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Vol.64 No.762

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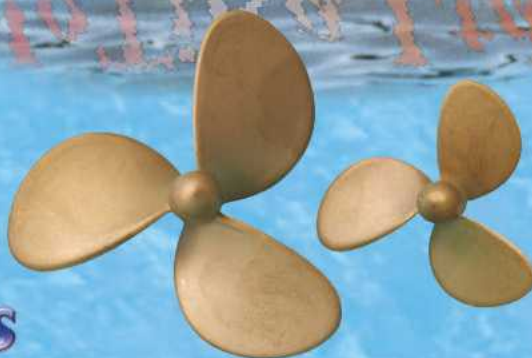
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CALDERCRAFT BRASS PROPS were designed using the latest CAD surface modelling software. After exhaustive computer modelling of a wide range of designs three test designs were decided upon. These designs were then produced and 'real world' tested on a range of model boats to precisely determine which gave the best performance, for both forward and reverse propulsion. Metal dies were then cut to produce the wax models used in the investment casting process. Investment casting faithfully reproduces the cavity in the metal mould resulting in a final product so accurate that balancing of the propeller is not required for most scale boat applications. The alloy used has also been carefully considered resulting in a rich brass colour with the strength of mild steel. Caldercraft brass propellers are currently available in left and right hand, 3 blade from 30mm to 75mm, 5mm increments, M4 threaded.

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Model shown photographed complete with the optional Sea Commander fitting set.



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Model Boats, ISSN 0140-2910, is published monthly with an additional issue in January by MYTIMEMEDIA Ltd, Hadlow House, 9 High Street, Green Street Green, Orpington, Kent BR6 6BG, UK. The US annual subscription price is approximately 53.40GBP (equivalent to approximately 89USD). Airfreight and mailing in the USA by agent named Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11431. US Postmaster: Send address changes to Model Boats, Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Subscription records are maintained at CDS GLOBAL Ltd, Tower House, Sovereign Park, Market Harborough, Leicestershire, LE16 9EF. Air Business Ltd is acting as our mailing agent.



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Bow piece

This issue has **100 pages**, sixteen more than the usual 84. It is also the first of these enlarged Bumper Issues for 2014, a year which sees the 100th Anniversary of the commencement of World War One in 1914 and also the 70th Anniversary of the Normandy D-Day Landings in 1944. To commemorate and remember these momentous events of the first half of the last century, Dave Wooley has supplied three special articles about the warships of the late-Victorian period and into the Great War. In the first, published here, he is examining the warships of the Royal Navy from 1895 to 1905, many of which then served in World War One, even though the pace of naval technology development meant that many were obsolete within a few years, but still giving valuable wartime service.

We also have a number of major and exciting Feature Articles. These include Part One of Dermot Curnyn's unique laser-cut PT18; a highly unusual model of Ecranoplan KM by Ashley Needham, who must be one of our most innovative and creative model makers; a full kit review by John Elliott of Bob About, an easy to build Footy yacht and Bill Langton is a welcome newcomer to these pages describing his fantastic nine foot long steam launch Falcon. In addition, Peter Whitehead returns with an article about clockwork model boats and Anthony Addams visits the National Museum of the Marine in Paris.

There are also all the regular features, plus a few more, so something for everyone with an interest in model boats as a hobby. Like the famous paint, the title on the cover is what we do, and hopefully rather well!

Paul Freshney - Editor



Compass 360

Model Boats notice board for your news

Editorial Contact - Paul Freshney

You can reach the Editor, Paul Freshney, on 01277 849927. The editorial postal address is: Model Boats, PO Box 9890, Brentwood, CM14 9EF.

The email is editor@modelboats.co.uk

Plans Service Contact - Call 0844 848 8822

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See and buy all of these at www.myhobbystore.com

Model Boats distribution - UK

I am pleased to say that Tesco have now selected 112 of their stores to regularly stock Model Boats magazine from **31st March 2014**. Readers may not appreciate it, but to get a magazine (any magazine!) regularly stocked in such stores is not easy as they do not want slow-moving stock on their shelves. So for Tesco to stock Model Boats, this means that they think it is a worthwhile addition to their magazine racks. Full details of which Tesco stores stock Model Boats can be found on our website: www.modelboats.com.

Kirklees MBC

On **18th May 2014** this club is organising a Club 500 event. This is their first event of this kind and is aimed at being a Fun Day. They are hoping to have other clubs involved and would like the event to run between 1000hrs and 1500hrs at Wilton Park, Bradford Road, Birstall, Batley WF13 8JH. Free car park. Please contact Stan Reffin, tel: 01132 675790 for more information and to give your support.

D-Day Anniversary Model Event

Ashley Needham is arranging an informal gathering, including a parade of landing craft,

massed landings, fun events, tug of war, slalom racing or anything else you want(!) plus a display of WW2 era craft.

This will be on the **1st June 2014** at the pond in Bushy Park, Hampton Court Gate, off Hampton Court Road, Teddington, Middlesex, TW11 0EQ. The park has its own website for detailed plans of the site. The car park is next to the Diana Fountain, adjacent to the model boating pond. Toilets are five minutes walk away and there is a refreshment facility in the car park. It is best to be parked by no later than 1000hrs because of the general public visiting Bushy Park. This event is informal and will last as long as there is interest. Please note, that in the event of very bad weather, the following **Sunday 8th June**, is the alternative day for this informal gathering. Further information can be found on the Model Boats website forum, but Ashley can be contacted via email: car210ash@yahoo.co.uk or his mobile: 07522 926448.

(Ideally the landing craft in particular should be to common scale of 1:32 or 1:35 to make the massed landings look more effective, and Paul Thomason who is regular contributor to the Model Boats Website Forum has drawn nine sheets of plans in a PDF form. These can be downloaded from him on confirmation of a donation

Obituary - Robert (Bob) Hindle



On 18th February 2014, after a short illness, North West Scale Model Boat Club lost Bob, one of their long serving members. Born in 1942, he had been a keen modeller for many years, building aircraft and power boats, but his skill was later centred on sailing boats and competition yachts, including hulls moulded by himself and he had many successes with most classes of boat, sailing at Bury Lido and Fleetwood. The size of our club's Horwich pond prevented Bob from using his biggest and fastest boats, but his expertise was always ready to be shared and he was instrumental in encouraging many powerboat modellers to add a yacht to their fleet.

On a wet & windy Sunday in February, club and family members launched a wreath on to the Club's water in remembrance of a popular and enthusiastic member. Bon Voyage, Bob.

Barry Martin, Hon. Secretary, NWSMBC, Horwich

to 'Just Giving' which supports the British Legion, the link on the Model Boats Website Forum being within the D-Day 70th Anniversary Event thread: <http://www.modelboats.co.uk/forums/postings.asp?th=88793>. Also, other clubs might consider organising themed events from time to time as it is good way to get enthusiasts together and can give 'direction' to an event rather than it being just another 'Open Day' - Editor.)

2014 Classic Boat Auction at Beale Park

This auction at Beal Park, Pangbourne, Berkshire, provides a unique opportunity to buy and/or sell full-size boats as well as models. It is being run by experts in both auctioneering and traditional boat brokering in partnership with Special Auction Services and Henley Sales & Charter. The catalogue of boats to be auctioned ranges from the very small to the very large and already includes models such as an Art Deco pond yacht, estimated at £600 to £900.

Although the deadline for consignments is very close to the publication date of this magazine, Gillian on tel: 07813 917730 may be able to assist.

Websites are: www.specialauctionservices.com and www.hscboats.co.uk.

West Norfolk IPMS

Their 5th Annual Model Show in aid of Macmillan Cancer Nurses is at Downham Market Town Hall on Sunday **22nd June 2014**, 1000hrs to 1600hrs. Further information from: www.westnorfolkipms.co.uk.

European Warship Weekend - 2014

This, the third such event is being held at Hofstade, near Brussels in Belgium on the **6th to 8th June**. The club arranging this are well known for their D-Day dioramas at Intermodellbau in Germany each Spring. This is a nice weekend of sailing warship models and meeting other enthusiasts from Europe. Further information from David Jack, email: davidjack5@btopenworld.com, tel: 01968 660862.

Edinburgh MBC

This club has a number of events planned for 2014 and its members sail regularly on Sundays on the Inverleith Pond in Inverleith Park, EH3 5NZ. Best access is from between Portgower Place and East Fettes Avenue (just off the B900 Comely Bank Road). The club welcomes new members and further information about their planned 2014 events can be found on their regularly updated website: www.edinburghmodelboatclub.org.uk.



2014 GAMES 1

Roger Stollery reports



This event was organised by Guildford Model Yacht Club and run at Abbey Meads Lake on the 22nd February after two postponements. One because of weed at Poole and another due to floods in Chertsey(!), but GMYC's determination to sail the GAMES 1 event finally paid off in near-perfect wind and weather conditions. The lake looked magnificent with the high water level just a foot below the top of the bank, which is

normally 8 feet above the water level. The west-south-west light to moderate winds allowed an 800 metre windward/leeward course with a leeward gate with competitors on the southern control area, giving some entertaining fast planing runs with rudders showing at times. With the recent frustration of not being able to sail, the competitors, representing six clubs, really enjoyed this open event, with the warm sunshine being an added bonus.

ABOVE: New designs of Marblehead for 2014 had markedly different speeds depending on the wind position. No doubt fine tuning, as the 2014 season progresses, will narrow the performance gap.

LEFT: Note the unusual bow on No.17.

The racing

John Shorrock from Reading won the first race with his new modified and swing rigged QUARK, which was very fast off the wind. Hugh McAdoo then took the next two races with his PRIME NUMBER before letting John come back to win Race 4. Martin Crysell then took Race 5 also sailing a PRIME NUMBER, which left the lunchtime leaderboard showing Hugh with 8, Martin 9 and John 11 points.

After lunch Roger Stollery got his CRAZY TUBE FREE going to win Race 6, but then let Hugh win the next. Not to be outdone, John put in another win in Race 8, but let Roger back to win Race 9, with Terry Rensch sailing another QUARK second. Roger prevented Hugh from winning the next three races by taking Race 11 and then went on to win Races 13 and 14.

Martin and Hugh each won one of the final two races to



ABOVE: PRIME NUMBER and the latest Graham Bantock QUARK (No.29) design showing the rig differences.

make it a very close finish to the event with just three points covering the medal places! There had already been some amazingly close finishes, where the whole fleet managed to get across the finishing line within a few seconds. The event was sailed in the most sporting manner with no penalty turns outstanding and was thoroughly enjoyed by all as can be seen on the faces of the prizewinners in the photographs.

Results

- 1st** Roger Stollery
- 2nd** Hugh McAdoo
- 3rd** Martin Crysell
- 4th** John Shorrock
- 5th** Terry Rensch
- 6th** Alf Reynolds
- 7th** Alan Viney
- 8th** Peter Dunne.

Grays Thurrock MBC

They will be holding their annual Open Day and Navy Day combined, including a speed boat race for 500 size motor powered models on **Sunday 13th July 2014** at Belhus Woods Country Park, Romford Road, Aveley, Essex. All model boaters are welcome.

Woodbridge MBC

This club has regular model yacht racing on Saturday mornings and a general 'get together' on Wednesday mornings (weather

permitting) and anyone is welcome at these sessions. In addition there will be a number of Scale Days in 2014. These are on; **25th May, 15th June** (the Annual Woodbridge Regatta), **29th June, 27th July** (plus Club BBQ), **31st August** and **28th September** and the club would like to invite fellow enthusiasts to also come along on these days.

Full details of the programme and the location of the pond can be found on the club website: www.woodbridgemodelboatclub.org.uk

Bury Metro Marine Modelling Club

This club is holding a Warship Day on **20th April 2014** at: The Lido, Clarence Park, Bury BL9 6NG. Further information from the secretary, Graham Sleight, tel: 01617 979611, or the club website: <http://bmmmsuk.yolasite.com>

Classic & Vintage Model Boat Weekend 2014

Fleetwood Yacht & Model Power Boat Club will again be hosting this event on **Saturday**

14th & Sunday 15th June. All enthusiasts who own vintage & classic model boats are welcome for this informal and fun event. There is a clubhouse & free car parking. Electric, i.e., sail and steam powered models are all welcome (own insurance required) and there are two smaller pools for the 'little' models. There are plenty of good local B&B's available. Refreshments available on both days, plus a hotpot on the Sunday. Further information from Brian Carruthers, tel: 01253 823878 or email: brian.carruthers1@homecall.com.uk

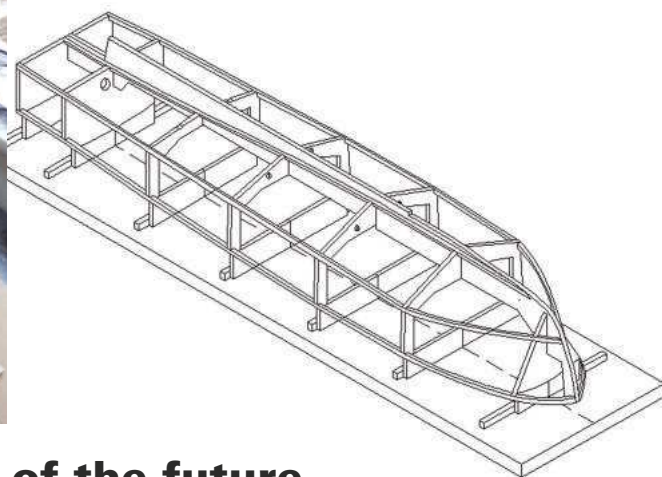
model Boats Next issue

The Model Boats June 2014 issue is on sale on the 9th May 2014

FREE PLAN



Eccleshall



Model Boat Plans of the future

The complimentary **FREE PLAN** is for Eccleshall designed by Glynn Guest, and Paul Thomason explains how with the advances in computer technology, Model Boat Plans could be supplied in the future.

See more about what's in **Model Boats** magazine month-to-month in forthcoming issues and see some of the articles you may have missed from past issues and subscription offers on our website: www.modelboats.co.uk

We have a great range of subscription packages that you can choose from, including **our new Print + Digital package** which give subscribers 13 issues a year with 6 free plans, 13 digital editions to download and keep PLUS access to an Online Archive dating all the way back to January 2007.

Don't forget! The June 2014 issue will be published on **9th May 2014** price £4.50 – don't miss it! Order your copy now! Or better still why not make it your first copy in a year's subscription to **Model Boats** magazine? See our subscription offer on **Page 28** in this issue...

If you can't always find a copy of this magazine, help is at hand! Complete this form and hand in at your local store, they'll arrange for a copy of each issue to be reserved for you. Some stores may even be able to arrange for it to be delivered to your home. Just ask!



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NATIONAL MODEL ENGINEERING AND MODELLING

EXHIBITION 2014

HARROGATE SHOWGROUND MAY 9th 10th 11th

**Ticket Office
open 10am**

**Exhibition
10am - 5pm
(4.30pm Sunday)**

The National Model Engineering and Modelling Exhibition is one of the largest exhibitions of its kind in the UK and you are invited to look at this impressive list of clubs attending the show. Each stand will be displaying models built by members of the club with up to 60 exhibits on each stand. Members will be on hand to answer any questions you may have and are able to offer advice and give details of how to join your local group.

The National Model Engineering Exhibition is renowned for its huge specialist trade stand section.
THE FOLLOWING TRADERS WILL BE IN ATTENDANCE (additional traders likely)

ABBOTS MODEL ENGINEERING
ALLENDALE ELECTRONICS
ANDY CURLE
BBI LTD (BB ENGINEERING SERVICES)
BLACKGATES ENGINEERING



COLLEGE ENGINEERING SUPPLIES
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LOCATION

The Great Yorkshire Showground is conveniently situated on the A661 Harrogate to Wetherby Road.

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Easy Access A1(M)
Leeds A61 York A59

BY RAIL:

Harrogate Railway Station.
Connections to Leeds and York
mainline stations.

BY AIR:

Leeds/Bradford Airport
six miles.

BUSES:

A courtesy bus departs from Harrogate Bus and Railway Station on the hour from 9am till 2pm for the Model Engineering Exhibition.

Last bus from the Exhibition into Harrogate departs 5pm. (4.30pm on Sunday).

The National Model Engineering and Modelling Exhibition is one of the biggest exhibitions of its kind in the UK.

THE FOLLOWING CLUBS WILL BE IN ATTENDANCE

MODEL ENGINEERING

- York City and District Society of Model Engineers
- Leeds Society of Model and Experimental Engineers
- Hull and District Society of Model and Experimental Engineers
- Grimsby and Cleethorpes Engineering Society
- Bradford Model Engineering Society
- City of Sunderland Model Engineering Society Ltd
- West Riding Small Locomotive Society
- The Tyneside Society of Model and Experimental Engineers
- Pickering Experimental Engineering and Model Society
- Scunthorpe Society of Model Engineers

- Cleveland Association of Model Engineers
- South Durham Society of Model Engineers
- The Society of Model and Experimental Engineers
- Huddersfield Society of Model Engineers
- Brighouse and Halifax Model Engineers
- Keighley and District Model Engineering Society
- The Stirling Engine Society

RAILWAY

- Ground Level 5" Gauge Mainline Association
- Teesside Small Gauge Railway
- Association of 16mm Narrow Gauge Modellers
- The Gauge 1 Model Railway Association

- 7 1/4" Gauge Society

MODELMAKING

- The Guild of Model Wheelwrights

CLUBS AND ASSOCIATIONS

- Southern Federation of Model Engineers
- The Northern Association of Model Engineers
- London and North Western Railway Society

MODEL BOATS

- Kirklees Model Boat Club
- Claro Marine Modellers
- Rawdon Model Boat Club
- Teesside Model Boat Club
- York Model Boat Club
- Redcar Model Boat Club

- Tynemouth Model Boat Club
- Stewart Park Model Boat Club
- Leeds and Bradford Model Boat Club
- Wearside Model Boat Club
- Boat Building by Martin Ranson and John Abbott

MODEL AIRCRAFT

- West Yorkshire Model Aircraft Club
- Harrogate Model Flying Club

RADIO CONTROLLED TRUCKS

- Durham RC Scale Models

**Club enquiries
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01977 661998**

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PT 18



Dermot Curnyn's laser cut boat modelling project

Part One

With such a formidable choice of reasonably priced, high quality kits and semi-kits on the market, it isn't surprising that detailed scratch building has limited appeal or might even be perceived as being on the way out.

This may be a well-established and irreversible trend as after all, progress can't be halted, but as the saying goes; 'keep your friends close and your enemies closer'. So I've decided to leap in to the future and embrace some of the new technologies,

hoping to make best use of these new 'tools' to enhance the scratch building process, without hopefully too much additional expense.

'Tomorrows World' today

Laser cutting has been around for quite some time with its roots in specialist industrial applications, but in recent years scaled down machines have become more accessible and to a certain extent, affordable for short run production. For this laser cutting project I wanted to build a high speed planing hull and a WW2 torpedo boat fitted the bill really well, given that the facility to cut out hard-chine frames from plywood would lend itself to laser cutting. As to the rest of the construction, I planned to stick to traditional model making techniques, using easily obtainable materials and parts and only basic construction tools.

Plans

Being the hoarder that I am, I came across an old plan for the ELCO 70ft PT boat, PT 18, a free plan drawn by Al Ross II and presented with the May 1998 issue of Model Boats, **Photo 1**.

The ELCO 70ft boats were based on the British designer Hubert Scott-Paine's specifications.

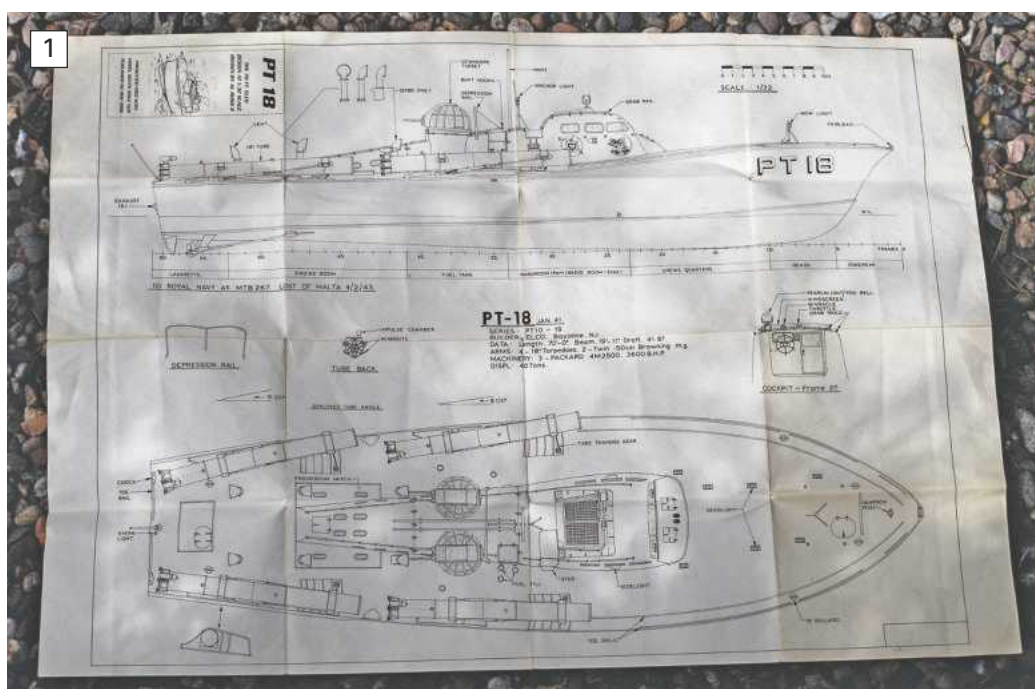
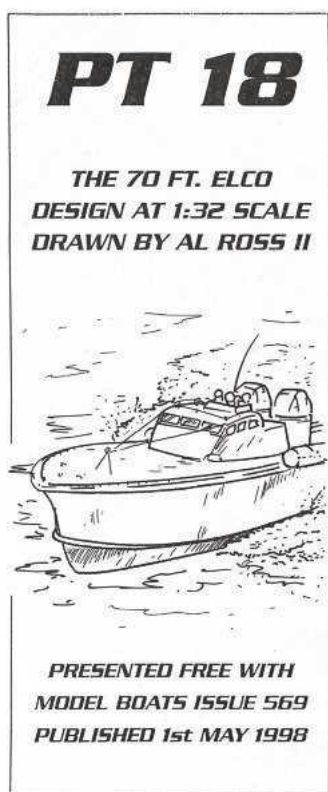




PHOTO 2: Picture from Wikipedia – The British built prototype at Washington DC in June 1940. Web address: http://en.wikipedia.org/wiki/File:PT9_torpedo_boat_Washington_DC_1940.jpg#filehistory.

Although they were built in the United States, these boats were not considered large enough for the U.S. Navy's needs, so instead they were converted to MTB's and shipped to Britain as part of the war time 'Lend-Lease' agreement. **Photo 2** is of a similar craft, PT 9.

For a torpedo boat, the ELCO 70 footer had a uniquely pronounced deck sheer. To best capture this feature, I decided to use a building method derived from model aircraft construction and that was to build the hull in two halves divided along the keel. Using this split hull type of construction, rather than the more traditional inverted full-hull frame method, would make re-producing the deck sheer much easier.

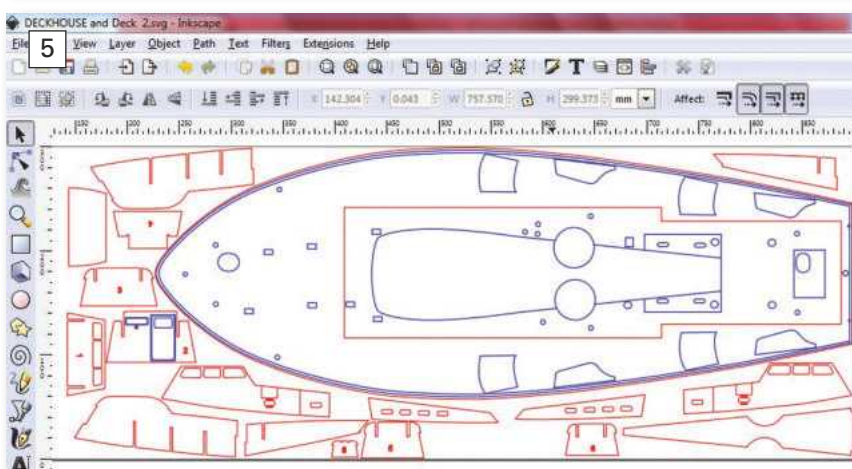
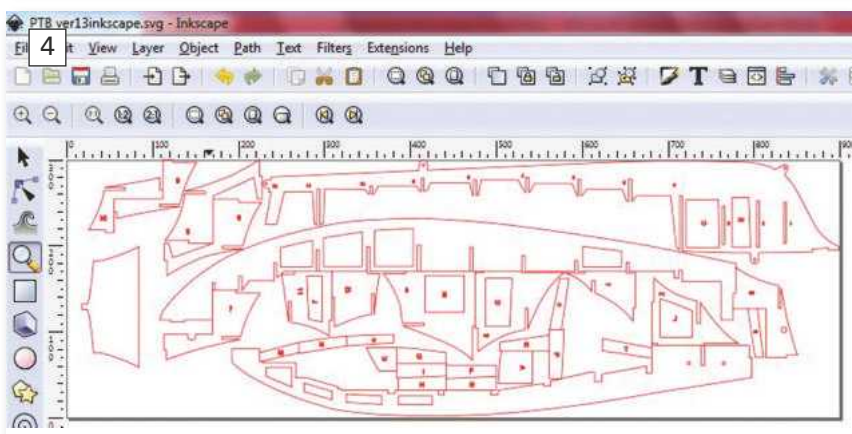
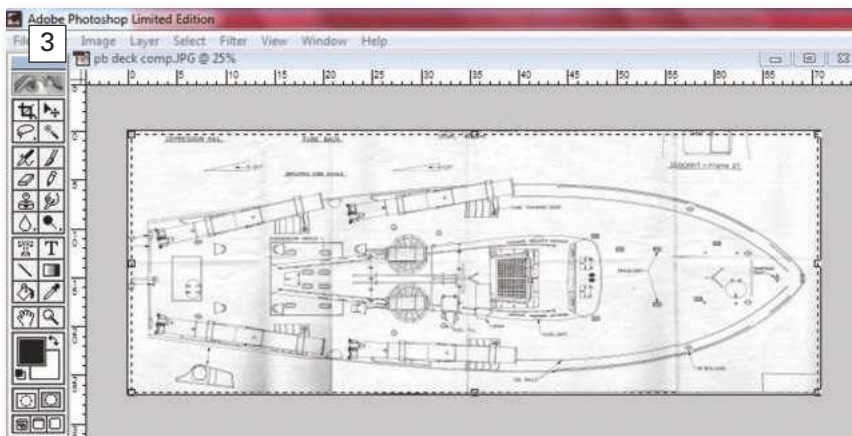
Preparing drawings for the laser cutter

Although I was working from an existing plan, these drawings had to be re-drafted on the computer to give a file type which could be recognised by the laser cutter. The laser cutter I was using only recognises vector-type drawing files so my process involved tracing over scans of the original drawing using a programme called Inkscape. This is freely available to download from the internet at: www.inkscape.org. Many other vector programmes exist such as Autocad, Corel Draw and Adobe Illustrator. I covered the basics of laser file production in some detail in the MB July 2013 issue, so I won't repeat myself here.

I re-worked the original drawings from scans in Photoshop, **Photo 3**. The Model Boat plans were originally drawn at 1:32 scale giving a length of 680mm and a beam of 195mm. I modified the proportions, allowing for a displacement which could accommodate two Graupner Speed 600 motors, plus batteries etc., but retain the compact nature of the original drawings. So, the plan view and sectional drawings were resized, giving a broader beam relative to length. I was able to retain the 1:32 scale length of 680mm as before, but increased the overall beam to 250mm. Okay, not true scale I know, but I wanted to build a nippy but still compact boat.

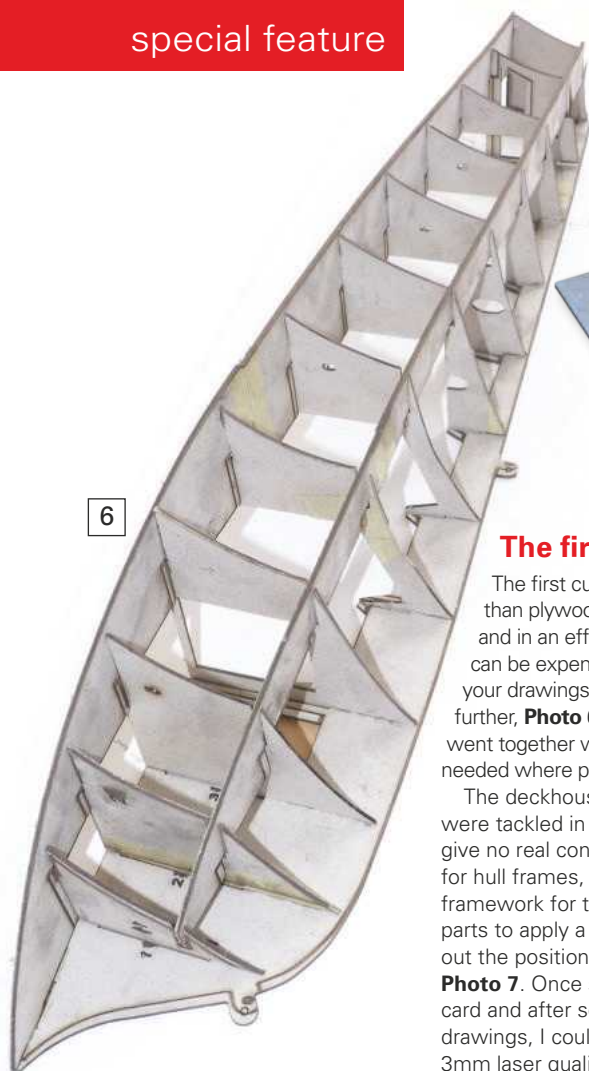
Tracing

After opening the scans in Inkscape, I began the process of tracing out the shape of the keel profile, adding tabs to screw it to a baseboard as well as slots to fit the frames. The chosen construction method meant it was only necessary to draw out the components for one side then laser cut these shapes twice. I assigned different colours of lines to correspond to different power and speed settings on the laser cutter. A blue line colour produced a shallow cut to show the position of deck fittings; a red line produced a full depth cut, **Photos 4 and 5**. The individual parts were set-out in a configuration which made best use of the plywood sheets to



reduce wastage to a minimum. Centre cut-outs in frames and decking areas also formed components of the hull. As the drawing process progressed I kept thinking of more and more parts which could be prefabricated, so what started off as an exercise in producing the basic components of a hull soon evolved into a semi-complete kit of parts.

PHOTOS 4 & 5: The completed hull and deck plus deckhouse layouts ready to cut. The cutting line is in red and the etching line is in blue.

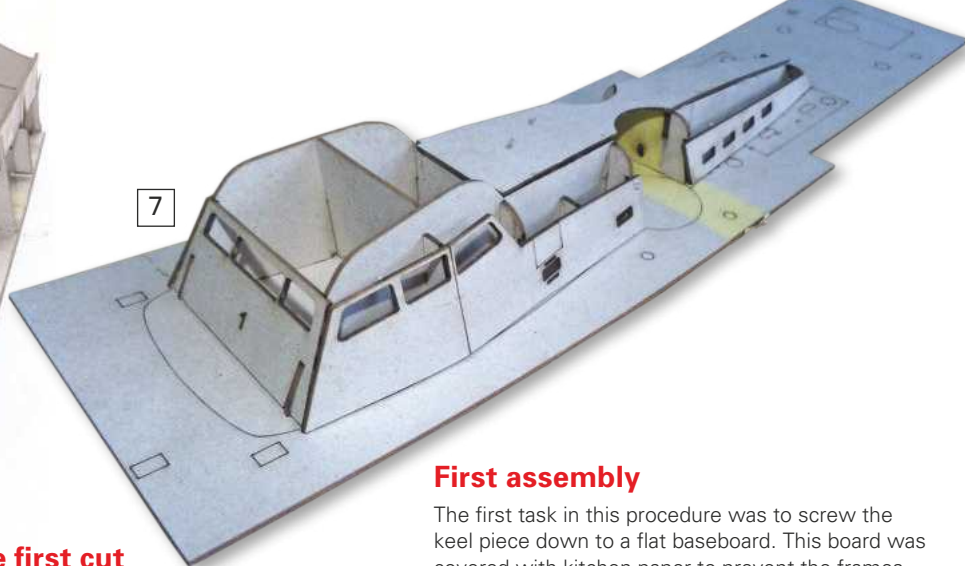


6

The first cut

The first cut was made in 2mm cardboard rather than plywood, anticipating some inaccuracies and in an effort to save on cost. Laser cutting can be expensive, so you need to be sure that your drawings are accurate before proceeding further, **Photo 6**. All the hull frame components went together well, with only some fine adjustments needed where parts were the odd millimetre or so out.

The deckhouse and hatch opening components were tackled in a similar fashion. The original plans give no real construction detail other than positions for hull frames, so it was necessary to design a framework for the deckhouse. I laser etched some parts to apply a 'score' line for bending and to mark out the positions of openings, vents, etc. as in **Photo 7**. Once satisfied with the result of the cut in card and after some modifications to the computer drawings, I could now proceed to the first cut in 3mm laser quality birch plywood.



7

First assembly

The first task in this procedure was to screw the keel piece down to a flat baseboard. This board was covered with kitchen paper to prevent the frames from sticking to it, which would have made removal of the completed structure tricky, **Photo 8**.

Three tabs had been drawn and cut with small diameter holes to take small wood screws which would securely hold the keel profile in place. The slots to take some of the frames were a bit small and I had to use some gentle sanding to ease them in to place, but this helped to ensure a snug fit, **Photo 9**. The cut parts needed some cleaning up of their 'burnt' edges, because although these fitted together pretty well, the cyanoacrylate glue (superglue) I was using, bonded much better if the 'sooty' edges were cleaned first with a rub-over of fine sandpaper.

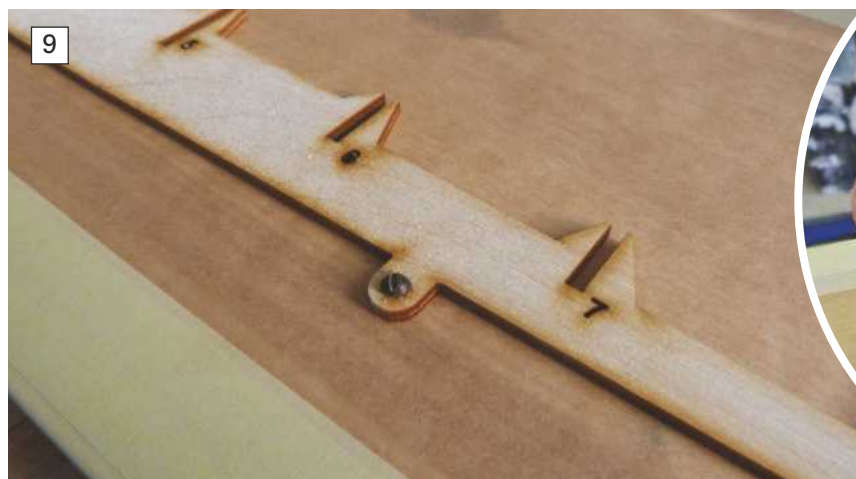
I had also drawn the centre of one of the frames as a perfect rectangle. Although this piece was redundant as a model component, it was ideal as a right-angled support during the gluing process to ensure that the frames were true and vertical, **Photo 10**. This is one of the advantages of laser cutting in that a 'square' will really be square, and consistently so as well.

The glued frames were left for a few hours for the glue to properly set, then the sub-deck and stringer piece were slotted in to position and cemented with PVA glue and secured with masking tape until the adhesive had properly hardened. The tension in the bent plywood induced some stress in the framework, but the half frame method of construction limited this, so the whole structure was less prone to warping during construction.

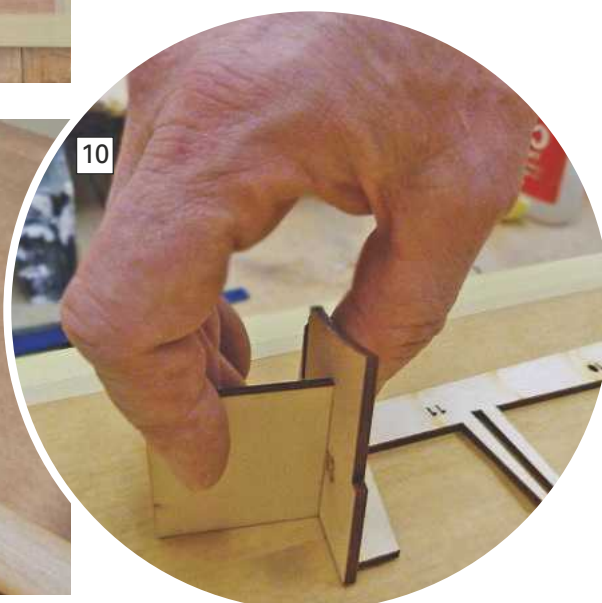
Additional segments of 3mm plywood had been fashioned to slot between the frames on the keel and underside of the sub-deck. These would



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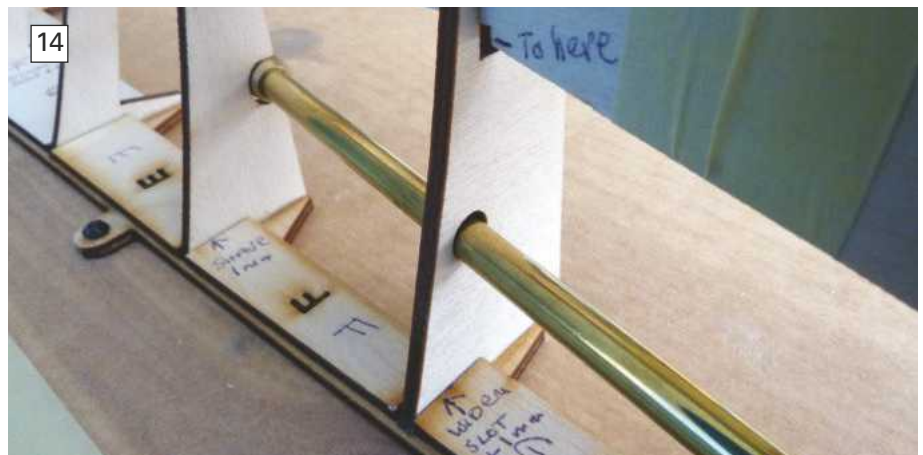
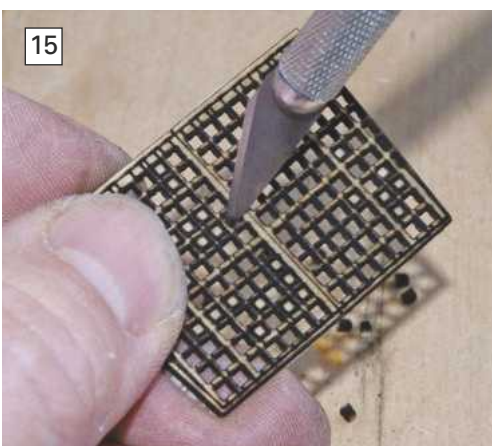
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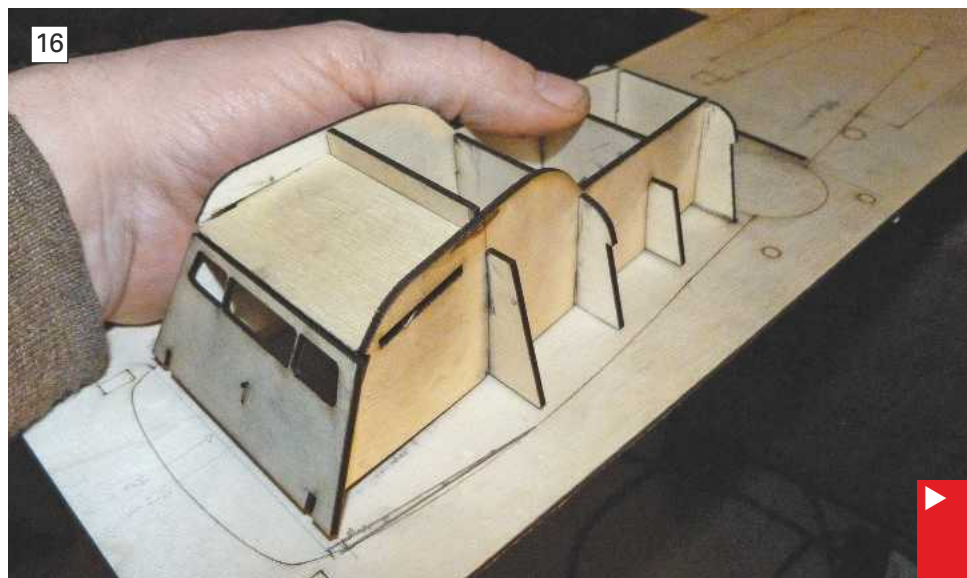
give a broader base on which to glue the diagonal planking, **Photo 11**. Little filler slices of scrap wood were also needed to take up the slack in some areas, **Photos 12 and 13**. These and other small errors prompted the first of many little notes to myself which were liberally scrawled all over the structure as the assembly continued. Because it was possible in the design process to align the computer drawn frames one over the other on screen, it was easy to ensure that the locating hole and notch for the propeller shaft in Frames 7 and 8 were each perfectly aligned, **Photo 14**, the model of course having a motor and propshaft in each of the hull's halves.

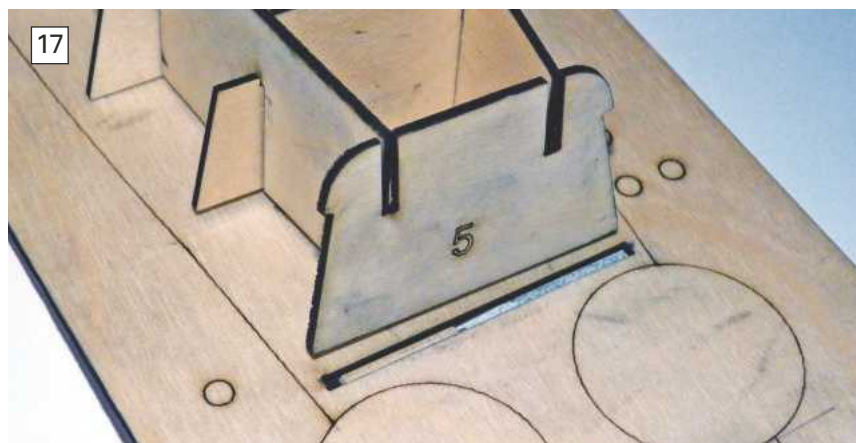
Deckhouse and deck

Wood of course burns, so the small parts came out a bit scorched and some tiny cut outs simply vapourised, so there is a limit to just how small you can laser-cut pieces from thin plywood. The 'duckboard' grating which sits in the well of the bridge space demonstrates the limits at which things can be readily cut, **Photo 15**. Each square in the grating was 2mm across and the bridging pieces in between barely survived the cutting process, despite the power and speed settings on the laser cutter being set to just enough to barely cut through the 2mm plywood.



After 'popping' the components of the deckhouse out of the plywood sheet, a quick light sanding ensured that these parts went together very easily, **Photo 16**. Locating notches were laser-cut in the removable section of the deck to take the deckhouse frames. The area of the deck below the deckhouse





has a distinctive curve, so notches were needed to securely glue the components in place and ensure the deck curvature would hold true, **Photo 17**. I decided not to glue the deckhouse components together until the hull was completed and the deck glued in place, so if need be these components could be adjusted for a final perfect fit.

Planking

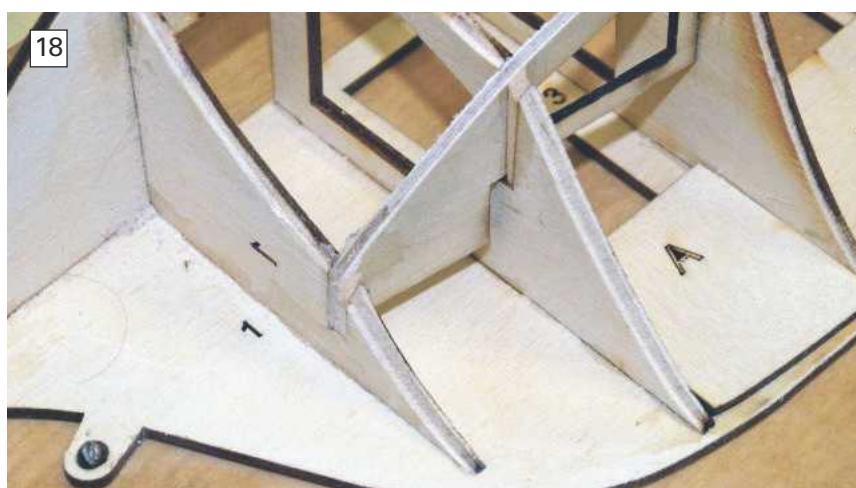
The frames were sanded to conform to the correct curvature of the hull. Various curved shapes of wood were used to hold the sandpaper to create the correct curvature of the edges of the frames, **Photo 18**. The foremost part of the bow was to be filled in with solid block balsa and sanded to shape after the planking was completed and the two halves of the hull joined together, allowing their shaping to be better judged against the overall shape.

Diagonal planking would allow the flare in the hull sides to be reproduced with some degree of accuracy and 1 x 10mm lime stripwood was used for planking the hull. This wood is fine grained and is reasonably easy to bend without fear of cracking.

A single thickness of planking would have been barely strong enough to take the knocks of everyday use, so it was planned to have two skins of diagonal planks. The strips of wood were sorted into varying degrees of suppleness, using the softer grades of wood to form around the tighter curvature at the bow area. Before planking actually commenced, the internal parts of the bow framework which would become hidden as planking continued were varnished.

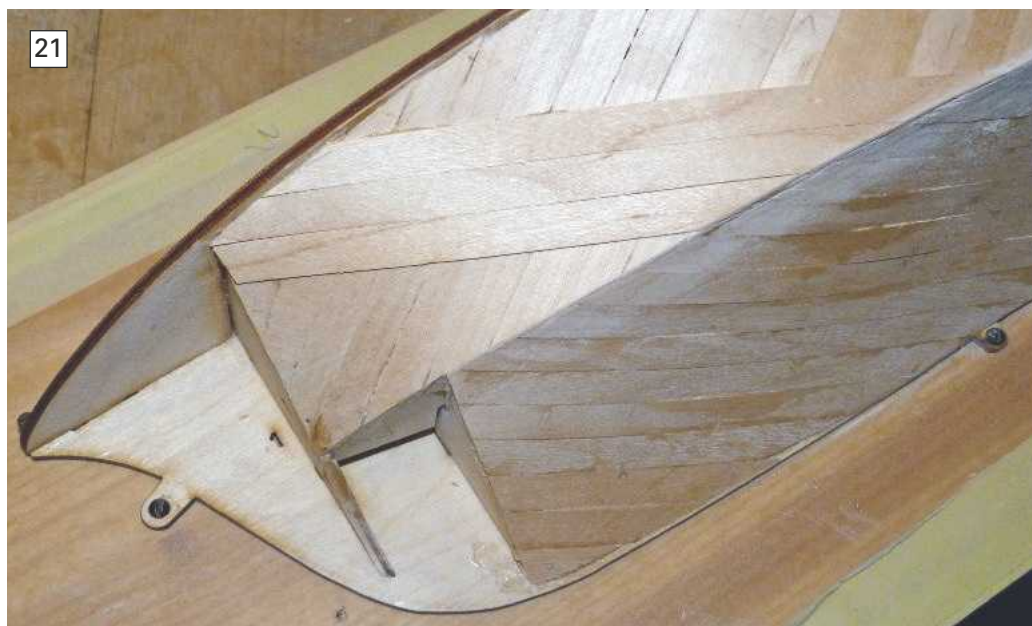
The first short length was positioned at an angle between Frame 1 and Frame 3, ensuring enough surface area for a firm enough fixing. The choice of angle came from a photo on the Internet showing a full-size PT boat under construction. Fast setting cyanoacrylate glue was used, being careful to avoid gluing my fingers to the framework in the process, **Photo 19**!

The planking was easily trimmed to length and shape with a sharp craft knife, then chamfered with fine sandpaper prior to gluing to the hull framework. Planking continued from bow to transom, carefully butting each plank in turn against the previous one, **Photo 20**. The planks were glued to the frames, but not each other. The flexibility this left in the planking ensured that the second layer of planking could be



Fast setting cyanoacrylate glue was used, being careful to avoid gluing my fingers to the framework in the process...





“The second layer of planking ensured the integrity of the whole structure.”

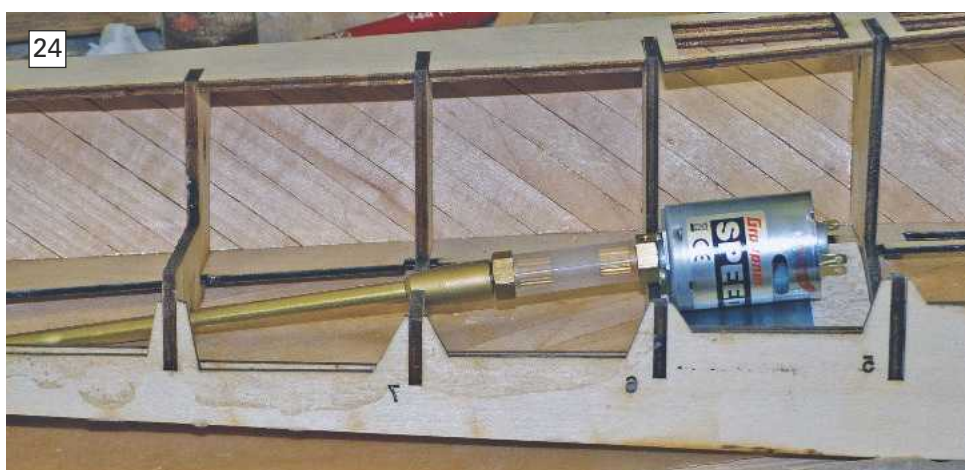


moulded in to the contours of the hull and firmly laminated to the planks below with more quick setting cyanoacrylate glue.

The second layer of planking ensured the integrity of the whole structure. A clean scarf joint was left along the chine length which in turn would be hidden by the spray rail, **Photo 21**. In this last picture you can also see that the bottom section of the hull has also received its first planking.

The completed half hull was then given a coat of thinned cellulose varnish inside and out to seal the hull. I did this before removing the hull half from the baseboard to limit any warping which might ensue as the varnish set and **Photo 22** is a bows-on view of the half hull thus far.

The locating hole for the propshaft, where it emerged from the hull, was marked from the inside by positioning the shaft through the holes previously cut in Frames 7 and 8. A small drill was used to make a few pilot holes prior to carving out with a craft knife and file, **Photo 23**. A rigid coupling was used to link the motor and propeller shaft. With the motor fixed to a pre-cut ply mount and slotted in place, perfect alignment was assured and this was easily judged from the top and the side. At this stage the motor mount and propshaft were not finally glued in place as I decided to leave that task until the hull's second half was completed. **Photo 24**.



Second half!

Obviously this needed to be constructed as a mirror image of the first. As all the frames were laser cut duplicates of the first half, it was a simple job to glue them in place with the frame numbers reversed, but I kept the first half-hull near at hand for comparison throughout the construction of the second half which proceeded in exactly the same way as already described.



Once the glue had set firmly and the clips and clamps were removed...



After applying a couple of coats of cellulose varnish (sanding sealer), the completed second-half was removed from the baseboard and held alongside the first to check for accuracy. The two halves matched perfectly, **Photo 25** - hooray! Having said that, it was the least one could expect as being computer drawn and designed, everything should match anyway.

A thin coat of epoxy glue was applied to both halves and using strong bulldog clips and small

clamps, the halves were held together whilst the adhesive fully cured, **Photo 26**. The tabs used to hold the keel halves to the baseboard also ensured perfect alignment of the two half-hull structures. Once the glue had set firmly and the clips and clamps were removed, **Photo 27**, it was a simple job to cut off the locating tabs, **Photo 28**.

The 2mm transom piece was glued in place to finish the stern, **Photo 29**, before blocking in



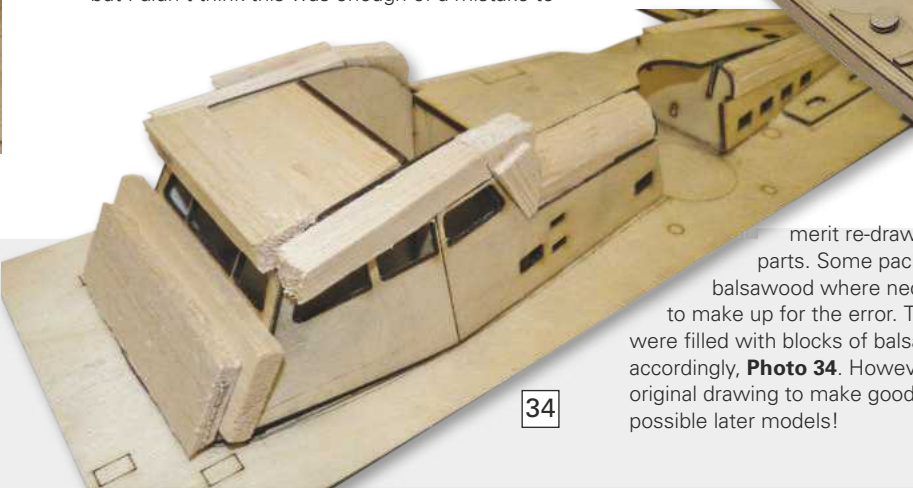
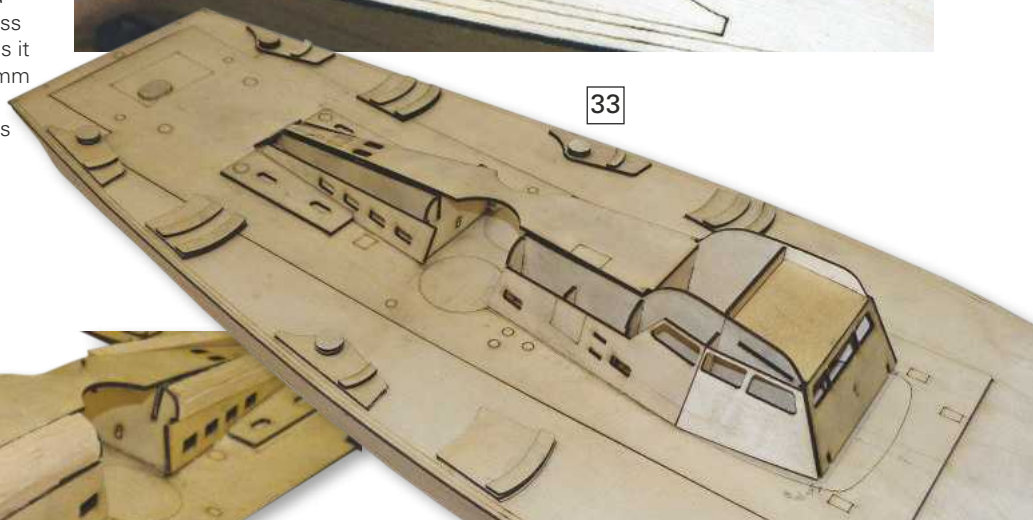


the bow on both sides with balsa and then carving and sanding to the final flared shape, **Photo 30**, this picture showing filler pieces still to be shaped.

Fitting the deck

The deck was firmly glued into place with an overall application of PVA adhesive. Small amounts of quick setting superglue were used around the deck edges to help hold the deck curvature while the PVA adhesive was setting, together with tape and clamps, **Photo 31**. I had opted for a flat deck across the beam with no real camber port to starboard, as it would have been difficult to mould a one piece 2mm deck panel to the curvature of the sub-deck in two directions at once. The remaining deck fittings were then positioned and glued in place over the laser etched outlines on the deck, **Photo 32**.

Although the deckhouse components went together very neatly, **Photo 33**, the curvature of the underside of the deckhouse didn't quite match up with the curvature of the actual deck, but I didn't think this was enough of a mistake to



merit re-drawing and cutting the parts. Some packing out with scrap balsawood where necessary was enough to make up for the error. The curved sections were filled with blocks of balsawood and shaped accordingly, **Photo 34**. However, I did revisit the original drawing to make good any inaccuracies for possible later models!

PHOTO 34: Soft balsawood blocks were added to the deckhouse corners ready for sanding to shape.

To be continued.

Useful information

Software suppliers

Inkscape is free to download from the website: www.inkscape.org. If you can follow online tutorials then it's reasonably quick to pick up the basics.

You can download thirty day free trial versions of Adobe Illustrator CS and CorelDraw from their respective websites: www.adobe.com and www.corel.com. To adjust the scanned images, I used an old free version of Adobe Photoshop 5LE. Adobe Photoshop Elements is just as good and there are several other free image processing software programmes out there such as Serif Photo Plus or Photogimp.

Materials/Suppliers

3mm & 2mm laser quality birch plywood from Hobarts, website: www.hobarts.com and/or Cornwall Models, website: www.cornwallmodelboats.co.uk.

Evo-Stik Mitre glue from DIY stores such as B&Q.

Raboesch waterproof sealed propshafts, motors, couplings, propellers, brass micro rudders were all from Cornwall Models.

Batteries and speed controllers were from Giant Shark, website: www.giantshark.co.uk.

Planet 2.4GHz from Howes Models.

10 x 1mm lime stripwood (and cyanoacrylate glue) from Hobbies, website: www.always hobbies.com.

Laser cutter: The type used is a LS6090 Laserscript from HPC laser Ltd.





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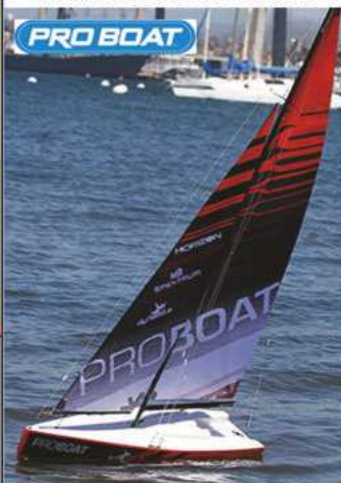
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Welcome once again to our regular sortie into the world of fighting ships and this month we visit the Devonport Naval Dockyard Heritage Centre, plus apply some of the finishing touches to the 1:72 scale HMS Daring project and there is the usual Mystery Picture.

Devonport Naval Dockyard Heritage Centre - Part One

In November 2013 I had the privilege of attending the centenary anniversary of the launch of the Queen Elizabeth class battleship HMS Warspite from Devonport Dockyard in Plymouth. Colin Vass exhibited his 1:72 scale model and his experience was described in April 2014 MB by himself. Another reason for my attending was to get a close look at the collection within the Devonport Naval Heritage Visitor Centre. This occupies buildings that once formed part of the South Yard, the same area from where HMS Warspite was launched on 26th November 1913.

TOP: What better way to mark the entrance to the Devonport Naval Heritage Centre!

PHOTO 1. My guide and hosts for the day are, left to right: Dave Scoble, PO Robbie Bates and Mike Burt.



From the 1690's, the presence of the Royal Navy and the building of warships for it grew exponentially and as a consequence the development of the entire local Plymouth area and economy. Although remaining in Ministry of Defence hands, parts of the South Yard in recent years have been used by civilian boat constructors and Devonport Yachts continue the heritage of shipbuilding with high end luxury craft. The North Yard remains the largest naval base in Europe and is dedicated to supporting the amphibious warfare ships, Bulwark, Albion and Ocean, plus for the time being many of the Type 23 frigates and all the survey vessels. Nuclear submarines are also refitted here as well as decommissioned boats being kept in a safe environment.

The Devonport Naval Heritage Centre is supported by the Royal Navy with help from the friends of the DNHC and staffed by serving RN personnel and a force of dedicated regular volunteers, many ex-dockyard workers whom I had the privilege to meet.

With the help of my guide, PO Robbie Bates RN, I was taken to the Model Ship Gallery. Here I met up with Curator of Ship Models, Dave Scoble, and researcher Mike Burt. Dave is well known in naval and modelling circles as a consummate builder of model ships both for industry and the RN. Without these guys, **Photo 1**, (Dave Scoble is on the left) and their dedication, the model collection would not exist in its present form.

The models

Many of the older exhibits have been here for some years, but the Model Gallery itself is quite new, containing postwar RN vessels such as the Type 12 and 21 frigates and many more through to the 1990's. Many of the models were donated or presented to the centre either from the Royal Navy, or from private model makers such as David Brown. His models incidentally are probably amongst the finest examples of non-professional model building available to view anywhere.



PHOTO 2. The 1:96 Jon Glossop constructed diorama of HMS Fearless.

PHOTO 3. The stern dock of HMS Fearless.



HMS Fearless L10

It was possible for a selected number of models to have their cases removed which certainly improves the quality of the photographs. Many of these models are waterline and set in dioramas and one of the largest is a 1:96 scale HMS Fearless, the ship being built and completed by Harland & Wolff Shipyard in Belfast on 25th November 1965. This diorama depicts a point in time, probably an amphibious exercise whilst transporting main battle tanks in landing craft mechanized (LCM's) as in **Photo 2**. Moving to the aft of the model we have a view of the LCM's moving clear of the flooding dock, **Photo 3**, in much the same way as the present generation of landing platform dock (LPD), HM Ships Albion and Bulwark. Viewing these models is a snapshot in time as for example HMS Fearless was equipped with a motor whaler, **Photo 4**, Sea Cat missile launchers and Corvus chaff launchers, something not seen in the current generation of warships.

HMS Fife - County class DLG

This was one of my favourite classes of Royal Navy warship. This particular model is of HMS Fife and like the HMS Fearless model is the work of professional model builder John Glossop. John and his father Julian are responsible for a huge number of the RN models now gracing museum and model collections throughout the UK, **Photo 5**.



PHOTO 4. In the 1960's and 1970's, ship's boats were still common and Sea Cat and Corvus chaff launchers were standard equipment.



PHOTO 5. The County class guided missile destroyer HMS Fife with Exocet SSM's forward of the bridge.

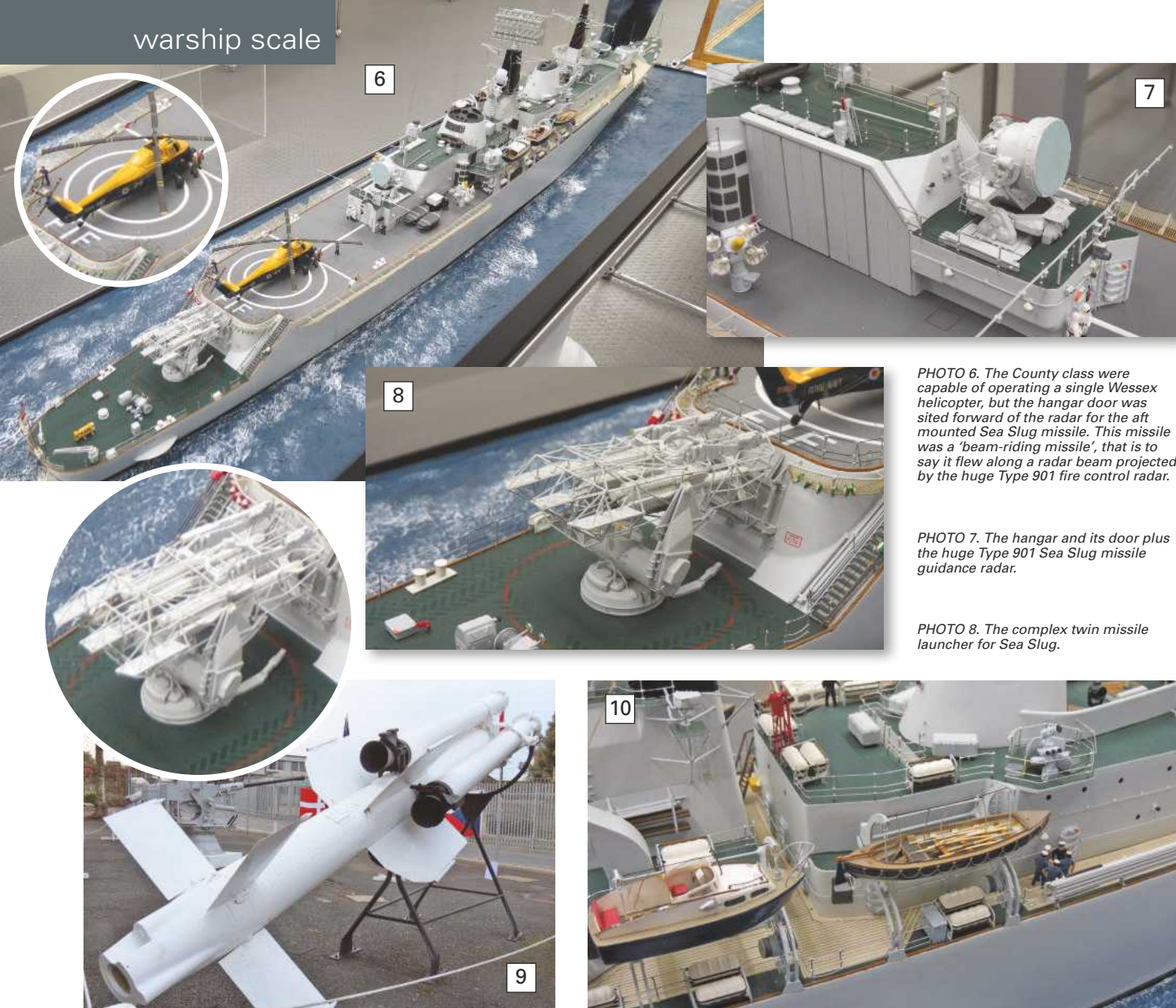


PHOTO 6. The County class were capable of operating a single Wessex helicopter, but the hangar door was sited forward of the radar for the aft mounted Sea Slug missile. This missile was a 'beam-riding missile', that is to say it flew along a radar beam projected by the huge Type 901 fire control radar.

PHOTO 7. The hangar and its door plus the huge Type 901 Sea Slug missile guidance radar.

PHOTO 8. The complex twin missile launcher for Sea Slug.

PHOTO 9. An actual Sea Slug missile as part of the external Heritage Centre display.

PHOTO 10. A bygone era with a powered whaler and a Fairey Swordsman aboard HMS Fife.

...loading and firing these missiles meant that the rate of fire was inevitably slow...

HMS Fife was built at Fairfield Shipyard between 31st April 1962 and 26th June 1966, being one of a class of eight, and HMS Devonshire was the first to enter service in November 1962. These were termed 'Guided Missile Destroyer' but in reality these ships of 6800 tons and 521ft length were more light cruiser than destroyer. **Photo 6** is a stern view of the ship and they were also the first postwar destroyers to be fitted with a dedicated hangar, albeit in a rather cumbersome arrangement, whereby the Wessex helicopter had to be rolled past the side of the Sea Slug guidance radar Type 901 installation via the port side of the ship, to the entrance door, **Photo 7**.

Development of this type of missile guidance system began in 1945 and models such as this are all that remain in three dimensional form nowadays to help the current potential model maker.

Sea Slug launcher and missile

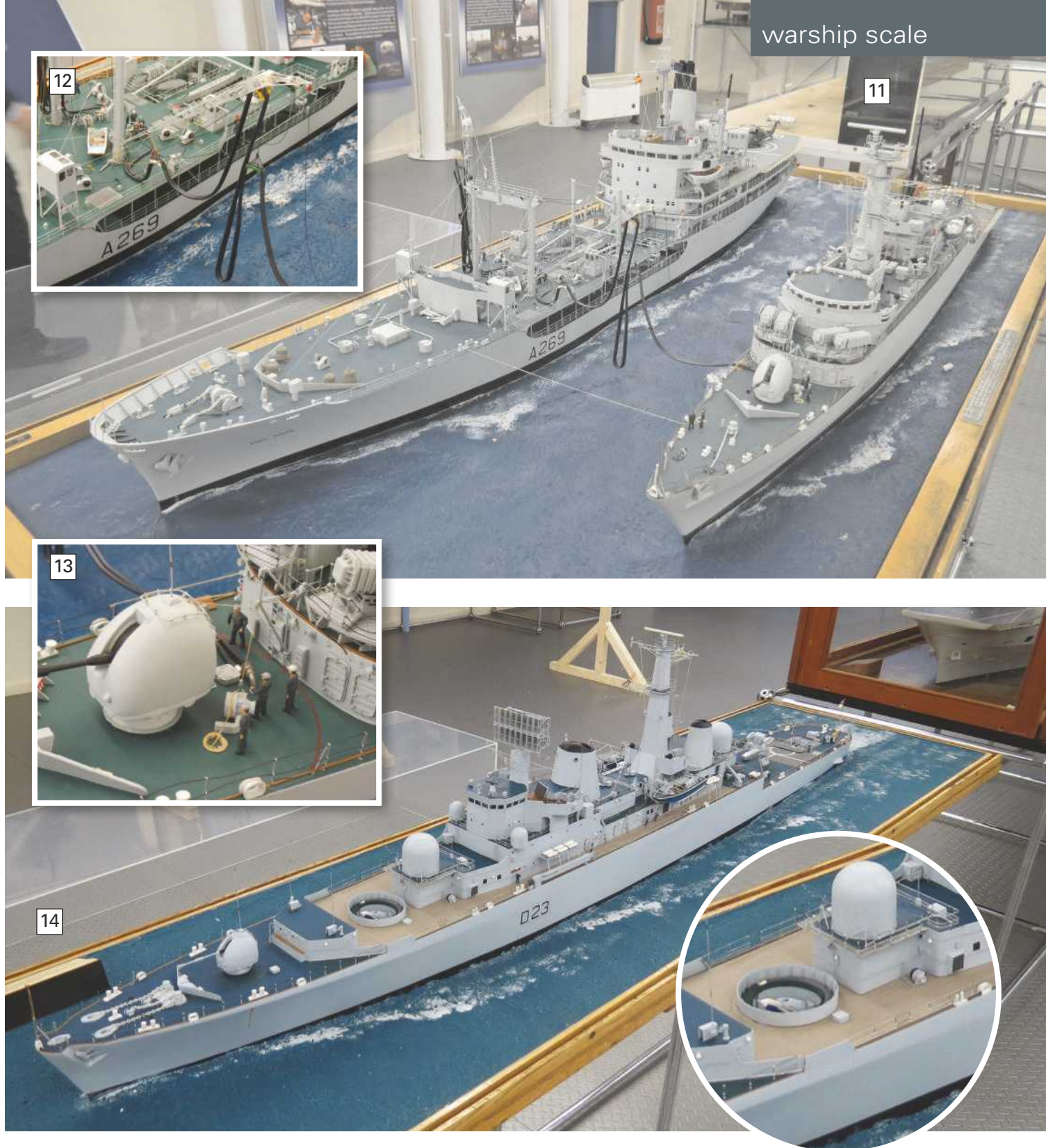
There is no doubt the County class vessels mounted the most complex naval missile launcher ever built, at least in model building terms(!), but this model was of course built to order by Jon Glossop, and what a superb piece of model making it is, **Photo 8**. During operational use, the missile's wings etc. were added to its main body during transit via an assembly tunnel within the hull of the vessel until it would emerge through an armoured door to be loaded

onto the launcher. One of the external exhibits on display at Devonport is a Sea Slug missile, but minus its warhead, **Photo 9**. It has been quoted that the County class could carry 30 Sea Slug missiles, but in reality that is doubtful. The whole process of assembling, loading and firing these missiles meant that the rate of fire was inevitably slow and bearing in mind their purpose was to engage attacking aircraft, probably this long range air defence system, and the ship, would soon have been overwhelmed when confronted by a mass aerial attack.

Before we leave the model of HMS Fife, we will have a quick look at some of the boats carried. Although the County class was 'cutting edge technology' in the early 1960's, HMS Fife represented a period when her captain had that traditional privilege of deciding the colour scheme of the ship's boats and in particular, the motor boats. In **Photo 10**, the motor whaler is clearly visible but aft is a Fairy Swordsman, all a far cry from the muted colour scheme of the modern rigid inflatable boats that are standard on today's warships. Those were the days!

Replenishment at Sea diorama

This is a regular but difficult operation performed by modern navies around the globe. In this John Glossop diorama, the small fleet tanker, RFA Grey Rover, is passing fuel to the Type 21 frigate HMS



Active, **Photo 11**. The attention to detail is superb, as for example in **Photo 12**, please note the troughs supporting the hoses that are visible in green, yellow and white, plus the recovery wire passing through a red coloured block. In **Photo 13**, the hose is secured to HMS Active (the receiving ship) and note the small winch that is part of the equipment. HMS Active was later sold to Pakistan in 1994 and became PNS Shah Jahan and is still in service at the time of writing.

HMS Bristol - Type 82 destroyer

Another favourite of mine is HMS Bristol, the only post-WW2 three funnel RN destroyer, a handsome warship that was considered to be a

white elephant following the cancellation of the CVA-01 carrier programme in 1966. Intended as a class of four guided missile destroyers, they were to provide escorts for the new 63000 ton aircraft carrier, but only HMS Bristol was completed. She was a one-off vessel, but the ship performed well and trialled new weapon systems of that period including the 4.5 inch/55 cal. Mk.8 naval gun; the Sea Dart missile system; Ikara anti-submarine missile system plus a number of radar arrays, some of which became standard on the subsequent Type 42 destroyers. However, the Ikara system was only retro-fitted to some of the Leander class of frigate. The model of HMS Bristol is to a scale of 1:96 and please note the wooden deck amidships, **Photo 14**.

PHOTO 11. A Jon Glossop diorama of a replenishment at sea (RAS) exercise.

PHOTO 12. The equipment used for replenishment at sea is clearly visible on these models and helps in the understanding of the procedures used.

PHOTO 13. HMS Active receiving fuel.

PHOTO 14. HMS Bristol was one of a kind.



PHOTO 15. David Brown's incredibly detailed model of the Type 22 Batch Three frigate HMS Cornwall.

PHOTO 16. Part of HMS Warspite as of 1933, being built by David Brown.

PHOTO 17. A general view of just some of the models on display at the Devonport Naval Heritage Centre.

PHOTO 18. How the Jacobin plan shows the top of the after exhaust casing.

David Brown's models

As mentioned earlier, this Heritage Centre is home to a number of warship models, including those of David Brown who is a truly outstanding model builder with examples of his work appearing regularly at the annual MyTimeMedia Sandown Park Model Engineer Exhibition. These have included his remarkable HMS Cornwall, a batch three Type 22 frigate. The level of detail on this model is extraordinary, **Photo 15**, and this is also one of relatively few models where the hull shell plating dimpling matches that of the real ship. However, on this occasion, David was asked if he could display his model of HMS Warspite, still not fully completed, depicting the ship after her 1924 to 1926 refit when the two funnels were trunked into a single uptake. More pictures next month, but for now our closing picture in this sequence, **Photo 16**, is of some of the detail on David's model of HMS Warspite.

17

Conclusion

Photo 17 is a general view of part of the model gallery. The models here are displayed in much the same way as they always used to be before museums became 'interactive'. These models are very often the only three dimensional representation of warships remaining that have long gone out of service and been scrapped, so are a great research resource to current day enthusiasts wishing to create models of such vessels, but it is perhaps such a shame that so often nowadays they are hidden away in isolated store rooms.

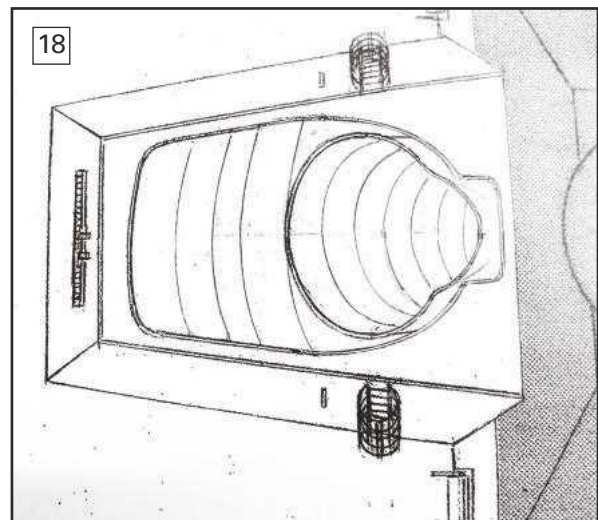
1:72 scale HMS Daring Type 45 destroyer - Part 34

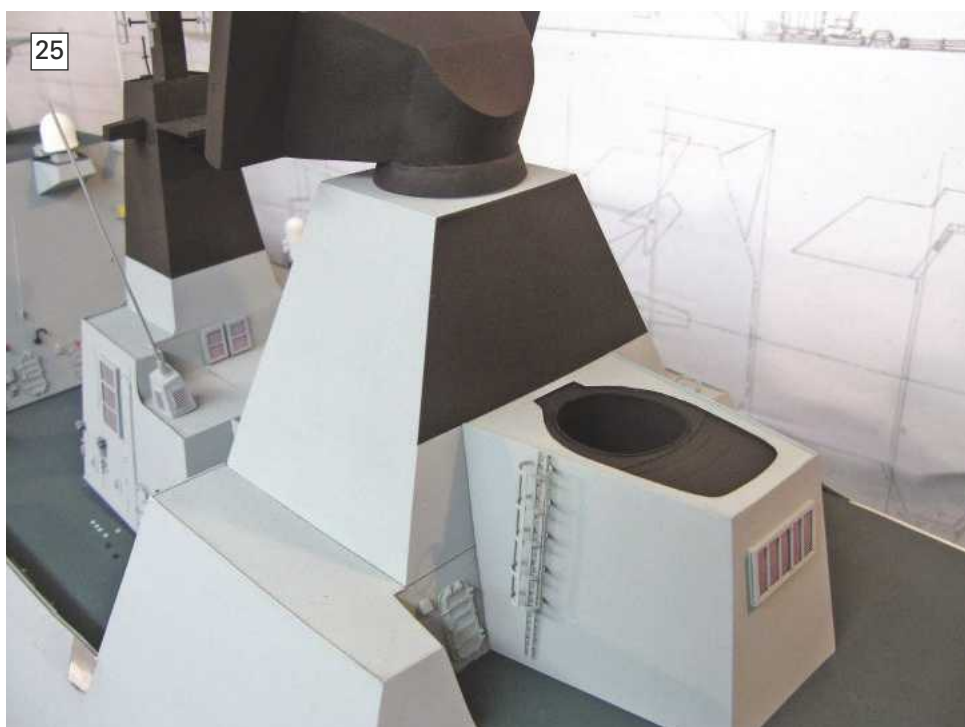
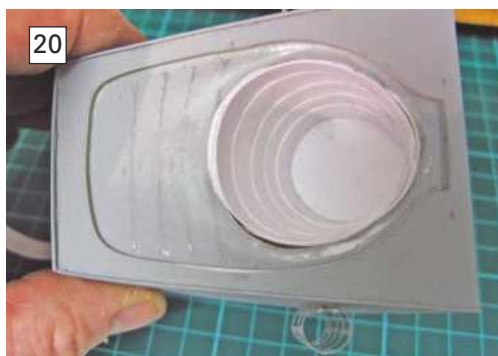
Very often with a model building project such as this, one puts-off making some parts because we just don't know exactly how it should be, but as the end comes ever closer, there is no avoiding the task.

Top of the aft exhaust uptake

Unlike previous RN warships, the inside and top of this exhaust uptake is fitted with overlapping sections. The Jacobin drawing, whilst illustrating the detail does not show how this section actually appears in a three dimensional form and unfortunately the one and only picture I possess looking down on it all doesn't help either. So, the best I could do was to interpret what was available, **Photo 18**.

During the earlier stages of this project, I had made provision for the top of this funnel to be removed without effecting the rigidity of the casing. I assumed that the actual exhaust passage was at an angle within the casing and to make the task





really interesting, it diminished in width rather like a cone, but with overlapping sections.

The first job was to cut the opening in the top to an oval shape and estimate the depth, knowing the number of lapped sections within the passage, **Photo 19**. Creating the cone shape in overlapping sections was more trial and error than geometric calculation, but it could be done as **Photo 20** shows. Once the basic segmented cone was formed, the bottom was blanked-off, which of course is not 100% correct, but by doing this it helped form the cone into a more rigid workable shape.

The next task was to create the scalloped top as shown in the drawing and it's difficult to judge whether it is concave or flat. For convenience, and not having any definite information, I went for flat! Using tissue paper, the inside edge of the scalloped section was marked and the impression transferred

to a sheet of styrene, marking and cutting each segment as in **Photo 21**.

Once cut, each section was placed into position as in **Photo 22**, a further curved section was created to sit over the opening, followed by the removal of the centre which creates the exhaust orifice, then Evergreen strip was added around the lip and this can be seen more clearly in **Photo 23**. For tidying-up the inside edge, Albion Alloys' Sanding Stick came in quite handy, **Photo 24**.

The final task was to mask-off the surrounding area, in much the same way as recently discussed within these pages in previous issues, and then airbrush it with Humbrol matt black containing 20% thinners (five parts paint to one part thinners). The end result is a clean tidy job if I say it myself, **Photo 25**. As to how authentic it is, I can only guesstimate that it looks about right, given the information available.

Amidships bulwarks

Covered in February and March 2013 issues was the method used for constructing the bulwarks. As described then, these are in sections that on the full-size ship are removable from their positions

PHOTO 19. Making the basic cone shape that forms the exhaust uptake.

PHOTO 20. The cone is divided into segments and its base is closed.

PHOTO 21. Marking and cutting the scalloped segments for the top of the funnel.

PHOTO 22. Each segment is slotted into place.

PHOTO 23. The completed segmented funnel exhaust uptake.

PHOTO 24. Any burrs are gently sanded down to give a clean smooth inner edging.

PHOTO 25. The final task is to airbrush matt black within and around the top of the funnel casing.

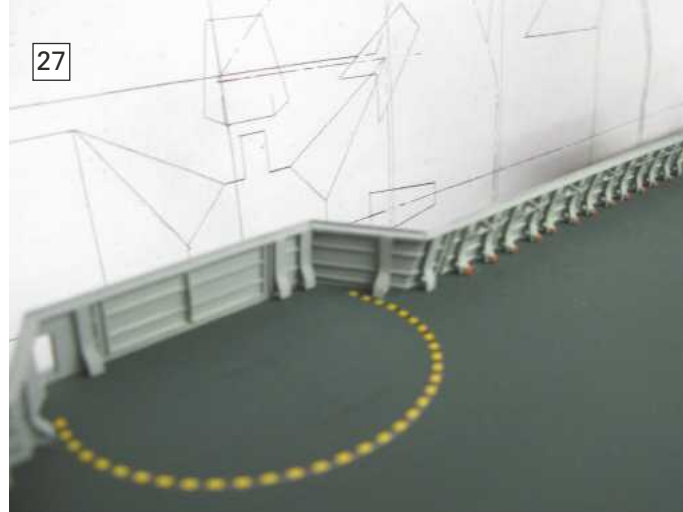
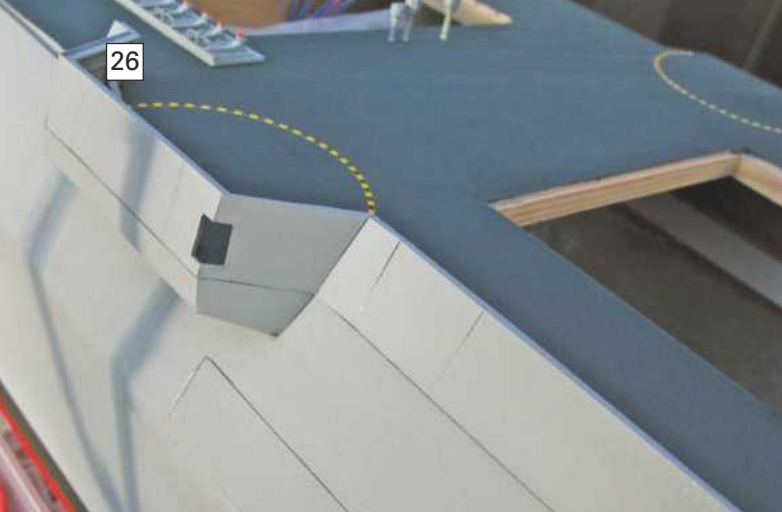


PHOTO 26. Fixing the partitioned bulwark amidships.

PHOTO 27. Not all the bulwark sections have castor wheels fitted

PHOTO 28. Preparing the glazing for the bridge unit.

PHOTO 29. Each piece of glazing is slotted into place.

PHOTO 30. The lower backing secures the glazing.

PHOTO 31. The roof slots into place on top of the sides of the bridge.



along the deck edges and have castors attached to their lower legs. Fixing these into place presented few difficulties as the lower portion of the bulwarks rest in a groove 2mm below deck level ensuring a good fit and where the adhesive could be applied along the length of each section. All the sections were measured and prepared prior to airbrushing, so all that was then required was to apply adhesive to the bottom inside edge of each section and

locate it in position. Their angles were determined by the position of the castors. As per the real ship, there is a small gap along the bottom edge and between each panel, **Photos 26 and 27**.

Glazing the bridge windows

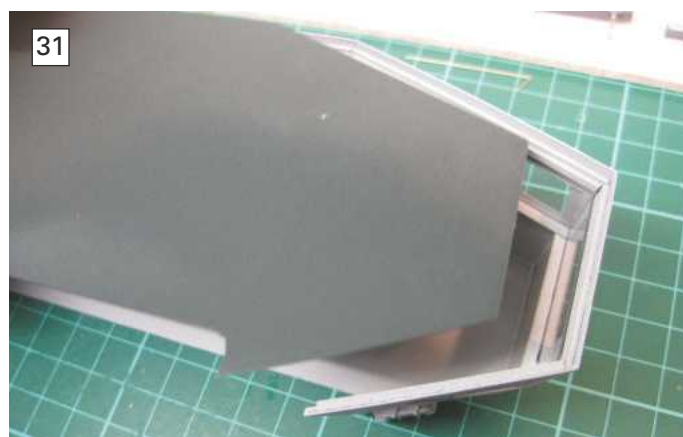
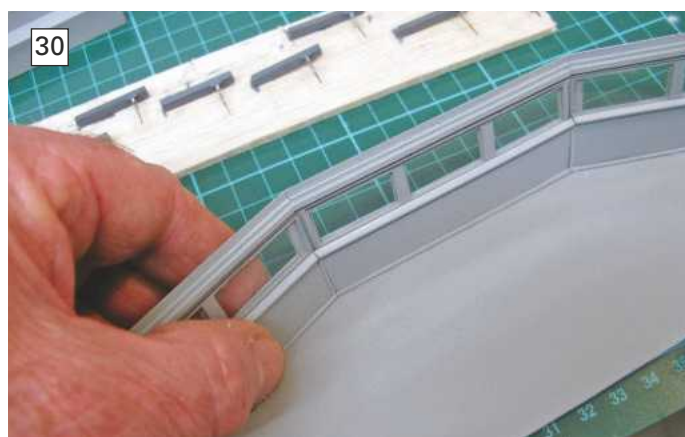
With the interior of the bridge airbrush painted, but before the roof was fixed into position, the glazing had to be completed. All the preparation work was undertaken some time ago with the process discussed in October 2013 MB. I try where possible to avoid using any adhesive to secure the clear glazing sheets, but rely on frames or grooves into which they can be slotted. As a reminder, there are seven pieces of glazing with five having a backing piece which also includes a narrow shelf, **Photo 28**. Each strip of glazing is carefully slotted into its groove as in **Photo 29**. With the glazing in place the backing was added, and adhesive can be applied to each joint sparingly and just sufficient to retain the glazing firmly in place. The net result is a neat and clean piece of glazing overall, **Photo 30**.

Securing the roof

Before securing the roof, the bridge interior can be fitted out. There are a number of pictures on the Internet which show the bridge's internal area including the captain's chair. I have installed the various cabinets, but they are very rudimentary and do not show any of the rows of screens as featured in the pictures. This is all more for effect than authenticity, but there is no reason why you cannot take it all to higher level of detail if you so wish. Once you are satisfied that there are no more items required within the bridge area, the roof can be fixed into place, for which a two part epoxy adhesive was carefully applied around the inside top edge, **Photo 31**.

Adding the fittings to the bridge surround and roof

With the roof in place, the next task was to fit each of the wiper motor boxes. As these were all previously marked so they would only go in a dedicated place on the bridge, they each fitted just fine with their wiper





blades lightly touching the glazed windows, **Photo 32**. The final step was to fit the roof fittings which include on either side, the fire control directors together with other various aerials and communication link devices. All that was necessary was to locate each part in its pre-determined place, **Photo 33**. Included in this picture are also the fittings on each bridge wing and these will be discussed next month.

Answer to the April 2014 Mystery Picture

The clue was: A ship under two flags.

Clearly the ship in the picture had the Soviet Navy ensign flying from the gaff on the main mast. The ship as you would have guessed has the familiar lines of a British 'R' class battleship dating from WW1. In fact the warship was HMS Royal Sovereign, lead ship of the class of five that included Ramillies, Resolution, Revenge and Royal Oak. HMS Royal Sovereign was launched on 29th April 1915 and entered service in May 1916. She was fitted with a main armament of eight 15 inch guns in four twin turrets, twelve 6 inch guns in hull casemates and eight 4 inch guns.

She displaced 29150 tons, slightly less than the Queen Elizabeth class (which included HMS Warspite) and being 620ft long was also 19ft shorter. The steam turbines driving four propshafts produced only 40000shp compared to the 75000shp of HMS Queen Elizabeth and her class sisters, and as a result there was a significant difference in performance, but being fitted with far fewer boilers, the Royal Sovereign class required only a single funnel.

Between the wars, HMS Royal Sovereign underwent a number of partial refits, including having a better anti-aircraft battery fitted and improved habitability on the upper control tower platforms forward, yet she was still considered to be one of the most draughty ships in the fleet! In 1941 the AA defence was further improved by the addition of ten 20mm guns and a further 14 were added in 1942. By 1943 this was augmented once again by sixteen more twin 20mm guns. Following her service with the Eastern Fleet, HMS Royal Sovereign was refitted in the USA between 1942 and 1943, but on returning to the UK was paid-off into reserve.

In the spring of 1944 an agreement was reached with Russia that a number of allied warships would

be transferred to their navy for the remaining duration of the war in lieu of captured Italian warships being handed-over. These included the refitted HMS Royal Sovereign and the old US Navy Omaha class light cruiser USS Milwaukee, plus a number of destroyers and submarines. Under the agreement, HMS Royal Sovereign was renamed Archangelsk and full marks to you if you got both names correct! Incidentally, the USS Milwaukee received the name Murmansk. Although the agreement was to aid one of the allies, the whole arrangement was politically 'charged' and the vessels were not actually returned until 1949.

This month's Mystery Picture, Photo 34

The clue is: A 2000 year old Roman tragedy waiting to happen!

References and acknowledgements

HMS Fife ref: RN Destroyers since 1945 by Leo Marriott, pages 96 to 110.

HMS Bristol ref: RN Destroyers since 1945 (Leo Marriott), pages 110 to 115.

RAS diorama ref: Replenishment at Sea, Naval Ratings Handbook 1975, page 65.

HMS Royal Sovereign ref: British battleships 1919 to 1939 by R. A. Burt, pages 148 to 202.

My thanks to **Bill Clark** for the Mystery Picture

My thanks to the **Captain and ship's company of**

HMS Daring and to the **Devonport Heritage Centre**

staff and volunteers for all their help and assistance.●

warship scale

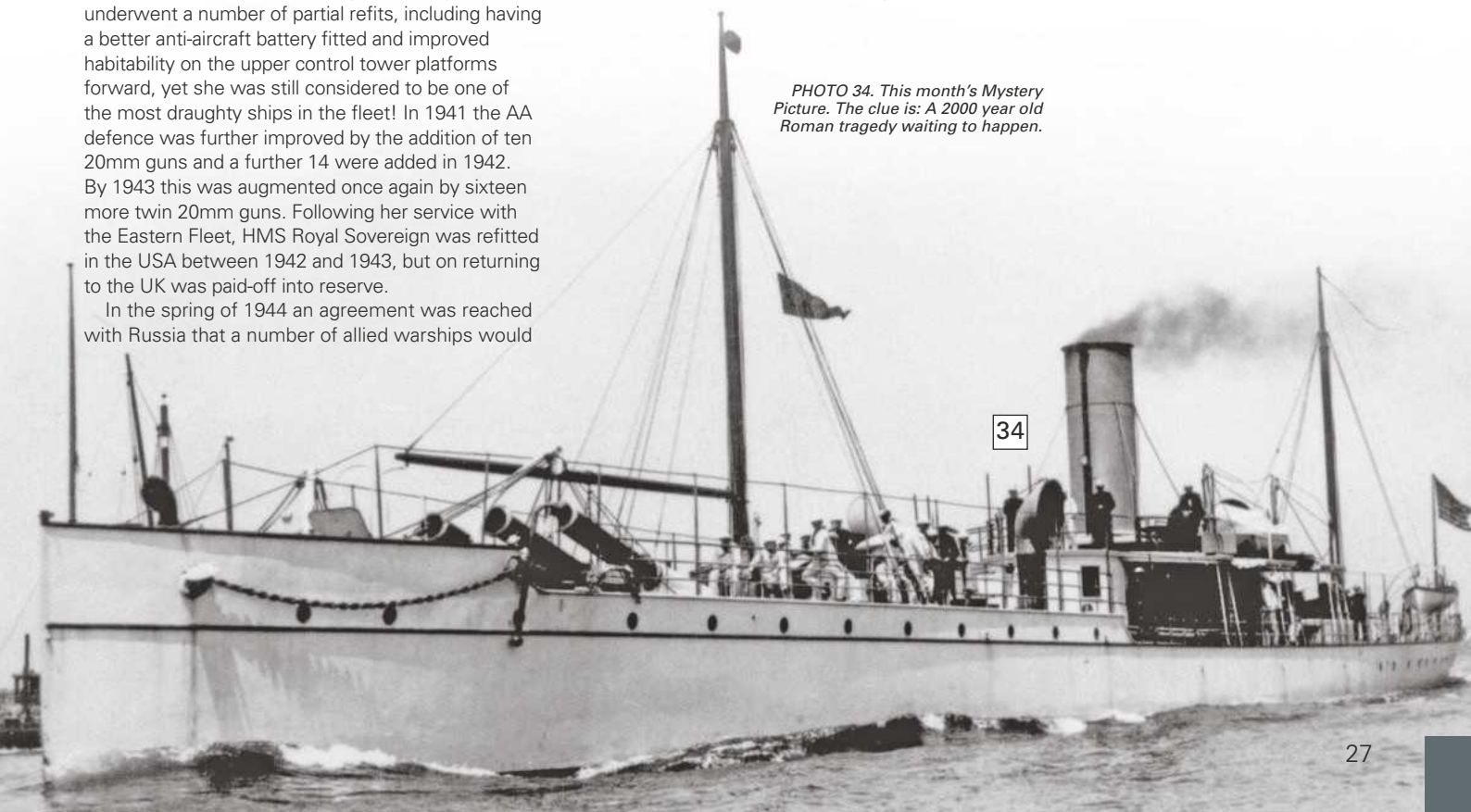


PHOTO 32. Wiper boxes in place on the bridge unit.

PHOTO 33. The completed bridge is set into place.

The final step was to fit the roof fittings which include on either side...

PHOTO 34. This month's Mystery Picture. The clue is: A 2000 year old Roman tragedy waiting to happen.



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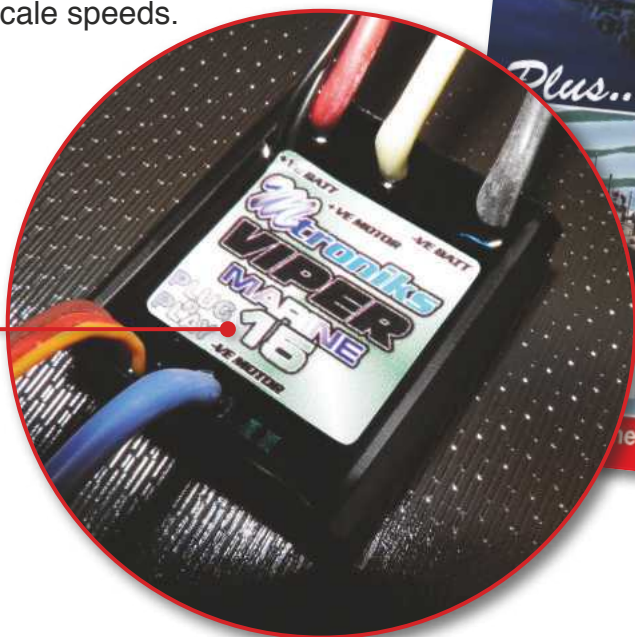
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FALCON

Bill Langton's outstanding nine foot long model



This was unwittingly started as a model in 1983 when I wanted to build a more challenging engine than I had up to that date. The engine chosen was the Stuart Turner triple expansion engine which had a reputation of being not the most straightforward of construction projects, a fully justified reputation as it turned out. Six cranks shafts and three years later saw it completed and at this point, I had to decide if it would be put into a glass case or used in a model. I have always had a liking for wooden steam boats, so a model it was to be and this proved to be a decision that would keep me occupied for just over 20 years!

The size of the engine obviously influenced the size of the model. Lake Windermere steam launches have an elegant appeal that I was unable to resist, having that polished woodwork, brass fittings and steam propulsion, so a model based on the original launch named Swallow and built in 1911 was decided upon.

TOP: Bill Langton at the start of planking Falcon, more than 25 year's ago!

ABOVE: Bill with his completed model.

BELOW: A 2013 stern view of Falcon.





LEFT: Teak is a very difficult wood to work with as it blunts tools quickly. Here are lots of clamps to hold the planks to the hull framework. The glue was a special Ciba Geigy adhesive.

BELOW: The complete Teak hull, during the rubbing down and painting process. Tung oil which is present in Teak is also within high grade dedicated yacht varnishes. See text for varnishing process.

Getting started

The journey had begun and so too had the problems and the first of these was that it was impossible to obtain any plans. Not that the plans did not exist, but commercial interests at the time kept them unavailable from the public arena. This meant that an exact scale model was not possible and as a result, over the years a lot of reworking was required. Work proceeded using hundreds of photographs and a small side elevation print which was available in the tourist shop at the Lake Windermere Boat Museum. Because it wasn't to be an exact scale model it could not be named Swallow, so in keeping with a lakeland bird theme, Falcon was born.

Teak?

The next problem was 100% of my own making and would return time and again to haunt me during the ensuing years. I thought it would be nice to make Falcon in the same wood as the original, so like many of the Windermere launches, it was built using teak. The price of the teak at £100 was frightening even then in 1986, but worse was the effort tracking-down fine-grained examples of the wood with not too many knots. After searching for about a year, I found a very helpful wood yard in Shoreditch, East London. Teak is a lovely wood when finished, but getting there threw up some hurdles as cutting and machining this wood blunts tooling as readily as mild steel, because it contains a very fine gritty substance and therefore continuous sharpening of the tools was required.

Gluing

This very nearly put a stop to work right at the start. Teak is an oily wood and none of the glues about at that time would bond joints with any sort of strength, so it seemed like I had fallen at the first hurdle. By chance though, around this time I was visiting Duxford and spotted a road sign to Ciba Geigy, a glue manufacturer. I took a chance, went in and before too long, I was explaining my problem to one of their laboratory technicians. It transpired that they had a contract to provide glue for the teak engine cowlings on some World War Two aeroplanes. To cut a long story short, I left them that day with a made up sample of enough



INSET: Detail of the planking as seen from inside of hull.



glue to complete the planking of the hull. Although it was very messy to use, it did what it said on the tin, although two days were required each time for it to fully cure.

Planking the hull

The carvel (edge to edge) planking was somewhat complicated by the shape of the stern. Jigs were made to try to ensure that the bevelled edges mated as closely as possible, but it was of course, necessary to steam the wood to fit the curvature of the stern. However, I was to learn that teak (because of its oily nature) would not respond to the usual treatment. The only way I could find around the problem was to boil the timber and put the oil back later! Each plank took about three weeks to shape and they had to be applied in pairs to avoid distortion. Planking the hull accounted for three years at which point I could sand it back

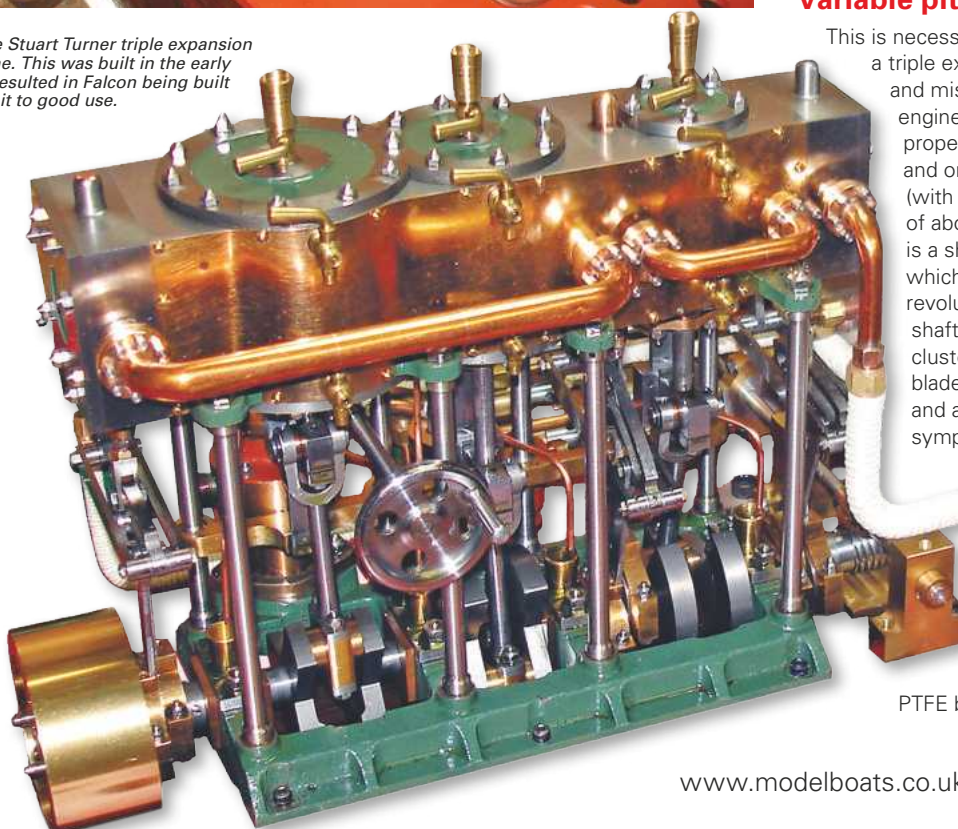
Planking the hull accounted for three years at which point I could sand it back flat...

The boiler, but still not complete. It is of a Yarrow triple drum design and this is the port side burner end, which is towards the bows in the model.

BELOW: The completed boiler from its starboard side. Just look at the pipework!



BELOW: The Stuart Turner triple expansion steam engine. This was built in the early 1980's and resulted in Falcon being built so as to put it to good use.



ABOVE: The propeller is variable pitch to enable going astern without reversing the steam engine and to enhance speed control.

flat and see if it revealed any gaps and yes, lady luck was smiling! So, after seven to eight year's work, I had an engine and an empty hull. A house move then saw the mothballing of the project for another 8 years, hence the extended timespan from concept to completion.

The boiler

This was the first item to resolve when work recommenced and the Yarrow design was chosen for two main reasons. First, its shape suited the model and second, it was something whose building appealed to me. The construction of it was straightforward, but there was a need to accurately machine the holes in the three tubes (drums) to allow trouble free assembly and good joints for the silver solder to run into. The escape of steam from the two safety valves is achieved by a side take-off from each valve being taken to the two uptakes on the outside of the funnel via guide apertures in the top of the engine and boiler bodywork. The working pressure is 120lbs/sq. inch.

Variable pitch propeller

This is necessary, because stopping and starting a triple expansion engine can be a bit hit and miss, so it is easier to keep the engine going and alter the position of the propeller blades. Again, I had no plans and only a general idea which evolved (with numerous rebuilds) over a period of about 18 months. In essence there is a shaft within the visible propshaft which is made to turn about half a revolution in relation to it. This inner shaft is terminated on a bevel gear cluster within the propeller hub. Each blade terminates on a matching gear and all three blades move together in sympathy with the movement of the inner shaft, all of which is much easier to show than to describe. The blades are aluminium bronze castings located by 180 serrations onto stainless steel spigots attached to the aforementioned bevel gears within the hub. They gain additional stability from circular PTFE bearings in their base flanges.



LEFT: A side view of the whole steam plant and please remember that this powers a nine foot long model!



Superstructure

Fortunately, in the time that had elapsed since the hull was planked, there had appeared on the market a couple of superglues that would join teak satisfactorily and which made the task a much more viable possibility, that is to say not having to

wait up to 48 hours for every glue application to set. Because of the size of the model, nearly all the upper woodworks had to be machined and this is where the curse of teak struck again with blunt cutters by the shed load and of course the size of everything guaranteed very slow progress.

ABOVE LEFT: All teak! The cabin rear bulkhead area under construction. The model is based on photographs and a very small side elevation plan, but is of no particular Lake Windermere steam launch, but representative of the type.

ABOVE: The front bulkhead of the finished cabin.

LEFT: An overall view of the aft cockpit area of Falcon and its awning. This picture dates from 2008 and the hull has not been finally varnished at this stage.



“...curse of teak struck again with blunt cutters by the shed load...”



ABOVE: A detail picture of the skylight over the engine.



ABOVE: A close-up of the completed rear cockpit.



ABOVE: Falcon! - this nameplate includes gold-leaf.



Varnishing the woodwork

This turned out to be very interesting, again because of the oily teak. The method that is generally accepted, by myself included, is that one cleans the surface with spirit to force back the oil and then apply the varnish without too much delay. I can confirm that this does not work and the varnish will peel-off within about six months!

The method that does work, is to add more of the teak's natural Tung oil, almost to the point of saturation, let it dry and then apply more and sand the wet surface until an oily paste is present. Wipe this off, allow to dry until just damp and then apply a good quality yacht varnish. When the first coat dries all oiliness has disappeared. This varnish works because there is a natural bond between the added Tung oil in the teak and the Tung oil again that is a major constituent of high quality yacht varnishes. With the base coat in place the rest is, as they say, plain sailing. This hull has had about 25 coats, but be careful though as not all yacht varnishes are what they say they are, so do check the tin labelling.

Falcon nameplate

This is where I had a baptism of fire with gold leaf. I was also lucky enough to find someone with the necessary software to produce the design which was then printed on to film. The gold leaf sits behind the film and was all rather fiddly, but rewarding!

Conclusion

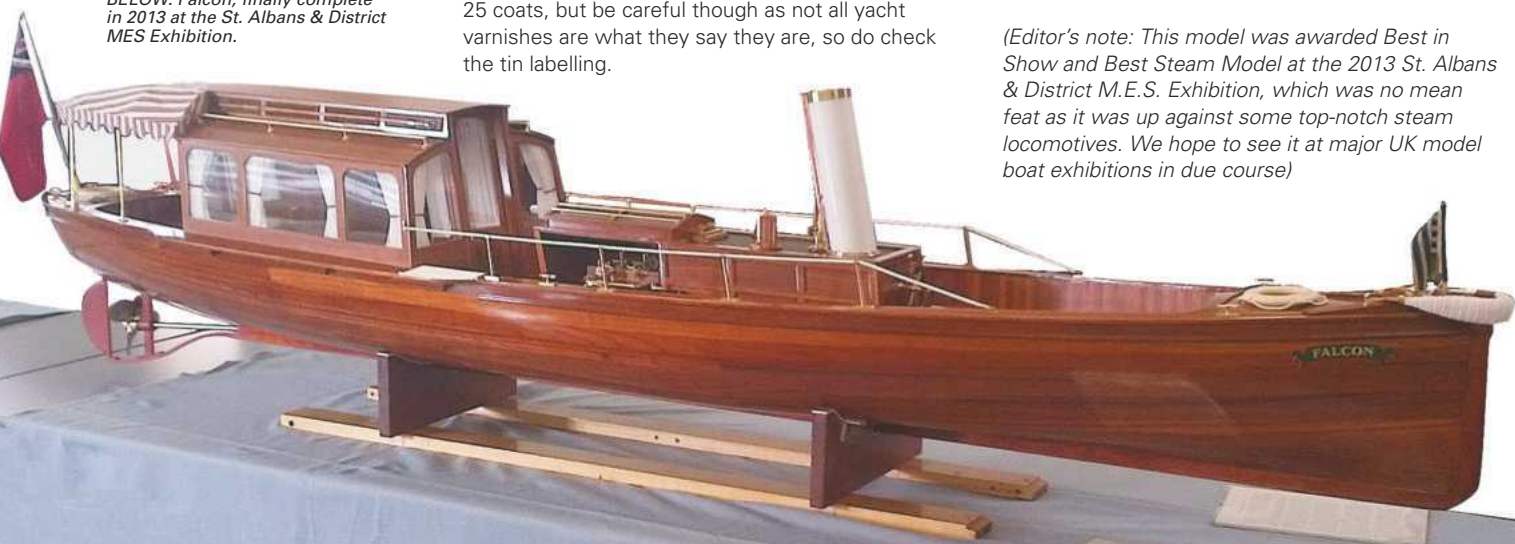
Well, it has been a distinctly long project, particularly bearing in mind the model is nine feet long and it has been a real education, but the end result has been worthwhile. And a spot of advice? Don't use teak unless you have to! Build from plans unless you have convenient access to your subject! Practice the words: 'It's nearly finished'!

Enjoy your hobby - **Bill Langton**

(Editor's note: This model was awarded Best in Show and Best Steam Model at the 2013 St. Albans & District M.E.S. Exhibition, which was no mean feat as it was up against some top-notch steam locomotives. We hope to see it at major UK model boat exhibitions in due course)



BELOW: Falcon, finally complete in 2013 at the St. Albans & District MES Exhibition.





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MODELLING



Bob Hinton

builds an Amphibious Power Boat and Sports Car

The author's completed model shown here with wheels in their retracted position.

Gibbs Aquada

Part Three

PHOTO 44. In the domestic test tank, with its bonnet and boot already painted.

PHOTO 45. Paint spraying complete. An underside forward view and it's definitely boat-shaped!

PHOTO 46. Side view of Aquada, also showing its shiny white interior.

In the recent April issue, we had got as far as completing the body (or is it the hull?) and electronics of this unique amphibious vehicle.

Painting

Ford Monza Blue was the colour of the bodywork as it was a close match to one of the prototypes, which my wife liked and as there is already a red Amphicar, a yellow DUKW and a khaki Stalwart,

this seemed a good choice! The number of aerosol tins of spray paint needed for a good finish amazes me, but buying 'six-packs' at quite reasonable prices from online paint suppliers saved money. The bonnet and boot and boot were experimented with, to 'hone' the spraying technique, and they turned out well enough. With the International Model Boat Show at Warwick only a week or so away, a waterline check in the domestic test tank with sealed woodwork and painted bonnet and boot in place was undertaken, **Photo 44**.

Aquada then had its first test voyage, in an incomplete state, at this show and I have to confess that after all the hard work, the water performance was disappointing, which resulted in the change to a conventional propeller and rudder arrangement as already mentioned, much earlier in this narrative.

Following that trial, the model was dismantled and the sealed woodwork sanded again to a fine finish. The entire hull was sprayed with Halford's white primer and finished it off with several coats of the Ford Monza Blue colour and finally a clear lacquer. This was all actually quite quick and **Photos 45 and 46** show the results thus far. After a week or so of the paint properly hardening, the bumpers, windscreen and rear panel area were masked off and painted with Humbrol Satin Black enamel. Tamiya masking tape is infinitely superior to the DIY variety and made this task much easier. Finally, the insides of the hull (car body?) were painted with good quality domestic undercoat and gloss white.



47



Final assembly

Figures

The driver is Justin Bieber from Toys R Us. His body was rebuilt with balsawood to minimise weight; his hair colour changed and a £5 micro-servo built-in to enable his arm to wave under remote control. An ACTION R/C Electronics Servo Morph in the servo wiring slows down his arm waving speed, as otherwise he looks ridiculous, giving something more like a Nazi salute than a gentle wave! His clothes look like that of a 'cool dude', who might just have the cash for an Aquada! The two shapely ladies are from a bulk eBay purchase of Barbie Dolls, which proved excellent value for money. These, with no further modifications, have been fixed into the novel three-abreast seating, each with a screw into their anatomies!

Lights

All these work and they were assembled into the hull. Getting the headlamps and sidelights to work was easy with a 14.6v supply from the main LiPo batteries via the ACTION R/C Electronics switcher unit. The nominal 12v grain-of-rice and grain-of-wheat bulbs have withstood the extra voltage very well, and hopefully this persists as some are difficult to change. The indicators work via a micro servo in parallel with the steering servos and microswitches driving a variable speed flasher unit.

I tried to build a braking sensor from a vertically mounted microswitch and swinging weight which activated the switch and turned on the brake lights as the craft decelerated. This didn't work well, but an ingenious circuit on eBay that drives indicators, reversing and brake lights from the throttle and steering receiver channels was discovered. So this replaced the brake, reverse and indicator light systems, but unfortunately it is made for smaller model cars and only drives LED's – so the results are not as bright and can't be seen so well in sunlight.

Decals

The number plates were made on a computer using an Excel spreadsheet, together with the manufacturer's logo and model type. White vinyl stick-on paper was used as the carrier material and produced excellent clear crisp results, but labels and signs made with inkjet printers need fixing first with an appropriate spray to make them fully waterproof. Unfortunately, I had used cheap printing inks and the colours faded fast and they have since had to be replaced, so beware of economising!

48



Side rubber mouldings

Black 1.0mm (0.040 inches) thick Plasticard was used for these, the majority being made by tracing over the bodywork and transferring this image to the sheet via carbon paper and stuck-on wide masking tape. It worked well, and once these shapes were cut out with sharp scissors, a little sanding and shaping allowed them to follow the sleek lines of the Aquada. They were painted satin black for good measure and stuck to the paintwork with UHU adhesive, with a great deal of care to avoid unsightly glue marks.

Water pump

This was to keep the internals dry in case of leaks, especially if one of the water seals on the driveshafts should break up. I found some excellent 6v drinks dispenser pumps in mainland China on eBay. Okay, they took week's to come, but at three pumps for £10 they were a bargain. They turned out to be positive displacement pumps, just the business for model boats as they give suction even when not primed. The outlet from the pump exits through the exhaust pipe protruding from under the bumper at the rear. As they are 6v, I took a 4.5v feed off one of the redundant battery eliminator circuits in the brushless esc's.

Result!

I now had a fully operational amphibious craft that looked like a car, but bore quite a good resemblance to a fast boat once the wheels were retracted and viewed from certain angles, **Photo 47**, and a driver's eye view is in **Photo 48**.

PHOTO 47. Complete and ready to go!

PHOTO 48. Driver's eye view through the windscreen.





PHOTO 49. And into the water at last as a completed model.

“It ran dead straight and true, and cornered like a dream...”

PHOTO 50. Off she goes, into the deep waters of the canal basin.

PHOTO 51. A high speed run, showing the planing angle it runs at and the extensive wash.

On the water

So finally it was time to take the new and shiny model to our local stretch of restored canal at Over (pronounced Oover by the locals!), just outside of Gloucester for some proper water testing. Aquada was driven proudly around the car park and it shot away from a standstill with the rear end squatting and the front rising under harsh acceleration. It ran dead straight and true, and cornered like a dream, even at full speed with no sign of turning over. So it was now time to give the lads and ladies of the Gloucester & District Model Boat Club a demo' and it was lined up ready to go down the relatively steep slipway into the water, perhaps to be its last resting place, the ultimate terminal launch!

It tackled the slope well and was eased gently into the water, using reverse to prevent it running away. Care was taken not to splash too much water over the bonnet and into the cabin/cockpit area, **Photo 49**. Once in the water, up went the wheels,

water drive engaged and with a dab of throttle, it set it off, **Photo 50**. It moved on to the plane as the speed increased, looking very much like a speed boat as the back end dug in and the front end lifted in the air. Turning, with the current big rudder and nozzle is easy and at low speeds, the water is effectively turned through an angle, so it has great steerage at even the lowest water speed, requiring only a quick burst of throttle to flick the back-end completely round.

Speed overall was not in the 'exciting' class, but it certainly moved a lot faster than any of my other previous amphibians, **Photo 51**. With a prototype speed of 30 knots, then at 1:6 scale, this model would need to achieve a speed of 30 divided by the square root of 6 to give the equivalent waterborne speed, which works out at 12 knots. The model was probably achieving a good running speed, around 8 knots, so it does not plane as high as I had hoped, but it looked good and I decided to be satisfied with that.





The model runs well, but the lack of any astern motion is disconcerting if approaching a potential collision, **Photo 52!** Perhaps the driver and passengers are no longer waving, but are throwing their hands up in despair before the waves throw them on to the rocky wall ahead!

Of course, it kept the lads and ladies amused as the driver waved to the crowds, flashed the headlights and did a high speed manoeuvre to flick it in line with the slipway, but finally the wheels dropped back into the water and it drove to the slipway edge, **Photo 53.** A surge of revs through the water drive pushed it back on to dry land, the rear tyres gripped the cobbles and it roared up the slope like lightning, finally skidding to a convincing tail-sliding halt in the gravel at the top of the ramp, **Photo 54.**

Further developments

To my surprise the Aquada had a respectable battery life and all of the mechanics and electrics worked well and reliably. Unfortunately it had a continuing problem with water ingress, especially in rough water. When off the plane, water washes over the front bonnet and enters via its joint lines. When on the plane, the back-end digs in and water washes over the boot and enters via its joint lines and the cooling vents too! So, not brilliant for a model boat as it needs to drive ashore regularly to empty the bilges. The bilge pump helps, but it frequently blocks from minor debris in the boat, so it remains a development project to achieve a better and longer on the water performance. To protect the batteries from the bilge water, they were put in plastic bags with the ends tightly bound with ties around the exit cables, also ensuring the exit point was uppermost above the batteries. To date, it has also been necessary to



PHOTO 52. Mind that wall Justin! There is no reverse when on the water!

PHOTO 53. Returning to dry land with the wheels lowered once again.

PHOTO 54. Back on the cobbles at Over, shaken but not stirred with just a few splashes of water on the bonnet and windscreen to show it had been waterborne!



characteristics. Especially on a tight turn and at speed, the prop' loses grip and starts to cavitate, so any suggestions please?

What next?

As I get to the end of a project I always like to think ahead to what I may build next time. This one was no exception and I have decided to explore amphibious models still further. I would like to have a crack at the famous white Lotus Esprit of the film *The Spy Who Loved Me* in which Roger Moore plays James Bond and everyone knows the fabulous underwater sequence after the car leaps off the end of the jetty and becomes a submarine. It will be a challenge to have it fully functioning, so keep watching out for an article in a future edition of *Model Boats*. As 'O' famously said: 'Right, now pay attention 007. I want you to take great care of this equipment. There are one or two rather special accessories'. Can I get them to work at model scale is an interesting question?

Amazingly, in *The Saturday Telegraph* of 10th August 2013, **Photo 55**, that very car, yes the actual one that was used to film the underwater sequence, was up for auction in September 2013 and expected to reach over £500,000. It was nicknamed 'Wet Nellie' and it is only a shell with no engine or land drive, just ballast tanks, electric motor drives to the water turbines and a box for a wet-suited diver. So it is of little use and of course Roger Moore never sat in it, but I wonder what it fetched at auction?

Conclusion

Some would say that the water performance is not very exciting if one was looking for a high-performance speed boat, but it does rise on the plane and looks very effective as it bobs over the ripples. It also creates great interest with people as it does look so much like a car on land with little external evidence of its amphibious capability, except for the jet nozzle at the back. It was a shame that it was not possible to get more thrust from the water-jet, but I guess I was new to that technology and that was just a bridge too far that really needed more development. The current propeller and the unique rudder and nozzle still look the part and work fine.

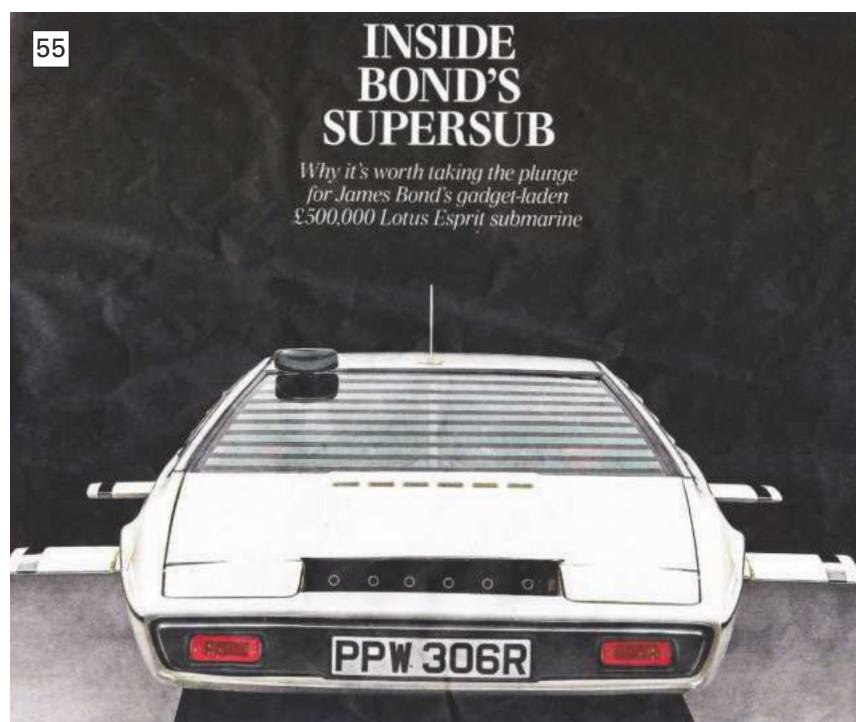
It has also been a very rewarding model to build, as it taxed my design and engineering skills to their limit and introduced me to brushless motor technology and associated LiPo batteries. The one great advantage of amphibious models is that you can drive them from your car to the waterside, which is great for a chap like me with a false leg and especially at shows and exhibitions, where moving models from remote car parks can be hard work.

Aquada is also great in steering regattas as it is remarkably manoeuvrable and the bow is so wide and blunt that it is hard to miss the nose-on to the finishing touch buoy!

I would like to thank my friends and colleagues in the Gloucester and District Model Boat Club for their help and support with the project and especially **Bruce Edwards**, **Sandra Tedaldi** and **Mike Bridgeman** for their excellent on-the-water photos.

“...a very rewarding model to build, as it taxed my design and engineering skills to their limit...”

PHOTO 55. Still famous after all these years, from the motoring section of the *Daily Telegraph*, 10th August 2013. This car with its weapons would be a challenge as a model.



MOTOR TUG ACTIVE



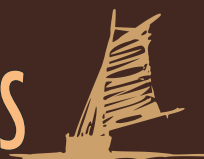
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London Model Engineering Exhibition 2014

Dave Brumstead reports

TOP LEFT: Derek Attree's Model Slipway 'Our Lass' on the Welwyn Garden City Society of Model Engineers stand. It is a huge model and weighs a ton!

TOP RIGHT: Richard Chesney on the AMBO stand discussing a model Thames barge with a visitor.

BELOW: The Surface Warship Association are long time supporters of this event. It was a shame not to see Jack Connelly as usual, busy promoting the association so diligently, as he had sadly passed away just before Christmas 2013.

This year's Exhibition took place, as is now usual, in the Great Hall of Alexandra Palace in North London, Friday 17th to Sunday 19th January, and fortunately we didn't have to endure the snow which so affected the exhibition in 2013. I visited the event on the Sunday and found the day started quietly, but the hall soon filled up. I understand from some of the exhibitors that the Friday and Saturday were also quite busy. There were, as usual, a great variety of model boat exhibits both on the dedicated model boat club stands and on the model engineering club displays. There were in total over fifty society and club stands as well as over fifty suppliers at the exhibition.

The Snooker Masters Tournament was also on at the same time, but in a different part of the complex, so you could have watched sessions of that as well as been a model engineer for the day!

Clubs

Regular supporters of the event. AMBO (Association of Model Barge Owners), had their usual display of various types of model sailing barges and near to them was the Moorhen MBC, who are based at Harlow in Essex. This year their stand won the Society Shield for their excellent display, so 'Well Done' to them.

One of the older models on display was a tinsplate model built in 1938 by Ted Vanner and shown on the Victoria MSBC stand. This model had replacement machinery in the 1960's and a replacement boiler in the 1970's fitted by Don Reynolds. On the Welwyn Garden City Society of Model Engineers stand, Derek Attree was exhibiting something a little more modern. His model of the Model Slipway 'Our Lass' trawler was almost completed, but still 'in the white' awaiting the





painting process. This is a large model, but not as large as his part-built Armortek 1:6 scale r/c Comet tank also on display.

Hanwell and District Model Society had Dave Vaul's novelty models on display. These are representative of cartoon characters incorporating a variety of working features and certainly got the attention of the young (and not so young) visitors. The Model Hydroplane Club always has something of interest on display and this year there were two items that caught the eye. The first was Alan Greenfield's model which featured a homebuilt 11cc engine with some unique features. The finish on the engine was such that it looked like an 'off the shelf' unit. On the other side of this club's display was a sectional model showing the internals of an i.c. engine, the exhaust system and the final drive and propeller assembly.

On the Eastleigh and District MBC stand was a fine model of HMS Walrus, an aircraft carrier supply ship. This scratch built model, to 1:48 scale, was built using plank on frame construction by Mick Nicholson. On the same club stand was a model of HMS Crane, a flat iron gunboat, built by a group of youngsters from Crawley Youth Club. This model was built to double the size of the published plan and their efforts had previously won them a Silver Medal at the MyTimeMedia Model Engineer Exhibition at Sandown Park.

At one end of the exhibition hall the BMFA had their usual flying zone and near to them was the Tamiya Truck demonstration area and there was also a Robot Wars display arena. There were many of the usual model engineering club displays as well as operating model railway layouts in various scales.



Trade

As far as dedicated model boating trade was concerned, SHG Model Supplies, Component Shop and Howes Models are all well known to us, but apart from them, that was it on the model boating side of things. There were of course numerous model engineering suppliers as well as those selling tools, adhesives, paints and materials etc., but it is always worth checking the model engineering trade stands as there is much of value to us model boaters on them. My thanks to the Meridienne for their kind invitation. ●

TOP: The Moorhen MBC's award winning stand.

ABOVE: Crawley Youth Club's Sandown Park Model Engineer Show Silver Medal winning model was displayed on the Eastleigh & District MBC stand.

BELOW: A 1938 tinplate model on the Victoria Model Steam Boat Club stand.



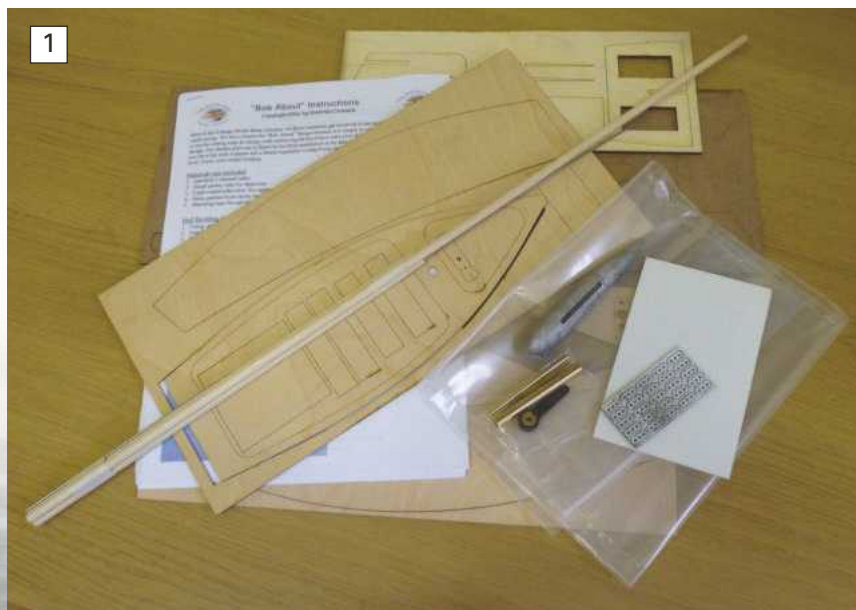


PHOTO 1. The Bob About kit contents.

PHOTO 2. Initially the wetted hull skins were held together with tape and clamps.

Bob About!



John Elliott
reviews the
Vintage Model
Boat Company's
Footy Yacht

This is a new addition to the Vintage Model Boat Company range and has been included as they want to promote Footy model yacht racing. This model yacht was designed by Brett McCormack in 2002 and meets the requirements for Footy Class yacht racing. The kit is quite simple to construct with the contents of the pack, **Photo 1**, consisting of laser cut plywood, dowel, wire, brass tubing, a rudder arm, split pins, a cast metal weight for the keel, clear plastic sheet for the sails and a set of instructions with plans. Only a few extra items are required to complete the model, together with a two channel radio and two standard servos, paints and glues etc.

Basic hull construction

The two plywood side skins and one piece bottom section were removed from the carrier sheets and soaked in warm water for a few minutes until they became pliable. The instructions suggest taping the parts together with masking tape and then gluing them together. This is all a bit like the DIY assembly process for the full-size wooden Mirror class dinghies, where the sides and bottom sections are tied together with twisted copper 'threads' at the chine and then the joint is made with fibreglass resin and reinforcing tape.

I tried the suggested method for Bob About, but had difficulty maintaining the hull shape as the one piece bottom wanted to straighten itself and thus pulled away from the tape. So, some small pieces of scrap wood, numerous clamps and tape had to be used to hold the bottom and hull side skins together and this was then left overnight to dry, **Photo 2**, after which hopefully most of the inbuilt tension in the wood would have been removed.

In the end, the best solution (at least for me) when gluing it all together, was to drill tiny holes in the side skin pieces in the most 'springy' areas and insert

model maker pins through these into the edges of the bottom part, **Photo 3**, to help maintain the shape and then further hold it all together with tape and clamps, whilst the glue set as in **Photo 4**. I have to say that the side and bottom skins are a very accurately cut. You do not need to trim them, the edge to edge joints being exactly as manufactured - almost like Ikea DIY furniture!

Once the glue had cured, the side to bottom joints were reinforced internally with some strip wood from the scrap box, as were the top edges of the hull, **Photo 5**. This is not necessarily needed, but I felt it would add strength to the joints and we are not building an ultra-lightweight racing machine are we?

Bow support fillets were also shaped to fit and glued in place within the hull and in this last picture you can see that deck edge strips are glued fractionally below the side skins' top edges as the deck will sit on the ledge created. The whole of the internal bottom area was given a coat of epoxy finishing resin, with plenty of it reinforcing the side to bottom joints to enhance the hull's overall strength and also hopefully make it all watertight.

Keel and servo mounts

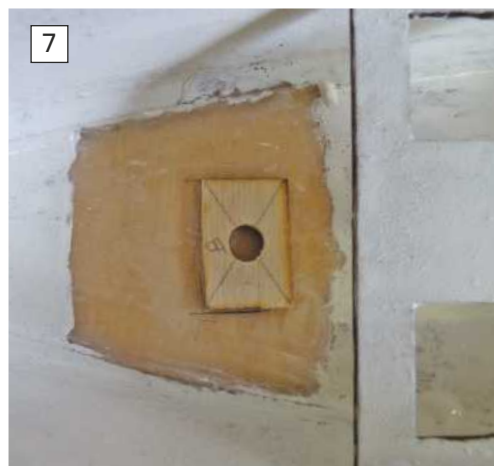
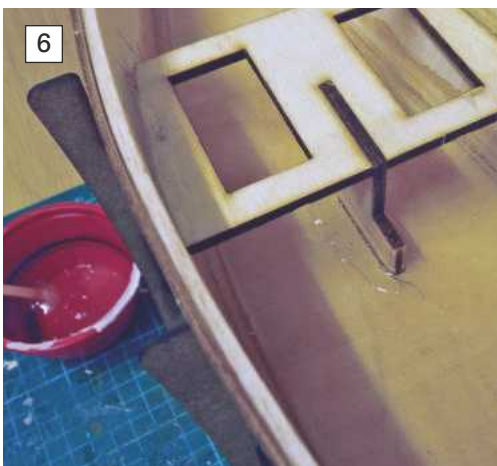
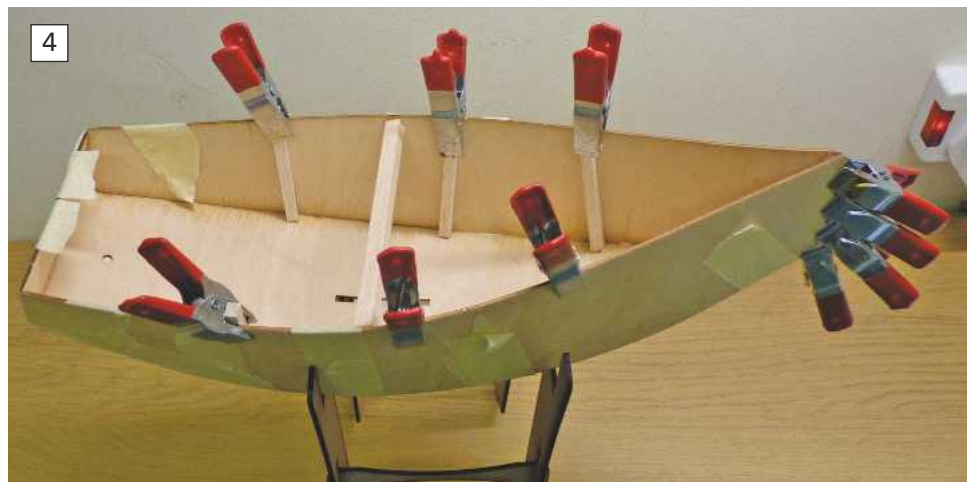
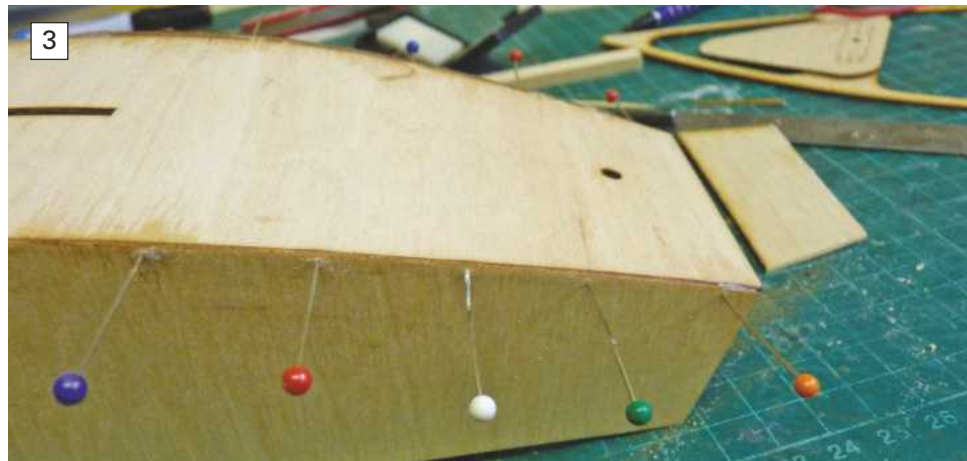
The keel was sanded to shape and glued in position through the laser cut hole in the hull's bottom piece. Rather cleverly, the servo mounting plate fits on top of this and if you have got it right thus far, this should all ensure that the keel sits vertically in the hull, **Photo 6**. Once again, epoxy resin was well brushed into (and onto) the joints so as to make them good and strong. The keel is permanently fixed, so do make sure it is vertical because if you get it wrong, it will be the devil's own job to correct later!

The deck

This laser cut piece of plywood is simply glued to the ledge inside the top edge of the hull created by the stringer, that came from the scrap box. The deck can be fitted before or after the mast tube base - probably better though after the latter is fixed, as you have better access into the hull.

Mast socket tube and its base

A piece of scrap plywood was positioned, with a suitable hole drilled in it, on the inside of the hull bottom piece and this is into which the mast socket will be inserted, **Photo 7**. The deck needs to be taped temporarily in place over the side pieces (if it hasn't already been glued in place) and the mast base socket piece adjusted to find the ultimate



position for the tube which needs to be upright in all directions. Once the that position is located, the mast socket base can be glued in place to support the tube and mast. As with the keel, time spent getting it right now, will save grief later.

PHOTO 3. Pins will help hold the skins in place.

PHOTO 4. Clamps, tape and clips all help maintain the shape as the glue sets.

PHOTO 5. Deck edge stringers clamped in place waiting for the glue to set, and the internal chine supports are already fixed.

PHOTO 6. The keel and servo tray are an integrated item, supporting one another.

PHOTO 7. The mast socket tube lower support has been glued in position.



PHOTO 8. The rudder post tube is supported by a 'block' of epoxy adhesive within a small surrounding piece of plastic plumbing tube.



PHOTO 9. The ballast weight is supplied readymade, but it has to be 'fettled' and glued to the wooden keel piece.

PHOTO 10. The brass tube for the sheet line. This has to be annealed to create its shape.



PHOTO 11. A general view of the mechanical parts on the completed model. This is what we are aiming for!



Rudder

This is easily assembled by gluing the supplied spindle (rudder post) to the wood rudder piece using epoxy adhesive. Some grooves were filed in the spindle to provide extra grip for the glue. The rudder post tube that goes in the hull will need cutting to length, but it was then easily fixed in position by encircling it with a piece of spare plastic plumbing tube, **Photo 8**, and filling the void created inside this around the rudder post tube with epoxy adhesive.

Lead keel weight

This is supplied ready cast to shape, but will need fettling before being glued to the keel. **Photo 9** is of it glued to the wooden keel piece and painted. When working with lead, please be careful, as the dust can be harmful to oneself, if not straight away then perhaps unfortunately some years further down the line!

Sheets and hatches

These are all pretty much straightforward. The sail winch is a standard servo with an extended arm operating the sheet which passes through a U-shaped brass tube set into the deck at the transom, **Photo 10**. This tube was annealed (by heating and cooling) and bent to shape and glued in place. What we are eventually aiming for is in **Photo 11**, and from this picture you can see how simple are the mechanics of this Footy yacht.

Closing off the large opening aft of the mast and the smaller triangular shaped one near the prow is another matter. The instructions (and the prototype seen at the International Model Boat Show) suggest covering these openings with single use pieces of sticky backed clear (or coloured) plastic sheet, a method that is often used on larger model racing yachts. However, I had a better idea, or was it?

The laser cut deck piece is indeed laser cut(!) and this means that the scrap wood that is cut-out of the whole thing is still a perfect fit in the holes created. So, using these as templates,



PHOTO 12. Rear hatch cover, clamped to achieve the same profile as the deck.

Care had to be taken with the larger rear hatch as it has to follow the fore and aft curvature of the deck...

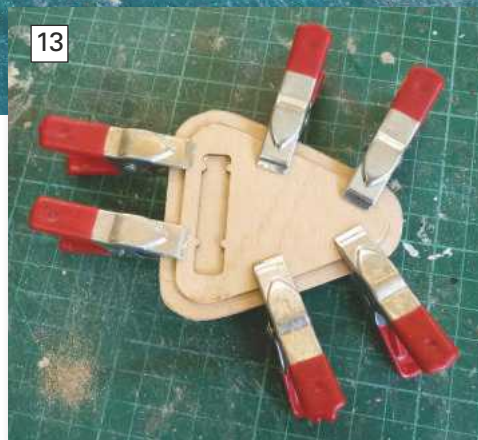


PHOTO 13. The forward hatch is virtually all flat so its two parts can just be glued together, held by clamps.

copies that were about 2mm bigger all round were created. These were glued to the scrap pieces from the laser cutting process, and hey presto, drop in hatches. Care had to be taken with the larger rear hatch as it has to follow the fore and aft curvature of the deck, so it was sort of 'jigged' as in **Photo 12**, to keep the shape as the adhesive cured, but the forward triangular hatch was a much simpler proposition, **Photo 13**.

All that then needed to be done was to develop a method to secure them in place. For the larger rear hatch, a tab was glued under its back edge and a strip of wood was fixed to the front edge with two small holes in as in **Photo 14**. This hatch is secured by sliding the rear tab under the deck and putting a U-shaped piece of bent wire, around the mast support and into the two holes in the front section and **Photo 15** is of the two hatches in position before painting. The front hatch is secured by attaching a piece of bent wire to the front lower boom which presses

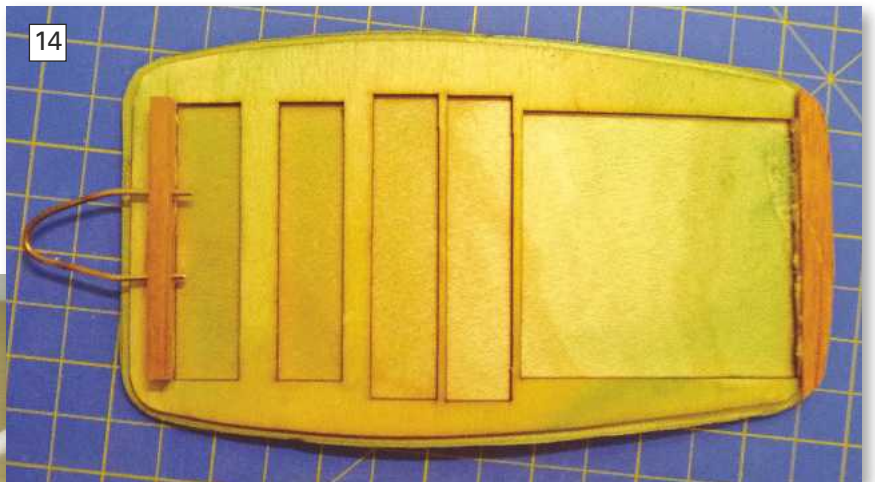


PHOTO 14. The underside of the main rear hatch with its locating rod at the front and wooden lip at the rear. A bit 'Heath Robinson' but it works.



PHOTO 15. The completed hatches are a nice addition.

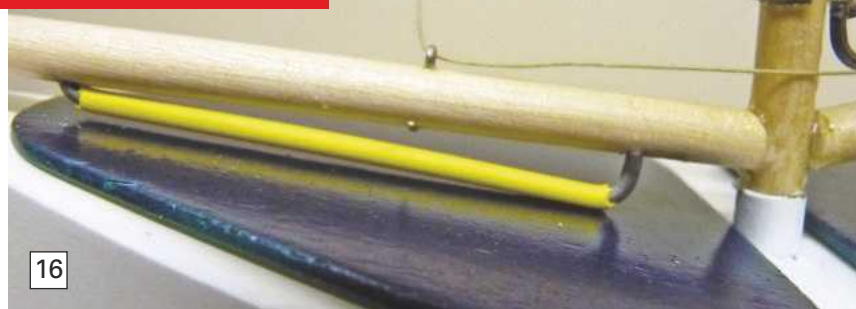


PHOTO 16. The front hatch is held down by the lower spar and piece of bent rod. Not mechanically wonderful, but it works.



PHOTO 17. A side view of the important working bits for reference purposes

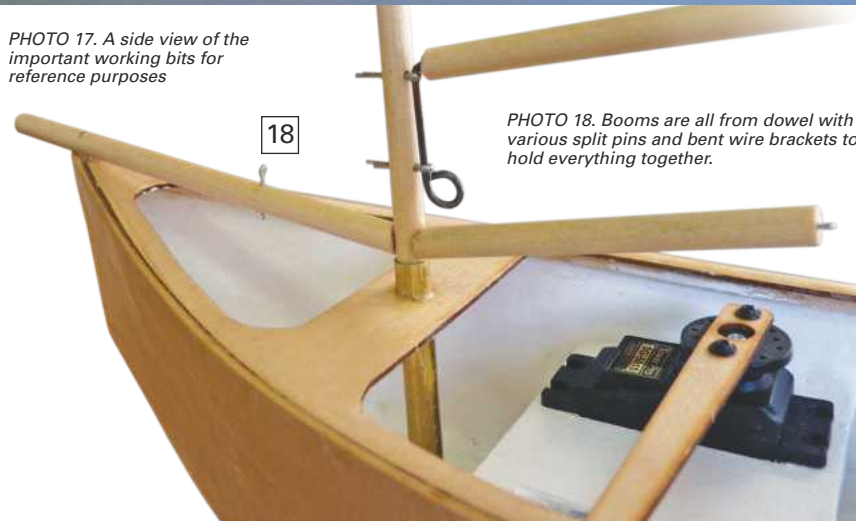


PHOTO 18. Booms are all from dowel with various split pins and bent wire brackets to hold everything together.



PHOTO 19. A close-up of the lower part of the foresail arrangement.

down on the cover when the boom is in position, **Photo 16**. Perhaps a simpler method would be to make a rotating clip that could be screwed to the deck by the mast and then turned to hold both hatches in place? There are numerous methods of achieving the same end if you decide to opt for 'proper hatches', but incidentally, these hatches will still need to be sealed around their top edges by a length of insulation tape or equivalent, so maybe using single-use self adhesive covers might be simpler, but the choice is yours. Either way, we do don't want water to get inside the hull, particularly if there is no self-bailing facility!

Finishing the hull

This is now basically complete and any minor blemishes were filled with car body filler and sanded smooth. If you are really good, then with a bit of luck the hull will be perfect in 'bare wood' form and could be all varnished and stained perhaps, but that is down to your model building expertise. Finishing the hull and waterproofing is a matter of either applying a number of coats of dope and/or sanding sealer and then a good quality paint, or as is perhaps more common nowadays, applying one or two coats of clear epoxy finishing resin, rubbing down between them and then applying a colour coat either from an aerosol or by airbrush or just by hand painting.

Masts and rigging

Once painted, the servos (rudder and sheet) were fitted into their mounting plate within the hull. The instructions mention using 'Pike wire' (not supplied) for the main sheet, but some thin nylon cord was to hand and looked as if it would do the job as well as anything else. On the basis that a picture tells a 1000 words, **Photo 17** is another view of the final r/c layout and mainsail sheet arrangement.

The mast and its spars (or booms) are all from dowel rod. No attempt is made to shape the dowel as it is just cut to length following the dimensions on the plan. Small holes will need to be drilled in the dowel to accommodate the various retaining split pins, **Photo 18**. As it so happened, the holes in the pins for the main sail gooseneck fitting needed enlarging a little to make for a more freely moving bearing. Bends in the stainless steel rigging wire particularly on the foresail are easily done once the section to be bent is annealed.

Reinforcing of the sail corners was with Duct Tape which is strong and seems to stick to anything. Eyelets from the scrap box were fitted into the sail's corners and **Photo 19** is of the lower part of the foresail and its supporting spars. **Photo 20** is of the top of the mast and the attachments for the fore and aft sails.

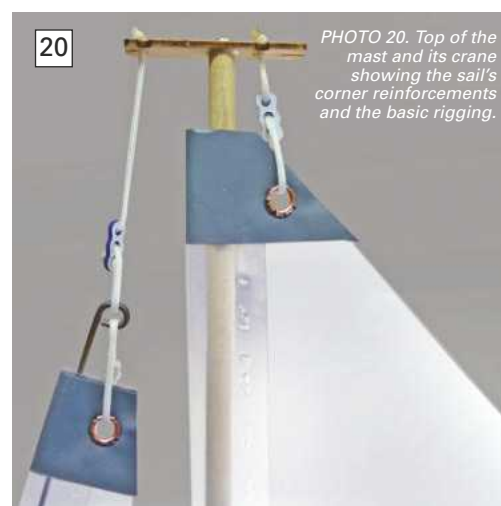


PHOTO 20. Top of the mast and its crane showing the sail's corner reinforcements and the basic rigging.

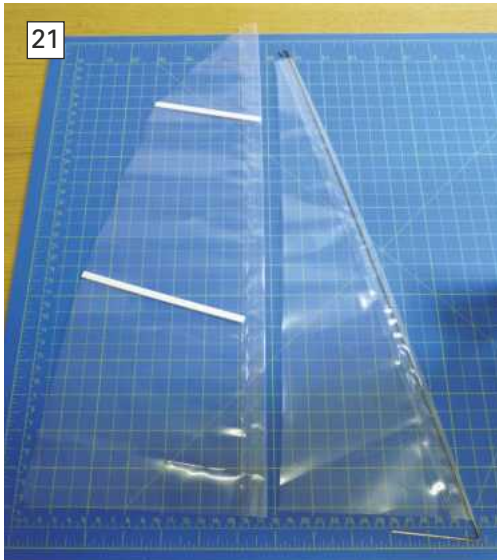


PHOTO 21. Sails are just clear plastic sheet. The battens are styrene strip with stainless steel wire in the its leading edge.



PHOTO 22. The completed Bob About. About one month's relaxed work, but you can build it much more quickly if so inclined!

To be honest, using clear plastic sheet for the sails as **Photo 21** (not yet reinforced here), is a brainwave by the Vintage MBC and in fact the bag the kit comes in is of the same material, so with care you can recycle the packaging to make an additional set of sails!



PHOTO 23. Bob About doing what it does best!

Radio gear?

You only need a two channel set and two standard servos, but more elaborate r/c systems will perform the same role. I guess the important thing is that as always, water and electricity don't go together, so you must keep the hull interior dry. **Photo 22** is of the completed model and to be honest it is a really quick build project if you have basic woodworking skills.

On the water

Remember that there is no propeller to get you out of trouble, so if Bob About heads into the opposite and most inaccessible bank of your pond, to extract it you will need either a rescue boat or a swimming costume or a change of wind direction!

Never having owned a model yacht before and indeed only having had a brief go with someone else's before now, this was all a relatively new experience for me, but it is great fun to sail, **Photo 23**, and has proved to be fundamentally sound, provided the deck hatches are taped around their edges. It will be even greater fun if you sail Bob About in company with other Footy yachts and it does of course get us into sailing model yachts very inexpensively. Very finally, if in any of the pictures you can see that my Bob About model is named Isabelle (on its transom), well that is the name of my first grandchild!

Conclusion

At £45 this kit is great value for your money and it was a really enjoyable and relatively easy construction project. This kit is not listed on the Vintage Model Boat Company website at the time of writing, but it is available and full details can be obtained from them at: Carousell, Spilsby Rd, New Leake, Lincolnshire, PE22 8JT, England. Tel: 01205 270010, website: www.vintagemodelboats.com.





Marco Polo

General particulars

This cruise liner is currently in 2014, operated by Cruise and Maritime Voyages, but previously by Transocean Cruises. The ship has an ice strengthened hull and is often used for expeditionary style cruises around the ice regions. She is normally home ported at Tilbury in Essex, England for a series of cruises around the UK and European continent. The ship does not carry under 16's and the passenger age is usually +45.

Previous Name:	Alexandr Pushkin
Built:	1965, V.E.B. Mathias-Thesen Werft, Germany
Rebuilt:	1991-1993, under the supervision of Knud Hansen, naval architects, and A&M Katourakis, ship designer.
GRT:	22,080 tons
Length:	578.4 feet
Beam:	77.4 feet
Max. Draft:	26.9 feet
Decks:	12
Cruising Speed:	19.5 knots
Max. Speed:	20.5
Passengers:	826
Crew:	350





HMS Terrible (and HMS Powerful) were 14200 tons displacement and the largest protected cruisers ever built.

Range Finder *Special!*

Warships of the Royal Navy: Part One - 1895 to 1905



By **Dave Wooley**

I was asked by the Editor if I would compile two Feature Articles to coincide with the centenary of the commencement of World War One, their purpose being to have a look at the various

types of Royal Navy warship that would influence the development of those that actually fought in that great conflict and ultimately the ships that survived and those that did not. I will endeavour to take the reader through the types of warships in their chronological order and where appropriate, the related models.

So, leading up to WW1, the First Part is being published now in this 100 page May 2014 MB and the second part (1905 to 1914) will be in September 2014 MB. Hopefully, if space allows, there may be another article in due course, discussing the impact of air power on naval operations from 1914 to 1918.

Thinking the unthinkable?

At the time of the death of Queen Victoria on 22nd January 1901, it would have been unthinkable to most people on that day that almost every RN warship in service then would be obsolete in less than eight years. To put that into context

it is like the entire current Type 45 Daring class being obsolete by 2022 because of new evolving technology, but that is much the same as the situation that existed just 10 years after the launching of HMS Terrible in May 1895 and HMS Powerful two months later, these being the largest First Class protected cruisers ever built at that time.

In 1902, Phillip Watts became Director of Naval Construction (DNC) from William White whose tenure included the building of no less than 50 battleships and many of the protected and armoured cruisers, all of which were deemed obsolete by 1914, yet in many ways these warships also introduced new technology which then influenced the future designs.

The William White era

Standardising the Battleship

William White initiated a battleship programme, under the auspices of the Naval Defence Act of 1889, beginning with the laying-down of the Royal Sovereign class which began a process of standardisation in armour, guns, their disposition and machinery, ships which duly became known as Pre-Dreadnoughts. This was an era of naval construction which reached its high-water mark with the Lord Nelson class of 1905. A good example of this was HMS Ocean, a Canopus class battleship completed in 1900. She displaced 14300 tons in a hull 421 feet 6 inches by 74 feet beam and she was fitted with four 12 inch main armament guns, twelve 6 inch guns, ten 12pdr and had twin propshafts driven by three cylinder steam reciprocating engines and 20 (yes 20!) Belleville boilers providing the steam, **Photo 1**. These Belleville boilers were an early design of marine water-tube boiler.

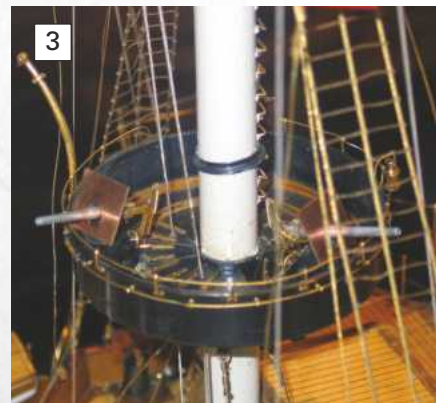
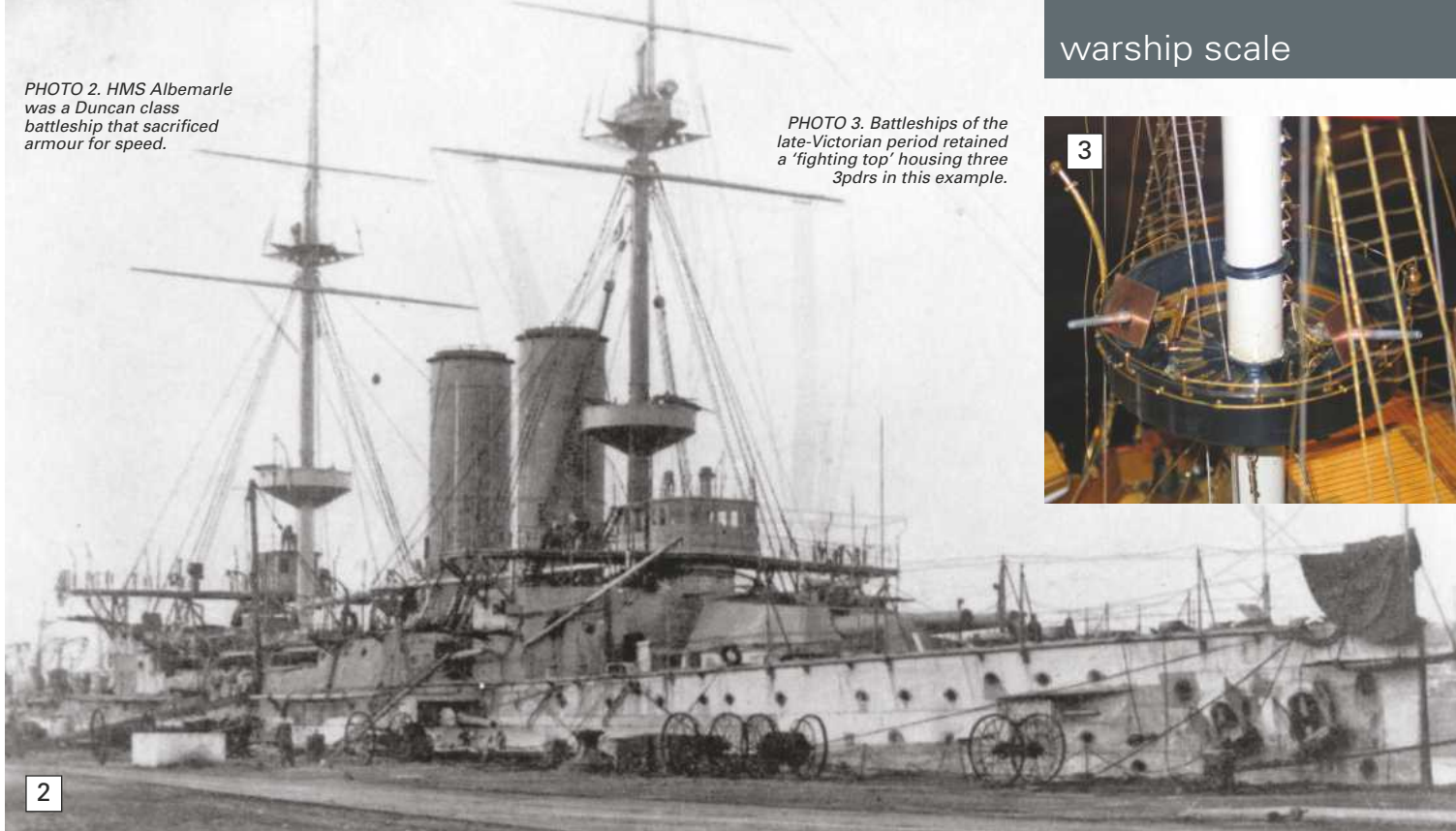
As a progressive improvement over the previous Canopus, Formidable and London classes, the Duncan class, the first of which was HMS Albemarle completed in the November 1903, were

PHOTO 1. The First Class battleship HMS Ocean.

1

PHOTO 2. HMS Albemarle was a Duncan class battleship that sacrificed armour for speed.

PHOTO 3. Battleships of the late-Victorian period retained a 'fighting top' housing three 3pdrs in this example.



fitted with four cylinder steam reciprocating engines and 24 Belleville boilers giving them a slightly better top speed performance, **Photo 2**.

This period also saw a corresponding rise in the size and quality of the builder's models and like the their full-size counterparts, an element of standardisation was introduced. This included a more realistic, if not embellished, approach to presentation and good example of this can be seen in these detail pictures of the builder's model of the Canopus class battleship HMS Vengeance, within the Dock Museum at Barrow in Furness, **Photos 3 and 4**.

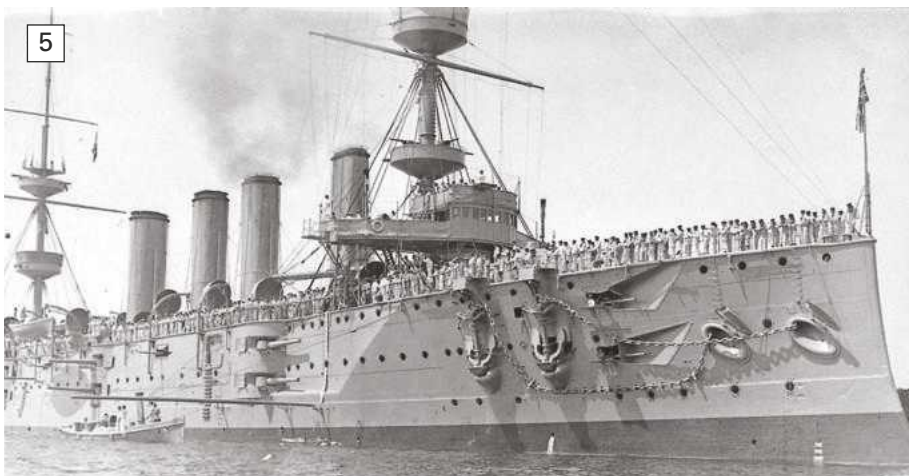
The rise of the protected and armoured cruiser

The Defence Act of 1889 also saw a steep rise in the building of cruisers, mainly in response to the building of such warships for the Russian and French navies. In that era, cruisers were rated as First, Second and Third Class Armoured, or 'Protected' and indeed some as 'Scouts'. Once again William White was to influence future cruiser design with the Blake class of First Class protected cruisers, these completing in early 1892 and being fitted with two 9.2 inch guns and ten 6 inch for their main armament. They displaced 9150 tons and were capable of 22 knots, which was very good by the standard of that time. This was followed closely by the Edger class, most completing between 1893 and 1894, with a similar armament, but also an additional four 18 inch torpedo tubes.

HMS Powerful

In 1897, HMS Powerful, the second of the two giant First Class protected cruisers joined the British fleet. By any standards these were huge ships, displacing 14200 tons and being 538 feet long, so therefore larger and heavier than some contemporary battleships of that era, but they were soon considered to be 'white elephants'.

For example, both cruisers were fitted with 48 Belleville boilers which provided good endurance with a relatively high speed and they had enclosed



armoured turrets and tiered gun mountings in hull casemates forward, amidships and aft, but given their size and 14200 ton displacement, their firepower was not markedly superior to that of the smaller Edger class. A superb picture of HMS Powerful can be seen in **Photo 5**.

PHOTO 4. A classic builder's model of the Canopus class battleship HMS Vengeance of 1902.

PHOTO 5. A superb picture of the First Class protected cruiser HMS Powerful showing a considerable amount of detail in post-Victorian livery.



PHOTO 6. Builder's models of the period such as this Vickers built Diadem class first class protected cruiser HMS Amphitrite were often embellished, but are unique and fine representations of the original vessels.

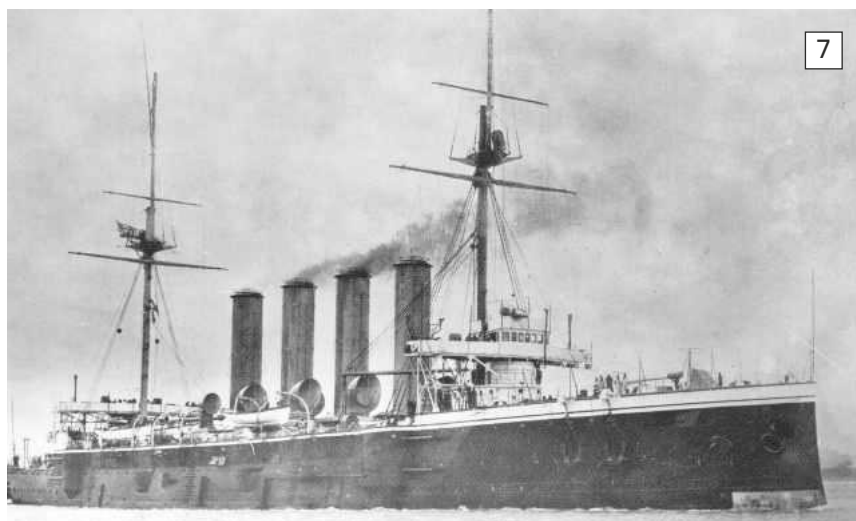
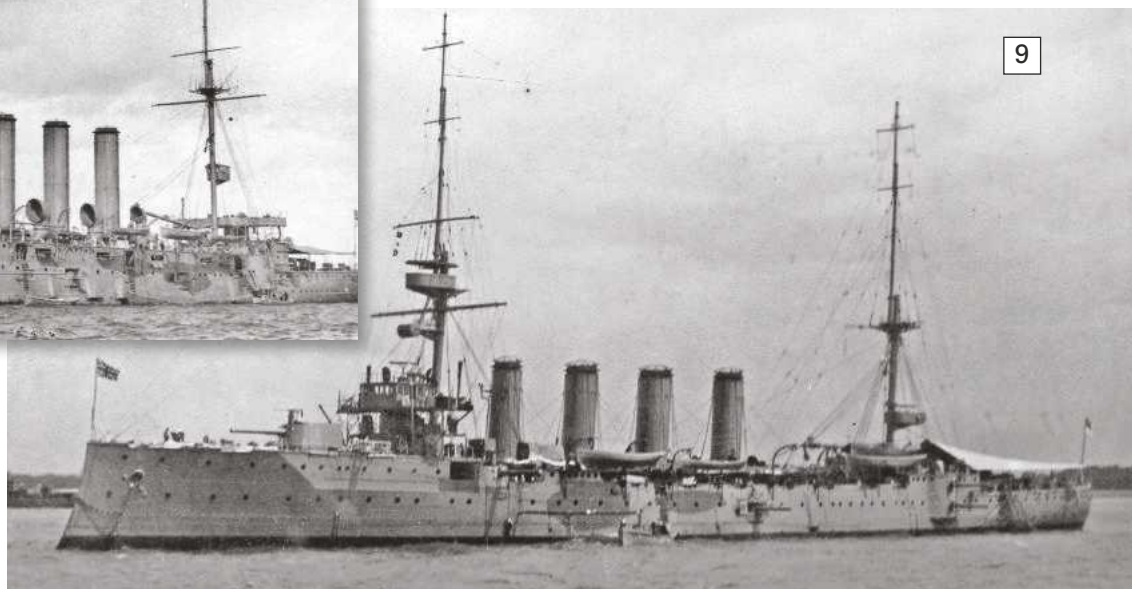


PHOTO 7. The First Class armoured cruiser HMS Aboukir was completed in April 1902 in the conventional (for that time) Victorian livery.



PHOTO 8. HMS Hogue was one of six armoured cruisers that formed the Cressy class. They were fitted with two 9.2 inch main armament guns and 6 inch guns mounted in casemates. 12pdr guns are visible along the upper sides of the hull.

PHOTO 9. HMS Argyll, built by Scott's of Greenock, had four main 7.5 inch as well as six 6 inch guns in casemates.



Diadem class

This eighth ship class of protected cruiser followed. Although smaller at 462 feet long and 4000 tons lighter than HMS Powerful, they were still fitted with sixteen 6 inch guns disposed in casemates and shielded turrets fore and aft. A superb builder's model of HMS Amphitrite of this class can be seen at the Dock Museum, Barrow in Furness, **Photo 6**.

The Armoured Cruiser

HMS Aboukir, **Photo 7**, was a First Class armoured cruiser, completed in April 1902, and was the first of the Cressy class that adopted the 9.2 inch gun like that of HMS Powerful. In this picture she has a black hull which was very much standard at this time for ships based in the UK, or even the Mediterranean. The hull had hard faced steel armour extending from the main deck to five feet below the waterline, that also covered half the ship's length. **Photo 8** is of HMS Hogue, but in the later more familiar grey colour scheme.

Within the same programme were the Drake class of armoured cruiser, basically enlarged Cressy class vessels, but providing more space for double tier casemate guns amidships and a greater number of boilers, 43 of them to the 30 in the Cressy class, which gave a moderate increase in performance. Mind you, these ships often needed crews of more than 900 to keep them functioning!

William White was superseded as DNC in 1902 by Phillip Watts and the last type of armoured cruiser created under his leadership within the 1901 to 1902 programme were the Devonshire class, which included HMS Argyll, **Photo 9**. These were different from the previous classes in having four 7.5 inch turret mounted guns disposed fore and aft and one either side of the foremast, plus six 6 inch guns in casemates, but more significantly, a mix of boiler types which strangely was not detrimental to overall performance. This period of boiler experimentation for warships is often referred to as the 'Battle of the Boilers'.

A superb 1:48 scale builder's model of HMS Argyll is seen here in the Clyde Room at the former

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PHOTO 10. The First Class armoured cruiser HMS Argyll was built by Scott's of Greenock and differed from the preceding Cressy class in having four 7.5 inch guns for her main armament.

PHOTO 11. HMS Kent's design sacrificed armour and armament to reduce operating costs and increase speed.

11

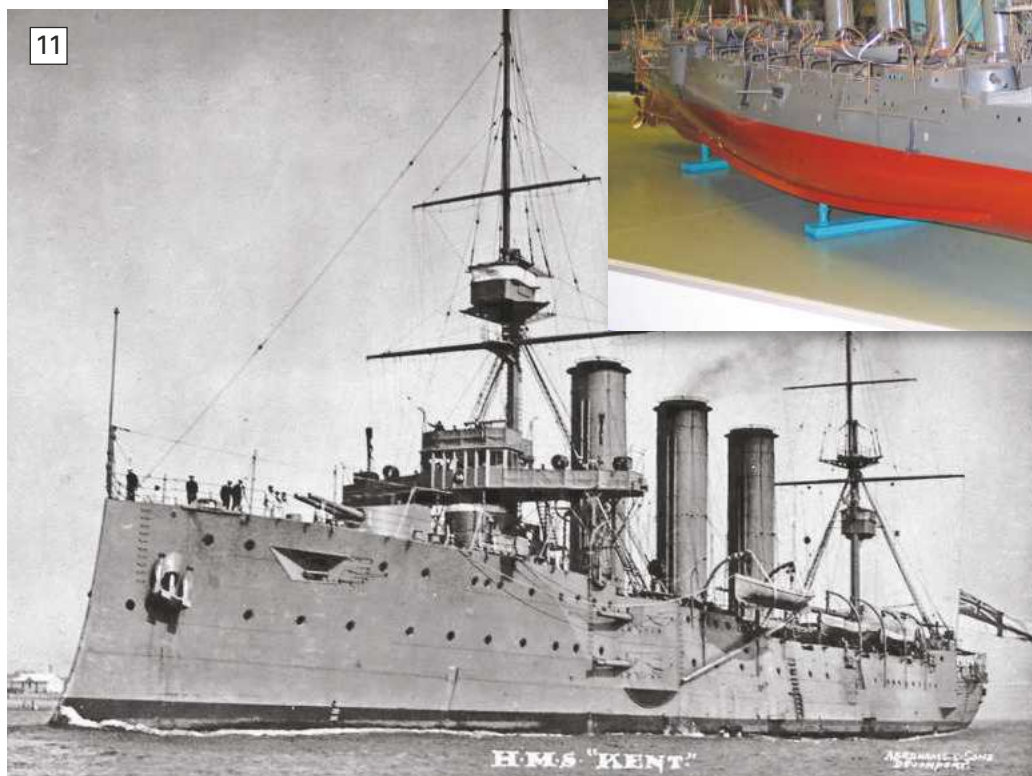
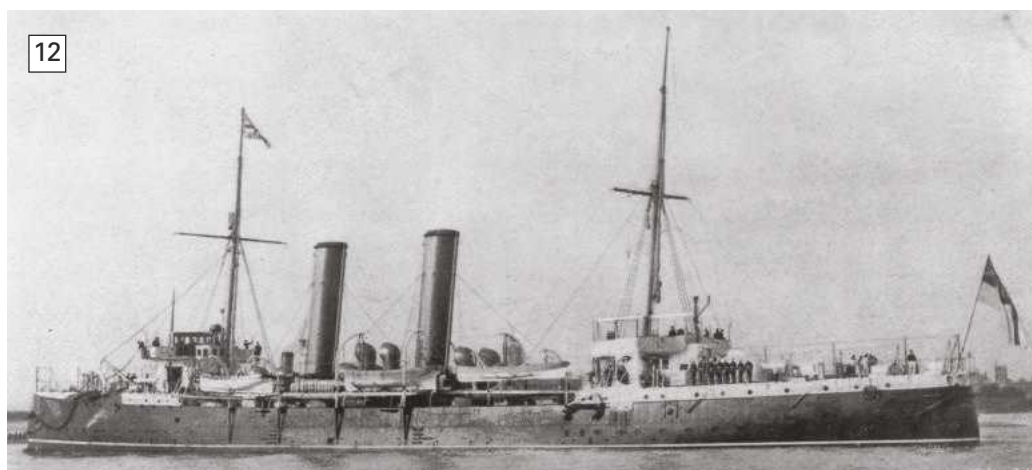


PHOTO 12. The Apollo class of Second Class cruisers consisted of 21 ships. HMS Brilliant was the fourth in the class, completing at Sheerness Dockyard in 1893.

12



Glasgow Transport Museum, **Photo 10**. This museum has been relocated in recent years to the side of the River Clyde and is now known as the Riverside Museum.

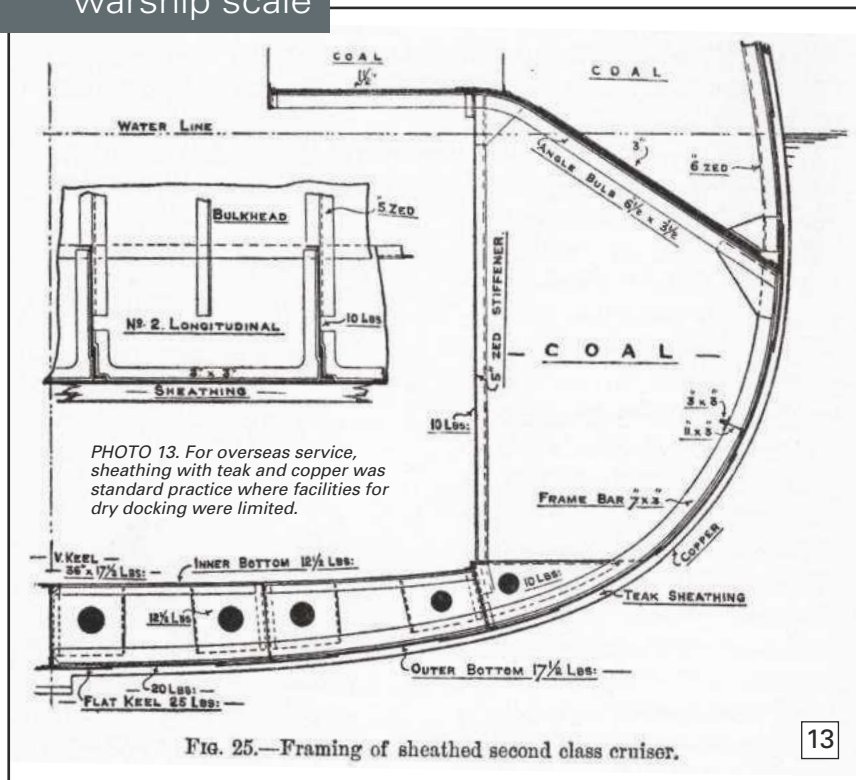
The Monmouth class

A year before the Devonshire class, saw the introduction between 1903 and 1904 of the three funnelled Monmouth class. They were considered to be the 'Economy Class' in just about every department including armour and firepower, having sixteen 6 inch and ten 12pdr guns, but notably twin electrically operated turreted 6 inch guns forward and aft. Although casemated guns were later discarded under Phillip Watts as being inherently weak and not much use, the Monmouth class with its 31 Belleville boilers and engines developing 22000shp were the best performing armoured cruisers of the William White era and **Photo 11** is of HMS Kent of this type.

Second and Third Class cruisers

We will now look at the lower-rated cruisers of this time. At the close of the 19th Century, Great Britain dominated world trade and as such the Royal Navy was called upon to police the trade routes and provide protection for the Colonies and Dominions and for this, large numbers of Second and Third Class cruisers were built and what is truly astonishing is the number of such ships that were built. Under the Defence Act of 1889, which as you will have gathered, pretty much defined warship building for the following decade or so, one class alone, namely the Apollo's, accounted for 25 ships between 1891 and 1893. HMS Brilliant, **Photo 12**, was built at Sheerness Dockyard, completed in 1893 and displaced 3600 tons. She was armed with two 6 inch guns, fore and aft in shielded turrets, and six 4.7 inch. Not surprisingly many of the protected cruisers served in distant waters, especially the tropics where dry-docking was infrequent and because of this, their hulls were sheathed in copper which inhibited marine growth.

Not surprisingly many of the protected cruisers served in distant waters...



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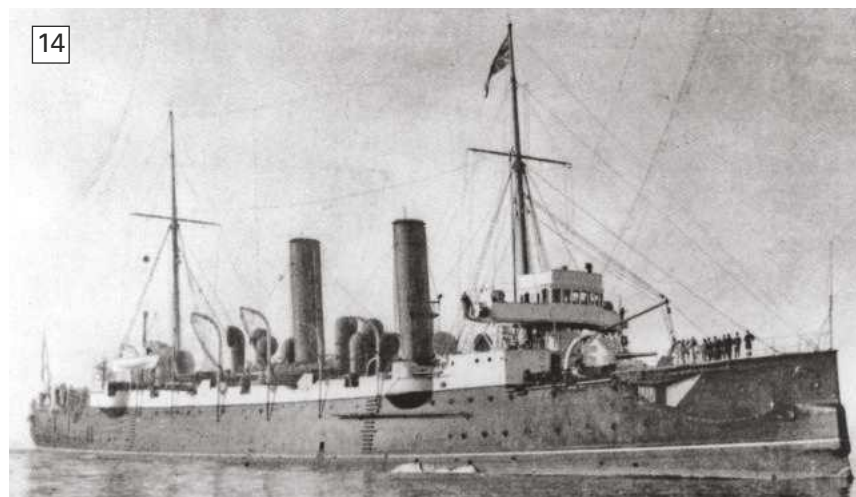
PHOTO 13. For overseas service, sheathing with teak and copper was standard practice where facilities for dry docking were limited.

To avoid metallic contact directly between the copper and steel hull, a layer of teak usually between 3.5 and 4 inches thick was applied first and secured with brass bolts. Their heads being well recessed were plugged with Portland cement and the whole thing then caulked. The copper sheathing was nailed to the teak with brass nails as in **Photo 13**.

Further examples of this type included the *Astraea* class, essentially improved *Apollo*'s with a higher freeboard amidships and 1000 tons heavier, **Photo 14**. The *Eclipse* and the *Arrogant* classes followed with HMS *Vindictive* part of the latter and she completed at Chatham in 1900, **Photo 15**. Originally she was fitted with a mixed armament of four 6 inch and six 4.7 inch guns, but during her refit of 1903 to 1905, all the 4.7 inch guns were removed and replaced by six inch instead. This was the only class designed from the onset for ramming and with an improved manoeuvring capability and the reinforced bow was a noticeable feature, albeit mostly underwater! The final embodiment of the Second Class cruiser were the *Highflyer* and *Challenger* classes. HMS *Challenger*, **Photo 16**, entered service in May 1904 and with improvements in machinery over the earlier *Highflyer* class was two knots faster. Both classes introduced a uniform main armament of eleven 6 inch guns and nine 12pdrs.

Third Class cruisers

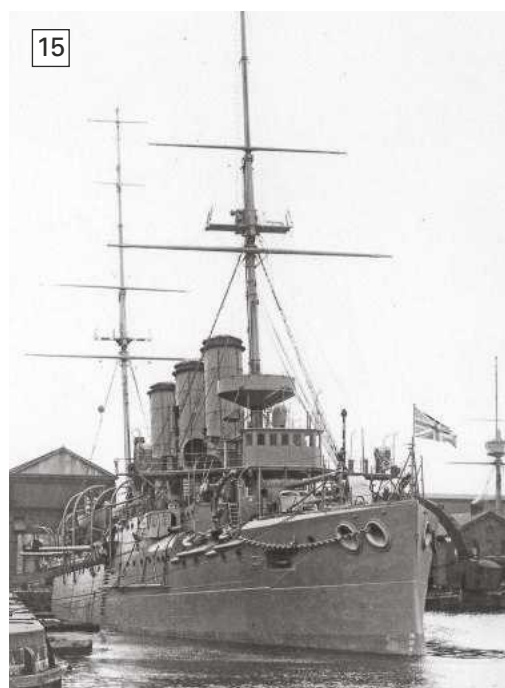
Many of the warships ordered after 1893 were part of what became known as the 'Spencer Programme'. Once again the origins of this go back to the desire to have enough naval strength to deter both France and Russia. In other words, the Royal Navy numerically was meant to be equal at the very least, to two other navies combined. However, for Great Britain, the key requirement was trade route and colonial protection, in the most economic way possible of course! So, the Third Class cruiser was lightly armed and armoured, and this of course was reflected in the displacement as only the *Gem* class of 1905 exceeded 3000 tons.



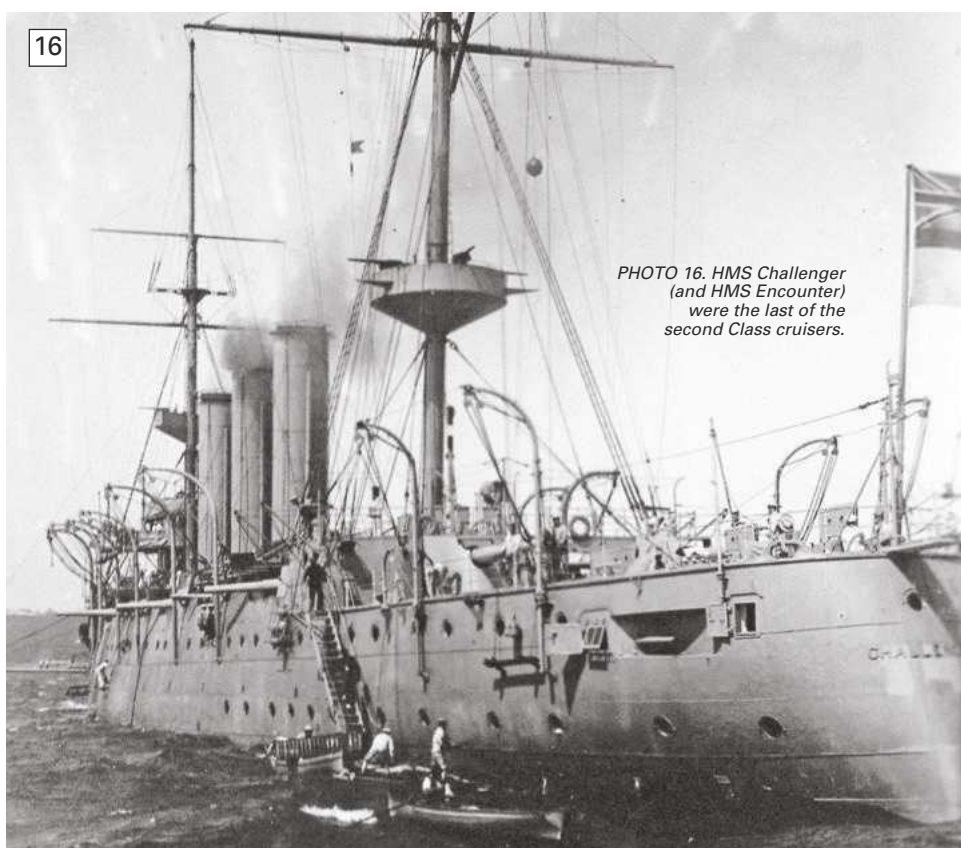
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PHOTO 14. Like the *Apollo* class, the follow-on *Astraea* class were also sheathed in teak and copper. They were larger, developed more power, but in service were no better than the *Apollo* class.

PHOTO 15. Although a Second Class cruiser, HMS *Vindictive* was designed for fleet work rather than trade protection.



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16

PHOTO 16. HMS *Challenger* (and HMS *Encounter*) were the last of the second Class cruisers.

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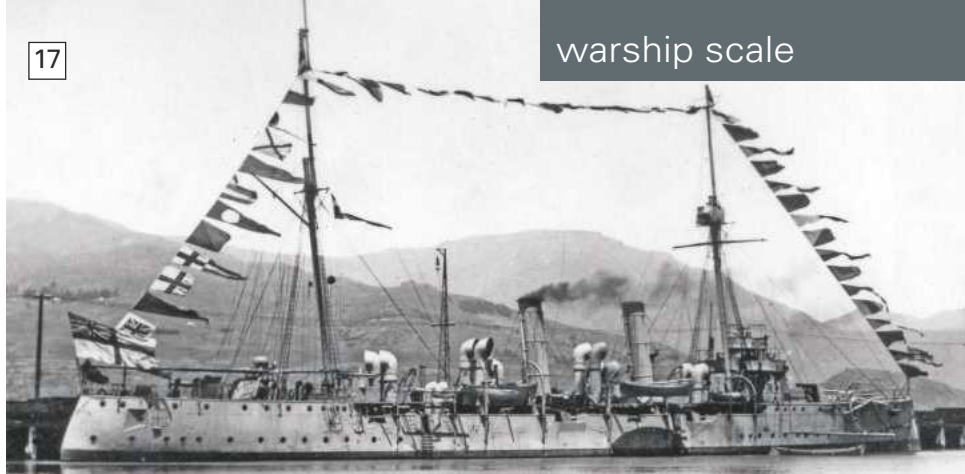


PHOTO 17. HMS Pegasus a Third Class cruiser was one of the Pelorus class which were longer and had less beam than the preceding Pearl class, but their reduced displacement did improve performance.

Probably the best known of these ships were the Pelorus class, all eleven completing between May 1898 and 1901. They were of 2135 tons displacement, 313 feet 6 inches long by 36 feet and 6 inches beam. They were armed with eight 4 inch, eight 3pdrs, three machine guns and two 18 inch torpedo tubes. With their 16 Thornycroft water tube boilers using forced draft, they were capable of over 20 knots, but all suffered boiler problems and they were not rated as good sea boats. However, despite these deficiencies they were sent to distant stations including those in East Africa, the Indian Ocean, the Persian Gulf, China and Australia, this last country being where HM Ships Pioneer and Psyche were transferred to the newly formed Royal Australian Navy. Shown here is one of the best known of the class, HMS Pegasus in **Photo 17**. She was sunk off Zanzibar in East Africa on the 20th September 1914 by the German Navy light cruiser Königsberg, whilst undertaking boiler repairs. The Gem class was not only the last of this type of cruiser, but also notably HMS Amethyst was the first cruiser to be fitted with steam turbines.

Scout cruisers

Although classed as cruisers, the 'Scouts' were designed to work in company with, and protect, the torpedo boat destroyers (TBD's). Although larger than destroyers, in 1903 the Admiralty requirements stated that they should have a good turn of speed of around 25 knots; have a small draught for operating in shallow waters and an armament of ten 12pdrs and eight 3pdrs, so as to be able to successfully engage enemy destroyers. 'Scouts' were not armoured, but had some protection around their engine and boiler spaces. There were five classes in all, with four entering service in 1905, namely those of the Adventure, Forward, Sentinel and Pathfinder types. The last of these four types were built at Cammell Laird in Birkenhead with a displacement of 2900 tons and were 379 feet long and 38 feet 6 inches beam, having a protected deck. All were considered to be somewhat deficient in armament and as such were re-armed in 1911 and 1912. **Photo 18** is of HMS Pathfinder which is historically significant as being the first warship to be torpedoed and sunk in WW1 whilst off St. Abbs Head, Berwickshire, Scotland, on Saturday 5 September 1914 by the German U-21 submarine commanded by Kapitänleutnant Otto Hersing. Other 'Scouts' included HMS Sentinel (and HMS Skirmisher), **Photo 19**, which were quite distinctive by having a rounded forecastle.

18

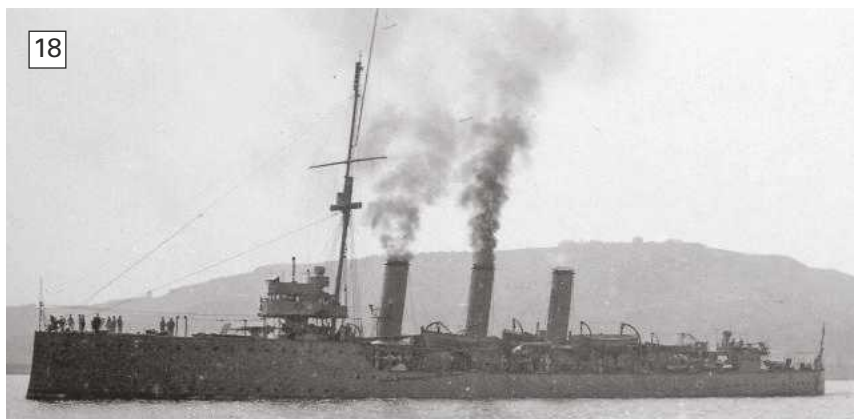


PHOTO 18. The 'Scout' cruiser HMS Pathfinder was designed as more like a flotilla leader for torpedo boat destroyers than as a cruiser.

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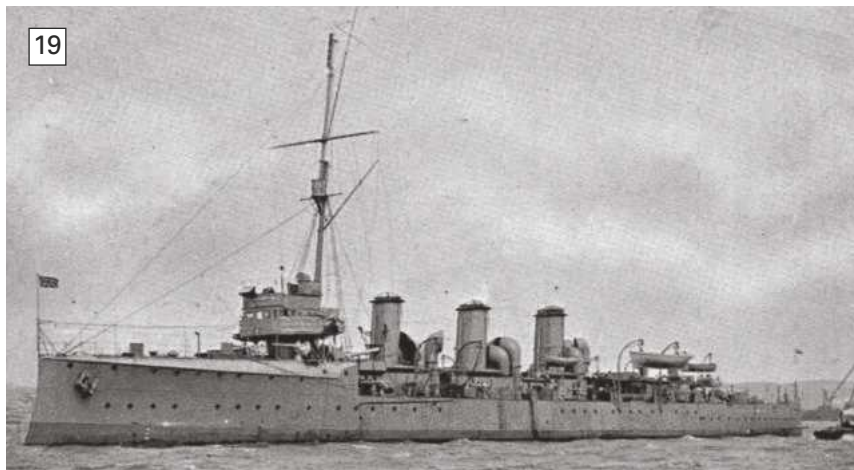


PHOTO 19. HMS Sentinel was a 'Scout' cruiser, like HMS Pathfinder, and was capable of 25 knots, equivalent to the seagoing River class of destroyer.

Torpedo boats

With the introduction previously in 1876 of HMS Lightning, built by John Thornycroft, this saw the prospect of a low-cost delivery system for the new 'locomotive torpedo' weapon. At 75 tons and just 128 feet 8 inches long, the later 1886 Yarrow built TB 75 with a triple expansion engine could reach the (for then) remarkable speed of 23 knots. It was thought that the torpedo boat would render many of the larger slower classes of warship vulnerable to attack, especially at night. A good example of the Yarrow type of torpedo boat is this 1:48 scale working model of TB 75 of 1887, **Photo 20**.

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PHOTO 20. A 1:48 scale working model of a torpedo boat, which was regarded as a fearsome military weapon in its day.

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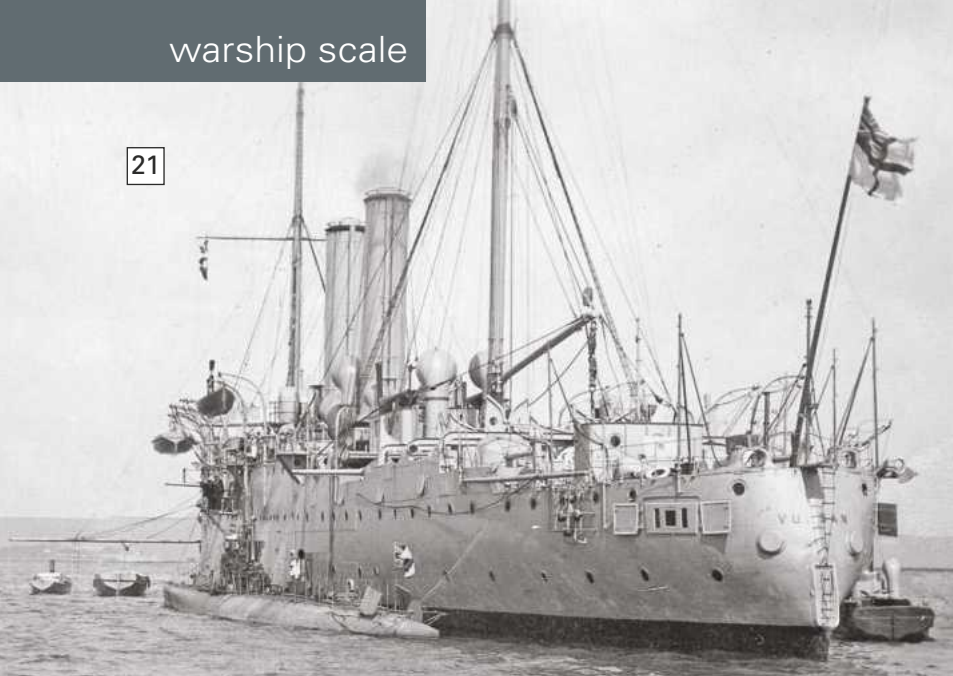


PHOTO 21. HMS Vulcan is seen here in her later years as a submarine tender, but she started life as a warship capable of transporting and supporting eight large torpedo boats.

In 1887, HMS Vulcan entered service dedicated to carrying between six and eight torpedo boats and she is seen here in later years, albeit as a submarine tender, **Photo 21**. However, by 1905 the torpedo boat had evolved into much more of an ocean going craft, of around 250 tons displacement and equipped with two 3pdr guns and two 18inch torpedo tubes. Here in **Photo 22** is the Yarrow built 113 foot vessel No. 24. Note on the picture, its relatively low draught from the visible depth marks on the stem.

Torpedo gun boats

As a counter, to the torpedo boat, a new type of warship was introduced, namely the Torpedo Gun Boat (TGB). The first of these was HMS Rattlesnake, built by Cammell Laird at Birkenhead and this vessel set the pattern for future development. By the beginning of the 1890's the TGB increased in size and displacement with the Sharpshooter class being of 735 tons equipped with five 14 inch torpedo tubes, two 4.7 inch guns and four 3pdrs. Top speed though was a relatively pathetic 19 knots, **Photo 23**. This was followed by the Alarm class, essentially a larger version of the Sharpshooters'. This model of HMS Jason, **Photo 24**, is an Alarm class TGB and is a fine example built by Don Brown and **Photo 25** shows some of the fine detail around the forward 4.7 inch gun. In service though, the entire concept as a counter-force to the torpedo boats was fundamentally flawed as the torpedo gun boat could not match the speed performance of the attacking torpedo boats!

The torpedo boat destroyer

As the name would imply, these were also designed, primarily to counter the fast and nimble torpedo boats. Initially 43 were ordered from a variety of shipbuilders and they were known as 'turtle backs' because of their

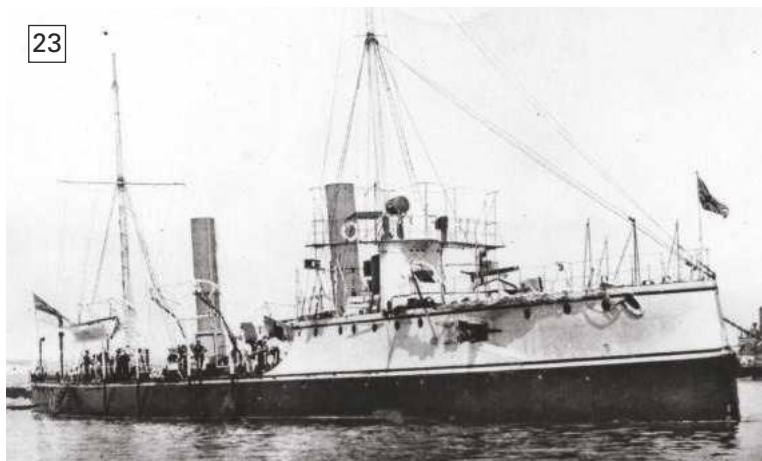
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PHOTO 22. TB 24 was a larger ocean going type of torpedo boat that was laid down in 1905.

PHOTO 23. The heavily armed torpedo gunboat such as HMS Karakatta of the Sharpshooter-class launched in 1889, was to counter the threat from the small and nimble torpedo boats. HMS Karakatta is quite a 'pretty ship in her paint scheme I think you would agree?

23



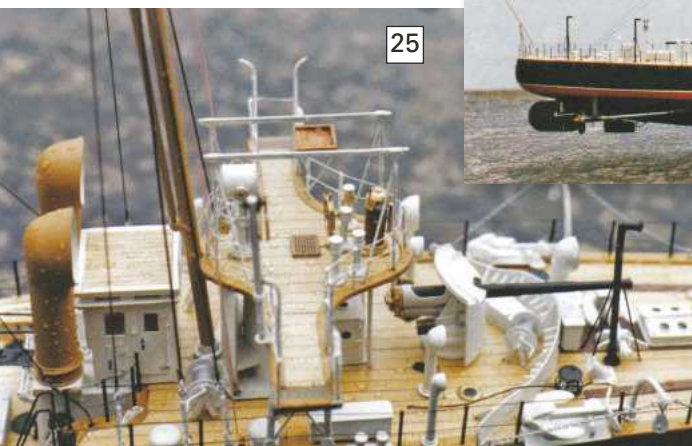
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PHOTO 24. HMS Jason, built by Don Brown.

PHOTO 25. The detail on the model of HMS Jason clearly shows the open bridge and the forward 4.7 inch quick firing gun.

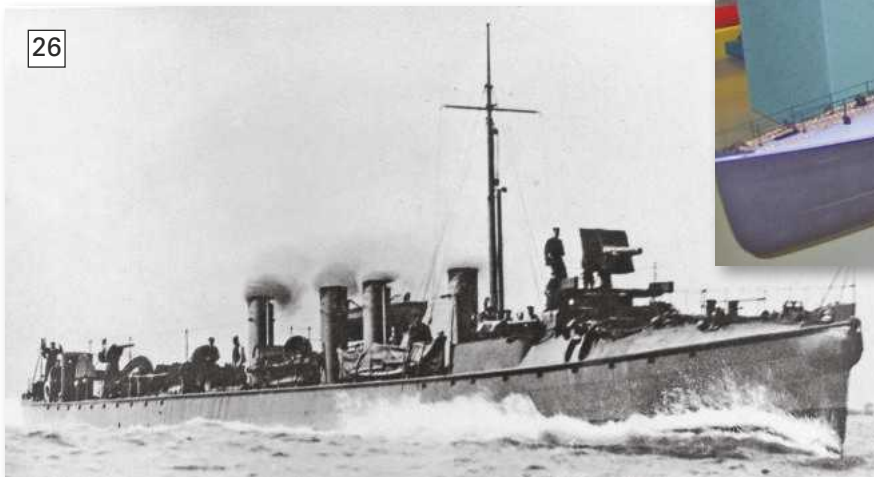
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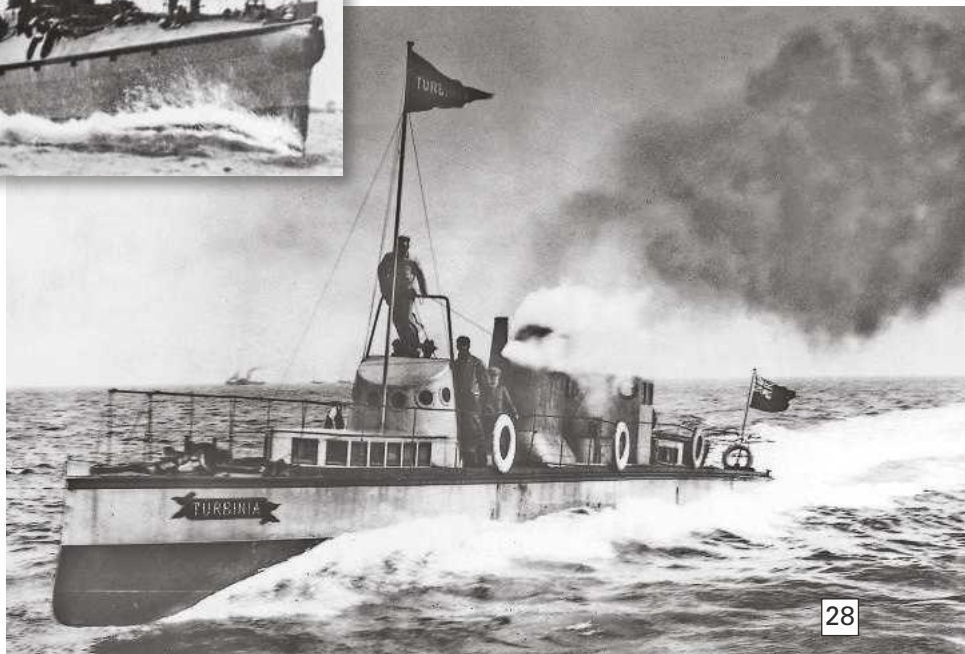
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26



radiused forecastle top. Although a certain element of freedom in design was allowed, the actual tonnage varied between 220 and 300 tons and length between 180 and 206 feet, but the armament remained fairly constant with a single 12pdr mounted forward and then between three and five 6pdrs, plus two 18 inch torpedo tubes. The first two, HMS Havock, **Photo 26**, and HMS Hornet were built at the behest of Admiral Fisher with the former having a locomotive type of boiler and on trials she attained 26.7 knots whilst the latter received the new Yarrow water tube boiler and achieved 28 knots. As the pace of development moved ever faster, the steam technology of the time was hard pressed to keep up with the changes! Also, these vessels were not known for their mechanical reliability or human comforts! **Photo 27** is of a model of HMS Hornet in the former Clyde Room Collection at Glasgow Transport Museum that is now within the Riverside Museum.



28

The Charles Parsons revolution

It could be said that one man's idea changed the course of naval history and that was Charles Parsons who was the first to build a working compound radial flow steam turbine. This new form of propulsion system was first installed in a 44.5 ton vessel in 1894 named Turbinia. After a somewhat disappointing start, Turbinia was re-engined,

increasing the number of turbines to three for the three propshafts and after a number of propeller permutations the speed increased from an initial uninspiring 19.75 knots to a remarkable 33 knots, **Photo 28**. There was only one way to convince the doubters and that was to demonstrate the capabilities of Turbinia in the most comprehensive way possible and that was to run her at speed, unannounced, down the lines of warships at the Spithead Naval Review of 1897, **Photo 29**.

PHOTO 26. Known as the 'Yarrow 26-Knotters', HMS Havock was the first of the torpedo boat destroyers and the second was HMS Hornet, with both being completed in 1894.

PHOTO 27. A 1:48 scale model of HMS Hornet, seen here as part of the Clyde Room Collection, now residing in the Riverside Museum, Glasgow.

PHOTO 28. Parsons' Turbinia as the first boat to be fitted with the revolutionary steam turbine.

29



PHOTO 29. A painting that depicts Turbinia demonstrating her performance and what the Royal Navy now had to embrace for the future.

30

PHOTO 30. An outstanding radio controlled 1:48 scale working model of HMS Velox, which was one of the first turbine powered torpedo boat destroyers.

...the development of warship design up to 1905 was staggering...

PHOTO 31. HMS Swale of the E (River) class was the first design of torpedo boat destroyer to adopt a raised forecastle.

31

The net result of all this was an order from the Admiralty for Parsons turbines to be installed in the, already under construction, torpedo boat destroyers HMS Viper and HMS Cobra, both then achieving over 30 knots during sea trials. HMS Viper had two propellers to each of its four shafts and reached a speed of 35.5 knots, whilst HMS Cobra had three per shaft and reached 35 knots, but was later lost in the North Sea in 1901. HMS Velox (like HMS Viper) was classed as a C class torpedo boat destroyer and was converted to turbine power, but this did not achieve the same results as HMS Viper. A good example of such an early turbine powered vessel can be seen in this outstanding radio controlled working model of HMS Velox, built by Steve Pickering, **Photo 30**. In all, 116 turtle back boats were built from 1893 to 1903.

Although these warships had the performance, they lacked good all round seaworthiness and could bury their bows in a heavy sea. As a result the E (River) class of 1903 changed not just their appearance, but having a German inspired high forecastle, they had a marked improved seaworthiness in heavy weather. Except for three of them, all these warships were fitted with triple

expansion engines and were 225 feet long and mounted four 12pdrs and two 18 inch torpedo tubes. HMS Swale was one such example, completed in 1905, and set the design trend for future destroyers, **Photo 31**.

Conclusion

As can be appreciated, the development of warship design up to 1905 was staggering, bearing in mind the huge number and complexity of the various classes of warship. There is little doubt that the big change prior to 1905 was the advent of steam turbine propulsion, but many other factors including Admiral Fisher's re-organisation of the Royal Navy between 1895 and 1905 contributed greatly to preparing it for the conflict to come. In Part Two, due later this year, we will discuss the Dreadnought era and preparations for the war at sea from 1914.

References and acknowledgements

The Pictorial History of the Royal Navy, 1880 to 1914.
The Royal Navy - An Illustrated History
by Anthony J. Watts.
Warships of WW1 by HM Lee Fleming.
The Great Naval Race by Peter Padfield.
Conway's All the World's Fighting Ships 1860 to 1905.
Sheathing on warships ref: Warships - A Text Book
by Edward L. Attwood, 1910, pages 33 & 34.
My thanks to the staff and curator of the Dock
Museum at Barrow in Furness.

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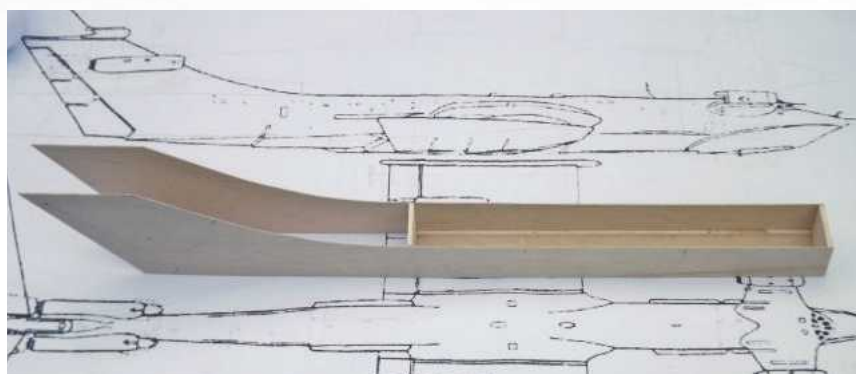


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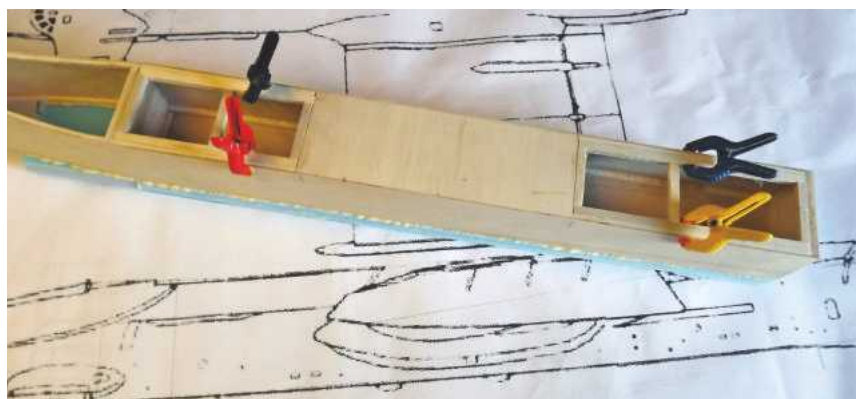


The MONSTER on the pond!

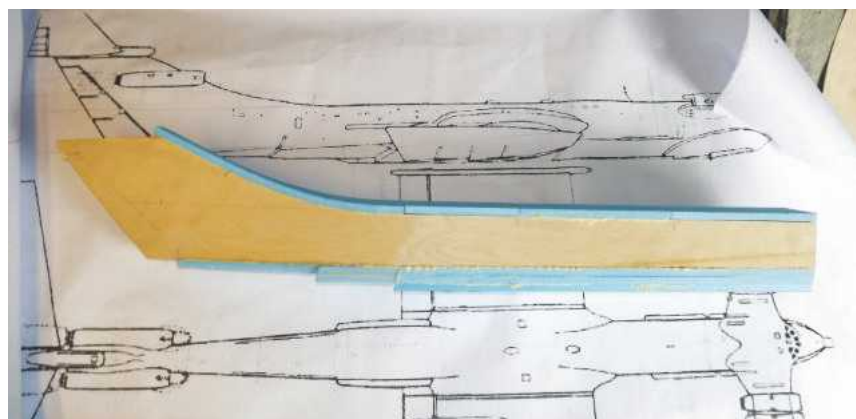
Ashley Needham's Ecranoplan KM



Everyone needs a plan - here created from line drawings photocopied and enlarged repeatedly. Basic fuselage (hull) construction is of plywood and Styrofoam.



There are access hatches in the top of the fuselage that was made deliberately flatter than pro-typical.



Styrofoam was used to create the curved shapes of the fuselage.

At the end of my article about the Orlyonok A90 Ecranoplan (sometimes spelt Ekranoplan) in November 2011 MB, I stated that more performance might be had by fitting a LiPo battery and indeed at a later date I borrowed an 11.1v LiPo to prove that it could go a lot faster and would easily lift off the water, albeit with no flying control! Everyone was well impressed and demanded that I make one twice the size to perform properly. I like a challenge but didn't fancy simply making another larger A90, however what about the original sea monster, the jet powered one? I didn't choose this version originally as it has a shape even more radical than the A90 and would be too difficult to make and perform authentically, but there again.....

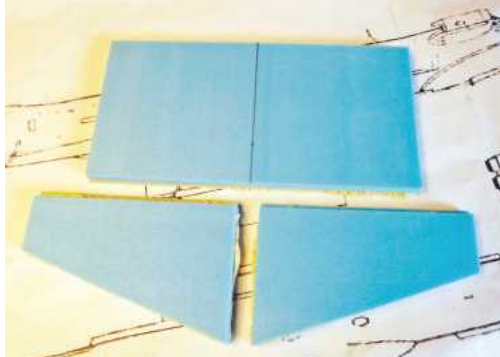
I have a cunning plan!

This will be a representation of the original Caspian Sea Monster, Wing in Ground-effect (WIG) aircraft. Ecranoplan means 'ground effect vehicle' and this one was known as the KM (Korabl Maket in Russian, which means prototype ship) and was a vessel over 100 metres long by 30m wide and weighing a stunning 540 tons, built around 1966 by the Russians as an experimental fast transport. It was powered by ten turbo-jets and travelled 20m clear of the water at 250 mph. It was regarded as a ship and therefore allocated to the Russian Navy.

A model plan was required and the time honoured line drawing and photocopier approach was used once again to provide a picture to work from. There's no messing around with such a monster project so a whopping 1200mm length with a 580mm wingspan was chosen. Proportionally it is much longer compared to its wing span than the A90, and making it any smaller didn't give me the increase in perceived size which I wanted over the Orlyonok, and a larger craft would be more stable at speed, just possibly?

Building the monster

Learning from experience in building the earlier A90, construction would follow a similar pattern, as this had been light, strong and provided adequate internal volume for the equipment. The craft appeared to be slab-sided enough to use one single piece of plywood each side for the fuselage and tail, rather than making them separately. What has changed for this project though, is finding the materials to transform the use of Blue Styrofoam.



Basic formers for the tailplane.



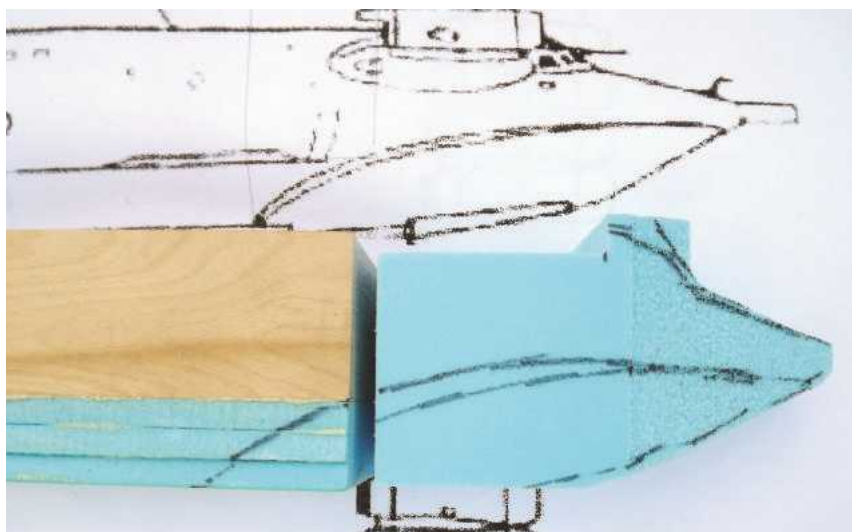
The stubby wings are foam over a plywood base for strength.



I refer to Eze-Kote water based resin and Gorilla glue. The first, in conjunction with fine glass cloth, stiffens the Styrofoam nicely and the Gorilla glue dries crunchy hard and foams up to fill gaps. Be warned though, due to this expansion effect you do need to clamp the bits being glued together, as I discovered later. My usual 1.5mm ply and sheet balsa box has been utilised and I have used layers of Styrofoam under the base. This foam base goes full length using three stepped laminations of 10mm sheet and has been artfully sculpted to blend in to the nose cutaways at the front, tapering to a flat at the first step and continuing in a vee to the stern. Although outwardly simple, using one piece for the sides had its problems, namely keeping everything vertical and square at the tail end. This took a lot of measuring, clamping end eyeing-up, there being a lot of thin ply to play with and not much in the way of stiffening until the top and bottom foam layers were glued in place afterwards. Thankfully the simple pointed cockpit at the front was easily crafted from a block of foam. This was made a bit oversize and bonded to the fuselage before final shaping to provide a smooth joint, avoiding any extra filling and the like. Hatch plugs were made to provide access to the r/c gear and finally a layer of foam was glued to the entire top and also shaped. Unfortunately a compromise on fuselage dimensions has been made, so the top is a bit flatter than I might like, but I can cite 'operational reasons' for this.

Wing design

Wing construction departs from my previous practice and I have used, wait for it, foam! The wings are approximately square in plan view, having huge flaps at the rear and large end plates. Two lengths of 10mm thick Styrofoam, of a length equal to the combined wingspan, were cut and Gorilla'd together, followed once dry, by 1.5mm ply



ABOVE: The cockpit was easily carved from a block of Styrofoam.

BELOW: The fuselage, tail section, wings and engine mountings are now well underway.



underneath. When fully cured, the wing block was sanded to an airfoil section and cut in half, thus ensuring I had two wings of the same profile. At the trailing edges, to be glued underneath, are some strips of very thin aluminium. This aluminium would be the flap and in order to have initially adjustable flaps with the minimum of effort and without complicated linkages, they were to be held on by hot-glue for trials and permanently epoxied in place once the necessary 'bend' for running trim has been achieved, or that was the intention! At the wing to fuselage joint, the prominent shoulders were cut and shaped from foam then epoxied in place. After carefully marking the fuselage body, some wood blocks were cut and used to support the wings horizontally and at their specified incidence, whilst they were epoxied to the body. This 'specified incidence' was a guess and after experiences with the earlier Orlyonok, I settled for a small 10mm rise rear to front, and was hoping that the very large flaps would provide the necessary lift adjustment.

At the wing extremities, 10mm wide endplates were fitted which are a bit thicker than plan, but the foam is very soft even when treated and they would

“...a compromise on fuselage dimensions has been made...”



ABOVE: The eight jet engines are replicated by 19mm styrene tube. BELOW: The completed engine unit.



ABOVE: Underneath - very much like a conventional model hydroplane, but there were extensive modifications following to get it all just right. BELOW: A powerful brushless motor provides the 'oomph'!



Aluminium flaps that could be bent, were tried to get the model to 'fly' correctly.



Once the model 'flew' correctly, the flaps were permanently fixed. There was 12 months between this and the last picture!

suffer damage easily if they were much thinner. They were also Gorilla'd in place and only sanded to final shape after the initial trials. Oddly enough, it was fitting these items that made the partially finished craft start to assume its exotic appearance as they look like the fin ends on a 1930's Flash Gordon space rocket!

As a postscript to this section, I actually ended up with plastic flaps set flat to align with the wing bottom. The wing was, if anything, producing too much lift and being set well forward was lifting the nose too much and causing a lot of head scratching when carrying out the later trials.

Engines etc.

A bank of eight dummy Dobrynin VD-7 turbojets sit on a small stub wing made from Styrofoam at the nose of the craft. This was a particularly tricky thing to shape and took ages of careful sanding and filling and if on one side the jet spacing is not quite the same as the other, no one will notice will they?

The dummy jets were themselves made from 19mm ABS tube with semi-circular ends glued in place and trimmed to give a curved front cowl. Simplicity rules at the back end of the model, as there are no motors or servos, just two dummy jets made from 25mm ABS tube and the tailplanes which have been made from sandwiched foam (no ply) and have cutout flaps. These flaps would be taped in place for trials, after which they will be glued in place and the same for the rear tail rudder. The tailplanes were set at a slight upwards angle, but later on during the testing phase I cut them off and made a second set with larger flap

*It floats!*

cutouts and mounted at a steeper incidence, and then later, a third set without flaps and please don't ask why! An application of Eze-Kote and fine glassfibre cloth was then applied to the foam surfaces to protect them.

As an un-equipped fuselage, it all floated dead level at the ply bodyline with the rear edges of the wings (no flaps yet) just touching the water as per the real thing and surprisingly there was very little trim change with the r/c and motor equipment being placed aboard. Well that was all easy enough, or have I forgotten something? Of course, how is it really propelled?

The propulsion system

Essentially what is being built, and it's no secret as you will have looked at the pictures before reading this, is a sort of propeller driven hydroplane. The theory is that hydroplanes at speed 'float' across the surface of the water. The large lifting surfaces should be able to raise this craft off the water at speed and the aim will be for a fairly even level skim.

Hardware for this model? A difficult choice, especially as the normal running gear would be a rear mounted surface drive, something that couldn't be used due to the aeroplane shape. So, a powerful brushless motor of 3000kv (revolutions/volt), an 8.4v NiMH battery and a 350mm long flexi-drive shaft with a 32mm hydro-prop were chosen. Both the motor and electronic speed controller (esc) are watercooled so a suitable pickup has been fitted just behind the propeller, and then moved as I couldn't get the prop off for maintenance, and then the water scoop was in line with the rudder (not a good idea), and so the rudder was also then moved! Hindsight is a wonderful thing!

Later, the whole lot was cut out and a longer drive substituted, necessitating leaving the rudder forward of the prop. Space precludes going into any more detail on the trials and tribulations of all this as the article would be twice as long if I told the full story, but suffice to say that it did work and the later modifications were just to satisfy my 'development' instincts.

To finish off?

After hours and hours of dent filling and sanding, there was only one colour to paint such a menacing and sinister craft, as used by my younger-self many years ago on Airfix models, namely Russian Navy Cold War dark blue-grey (one whole tinlet per coat) and Humbrol No. 96 seemed about right, although they call it RAF Blue! It may not be the right colour,

*At about 50% throttle.**Nearly full speed.*

but that's what I like and some nice red stars, a bit of lining-in with a fine indelible marker pen and an overall coat of satin varnish completed the look.

A pause?

Even after all this work, it's most unlikely to work properly first time and I began to wonder if I wasn't being just a bit too ambitious, given that most of the craft had been built using theory, guesswork and blind hope! The weights were all over the place and the lifting surfaces unbalanced (for a boat). There's no doubt it should be fast as there was plenty of power and the finished model, complete with motor and battery, at 1.5kg was reasonably light (700gm for the hull only) and so more than a few trials were

As an un-equipped fuselage, it all floated dead level at the ply bodyline...



A size comparison with the earlier model.



undertaken in secret at the boating pond, with mixed success. As this was a representation of the KM Caspian Sea Monster, then obviously it has to look as such and so there is not much in the way of redesigning that could take place, just a few tweaks to the proportions. Only the front and rear wing flaps, internal weights and the foam hull contours could be altered without losing the overall look. The 8.4v 4600 mAH NiMH battery was wedged in place with the esc; the servo was already fixed to a mount; the esc was being held in place with its silicone water cooling tubes and last, the receiver was secured with Velcro tape. On its very first run the only success was the water-cooling system, which worked very well. So, this was going to be a long development job!

The proper maiden voyage

Eventually came the day for the public maiden voyage of the KM Caspian Sea Monster. The operating area was cleared of small children and the elderly (!), and the model unleashed on to the pond. The Dobryn jets were fired-up and the throttles moved to fast idle then it was pointed out into the open water, the pond being mirror flat, a deliberate choice of day on my part! The beast was 'motored' out to the far side and turned around. We all stood well back and now for the moment of truth. The Dobryn turbojet throttles were advanced to full power and the monster gathered pace, then shot forward.

Did it rise? Of course it did, wow! The earlier A90 Ecranoplan was reasonably fast, but the KM, did it go! The bystanders were awestruck and I was a bit smug as the hat was passed around.....

Conclusion

Another amazing shape on the water and definitely my most challenging project yet. It was 18 months of prevaricating and waiting for the right weather and then filling a year's worth of damage sustained by it hanging around in the shed. I have for this build mixed Bacchanalian portions of filler and used heroic quantities of glue and Styrofoam, not to mention a bath's worth of Eze-Cote resin, but was it worth it? Well yes of course!

The rudder throw has had to be adjusted to prevent overturning at speed and the turning circle is a bit large and the eventual rudder location does not help in this regard. There is no reverse, but does it really perform as described? Well, if truth be told it does not quite have the lift I initially hoped for, but it is very light on the water and has achieved a horizontal attitude at speed, there being an excessive nose-up attitude initially, as evinced by the wing tips gently oscillating above the water surface as they balanced the hull. It is blisteringly fast though and achieves this in perfect silence whilst being uncannily smooth, courtesy of the brushless motor, with no bobbing or hopping, perhaps due to it being very lightweight. A by-product of the design (sharp pointy low-floatation front end and low set wings) results in some spectacular wetting (to put it mildly) at low to medium speeds and water is only cleared off the upper surfaces once a fair amount of throttle has been applied. Eventually I purchased a 9.6v NiMH battery and I think it now goes as well as it will without using an 11.1v LiPo battery and in any event, if it went any faster it would lose any semblance of trying to be a 540 ton aircraft flying just above the water. Substantial modifications have been made along the way to achieve the look I was ultimately after, but barring adding ballast, cutting away half the hull foam then adding more at the other end, swapping prop's, changing and extending the flexi-drive, re-siting the rudder twice and re-profiling and mounting the tailplane three times, the bulk of the boat is as-built! In practice, getting the right performance on the water depends on the weather as much as anything and it remains a bit of a work-in-progress as regards that look, when at speed. Will our pond see anything more sinister lurking on it in the future? I think not and certainly not yet anyway, but there again who knows? ●

...getting the right performance on the water depends on the weather as much as anything...



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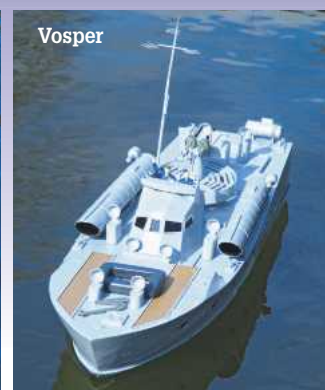
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National Museum of the Marine - Paris

Anthony Addams
takes us on a tour



This museum is north west of the Eiffel Tower just over the River Seine and is situated in one of two ornate buildings clearly visible from the south bank over a bridge. It is closed on Tuesdays and there is an entry charge on the other days, but the underground railway is close by and the guidebook is available in English, plus there is an excellent retail shop. There are numerous exhibits, obviously with a French theme and which can have a different perspective on some naval events to those you might see in British museums!

François-Edmond Pâris (1806 to 1893), **Photo 1**, rose to the rank of Admiral and sailed on three scientific voyages circumnavigating the world around the southern hemisphere, very much in the wake of Captain Cook whom he admired greatly. In each remote place that he visited as Lieutenant Pâris, he studied and noted the local craft used for fishing, ferrying people or transporting goods.



He used watercolours to paint these craft in their local setting and these were later published in scientific books. **Photo 2** shows a craft from the Gulf of Tonkin painted as a watercolour by him and the matching model was made later. On becoming the Curator of the Musée National de la Marine from 1871 to his death in 1893, 220 models were made based on ethnographic observation and he also commissioned over 200 other ship models, these last being on display at a special exhibition being held at the time of my visit. I would have liked to have written an article covering this special exhibition, but photography was not allowed. Ethnography is qualitative research exploring cultural phenomena and involves field study with the conclusions drawn from that. An ethnographer will normally follow a defined procedure to reach his, or her, conclusions.

Referring back to Photo 2, Lieutenant Pâris was aware that the battens increased markedly the driving force of a sail, compared to a sail with no battens and that the wind strength is often greater, higher at the top of the sail, allowing a closer angle of incidence to the wind, 15 degrees being about the most advantageous angle. In addition he noted that a heeled boat wastes the wind's energy and the drag of the hull is increased, so the trapeze system on modern racing yachts simply copies ancient boat design and operation.

Photo 3 is the cover of the special exhibition catalogue with a variety of craft illustrated. Centre right is a Prao Mayang from Sourabaya with a sail





exactly like that of a windsurfer of today. Lieutenant Pâris also noted that a South Sea Island outrigger boat could reach 30 knots in a 15 knot wind!

Photo 4 shows a larger craft from Mayang with a sail like a windsurfer. The collection of models, drawings and measurements must be the most complete ethnographic collection of maritime craft from the southern hemisphere that exists and perhaps we should all record for posterity the styles and types of boat that are now disappearing in our lifetime.

Historic paintings

These were often commissioned to make bold political statements. The grand oil painting completed in 1807, just two years after the Battle of Trafalgar in **Photo 5**, shows the resistance of the French flagship Redoubtable under simultaneous attack from HMS Victory and HMS Temeraire and at the moment Nelson was fatally wounded. In **Photo 6** we see the magnificence of the French flagship Bretagne of Napoleon III, when at Cherbourg in 1858 awaiting the arrival of Queen Victoria and Prince Albert in the state barge.

A wide selection of models?

The museum has a fine collection of models displayed in huge shop window like cabinets as in **Photo 7**. Flash photography is not normally allowed, so please forgive the quality of some photos taken through glass and in low light. Other displays include instruments, equipment and modern ships.

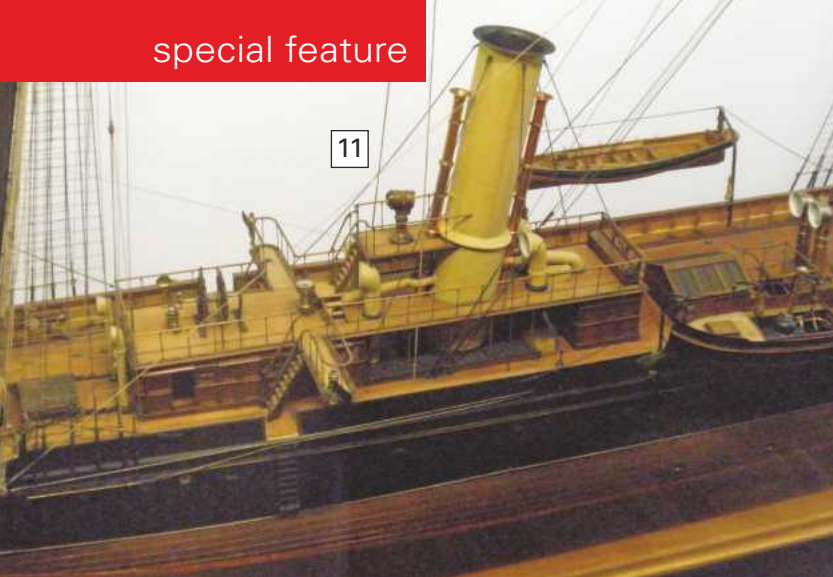
The French galley Le Real of 1668, **Photo 8**, has some fine detail and quite incredibly some of the original full-size decoration has survived. In addition are displayed the unique, and very valuable now, ivory models made by prisoners of war though the centuries. For your interest, at Dieppe, the maritime museum also has a particularly well regarded collection of ivory models.

Photo 9 is of the Le Royal Louis model. Young naval officers had to be taught the operation of complex sailing ships and models such as this 1:18 scale 14 foot long example, included fully operational rigging and could be inclined to replicate a vessel at sea. This model was used at the maritime school in Brest, dating from around 1770 and is based on the 124 gun ship of that name.

La Gloire was the first ocean going ironclad, launched in 1854 and **Photo 10** shows some of the

...perhaps we should all record for posterity the styles and types of boat that are now disappearing in our lifetime.





below waterline copper plating detail on the model held by the museum. This example was shown at the Paris World Fair Exhibition of 1867 and other navies quickly followed her design.

Eros II in **Photo 11** is a model of luxury steam yacht, built in 1885 in Great Britain for Baron Arthur de Rothschild. Capable of 14 knots, she had a crew of 44 and this model is exceptionally well detailed.

Photo 12 is of a steamship under construction and **Photo 13** is of a model of the No. 1 Dry Dock at Toulon, c1778. The ship model was added in the late 1800's and is of the French screw driven frigate La Guerriere.

Photo 14 is of the sheer-legs equipped vessel used for extracting and inserting masts. The model pre-dates the 1820's and represents the vessel used in Toulon at that time.

The Hoche of 1866, **Photo 15**, was the first French warship to be fitted with gun turrets and anti-torpedo nets.

Photo 16 is a sectional model of Le Surcouf. She mounted two 203mm guns plus a spotter seaplane. She was lost in 1942 following a collision with an American freighter.

There are numerous other models and small specialised displays such as one for river gunboats of various types. The models and information available at this museum make it a worthwhile place to visit if you should be in Paris and of course in many ways it is the French equivalent of our own British National Maritime Museum at Greenwich. You could of course let your partner climb the Eiffel Tower whilst you stay on terra-firma and view the models in the museum if you wish?



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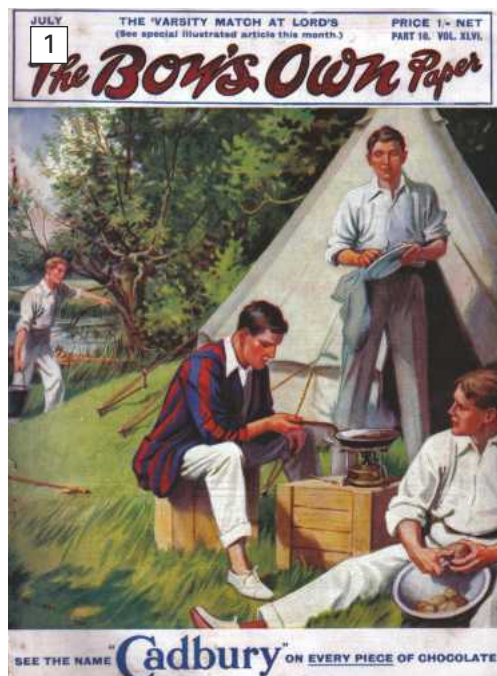
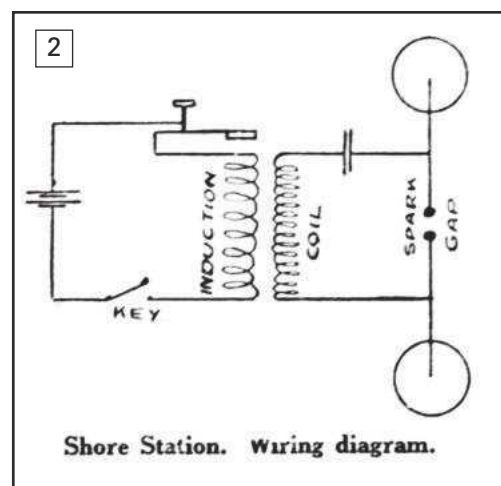
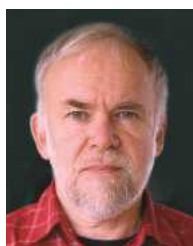


PHOTO 1. The July 1924 issue of Boy's Own Paper.

PHOTO 2. The transmitter circuit, or 'Shore Station'.



Flotsam & Jetsam

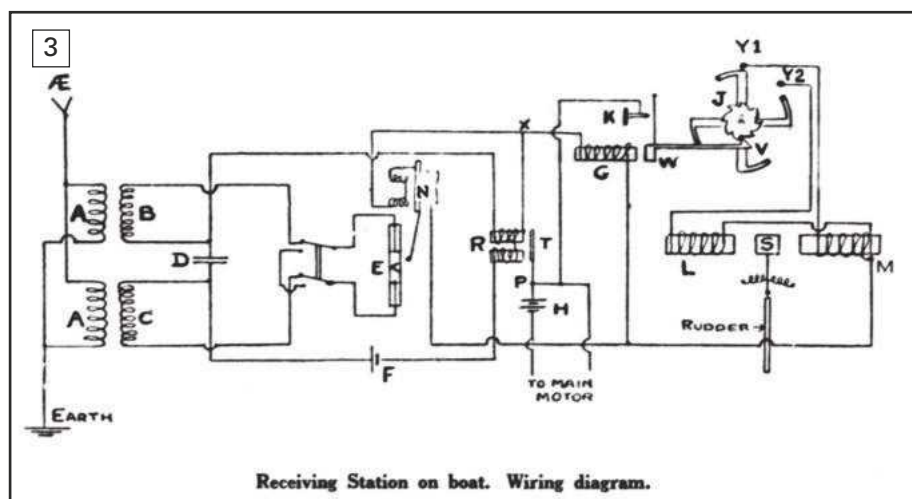


John Parker delves into the archives

14: The BOP Wireless Controlled Boat

The BOP, or Boy's Own Paper, began its long publishing history as a weekly magazine in 1879, intended to cover the interests of boys into their teenage years and wean them away from comics and other such publications considered low-grade and trashy. The main themes were sport, hobbies and fiction, the latter consisting mainly of tales of derring-do from the far-flung reaches of the British Empire. There were also stories by noted writers such as Jules Verne, making their first appearance in English. Appearing on a monthly basis from 1913, old copies of the BOP are generally not of much interest to model makers - apart perhaps for the advertisements - but there are exceptions and the July 1924 issue, Volume XLVI Part 10, price one Shilling (5p in current UK money) is one of them, **Photo 1**.

PHOTO 3. Receiver circuitry.



Within the large format (288mm x 210mm) colour cover depicting four jolly good chaps performing domestic chores at their campsite, about half way through the magazine's 80 pages, appears the article, 'A Wireless-Controlled Boat; How to Fit it Up and Work It, by ADSUM'. It wasn't unusual for a writer in those days to adopt a Latinate pen-name, and I can't tell you what his real name was, but he provided a remarkable article that describes the making of a radio-controlled model boat without the use of any active components (i.e. valves or semi-conductors) whatsoever. The technology is thus really on par with that of Nikola Tesla's radio-controlled boat of 1898, featured in the first of this series, and almost all the components the circuitry does use are home-made.

The transmitter (shore station), **Photo 2**, can be disposed of quite quickly as it is simply a battery-powered induction coil, keyed on or off by a spring-loaded switch and radiating its energy via two 'tea plate sized' copper discs connected across the spark gap of the coil via two-foot strips of copper. An un-tuned transmitter such as this radiates its carrier wave energy across a wide portion of the spectrum and would be the cause of widespread interference and consternation if used today. All the trickery comes in the receiver, or 'receiving station', as ADSUM would have it, in the model.

It can be seen in **Photo 3** that the coils A-B and A-C transfer the aerial's signal on to the detector E. In the absence of a diode valve or crystal detector (which would in fact have been available by this time), the means of detecting the received radio signal were very limited, and the choice usually fell to a coherer, a device consisting of metal filings between a pair of

electrodes. Normally the coherer was at high resistance, but upon receipt of a radio signal, the metal filings lined up sufficiently to reduce their resistance and trip a sensitive relay. Instructions are provided for making the coherer, and it consists of two brass electrodes in a slim glass tube with their faces cut at an angle, **Photo 4**, and the space between them half-filled with an equal mix of nickel and silver filings. There is no suggestion as to where the young BOP reader should obtain some silver to file – the cutlery drawer, perhaps?

Because the filings in the coherer would remain aligned even when the transmitter is keyed off, the first thing to do upon receipt of a signal is to use a sensitive relay (R in Photo 3), switched on by the coherer, to activate the de-coherer circuit. This consisted of an electric bell with its dome removed (please see Photo 4 again), arranged so that its tapper arm vibrated against the coherer, shaking up the filings so that when the transmitter was keyed off, the coherer is left in a non-conducting state, ready to respond to the next signal.

All that was left now was to operate the boat's rudder. This was done by a second circuit, also switched by the relay R, that energised the coil G to pull the pawl V in and cause the escapement wheel J to turn a fixed fraction of a revolution. According to where the escapement wheel stopped, there was, in order: no power fed to the steering coils L and M; power fed to coil L, causing the rudder to turn to port; no power fed to the coils; power fed to coil M, causing the rudder to turn to starboard; and so on. Sequential control in other words, with two turns in the same direction requiring a quick blip through the opposite direction without the model having a chance to respond. All the circuitry worked on low voltage with no high tension batteries required as there were no valves. The only component that the BOP recommended you buy was the relay, **Photo 5**, and special arrangements had been made for the Automatic Telephone Manufacturing Company to supply these at a cost of 12 shillings and sixpence, on the understanding that they were to be used for the BOP wireless-controlled boat!

It was recommended that the hull of the model itself be made of metal, to obtain a good earth for the receiver. Failing that, a portion of the hull needed to be copper sheathed, and the earth wire connected to that. Quite a substantial aerial support structure was required, placing the masts 2 feet 4 inches apart so that the aerial wires would be 2 feet long between the spreaders. Oh, and keep away from motor traffic, for it had been noticed that the magneto of a nearby motorcycle could take over control of the model, due to the interference it radiated via its ignition system! **Photo 6** is of such a model with its tall and well spaced masts to accommodate the aerial wires!

By 1924 the passive circuitry described in the article was really already obsolete, with crystal detectors and valves becoming available, though as late as the 1950's some simple radio-controlled toys still used spark-gap transmission and coherer detection. I suspect that very few of the BOP's young readers, even with adult help, would have got it all working properly, but the article remains a fascinating insight into how basic radio control could be, and how if necessary, all of the componentry,

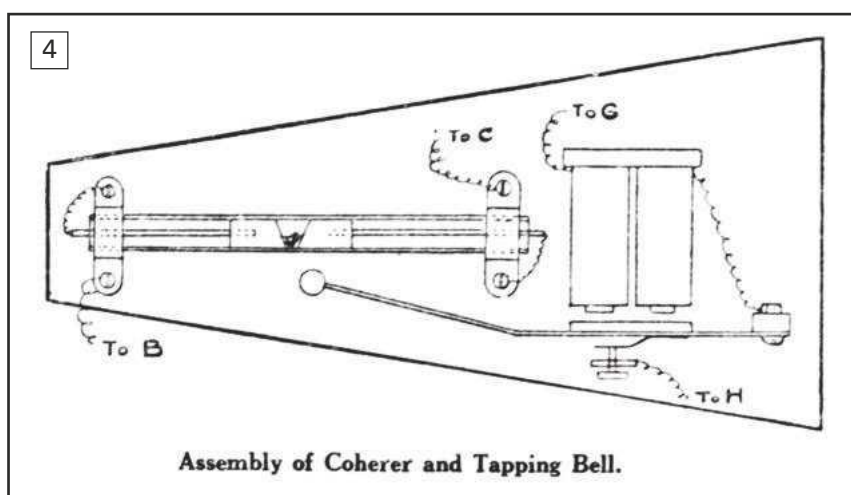


PHOTO 4. Coherer detector with de-coherer tapping mechanism.

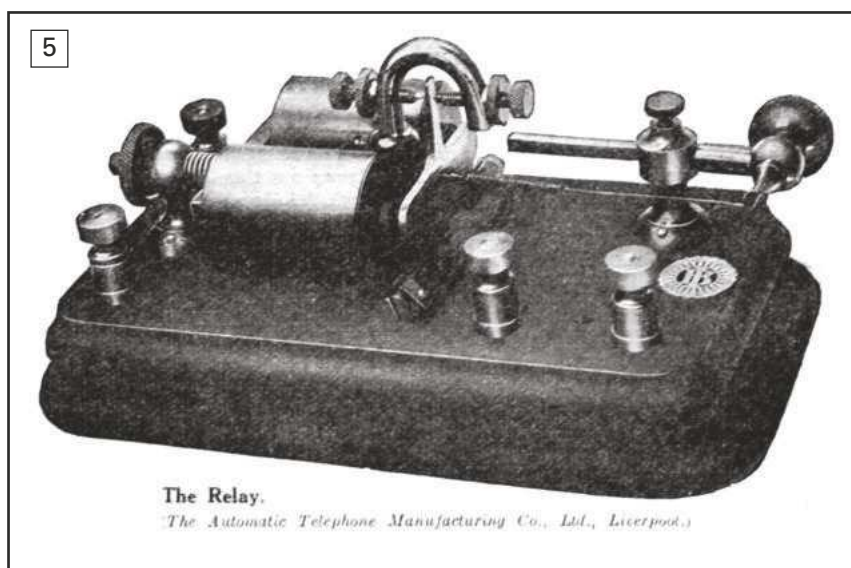


PHOTO 5. The sensitive receiver relay.

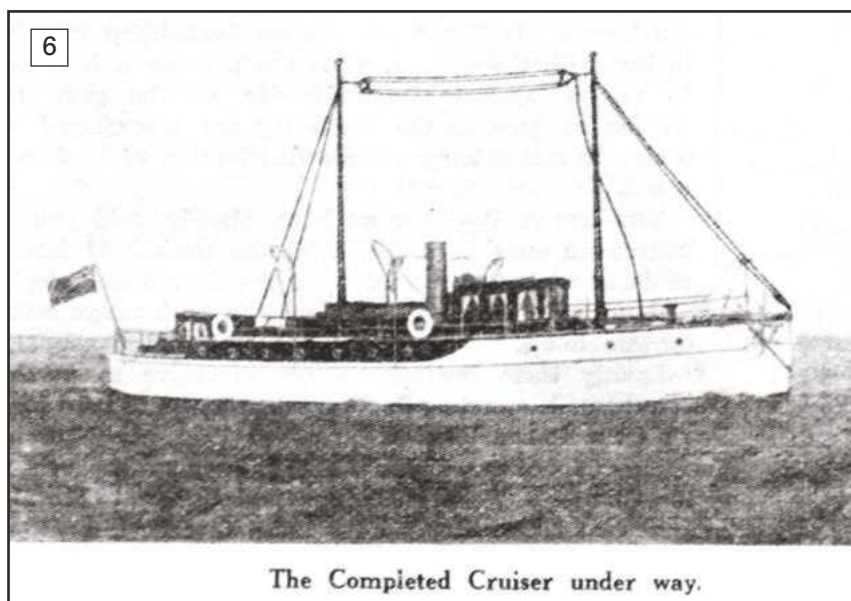


PHOTO 6. A completed model with its large receiver aerial.



PHOTO 7. Some nautically themed BOP covers from the 1940's, 1950's and 1960's.

even the mysterious detector and its relay, could be made in the home workshop.

As to the BOP itself, it was cut down to a smaller size by wartime paper restrictions and didn't return to anything like its original cover size until 1963. Reading groups had been set up during the war to make the most of the limited number of magazines that could be printed, and the BOP achieved one of the highest readership-to-sales ratios of any magazine, an average of thirty or more people reading each copy sold until it was almost falling apart. This habit lingered on after the war, making it a battle for the post-war editor, Jack Cox, to increase sales. Published hobby features included plans for simple model boats, aircraft, cars and hovercraft, with Ron Warring contributing a Model Boats Supplement for the May 1962 issue and **Photo 7** is of a selection of nautically themed covers. The fiction content was reduced and articles on television and pop celebrities began to appear, but neither changes to the format nor a new publisher were able to turn around the decline and the BOP finally closed its covers with the issue for February 1967.

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1



Clockwork Boats?

Peter Whitehead turns back the clock...

2

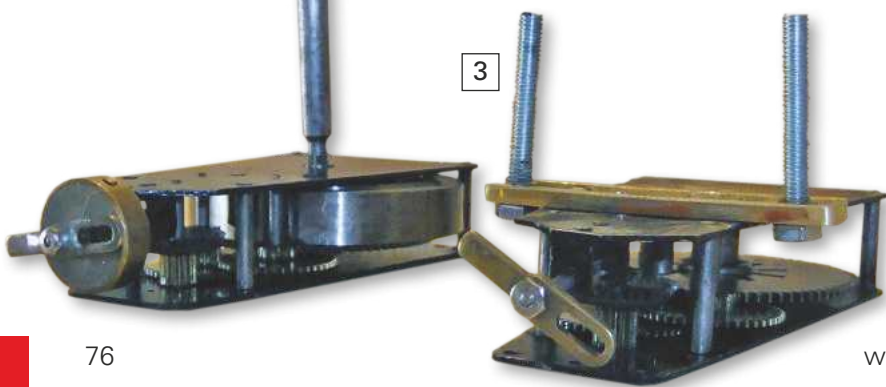


PHOTO 1. Two Bassett-Lowke motors.

PHOTO 2. A Bassett-Lowke motor in a model, note the HUGE spring.

PHOTO 3. The Bassett-Lowke motor with non-standard spring removed.

3



I have no doubt that many modellers are moving forward with new and amazing developments such as brushless motors, unique signal r/c, etc. However, some of us have been left behind, fixated in the distant past and are still just like me!

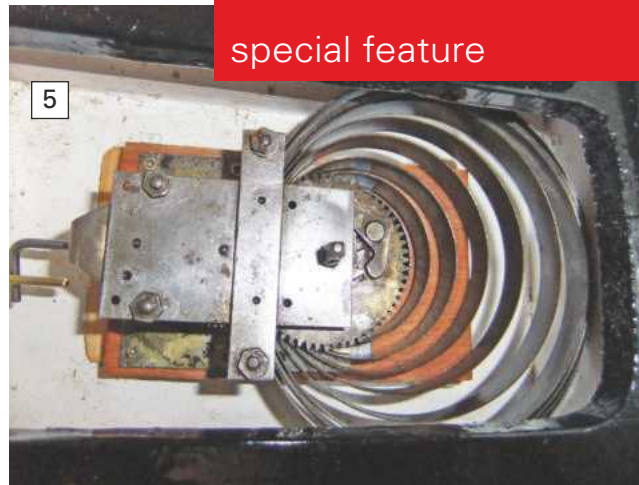
When I was six years old I was taken to the Round Pond in Kensington, London, and still remember the steam tug that I saw on that brilliant day out. Later, when asked what I wanted for my birthday, you can guess what I wished for. My father found a Triang clockwork cargo ship as the nearest possible alternative and this became my favourite toy for several years, until I left it too close to the fireside one evening and it melted. Oh, the grief!

By that time, Triang had moved on to electric power and I became the owner of a Triang electric powered. The batteries would soon run down, there was less operator activity, the fun of guessing sailing distance was gone and dry batteries consumed pocket money, so not too good for me as a youngster.

So the passion for clockwork models never deserted me and I was stuck right there forever, because I still make and play around with them to this day, nearly 60 years later. The Internet is a boon and eBay always seems to have clockwork boats up for auction and I have been fortunate to buy several Triang plastic boats, albeit with distorted hulls but perfect motors, a beautiful German launch motor and two Bassett-Lowke marine motors, which are enough to keep me amused into the foreseeable future. So, I would like to introduce clockwork model boating to you with no radio control.

Motors - Photos 1 to 9

A few pictures of marine motors are shown so that a reader can identify which types to seek out. Although least valuable, the Triang motors are the most stable, because their springs unwind in a perfect port to starboard balance, whereas for instance, the Bassett-Lowke motors (worth twenty times as much) need to be 'spring restricted' so that the model does not heel over as the spring



special feature

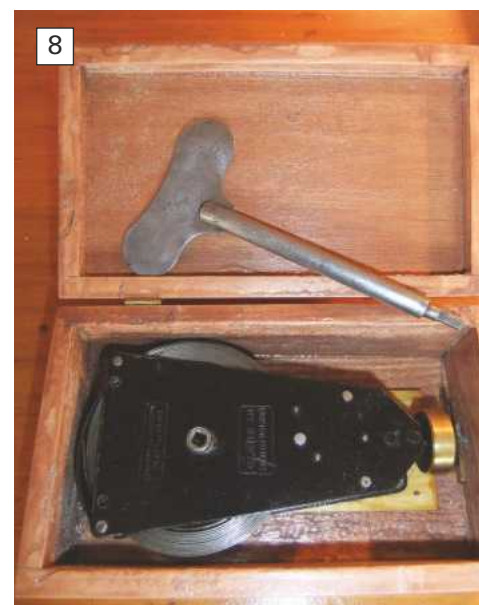


PHOTO 4. The Bassett-Lowke motor now with a standard spring.

PHOTO 5. An unknown clockwork motor with an enormous spring.

PHOTO 6. The unknown clockwork motor now fitted into a 9 inch hull.

PHOTO 7. A Triang motor fitted into a bespoke hull

PHOTO 8. Another Bassett-Lowke motor, supplied in a beautiful handmade wooden box. You don't get packaging like that nowadays!

PHOTO 9. A couple of Triang 'Thames' clockwork motors.

unwinds and the pictures explain this better than words. I purchased one Bassett-Lowke motor which had been fitted with a huge 'overhead-mounted' spring, that could run for over twenty minutes, but such springs are very dangerous if they 'take charge'. The one shown needed to be clamped in place with a top plate and the hatch cover needed to be bolted down before I would dare to use it. Later, I took this motor apart, replacing the spring with an original internal one and it now runs for six minutes, fits into a much smaller hull and can propel a little motor barge model nearly one hundred yards.

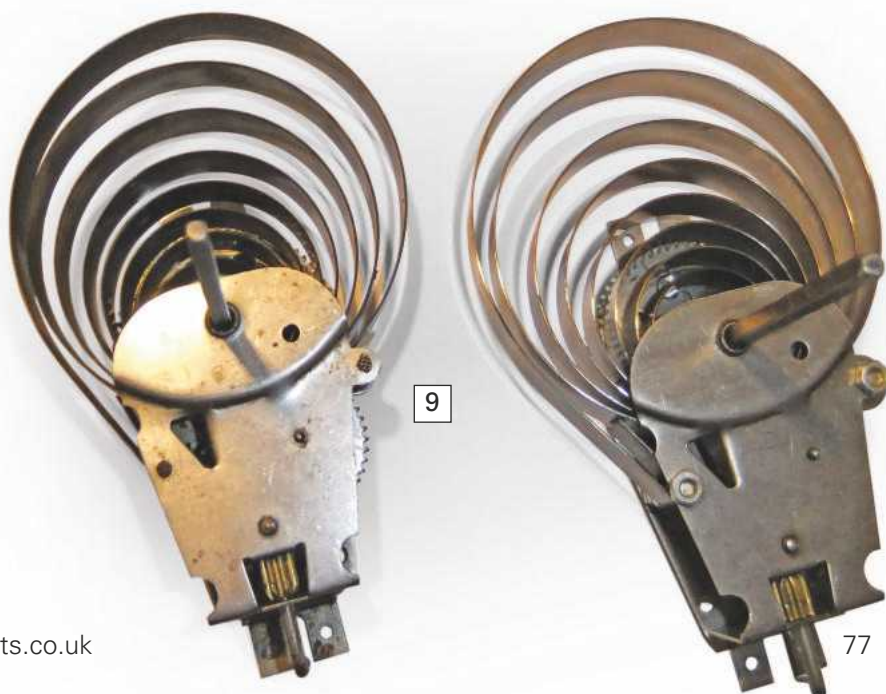




PHOTO 10. This semi-scale steam propelled puffer type of vessel, is built in a conventional bread and butter construction method. Here, it is being tested in the bathroom sink, to get the motor position correct!



PHOTO 11. Note the spring centering blocks, which keep the model balanced as the spring unwinds.

PHOTO 12. The model is ready for testing.

PHOTO 13. Maiden voyage and six minute running time!

PHOTO 14. This model, clockwork driven, can safely cross my local pond and return, all under one 'wind' of 'spring' power!



Semi-scale steam puffer - Photos 10 to 14

This little puffer type of semi-scale model is good fun, because it can 'steam' right across most lakes and it's very small at 13 inches long fitting into a small transport box. Fitting a fairly large clockwork motor into the very small hull was the challenge that attracted me to this project. The propeller shaft and stern tube are made from brass rod and tubing that can be bought from any model shop and although the inboard end of the tube is under the waterline, a tiny dab of Vaseline stops any leakage and these clockwork motors

are quite powerful so you don't need to worry about small amounts of friction. Please take note of the picture which shows the 'spring-centering' blocks. These types of motor throw the spring out to port and then suddenly back to starboard and without these blocks, your model will suddenly heel and may even capsize. What you do need to acquire, is a high-pitched 'clockwork' propeller and the one used on this boat is taken from a plastic clockwork submarine which is still sold for about £6 in toy shops. The pictures show the basic hull construction and 'sink' test, as well as running on the garden pond and local lake.



Tug - Photos 15 to 20

Another recent project was a miniature tug powered by a large motor. Triang's had a very tiny clockwork motor, but I wanted a model tug of similar length with a powerful motor capable of running for a few minutes and the result can be seen in the pictures. As mentioned already, Triang motor-springs are well balanced as they unwind, and here this spring is centred because it unwinds against the hull sides. This tug weighs 1lb, its barge weighs 2lbs and each of the ballast 'leads' weigh 2lbs each, so the whole rig weighs in at 7lbs, all propelled by the one motor unit in the tug.

Okay, there is a small electric propulsion unit in the barge, but this was only installed for fun, but having said that, if I am not sure whether the whole rig can reach right across a lake, I might turn this motor on for auxiliary power in preference to having to get the rubber thigh boots on! This particular tug and barge is all about messing about with model boats and it's fun to try out different methods of

towing, or just letting the little tug free-run by itself with absolutely not a hint of radio control.

Finally, in case you are wondering what the gear lever type of rod with a knob on its top end on the models shown here is, it is an on/off lever that stops the wound-up clockwork motor unwinding before the model is ready to be released.

PHOTO 15. The tug hull is only 8.25 inches long.

PHOTO 16. A Triang clockwork motor does the business!

PHOTO 17. The barge, tug and the two lead deadweights as ballast for the tow.



PHOTO 18. Well, why not? If all else fails the barge has a 'secret' emergency electric motor and it can transport the tug!

PHOTO 19. Towing with the tug secured alongside the barge.

PHOTO 20. A conventional astern tow across the local pond.

Boiler Room

Part Forty One: Making the Most of Your Flue - The Design

Richard Simpson's
series on model
steam plants

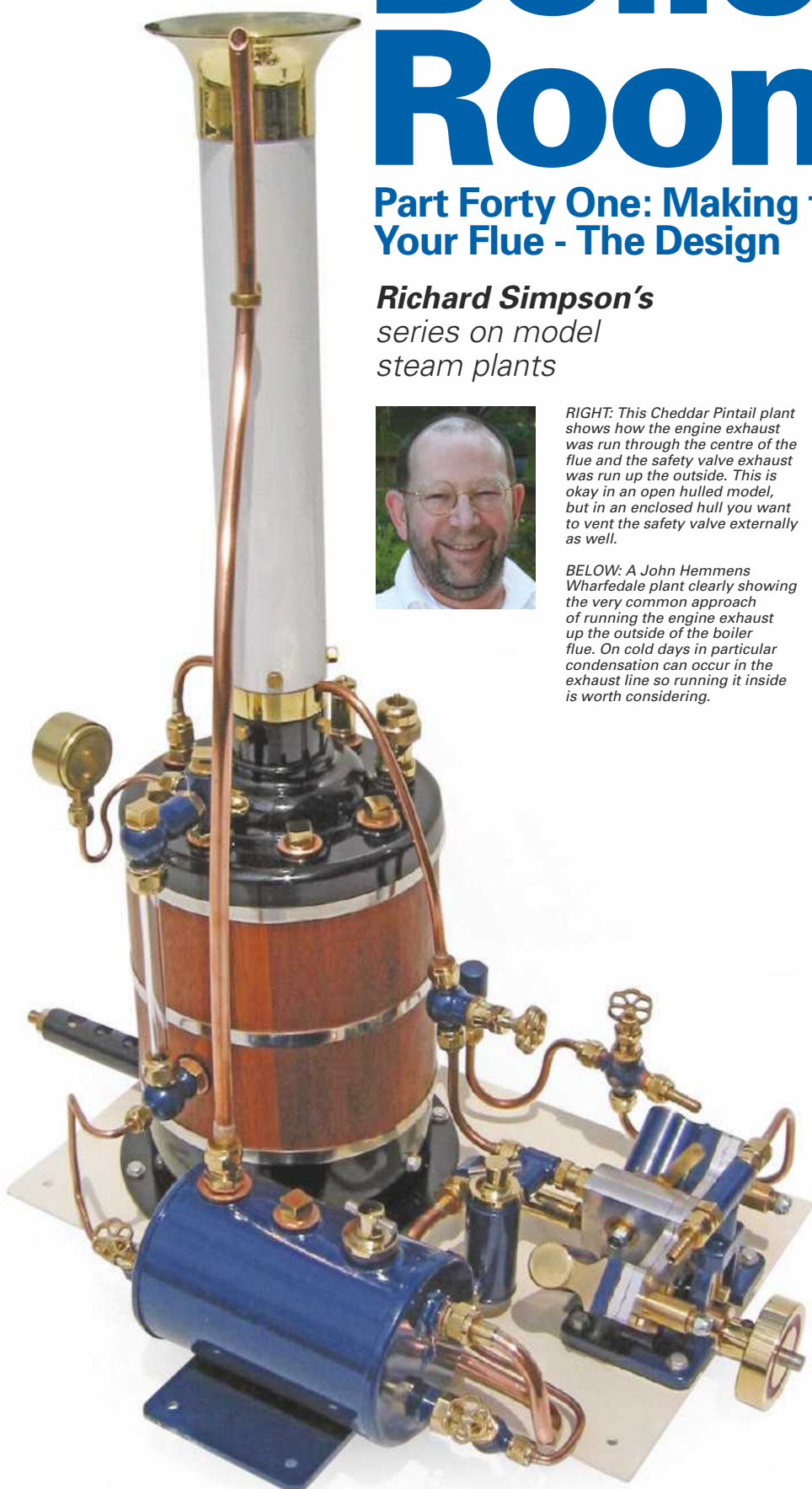


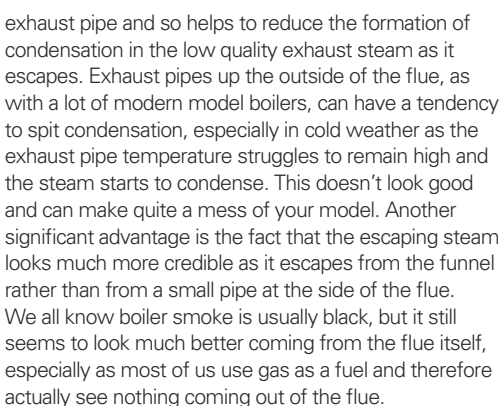
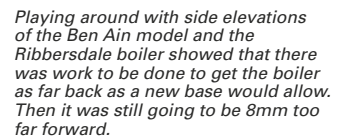
RIGHT: This Cheddar Pintail plant shows how the engine exhaust was run through the centre of the flue and the safety valve exhaust was run up the outside. This is okay in an open hulled model, but in an enclosed hull you want to vent the safety valve externally as well.

BELOW: A John Hemmens Wharfedale plant clearly showing the very common approach of running the engine exhaust up the outside of the boiler flue. On cold days in particular condensation can occur in the exhaust line so running it inside is worth considering.

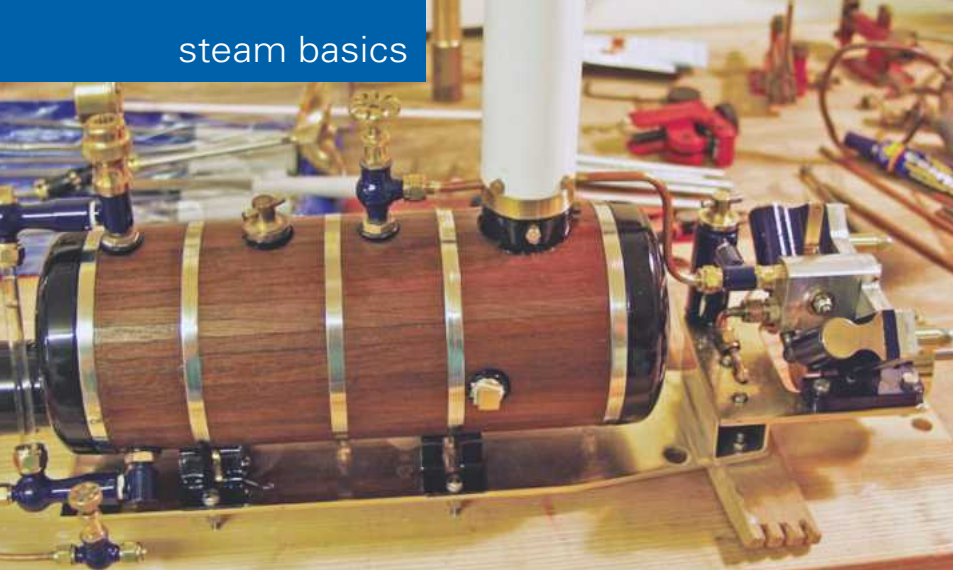


I think there is probably a very high percentage of steam modellers out there who buy or build a boiler with a straightforward flue on it that remains exactly as that, for the rest of the life of the model. Interestingly enough, the funnel on real vessels contains quite a lot of pipework including such things as vent lines from a wide range of tanks and machinery, ventilation exhaust ducting and even safety valve discharges. This makes you think that, as the flue on our boiler is the means of removing the exhaust gas from the boiler, perhaps we can also make a bit more use of it in our plant. The old Cheddar boilers had the engine exhaust piped up the inside of the flue so why not consider doing that more often? This actually has a couple of significant advantages with the first being that it heats up the

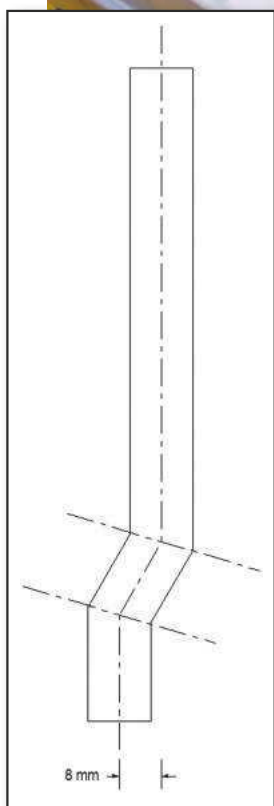
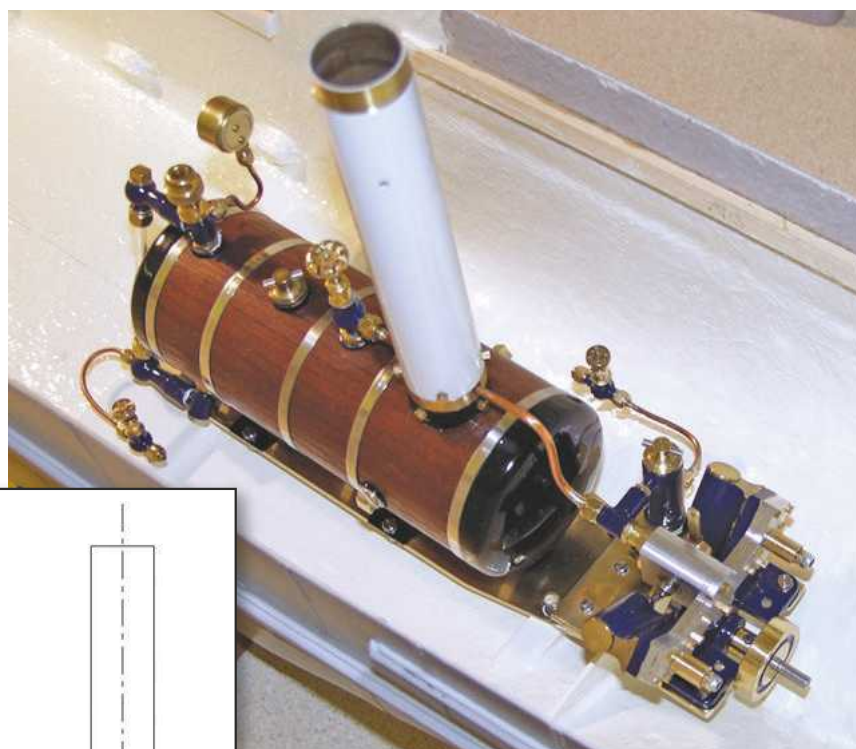




An open launch hull model is usually a lot more flexible in its arrangement than a closed hull, so for this example I will go through the development of the flue I made for the Ben Ain project a couple of years ago. I knew from the start that the boiler flue was not going to line up with the model funnel, despite my best efforts at lifting the engine up and getting everything as far back as possible. I still needed about 8mm more and the only way to achieve this was to make my own bespoke boiler flue. However, what I did realise was that if I used an offset of 8mm in the uptake, I could arrange this to give me a step at the rear of the flue, which could then be used to insert the exhaust pipe from



ABOVE: The first job was to make a new base that moved the boiler as far back as possible in the hull by lifting the engine up and allowing the boiler to sit right in the bottom of the hull.



ABOVE: A full size diagram like this was created to clearly determine the angle of the cuts needed in the main tube and the length of the angled section that would give a perfectly vertical flue with an offset of 8mm. The theory now looked okay anyway!



ABOVE: Preliminary trials with the new base: When allowing for being able to remove the plant from the model and the fitting of a coupling, this confirmed that the flue still need to go further back to line it up with the model funnel so a new flue was definitely needed to enable this to be all 'doable'.

BELOW: The original location of the safety valve also did not lend itself to venting up the flue so that was going to need moving to the bush by the flue, so an alternative position for the steam stop valve was also going to be found as well.

the separator tank. This would allow the exhaust to rise through the middle of the flue and a support at the top could then hold it firmly in place and even look reasonably realistic from the top of the model.

Another thing to be aware of in an enclosed hull is the damage that can be done when a safety valve lifts. The sudden increase in internal pressure has the potential to do a lot of damage such as blowing off covers and superstructure pieces, as well as the sudden release of a lot of steam and water that will then coat all the internal surfaces and probably also have an adverse affect on the electronics. It is therefore desirable to try to get the safety valve to vent externally by either an open pipe, such as a deck vent, or in my case, I decided to run this into the funnel as well.

Consequently a 'play around' with the parts and a few drawings later, I came up with a design that has an offset of 8mm just above the boiler where the exhaust could be run and an additional pipe at the front into which the safety valve could vent. This pipe would not be secured to the safety valve, but would simply end in a close-fitting hood that sat over the safety valve. The valve could be repositioned to an alternative boiler bush, enabling the great majority of the escaping steam to be directed up the flue. One of my initial concerns was that the safety valve lifting might just have the potential to blow the boiler flame out, however as the flame is controlled by an electronic gas valve, the safety valve should never lift under normal operating conditions. I decided that if it did lift and it did perhaps blow the flame out, I could bring the model into the bank immediately with the remaining steam pressure in the boiler to find out why it had lifted. This would enable me to also check if the burner was still lit and investigate why the safety had lifted.

Design

As with a lot of things, the simplest of designs often require the most thought, which was certainly the case with this. The 8mm offset had to ensure that I had an angled face to insert the exhaust pipe, without creating too much of an angle which might restrict the boiler exhaust flow. I tried a few sketches before I was happy with a suitable angle then I drew an accurate drawing to see how it looked. The arrangement I decided, should take the flue directly up the centre of the model funnel, while allowing the exhaust to enter at the rear and the safety valve pipe to be connected at the front. The design also had to take into consideration just how I was going to manufacture it, so just how were the cuts going to be made and what length of the angled section was going to be required to give exactly an 8mm lateral displacement. I decided that the cuts in the pipe would be at exactly half the angle of the pipe angle, which would ensure that the shape of the ellipse cross section created, would allow the removed piece to be rotated through 180 degrees and silver soldered back together. This should ensure a neat joint and when the same process was repeated for the second joint, it should ensure that the two vertical sections remained parallel, but offset by 8mm.

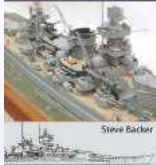
It all now seemed good in theory, so it was time to start looking for some materials and next month we will see whether it actually worked or not!

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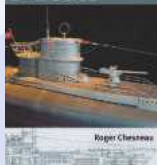
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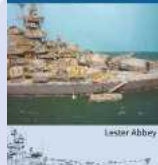
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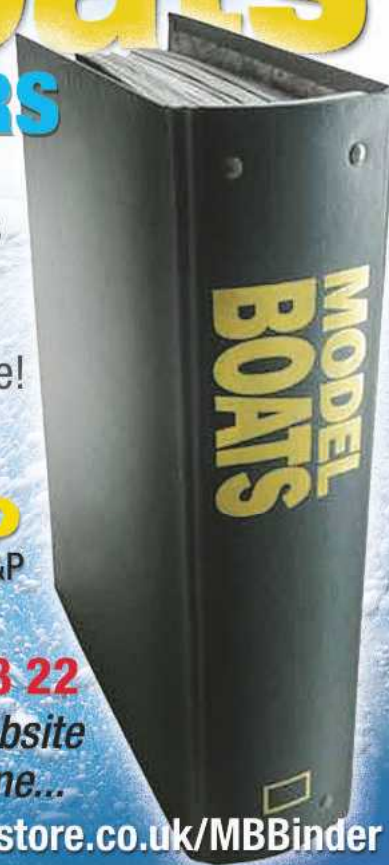
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Glasgow Richmond Model Boat Club

30 years and still sailing!

ABOVE: The clubhouse and main operating area on an Open Day. (Photo by Andrew Ramsay)

BELOW LEFT: Some days, the pond can be quite rough which makes for exciting sailing - the model was not harmed whilst filming! (Photo by Brian Cowell)

BELOW RIGHT: The lake is big enough to accommodate fast electric models. (Photo by Mike Kernaghana)

The club was formed in 1984 at Richmond Park, Glasgow, just opposite Shawfield Stadium on the south bank of the River Clyde. One of the biggest problems is the location of the park as most Glaswegians think it is part of Glasgow Green, but it is actually a separate park on the other side of the Clyde!

Glasgow Richmond MBC (GRMBC) has grown over the years and is now regarded as one of the premier Scottish model boat clubs. The club was initially set up for only warships, but times have changed and it has blossomed to incorporate all sections of the model boating fraternity, but sadly, health and safety issues have stopped the pyrotechnic displays for which the club was once famous.

However, at any time now you will be able to see tugs, fishing boats, work boats, steam boats, fast electrics, warships (old and new) and sailing boats, but i.c. boats are not allowed by the council as we have a large swan population. We also have a fair few different types of model boat, such as John McAllister's coffin, floating dock and his first aid box! Perhaps he has not realised we are a model boat club?

2014

This year, we are celebrating our 30th Anniversary and one of our aims is to break the 100 full member mark which we only just missed in 2013 and we have two types of member; Full and Affiliated. The affiliated member is usually a young family member or spouse and they only pay for insurance, but if you add everyone together, then we have over 100 members already for 2014 and they range in age from 4 to 91! Another goal for 2014, is to attempt to revive competitions within the club for scale steering and docking, tug towing, Club 500, Wee Nip racing, warship manoeuvring and fast electric models. This laudable aim has already spurred-on an explosion in model boat building within the club as members race to be ready for our Start of Season Show in 2014.

One nice side-effect of all this is the choice of models now being chosen to be built, which includes wooden models from the past like the Sea Commander and Wavemaster. There are even scratch built models of Ramora, the Thornycroft 67ft RAF ASR Launch and the timeless HDML, all from Model Boats magazine plans and in the pipeline. We





ABOVE: HMS Hermes at a Warship Day.
(Photo by Robert Forman)

BELOW: A Riva Aquarama at speed.
(Photo by Mike Kernaghana)



also have come up with a 30th Anniversary logo to celebrate 2014 and some one-off additional special events have also being arranged.

The main events this year, are our Start of Season event; Tug Towing and the Charity Show, which we finish off with a 3-in-1 auction, evening sail and BBQ. Of course, one of the biggest model boating events in Scotland is being held in July 2014, when we host the National Warship Weekend organised by the Scottish Model Warship Association. In addition, we are one of the main supporters of the Summerlee Model Weekend.

Facilities

The club has patched and repaired the clubhouse over the years, but eventually the upkeep became too much, Glasgow 'City Building' assisted and advised the club on the various options of how to preserve this old Council building, the roof of which was in a very bad condition. Funds were sought and since the club was willing to pay a large amount towards the repair, it made it easier for us to obtain the necessary grants, so we would like to thank Big Lottery Awards For All; Glasgow City Council's Area Budget; City Building's Apprentice Training Scheme; Oatlands Small Projects Fund and Land Environmental Services for the new clubhouse roof. All the internal work and woodwork was done by the members, so we now have the bee's knees of a clubhouse! This is the first time that I can remember that the clubhouse is now 100% dry inside, which has the added benefit that members attend all year round now to operate their models. The pond is large

and ideal for model boat sailing. Our first Open Event for 2014 is on the 4th May - please see April MB for the list of our events this year.

The club members are at the pond on Wednesdays and Sundays from 11am till 4pm and model building sessions are on Thursday evenings from 6pm till 9:30 pm in the clubhouse. These times can be extended as all it takes is a key-holder willing to stay late. If you plan to visit us for a cup of tea and/or a chat, please contact us first via : glasgow.richmond@gmail.com. Visitors are always welcome, but a quick call beforehand means you are expected on the day. The club is based approximately one mile from Junction 1A of the M74, but full directions can be found on the club's website: www.glasgowrichmondmbc.co.uk.

Information supplied by **Eddie Haig**

BELOW: A semi-scale RAF Fireboat. (Photo by Eddie Haig)



ABOVE LEFT: Glasgow Richmond MBC also sail r/c yachts. (Photo by Chris Daisley)

BELOW: An unusual Russian gunboat.
(Photo by Robert Forman)





Rhino Barge

Greg Turek's unusual model

ABOVE: The bow ramp is not strictly pro-typical, but does mean r/c tanks can be loaded and off-loaded with ease.

So, as you will have guessed, I have joined in the club's tank fraternity...

BELOW: The interior looking towards the stern.

This project was an attempt to combine model boating with model armoured fighting vehicles. I am a keen member of the St. George MBC in Sydney, Australia, and enjoy sailing my various models around the club pond at Scarborough Park which is near Botany Bay. Several club members also have an interest in model tanks and regularly bring them to club meetings. Tamiya produce a range of 1:16 scale r/c tanks as kits which are very nice, but they are rather expensive. However, to our delight, Heng Long (a Chinese manufacturer) now produce an excellent range of 1:16 scale r/c tanks which are ready to run. These models are well detailed with authentic colouring, realistic operation with high manoeuvrability, smoke, a gun firing pellets and sound. All this is for a fraction the cost of an equivalent Tamiya product. So, as you will have guessed, I have joined in the club's tank fraternity with the purchase of Walker Bulldog and Sherman tanks, both used by the US Army.

There have been several articles in Model Boats on LCM (Landing Craft Mechanised) carrying tanks, but I wanted to build something which can carry several vehicles and is also something that had not been modelled before as far as I am aware.

Rhino Barge?

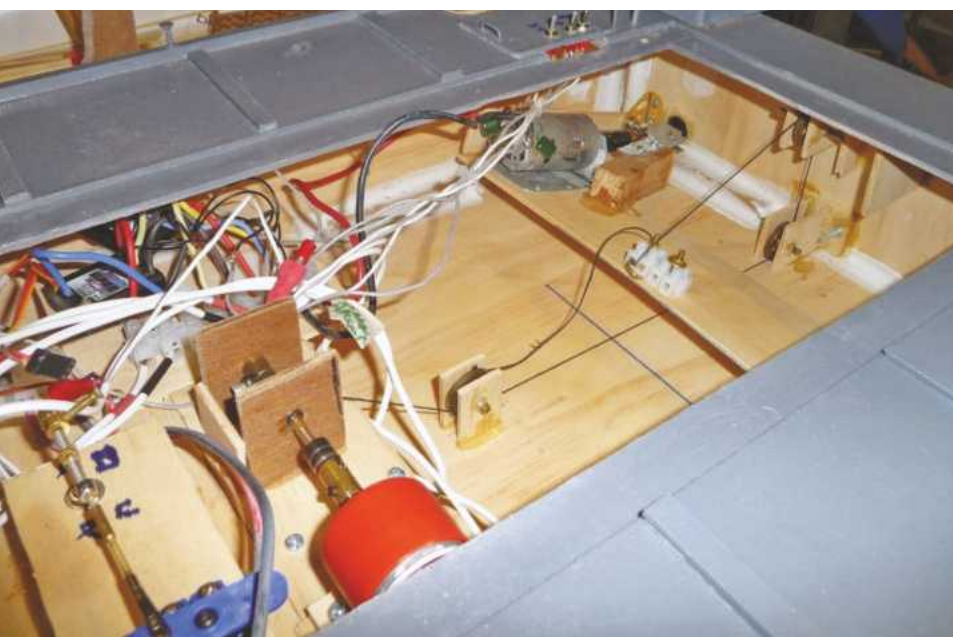
After chatting with my fellow model tank drivers, the subject of Rhino Barges caught my attention. These were USA manufactured barges, assembled by joining steel pontoons together into a variety of sizes. I have seen pictures of these craft carrying dozens of vehicles and also in smaller sizes carrying only several. These barges were propelled by what were essentially powerful outboard motors with lifting output legs, so as to enable beach landings and shallow water operation. There are very few images available of these craft, but I managed to draw some approximate 1:16 scale plans from pictures I had seen on the Internet. The barges were very simple pontoon-like craft with a sloping ramp incorporated at the bow so as to avoid the necessity and complication of a lowering bow door as used on the more conventional LCM type of landing craft.

The model

For ease of transport, it was decided to make the barge in two sections (fore and aft) which could be easily bolted together. Plywood was used in the construction of the sections and this was coated with polyester fibreglass resin for waterproofing and durability.

Large internal access openings are provided in the top of each section. The outboard drive units and their lifting power legs were a challenging proposition, but I decided to take a pragmatic approach by using conventional motors and driveshafts, but used a tilting platform on which to mount the motors and shafts. In this way the propeller shafts can be angled from a point where the propellers are level with the bottom of the hull or lowered so that the propellers are markedly under the waterline. This tilting motor platform is raised and lowered by a 50:1 geared motor driven winch, all controlled by a servo engaging a three position switch - centre off - left raise - right lower. A micro-switch placed at the top and bottom of the motor platform movement arc controls the end points when raising and lowering the propshafts.

To create the impression of a Z-drive leg, styrene tubing was attached from under the outboard housings and connected to the propshafts. The propshafts exit from the hull by way of a flexible boot made of a





The Rhino landing craft makes for a practical working model transporting 1:16 r/c scale tanks.

garden irrigation joint fixed into the transom through which the propshafts extend. A waterproof flexible covering boot is made by encasing it all with three layers of nitrile rubber glove fingers! The rubber joints were bound tightly with cotton thread, which was then coated with superglue.

Steering is by controlling each of the 60mm four bladed propellers with a separate speed controller. Even though the actual Rhino barges did not have a lowering bow ramp, I decided to fit one so that there was less chance of water contact with the model tanks as they were driven off the barge. This bow ramp is raised and lowered by a high torque servo with an extended arm, attached to it with cord.

On the water

The first water test was quite successful with a Sherman tank driven on to the barge then taken for a sail around the pond, then unloaded on to the shore and driven away. The only mishap was that the servo that raises and lowers the bow ramp began to stall as I attempted to raise it after unloading the tank. I suspected that this was due to insufficient current available to the servo via the BEC (Battery Elimination Circuit) within the speed controller system, so to remedy this problem an external receiver battery rather than the BEC system may be better and the length of the electrical wire connections probably didn't help either. It was also noticed that the wind had quite an effect on the controllability of the barge, probably due to its very shallow draft and flat bottom.

The future?

I am considering adding another modular centre section to allow more tanks to be carried, something that would also perhaps have occurred in real operational use. This has been a fun project and has enabled the practical integration of model boats and model tanks. It's quite a visual sight for spectators to watch several tanks driving off the barge, firing at targets on land and then returning to it for a quick getaway across the water. Perhaps more to the point, the barge is a simple, practical and pro-typical way of moving tanks and vehicles over water and it is somewhat less complicated than a conventional landing craft.

(Readers may be interested to know that in current 2014 British and Australian military service, the Mexeflote is a powered raft that is similar to this Rhino Barge concept. The Mexeflote is used to move goods and vehicles between ship and shore when a pier is not available.



It is designed in three sizes; the standard size is 20.12 metres (66.0ft) in length and 7.32 metres (24.0ft) in width, with a capacity of 60000kg (130000lb). Two larger versions (Maxi-Mexeflote) are available; a 38.41 by 7.32 metres (126.0ft x 24.0ft) combination has a capacity of 120000kg (260000lbs), while the 38.41 by 12.2 metres (126.0ft x 40ft) combination has a capacity of 180000kg (400000lb).

Each version has three components; bow, stern, and centre, which can be fitted together as required, making the Mexeflote a truly versatile craft. The different sections allow it to be used as a raft, a floating pontoon, or even as a causeway from ship to shore.

Paul Freshney - Editor

ABOVE: A close-up of one of the drive units. The propeller can be raised and lowered by radio control. The seal on the output shaft is from the 'fingers' of rubber gloves!

BELOW: Greg Turek and his model of the Rhino landing craft. The hull is in two sections, so an additional unit can be installed between them to increase vehicle capacity.



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Test Bench

Model Boats looks at new products

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Revell US Navy Skipjack-Class 1:72 scale submarine kit



USS Skipjack was one of the US Navy's first nuclear powered attack submarines. Following testing and evaluation, the submarine was transferred to the fleet on 15th April 1959. Subsequently, during a large naval exercise in her first interaction with multiple surface ships, USS Skipjack was able to 'sink' every large aircraft carrier involved in the

war-game! By 1962 the US Navy had commissioned five more Skipjack Class submarines. These submarines proved to be fast and agile with a submerged top speed of over 30 knots and had six torpedo tubes and 24 torpedoes. USS Skipjack was finally retired from active service in April 1990.

This kit was originally from Moebius Models, but is now

marketed by Revell and it is 1067mm long, so is suitable for conversion to r/c. The kit (Item No. 05119), is boxed in the usual Revell style, with colour artwork on its top to illustrate the subject and some close-up photos of a painted prototype model on one of the side panels. Inside the box is a cardboard insert offering some added protection to the kit underneath, but there is still room for movement within the box, so double check the contents for any possible breakages! There are five polythene bags containing the 60 kit components and their sprues. The four main sections of the hull (two to a bag) have been packaged with a small block of polystyrene and thin sheets of protective foam. With the exception of the transparent

parts and four small photo-etched components, the kit is moulded in a light grey plastic with engraved panel lines and vents to high level of quality. A plastic pedestal type display stand is also included.

Instructions are multilingual in a 13-page A4 booklet with a step-by-step diagram format. The waterslide decals appear to be well printed with good registration, but with large areas of transparent film around the pennant numbers.

It is possible to convert this kit to r/c and a visit to Sub Driver, website: www.sub-driver.com will take you to the necessary parts to turn this into a true static diving submarine.

RRP is £69.99, but discounts can be easily had in the marketplace. For further information, please check: www.revell.de/en

Review by **Richard Dyer**

Falcon Aviation Servo Mount

If you find that firmly fixing servos in your model tricky, this laser cut kit might be the answer.

Assembling the four parts with PVA glue takes a few minutes – mainly waiting for the glue to dry! Four holes are pre-cut, so a standard sized servo can be screwed down. Another four are provided so the mount can be screwed to a suitable surface within your model. Price is £11.99 and it is available from Falcon Aviation,

37/39 Oxford Road, Burnley, Lancashire, BB11 3BB (Visitors by appointment only). Tel: 01282 437777, website: www.falcon-aviation.co.uk.

Review by **Phil Parker**



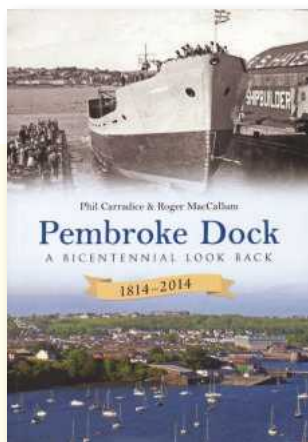
The servo mount is laser cut and designed for side-mounting.

Pembroke Dock 1814 - 2014: A Bicentennial Look Back

Written by Phil Carradice & Roger MacCallum. Softback, 96 pages, 235 x 167mm, over 160 photographs and illustrations in colour and black & white. ISBN: 978-1-4456-1774-9. Price (RRP) £14.99. Published by Amberley Publishing Ltd. The Hill, Merrywalks, Stroud, Gloucestershire, GL5 4EP. Tel: 01453 847800, website: www.amberley-books.com. Available direct from the publisher or through the usual retail outlets.

This year, 2014, Pembroke Dock celebrates 200 years since its founding, when a Royal Dockyard – the only one ever to exist in Wales – was established on the banks of Milford Haven. The dockyard was the reason for rapid development of the town, with people from rural Pembrokeshire and all around Britain moving to the area to work in it and the industries that serviced it. Between 1814 and 1914 the dockyard at Pembroke Dock built naval warships that saw service and fought in all corners of the world. However, these had been colonial campaigns or skirmishes that somehow, never really touched the people of the town. Even the Crimean War, in which so many Pembroke Dock ships were involved, was a remote and physically distant affair, but the war which followed, the Great War (1914 to 1918), was different. It would take millions of lives and saw no fewer than seven Pembroke Dock ships go to the bottom of the ocean, a war like no other the world had ever seen, but ultimately it was a war that brought about the demise of Pembroke Dockyard. In 1926, eight years after the end of WW1, the government announced the dockyard was to close. The yard, in the wrong place at the wrong time, were a luxury that a bankrupt Britain could ill afford.

The people of the town and those in authority knew that once the dockyard was shut it was shut forever, and so for the people of Pembroke Dock,



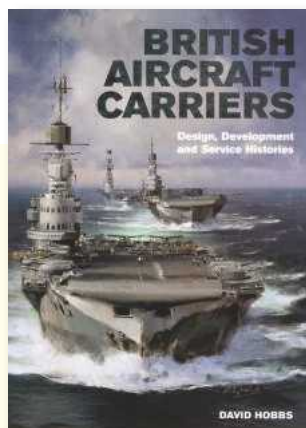
it was time to be pragmatic, to forget the glories of the past and look to the future. Look to the future the town certainly did. In 1931 the RAF established a seaplane base which took over much of the old yard. They originally intended to stay for a few months, but in the end stayed for twenty nine years. In the post-WW2 years a few private ship yards together with the oil industry in the 1960's brought jobs and a degree of prosperity to the town, but today the old Royal Dockyard where warships were once built, hosts fast catamaran ferry services to Ireland.

In this, interesting and well presented book, the authors, Phil Carradice and Roger MacCallum, tell the story of Pembroke Dock 1814 to 2014 with 'then & now' photographs and old prints, many from their own collections, illustrating the development of the town from the first half of the nineteenth century to the present day. A recommended must-read for maritime historians and enthusiasts alike.

Book Review by John Deamer

British Aircraft Carriers – Design Development and Service Histories

Written by David Hobbs. Hardback, 384 pages, 295 x 254mm, over 440 black & white photographs, line drawings, diagrams and plans (some in colour) ISBN: 978-1-84832-138-0, price (RRP) £45.00 Published by Seaforth Publishing, an imprint of Pen & Sword Books Limited, 47 Church Street, Barnsley, South Yorkshire, S70 2AS. Tel: 01226 734222, website: www.seaforthpublishing.com. Available direct from the publisher or through the usual retail outlets.

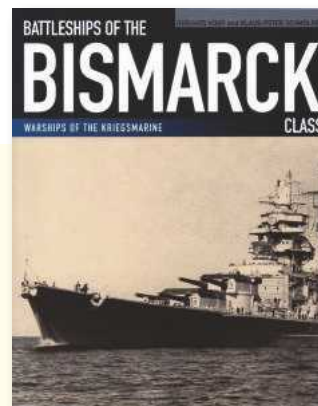


This book is a meticulously detailed history of British Aircraft Carriers from the earliest experimental vessels, through two World Wars and several other conflicts, to the present day and the Queen Elizabeth class carriers, currently under construction, the largest ships ever built for the Royal Navy. Individual chapters cover design and construction of each class, with full technical details and there are also extensive summaries of every ship's career. Apart from the obvious large deck carriers, escort carriers and MAC (Merchant Aircraft Carrier) ships, the maintenance ships built on carrier hulls and the modern LPH (Landing Platform Helicopter) are also covered.

It concludes with a look at the future of naval aviation, while numerous appendices summarise related subjects like naval aircraft, recognition markings and the circumstances surrounding the loss of every British carrier. As befits such an important reference work, it's heavily illustrated with a magnificent gallery of photographs, drawings, including the first publication of original aircraft carrier plans in full colour, one on a four-page gatefold.

In this magnificent book, the author, a leading historian of British carrier aviation, David Hobbs and a retired Fleet Air Arm pilot himself, tells the story of the British Aircraft Carriers with the authority of a lifetime's research combined with a practical understanding of the issues surrounding the design and operation of aircraft carriers. This is certain to become the standard work on the subject. Whether you're a maritime historian, enthusiast or ship modeller, if your interest in aircraft carriers and British aircraft carriers in particular, this is the book for you!

Book Review by John Deamer



Warships of the Kriegsmarine – Battleships of the Bismarck Class

Written by Gerhard Koop and Klaus-Peter Schmolke. Softback, 160 pages, 242 x 192mm, over 220 black & white photographs, line drawings, maps and diagrams. ISBN: 978-1-84832-197-7, price (RRP) £16.99 Published by Seaforth Publishing, an imprint of Pen & Sword Books Limited, 47 Church Street, Barnsley, South Yorkshire, S70 2AS. Tel: 01226 734222, website: www.seaforthpublishing.com. Available direct from the publisher or through the usual retail outlets.

This first volume of this new series of Warships of the Kriegsmarine, is devoted appropriately to the two battleships of the Bismarck class, namely Bismarck and Tirpitz, the largest capital ships ever built and completed in Germany. Both ships enjoyed only a brief existence and though, begun during peacetime, both were commissioned after the outbreak of the Second World War. Bismarck's fate embraced triumph and tragedy and over a limited period Tirpitz could do no more than prove her value simply by her existence. This, for a warship of her dimensions and firepower was almost certainly too little. Sulking deep in Norwegian fjords, Tirpitz met her end suddenly in November 1944 being destroyed by aerial bombing by the RAF and inadequate underwater surveying which allowed the ship to capsize completely.

After completion of her trials, Bismarck was ready for her first operation and in the Spring of 1941 she sailed from Gdynia to break out

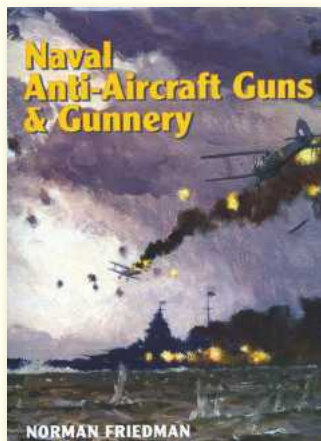
into the Atlantic in company with the heavy cruiser Prinz Eugen. The operation, code named 'Rheinübung' (Rhine Exercise), was to be the ship's one and only operation. On the 24th May 1941 she encountered and sunk HMS Hood. A few days later Bismarck was hunted down by Royal Navy warships of the Home Fleet, when she fell victim to a torpedo hit on her rudder. Eventually she was overwhelmed and sunk by the battleships HMS King George V and HMS Rodney.

This book, the first of a series of six volumes depicts the warships of the World War 2 era German Navy. Each volume will contain an account of the development of a particular class, a detailed description of the ships, together with full technical details and an outline of their service histories. Heavily illustrated with plans, battle maps and a substantial collection of photographs, this initial new edition of series, which has been out of print for ten years or more, will be welcomed by enthusiasts, collectors and ship modellers alike.

Book Review by John Deamer

Naval Anti-Aircraft Guns & Gunnery

Written by Norman Friedman. Hardback, 399 pages, 295 x 254mm, over 400 black & white photographs, line drawings, diagrams and plans. ISBN: 978-1-84832-177-9, price (RRP) £45.00 Published by Seaforth Publishing, an imprint of Pen & Sword Books Limited,



47 Church Street, Barnsley, South Yorkshire, S70 2AS. Tel: 01226 734222 website: www.seaforthpublishing.com. Available direct from the publisher or through the usual retail outlets.

This book by Norman Friedman, does for naval anti-aircraft defence what his book on Naval Firepower did for surface gunnery - it makes a highly complex but historically crucial subject accessible. It chronicles the growing aerial threat from its inception in the First World War and the response of each of the major navies, the Royal Navy, the US Navy, the Imperial Japanese Navy as well as other European Navies in the inter-war years together with the addition of Axis Navies in WW2, highlighting in particular the widely underestimated danger from dive-bombing. Central to this discussion is an analysis of what effective anti-aircraft fire control required and how each navy's systems actually worked. It also takes into account in some detail the weapons themselves, how they were placed on ships and how this reflected the tactical concepts of naval anti-aircraft defence.

As would be expected from any Norman Friedman book it offers striking insights. He argues for example, that the major reason why the US Navy was so very under-armed in light anti-aircraft weapons in 1940 was that more money was available before the 1929 Wall Street Crash, but successive administrations considered military and naval spending a drain on the economy. In retrospect that was no bad thing, because heavy spending in the late 1920's would have produced large quantities of obsolete equipment. Aircraft were changing far too rapidly, particularly in the years that preceded WW2, and that the Royal Navy, so often criticised for lack of 'air-mindedness' was actually the most alert to the threat, but that its systems were inadequate, not because they were too primitive, but because they tried to achieve too much.

This book summarises the experience of WW2, particular in theatres like the Pacific where the danger of aerial attack was at its greatest and a concluding chapter looks at post-1945 developments that drew on wartime lessons. All important guns, directors and electronics are represented in close-up photographs, drawings and lengthy appendices that detail their specifications and technical data. This superb book is simply another contribution to naval technical history by one of its leading exponents and as such would be an invaluable reference work for both historians and warship modellers.

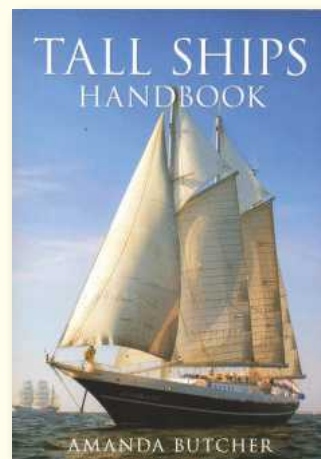
Book Review by John Deamer

Tall Ships Handbook

Written by Amanda Butcher. Softback, 175 pages, 235 x 167mm, over 220 colour photographs, and illustrations. ISBN: 978-1-4456-1889-0. Price (RRP) £17.99. Published by Amberley Publishing Ltd. The Hill, Stroud, Gloucestershire, GL5 4EP. Tel: 01453 847800, website: www.amberley-books.com. Available direct from the publisher or through the usual retail outlets.

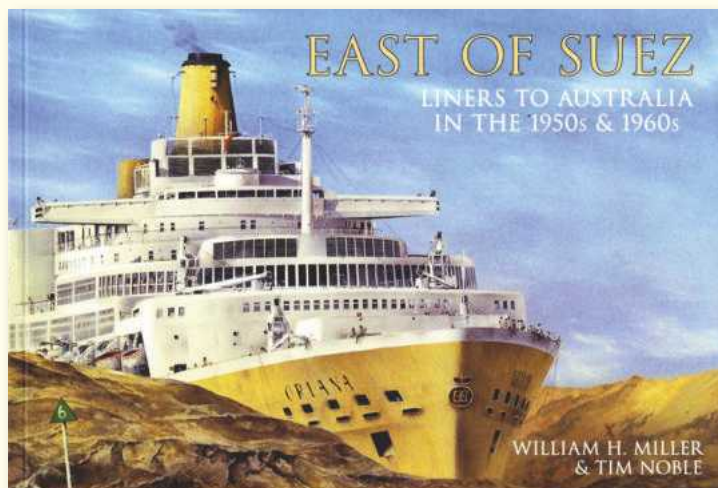
Around 200 vessels take part in the Tall Ships series of races, which travel the world each year. They regularly attract up to five million spectators, easily making them the largest public attendance of any event in the world. When the ships are in port, they are often open for the public to view, they range from period Victorian sailing ships to brand-new sailing vessels with every modern convenience. One of the challenges for spectators is working out which ship is which and this new handy guidebook by Amanda, a former Chief Executive of the Jubilee Sailing Trust and currently a director and trustee of the UK's national sail training body ASTO (Association of Sail Training Organisations), sets out to make it easy to identify each vessel.

There are over seventy of the most prominent tall ships, from countries worldwide, listed in the directory which



is divided into three sections, two-masted vessels, three-masted vessels and vessels with four or more masts. Each entry gives details of the ships description, mast and sail arrangement, website, number of permanent/professional crew, number of cadets/trainees, port of registration (POR), type of vessel (replica, new build etc.) and the length over all (LOA), there's also a short history of the ships career including background and ownership, together with colour photographs of the ship itself. There are also chapters on the definition of a tall ship and where you can see them. The book concludes with chapters on how you can get involved with tall ships and ships which, for whatever reason, are no longer sailing, these include the Canadian vessel Concordia which sank 300 miles off Brazil in 2010, the Irish sail-training ship Asgard II which sank in the Bay of Biscay a couple of years earlier in 2008, probably after hitting a submerged object, and the Brig Astrid that sank after being forced onto rocks off the coast of Ireland in 2013, but has now been raised. Readers may remember a model of the T. S. Astrid by the late Richard Webb was a 'Plan Feature' in this magazine (July 2006). Fortunately in all three cases no lives were lost. This is certainly an ideal guide for tall ships races. but will also be of great interest to modellers.

Book Review by John Deamer



East of Suez – Liners to Australia in the 1950's & 1960's

Written by William H Miller & Tim Noble. Softback, 160 pages, 248 x 170mm, over 360 colour and black & white photographs and illustrations. ISBN: 978-1-4456-3429-6. Price (RRP) £19.99. Published by Amberley Publishing Ltd. The Hill, Stroud, Gloucestershire, GL5 4EP. Tel: 01453 847800, website: www.amberley-books.com. Available direct from the publisher or through the usual retail outlets.

What New York was to the great liners on the trans-Atlantic run, Sydney and Melbourne were to the liners that sailed East of Suez on the long haul route from the UK and Europe to Australia. Until the 1970's this was one of the busiest routes anywhere in the world; there was general passenger traffic, wealthy tourists travelling first class as well as businessmen, government officials, merchants and traders, but it was largely a low-fare trade, down in tourist class. There was a huge flow of European immigrants being lured to new, more prosperous lives in Australia. 100000 British migrants, or 'ten-pound-poms' as they became known, were leaving the ports of London-Tilbury and Southampton for distant destinations such as Fremantle, Melbourne and Sydney on British ships like Canberra, Iberia, Orsova and Oriana of the P&O Orient Line, Southern Cross and Northern Star of Shaw Savill, together with foreign vessels like the Ellinis and Britanis of the Greek

Chandris Line and Fairsea and Fairsky of the Italian line Sitma. Europeans were in this great outward flow as well – the Germans, Dutch, French, Italians and Greeks. Many liners in the 1960's were over-booked. On the return journey there were young Australians sometimes dubbed the 'backpacker trade' who were travelling to Europe and especially England as a post-university 'rite of passage' trip. There were also family visits by Australians, returning to British and European shores.

In Australia there were other, perhaps lesser known, often smaller passenger ships of such companies as Dominion Far East, Eastern & Australian Line and the 'mini' liners of Australian coastal services such as the Kanimbla, Wanganela and Manoora.

In this fascinating book, the authors, Bill Miller (Mr. Ocean Liner) and Tim Noble tell us the story of the liners that sailed East of Suez to Australia in the 1950's and 60's, using many rare, previously unseen photographs and memorabilia including illustrations of ships plans, advertising brochures, tickets, menus etc., many from their own personal collections which are bound to evoke nostalgic memories of this bygone fleet from a different era when people travelled by sea instead of in the skies. This is a definite 'must-read' for maritime historians, ocean liner enthusiasts and ship modellers alike.

Book Review by John Deamer

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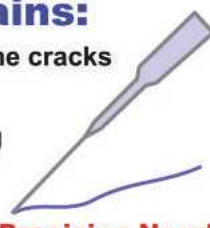


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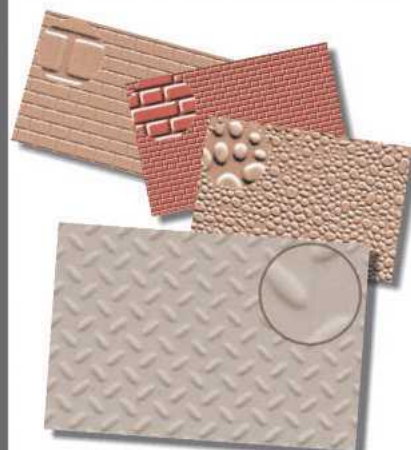
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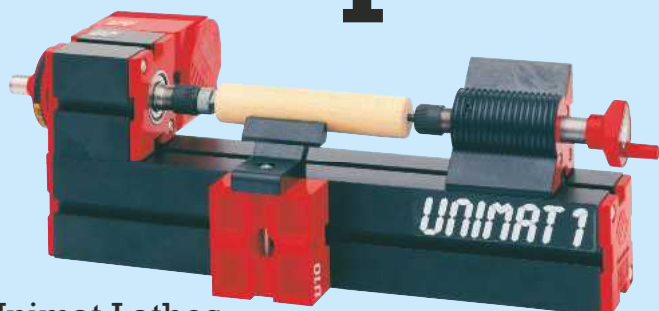
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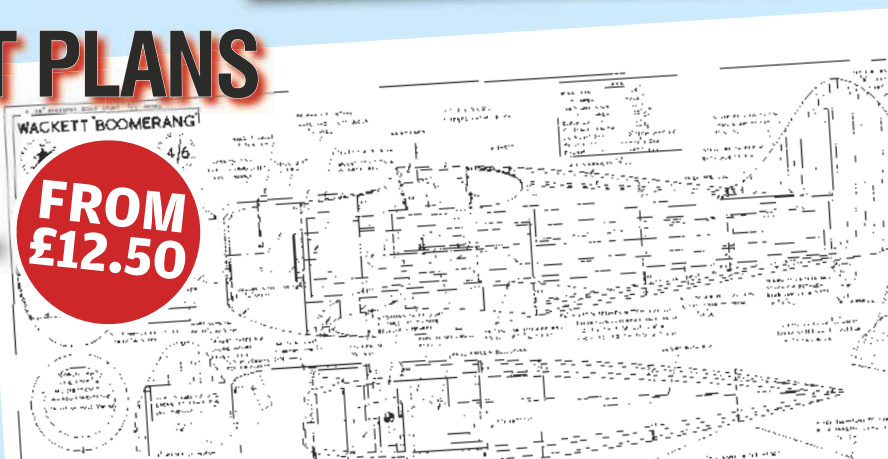
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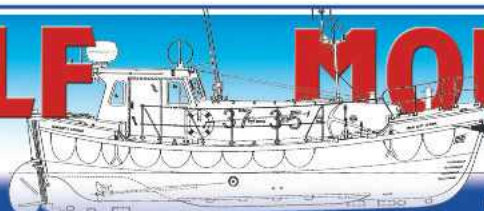
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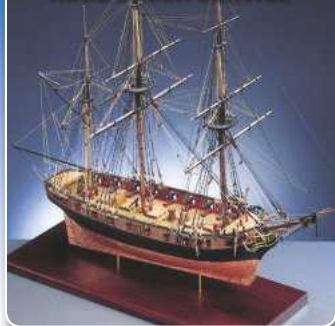
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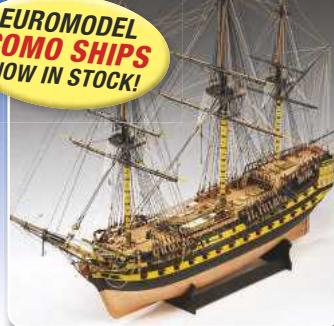
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