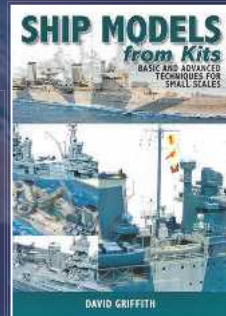
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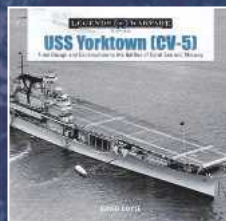
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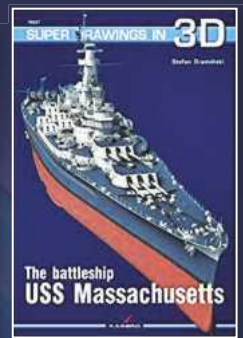
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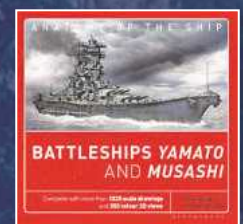
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1:700 Scale Naval Dioramas **PART 9**

Battleships in action and at anchor

As **Chris Drage** explains, there's a story behind every seascape

Capital ships like battleships, battlecruisers and aircraft carriers, are very large vessels and therefore awkward to fit on to a small diorama base if any degree of realism is to be achieved. The idea of making a diorama featuring one or other of the Royal Navy's battleships had been lingering for a long while, but I wanted to model something a little different from either a ship at anchor or one travelling swiftly into battle. With a good range of kits available, my first thoughts were for HMS Hood and HMS Prince of Wales taking on the KM Bismarck. Having already modelled HMS Hood in 1:350 scale, this theme seemed a bit repetitive, and besides it would be unrealistic to show both ships so close together on the diorama. During my research, several photos were found of HMS King George V at anchor in Iceland with a bow looking much like a shark's jaw and passing her to starboard was HMS Oribi. Having read the story of the incident that led to this bizarre situation, it was decided that this would make a great subject for a diorama. Similarly, White Ensign Models (WEM) had just released a superb model of HMS Warspite and the plan was

BELOW: Here you can see the lowered gangway and ship's boats alongside HMS King George V.



to build a diorama featuring her and HMS Rodney – a lovely Tamiya kit. A bit more research showed that at one particular moment in time during the post D-Day operations both ships could indeed be included in a single diorama.

Tribal tragedy

May Day 1942 started well for convoy PQ15 with the escort succinctly beating off an attack by German JU88s. However, this minor triumph had been offset earlier by a tragedy that had occurred 350 miles east

ABOVE: HMS King George V at anchor with HMS Oribi passing. Please note the battleship's damaged bow.

of Iceland. Whilst with other destroyers providing a screen for the capital ships, the Tribal Class destroyer HMS Punjabi ran under the bow of HMS King George V and was cut in two, the accident taking place as the combined Anglo-American battle fleet ran into fog. HMS King George V had signalled all ships to cease zigzagging forthwith, but this was not received aboard HMS Punjabi in time. The sad incident was compounded when the destroyer's fused depth-charges exploded as her stern quickly sank, increasing the damage inflicted to HMS King George V's bow and killing many of HMS Punjabi's crew. The destroyer's forward section though remained afloat for forty minutes, sufficient time for 206 men to be rescued. HMS King George V returned first to Seydisfjord, Iceland, and then sailed onward to Liverpool for a refit.

The whole incident has been retold by a crew member from HMS Punjabi telling of his miraculous survival on this website link: www.britisharmedforces.org/pages/nat_ken_tipper.htm

HMS King George V diorama

This depicts HM Ships King George V and Oribi (an O-Class destroyer) at Seydisfjord, Iceland at, or about, the 4th May 1942, shortly before the former departed for Liverpool. In order to model the battleship in her early W.W.II fit it is necessary to also



LEFT: Amidships view of HMS King George V. Please note the Walrus on the catapult and the open hangar doors with interior detail.



HMS Rodney and HMS Warspite off Normandy, 7th June 1944

The original intention was to make two dioramas, one featuring HMS Rodney in 1942 and one of HMS Warspite in the same year – somewhere. A little historical research revealed that it is just possible for the two ships to have been together, albeit briefly during the Normandy operations following the 6th June 1944. The most likely date was the 7th June when HMS Warspite had to retire in order to replace her gun barrels and HMS Rodney was offshore sending salvo upon salvo up to 17 miles inland. This presented an opportunity to show both ships in the one diorama and it would be possible to depict HMS Rodney firing salvos and HMS Warspite slipping past on her way back to Portsmouth with an attendant tug laying-off. As both battleships were in their late W.W.II fit, a degree of scratch building had to be completed to get them looking right. HMS Rodney is a Tamiya kit whilst HMS Warspite is a White Ensign Models (WEM) multimedia

purchase Tamiya's 1:700 scale of HMS Prince of Wales kit. Between them are all the major parts required to build HMS King George V as she appeared in early 1942. All other details were provided by etched brass after-market parts. To add additional interest to the model, a White Ensign Models (WEM) Walrus spotting plane was included on the

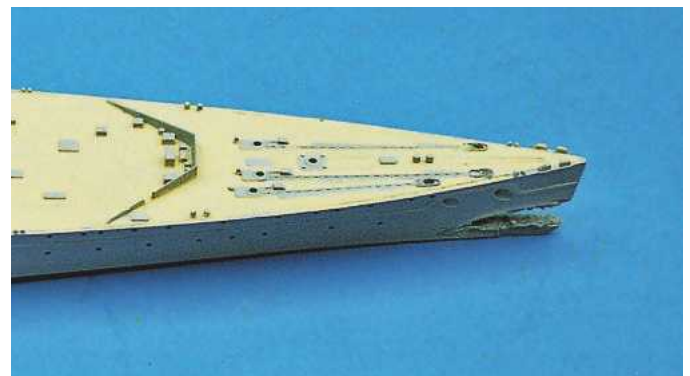
BELOW: The basic seascape is crumpled tin foil over an MDF base, supported by Polyfiller and here in grey primer.

ABOVE: This picture clearly shows the battleship's damaged bow, all very much as in official IWM photographs.

catapult, being prepared for launching. Similarly, adding a gangway gives the impression that launches etc. will be visiting.

In order to create the damaged bow, a soldering iron was pressed into service, carefully cutting (melting) a section of the bow until a cut similar to that in the photograph was achieved. A few pieces of

BELOW: A hot soldering iron tip, judiciously used, created the shark's jaw damage to the bows of the Tamiya 1:700 scale HMS King George V.





ABOVE: HMS Rodney is at anchor, her guns bombarding Normandy on the 7th June 1944 and HMS Warspite is retiring to Portsmouth since her 15 inch gun barrels needed replacing.



BELOW: Detail of the amidships area of HMS Warspite – remember this is to 1:700 scale.

BELOW: The escorting tug has been created from a Skywave 'tugger' kit, using a degree of modeller's licence.



BELOW: HMS Rodney is at anchor but there is still some froth around the waterline. This froth is from toothpaste, varnished to maintain its appearance. Dioramas using this medium always smell nice!



model, which is sadly no longer available off the shelf. That said a search online (eBay?) may find some unbuilt examples. Both were detailed using WEM etched brass parts.

As, by 1944, both battleships had received numerous alterations and armament changes, particularly in terms of anti-aircraft weapons, considerable research was required to achieve accuracy, all of which is listed at the end.

The late W.W.II HMS Rodney was largely based on the Tamiya (1930s era) kit, but utilised items from HMS Nelson (1945 fit) where appropriate. The excellent WEM etched brass set was used to add those fine scale details which transform any plastic kit. The conversion is quite extensive and is too complicated to go into here but suffice to say the result is a very pleasing battleship as she appeared in 1944. Just one detail to



ABOVE: HMS Rodney (and HMS Nelson) had all their main 16 inch battery forward. This was because of the International Naval Treaty restrictions agreed between WWI and WWII.

note: If you are going to show a warship firing broadsides, do make sure that the gunnery directors are facing in the same direction as the guns!

There are no short cuts to painting a camouflage scheme as you just have to persevere with the brush and use your references to the best. Several light coats of paint are always better than one thick one. Ships were never spray painted, so brush painting does help to add a little realism and do use decent high quality brushes.

HMS Rodney's 1942 disruptive design was modified only in small areas by 1944 and the colours used were:

- 507C
- MS1
- MS2
- B5 (and possibly white)

HMS Warspite was an altogether more accurate kit all around, although for my purposes it still posed a small problem in that, as supplied, the kit depicts the ship in her 1942 fit and by 1944 she had undergone a couple of further refits, but the reference material here is very good.

HMS Warspite's camouflage scheme was simplified in 1943 to include:

- A507c
- A507b
- A507a (steel decks)

Etched brass railings

These really give a model ship character and properly complete the upper decks, so even at this scale they should be included. The technique used for both battleship models was to measure the required length with a pair of dividers, then cut the etched brass accordingly. Using gripping tweezers to hold the railings, a thin application of water-based contact adhesive (Evo-Stik Impact 2) was run along its lower edge. While this was drying, a similar line of adhesive was added to the relevant section of deck. When both were dry, the railing was simply applied to the deck. The advantage of this method is that it is very forgiving as any sections not adhering properly get a tiny dab of superglue to ensure positive placement.

HMS Rodney and HMS Warspite seascape

Basing this diorama on the fact that sea conditions were much more quiescent immediately following D-Day and that reports from Omaha Beach were stating: 'Offshore waves are still 2 to 3 feet high', I opted here for a slightly lumpy seascape.

Each warship was placed in its recess on the water and glued firmly into position. Toothpaste was added round each hull at the waterline but with more slop appearing on the moving HMS Warspite. Judicious use of toothpaste and sculptural acrylic white obtained the desired effect. HMS Rodney, being largely stationary during the bombardment, would have had more white water on her port side as the tug and HMS Warspite pass close by. With this, all the acrylic paints and toothpaste were given a coat of gloss varnish to seal them.

The tug was quite difficult to model as it could not be found in any photo or, indeed, any mention of her type other than her role in pulling Warspite round for the guns to train more easily and to improve her steerage. Using the 'best guess' approach, one of the ubiquitous Skywave 'tuggers' was 'kit bashed' into more of a British outline tug and modelled on a possible type that may have been used at this time in W.W.II.

Conclusion

Battleships are large vessels and to accommodate them on a diorama base of modest proportions is not easy if you want to maintain a degree of realism. However, as illustrated here, it can be done and the results can be truly inspiring.

Next time

In Part Ten in the January 2018 issue, we will explore Arctic convoys in action, in particular Convoy JW58, which was a large convoy of 40 merchant ships with a massive escort. Also, for the first time, an aircraft carrier will make an appearance.

References

Wonderland Models

Website: www.wonderlandmodels.com
Tamiya 1:700 HMS King George V kit, No. 77525.

Tamiya 1:700 HMS Prince of Wales kit, No. 31615.

(Both kits were used for the early W.W.II HMS King George V)

Tamiya 1:700 British Destroyer O-Class kit, No. 31904.

Tamiya 1:700 HMS Nelson kit, No. 77504.

White Ensign Models (WEM)

Photo etched brass details for Tamiya 1:700 King George V Class kit, No. PE 738.
Photo etched brass details for Tamiya 1:700 HMS Nelson and HMS Rodney kits, No. PE 723.

Jadlam Racing Models Ltd.

Website: www.jadlamracingmodels.com
Tamiya 1:700 HMS Rodney battleship kit, No. 77502.

Cornwall Model Boats

Website: www.cornwallmodelboats.co.uk
Trumpeter 1:700 HMS Warspite 1942 kit, No. TR05795.

(This is an alternative to the defunct WEM multimedia kit)

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Acrylic Paints

Artist's acrylics, available from most art retailers.

The varnish is Tamiya Gloss Varnish.

Enamel Paints

Humbrol and WEM Colour Coat.

Research material:

IWM photos

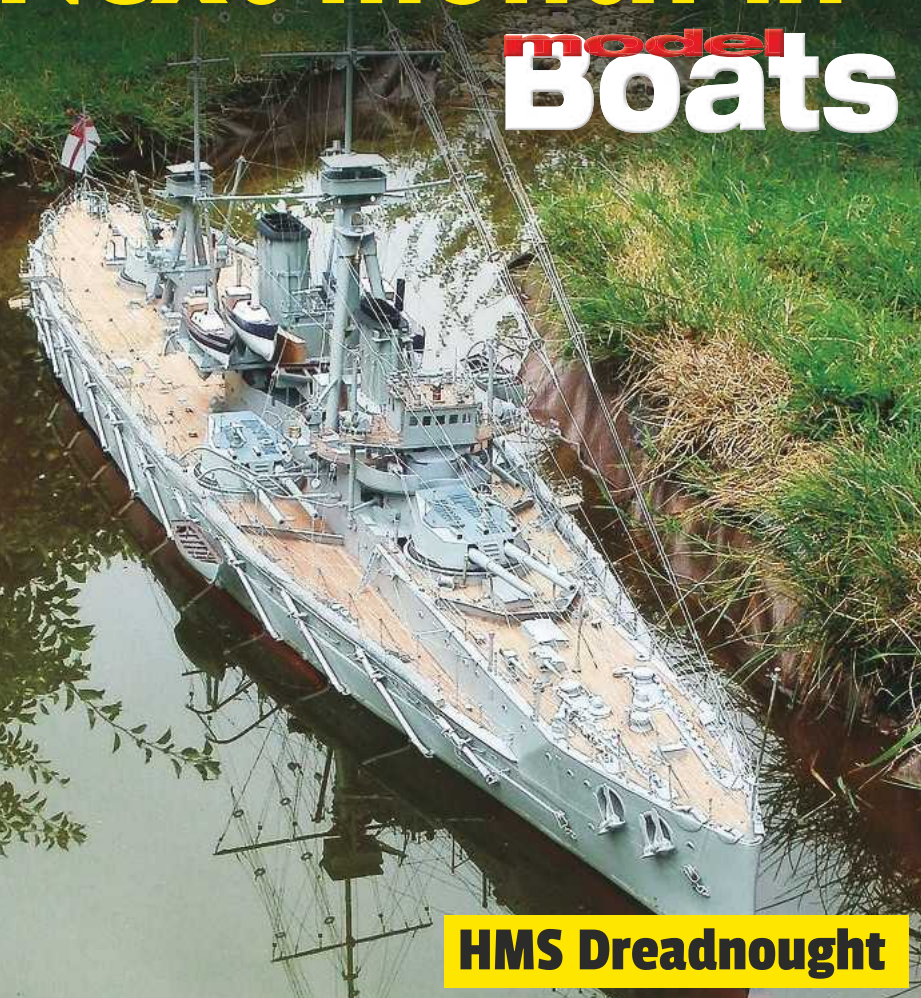
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Books

The Battleship Warspite by R. Watton.
Morskje Profile No. 5 for HMS Warspite.
Anatomy of a Ship: HMS Warspite.
Battleship Warspite by V. Tarrant.
HMS Warspite by S. Roskill.
Modelling HMS Rodney in 1:600 scale by Peter Hodges (Airfix Annual).
HMS Rodney by Richard Farrar, IPMS.
Man O' War 3: Battleships Rodney & Nelson, Raven & Roberts.
British Battleships of World War Two, Raven & Roberts.
Battleships and Battlecruisers by John Jordan (Salamander Publishing).
Janes: Battleships of the 20th Century by B. Ireland (Harper-Collins Publishing).

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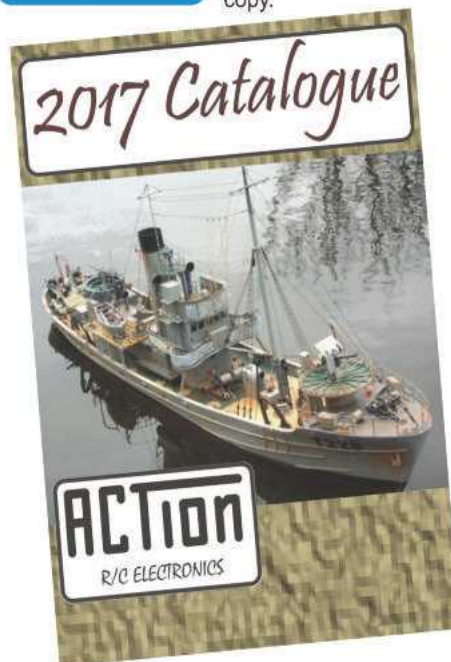
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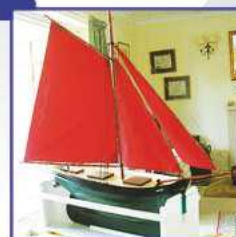
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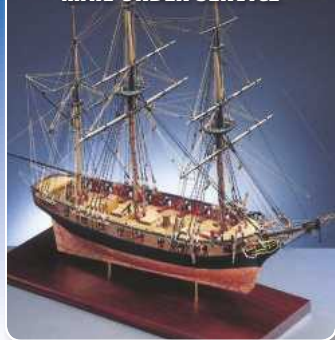
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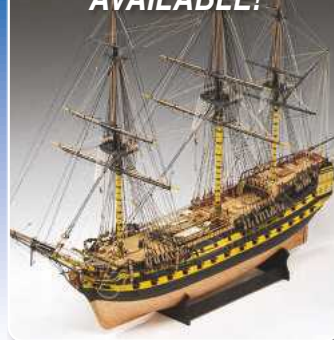
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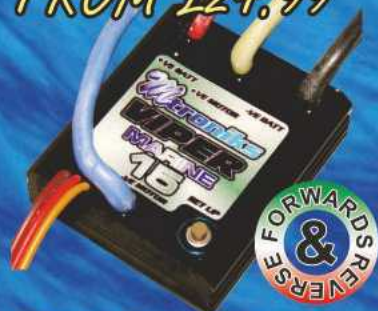
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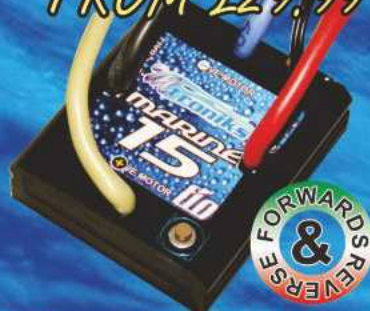
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