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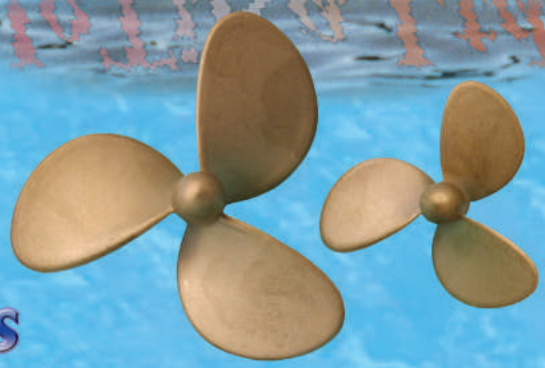

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Model Boats

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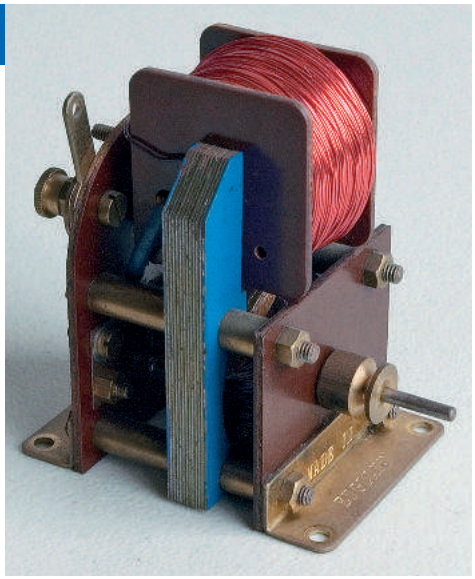

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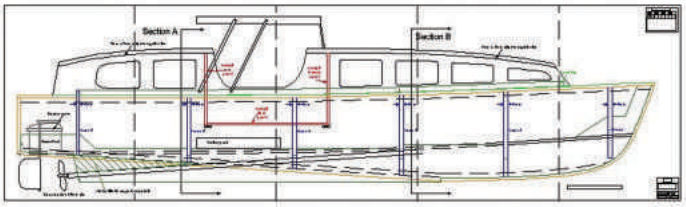

Bow piece

This issue has as its main feature a Complimentary Free Plan worth £12.50 with an accompanying comprehensive construction article by Glynn Guest for a semi-scale Big Gun Monitor. This model is built from balsawood and only basic model building skills are required, so this is an easy project to create an unusual warship. In addition, Gareth Jones returns with his working model of Nessie, the Loch Ness Monster, something that is guaranteed to create a crowd of onlookers!

Paul Thomason, a regular supporter of the Model Boats Website Forum has built a working hovercraft from foamboard, thus enabling lightweight construction and with little preparation for painting required. We also have the usual regulars including a Gallery for THV Patricia, a report from the Blackpool Model Boat Show, as well as Range Finder and Flotsam & Jetsam, in which John Parker is looking at Taycol motors.

Paul Freshney - Editor

COMPASS 360

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

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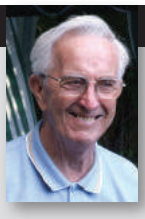
Obituary - Jack Connelly



It is with great sadness that I have to report the death of Jack on Friday 29th November 2013 when he died peacefully in hospital after a short battle with illness.

He was one of the founder members of the Scale Section of the Brentwood Model Boat Club in the late 1980's and was a stalwart of the club, also serving on the committee from time to time including a spell as Chairman. One of the highlights of his time in the club was when we sprung a surprise 80th birthday party for him at our lake in June 2007. Whenever there was work to be done, Jack would be first in the queue with a saw in one hand and a hammer in the other, ready to tackle anything. He was also a fine model maker and a great supporter of the club at exhibitions all over the south of the country, including some where he also represented the Model Power Boat Association. Jack was also an ardent supporter of the Surface Warship Association travelling around the UK and to Germany to display his models in support of the group. He will be sorely missed by many in the model boating world and our condolences go to his daughters Caroline and Jackie, and their families.

Peter Revill - December 2013

Richard Parkinson (left) presenting Mark Sawyer with a cheque for £366 raised by Eastbourne MPBC members for the RNLI.

Eastbourne Model Power Boat Club

In November 2013, this club held a lifeboat themed evening at their regular monthly social meeting. The members also welcomed visitors from the nearby Crowborough MBC for this special night. Those members with models of lifeboats displayed them around the clubroom and the guest of honour was Mark Sawyer, coxswain of the Eastbourne Tamar class craft.

Mark gave an exciting presentation on the work of the RNLI and their new Tamar lifeboat delivered in 2012, named of course 'Diamond Jubilee'. Eastbourne has one of the busiest RNLI stations in the United Kingdom and Mark took the members through some of their more hair-raising exploits! At the end of the evening, the club secretary Richard Parkinson presented Mark with a cheque for £366 raised by EMPBC members for the RNLI.

Eastbourne MPBC was established in 1951 and its members meet regularly at Princes Park Lake on Eastbourne's eastern seafront and at The Common Pond in Hailsham. Further information can be obtained from: www.empbc.org.uk.

Kingfishers MBC

This club is holding two static displays of their models in Long Sutton Library, Trafalgar Square, Long Sutton, Lincolnshire, PE12 9HB. The first is on **14th March 2014** and the second is on the **21st March 2014**. On both days, the display is open from 1030hrs to 1600hrs. For more details, tel: 01406 350968.

Information supplied by Brian Moore

Stevenage Model Boat Club

On **Sunday 18th May 2014** at Fairlands Valley Park & Sailing Centre, Six Hills Way, Stevenage, SG2 0BL, this club is holding a Fun Day Regatta. From 0900hrs to 1100hrs is allocated to i.c. and fast electric boats and then from 1100hrs onwards, the lake is used for scale, electric, steam, submarines and yachts of all types.

Clubs and individual modellers are invited to come and enjoy the excellent facilities. It is possible to drive right up to the water's edge, unload your models and there is plenty of near by parking, plus a café with toilets. The lake provides considerable space for free sailing and also there will be a simple 'course' for those who wish to try their skills. This regatta is listed as a Model Power Boat Association Non-Competitive event.

More information from Jeff Holmes, tel: 07806 281236, or Roland Duffett, tel: 01438 362012, Mob: 07889 312508. Model boating enthusiasts are also always most welcome here on Sunday mornings and Thursday afternoons, weather permitting.

Information supplied by Jeffrey Holmes

Model Boat Convention 2013 - postscript

This event was reported in the December 2013 issue of Model Boats and is a non-profit making show, run by modellers for modellers. As a result of the success of the 2013 event at Haydock Park, donations of £250 each have been made to the RNLI and the Thetis Memorial Fund.

The good works of the former are very familiar, but the latter may not be so well known. The Thetis Memorial Fund aims to commemorate the sad event of 1st June 1939 when the submarine was still in the builder's hands and making its first dive. The submarine was too light to dive, so a check of the water in the various tanks on board was made. One of the checks was whether the torpedo tubes were flooded and Lieutenant Woods, the torpedo officer, opened the test cocks on the tubes. Unfortunately, the test cock on tube No. 5 was blocked by some enamel paint so no water flowed out, even though the bow cap was open. Prickers to clear the test cocks had been provided but were not used. As a result, the inner door of the No 5 tube was opened and the inrush of water caused the bow of the submarine to sink to the seabed 150ft (46m) below the surface. The history of the attempt to rescue the crew is well known and the Thetis Memorial Fund aims to preserve the memory of the unfortunate crew and the civilian workers who lost their lives in the tragedy with a new permanent monument in Merseyside on the promenade just north of Woodside Ferry Terminal, adjacent to the Cockleshell Heroes Memorial. HMS Thetis was of course launched from Cammell Laird at Birkenhead in 1938. The Committee of the Model Boat Convention are pleased to support this worthwhile voluntary effort.

Mutual Model Boat Society

On **Sunday 30th March** 2014, this club is holding a Grand Bring & Buy Sale at Crimble Croft Community Centre, Aspinal Street, Heywood. Manchester, OL10 4HL. Doors open at 0930hrs until 1600hrs. As well as picking up some good bargains you can enjoy the great range of snacks and drinks at sensible prices. To reserve a table or for more information, please contact the Events Secretary, Kevin Winward, on tel: 07803 975089 or via the website: www.mutualmodelboatsociety.co.uk.

South West Model and Hobby Show

The organisers have secured the Bath & West Showground on **Saturday 3rd and Sunday 4th May 2014** to stage a return of the south west's biggest model show. They are delighted to announce that the flying displays and boats will be back along with the trucks, tanks and cars. There will be four separate areas for flying with the fixed wing on its regular plot, the helicopters will get their own area as will the hot air balloons which all proved very popular previously. Indoor flying will be in the Sedgemoor Hall and the boats will be in the Mendip Hall complete with an indoor pool. The main hall will host engineering, rail,. tanks, traders and suppliers. There will be many other inside and outside areas which will be posted on the website www.swmee.co.uk as soon as they are confirmed. If you are a trader or club or private individual who would like to exhibit or take part then please contact Martin on 01179 071000 or email: nigel@swmee.co.uk.

Help!

John McGaughran who is new to model boating would like to get in touch with other model boating enthusiasts in the Leeds area. His telephone number is: 01132 487739.

Three Sisters MBC

This is a relatively new club based at the Three Sisters Park in Ashton in Makerfield. Their sailing times are Wednesday and Sunday mornings and they will be holding their fourth annual meeting at the Caledonian Hotel, Bolton Road Ashton in Makerfield on **19th March 2014** starting 1930hrs. All local model boating enthusiasts are welcome.

mya-uk.org.uk

2013 Mermaid Trophy

ROGER STOLLERY reports from Guildford MYC

Above: The Marblehead r/c yachts being prepared in the control area.

This was an Open Event for Marblehead r/c yachts and it was also the penultimate event in the GAMES series. It attracted 15 competitors, from eight clubs in four MYA districts, to the Guildford MYC Abbey Meads lake at Chertsey near Guildford in Surrey. The strong gusty WSW winds allowed these light and narrow Formula One speed machines to demonstrate the high performance of the Marblehead yacht, which is enjoyed so much by competitors. Seventeen races were sailed over a 600 metre windward leeward course in winds that were forecast to be 15 to 30 mph. This allowed the use of B rigs initially, and then C rigs when the wind blew up in the middle of the day putting bows under pressure and allowing the rudders to wave in the air. There were holes in the wind and the inconsistency and lack of predictability allowed six different competitors to win a race.

The morning's racing

Race 1 set the scene for the day with Peter Stollery sailing his Crazy Tube Free finishing ahead of Darin Ballington's Rok and John Shorrock's brand-new Quark. John Arundell with his trusty Starkers led Race 2 all the way after a good start, finishing ahead of Hugh McAdoo's Prime Number and Tony Guerrier's Dreadnought. Hugh stepped up his performance in Race 3 to win from Darin and Roy Stevens sailing a Prime Number.

Peter came back from gear failure and used his C rig in the strengthening wind to win, after giving a perfect demonstration of swing rig power by tacking downwind and overtaking most of the fleet and finishing in front of John Shorrock and Hugh. Tony moved up a gear in Race 5 to win from Darin and Martin Crysell sailing a Prime Number. Hugh came back to form to win Race 6 ahead of two Guildford club mates, Martin and Roy Pearson sailing a Rok. Everyone's keenness to start in Race 7 resulted in a general recall and on the new start, Darin's consistency paid off and he won ahead of Peter and Roy Stevens. The scores at lunchtime put Hugh in the lead with 25, one point ahead of Darin and nine points ahead of Peter.

Afternoon racing session

This started well for Peter with a win in Race 8 over John Arundell and Tony. However he started last in Race 9 after a penalty at the start and made the most amazing recovery downwind to overtake all but Darin, who went on to win. Disappointed with his third in that race, Hugh made an excellent start in Race 10 and was never challenged by Darin or Peter, who finished second and third.

John Shorrock, who has just had his Quark keel 'refined' by designer/builder Graham Bantock, won Race 11 a long way ahead of the following group of five boats headed by Peter and Hugh, who all finished within seconds of each other.

Darin came back to win Race 12 ahead of Roy Stevens and Peter and then repeated his win in Race 13. Dave Andrews sailing a Prime Number made an excellent start and led for much of Race 14, but was overtaken by Peter and Darin who finished in that order. These two finished in the same order in Race 15, but were beaten again by John Shorrock.

By this point the strong wind had blown itself out and most competitors changed into their A rigs. Peter won both of these races with Darin coming second, but in Race 16, Rob Vice, who was sailing a 20 year old Chris Dicks' Magic design and had been struggling for speed throughout the day, took third place. It was also good to see the Jeff Byerley designed Dreadnought, introduced last year from Australia, getting into the top places and also the new Frank Russell designed budget boat, Gothic MX making its first appearance on the Abbey Meads lake.

So, at this time in early-November, the GAMES series was reaching a fitting climax for the Stan Cleal Trophy at the Three Rivers facility later in the month.

Above left: Not all the boats were ready for the start, or going the right way, as the hooter sounded!

Above right: John Shorrock's Quark.

Left: John Shorrock (right) receiving the Vic Cooney Trophy (for best veteran) from the PRO, Roger Stollery.

Results (first 10 only)

1st, Peter Stollery; 2nd, Darin Ballington; 3rd, Hugh McAdoo. 4th; Tony Guerrier; 5th, Roy Stevens; 6th, John Shorrock; 7th, Dave Andrews; 8th, Martin Crysell; 9th, Roy Pearson; 10th, John Arundell.

Ted Gearey Improver's Trophy: Tony Guerrier
Vic Cooney Trophy (for best veteran): John Shorrock

Model Boats Next issue

The Model Boats March 2014 issue will be on sale on the 7th February 2014

The main feature is the first part of an article for the Gibbs Aquada, another remarkable model built by the ever-inventive Bob Hinton and he has created a full working miniature replica of this unique amphibious power boat and sports car, with retracting wheels! Also, Phil Button returns to these pages with his Plastic Magic radio controlled conversion for Lucky XI, the Revell 1:108 scale nine inch long model tug.

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**

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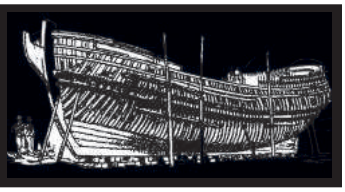

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GLYNN GUEST presents a freelance model based on the Royal Navy big gun monitors of World War Two

Most navies have employed Monitors at some time or other to offer gunfire support to land forces. These were usually modest sized vessels that could operate in shallow or restricted waters and carried a few large (for the vessel's size) weapons. Where even larger weapons were needed, then many navies would use cruisers or battleships.

Employing such large and valuable warships for shore bombardment duties was not without risk. Their large size made them tempting targets and the loss of protection from speed and manoeuvrability increased the risk even more. The answer was to build something smaller and hence cheaper than a battleship, but armed with a single battleship turret. With adequate protection it could safely operate close to shore. Mounting just a couple of large guns was no disadvantage in the role of a monitor, since land targets required a few carefully placed shells rather than the massive broadside of a battleship in a seaborne action. The Royal Navy seems to have had an almost unique liking for big gun monitors and they were first introduced during WW1 and also served in WW2. Perhaps because their role was less dashing than those of the fleet units, such monitors are little known by the general public and rarely built by modellers. An excellent book on these vessels has been written by Ian Buxton entitled 'Big Gun Monitors', published by Seaforth, ISBN 978-1-84832-124-3 and was the final impetus for me to build this model.

HMS Vulcan

A freelance model built to an approximate scale of 1:144. This gives a model of **30.5 inches (775 mm)** long with a beam of **7.25 inches (185 mm)** and a weight of **8 pounds (3.6 kg).**

Construction is mainly from standard balsawood sheet, together with some ply and hardwood.

The model is powered by two RE 385 type motors with mixed throttles for steering and propulsion, a 7.2v (six cell) NiMH pack, giving a top speed of about 2ft/sec (0.6m/s). This model does not have a rudder, differential control of the motors providing the steering.

Germ of an idea?

A model based upon a battleship is something that I will eventually get around to building. Sticking with my favourite scale of 1:144 would produce a hefty, but not impossible size of model, however for maximum effect the gun turrets would have to train from side to side whilst the barrels elevated under radio control command.

Such functions are not unknown in the model world, but can be complex, especially if you need to make three or more turrets move in unison. Now perhaps you can see the appeal of a monitor model with only one turret to make operational and add to that the 'different' look of such a model which would be impressive despite its modest size, and so this model had to be built.

Ian Buxton's book contains enough information to build respectable models of most of the British big gun monitors. I was however conscious of the fact that the working turret feature would be highly experimental and felt that a freelance style of model might be more appropriate.

The early monitors were quite basic vessels and would have been simple to build and therein lies the rub, as they would have looked too plain and simple when sailing. The later vessels built for service in WW2 looked more interesting and something based upon their design was therefore a more attractive idea.

In many actions, the targeting of the guns was carried out using observers on the ground and the monitor fired blind under their guidance. It was not always possible to work this way and often aircraft were used in the observation role. This led to comments that on some occasions aircraft were not available and the monitors would have benefited from carrying their own aircraft. This made me think about designing a vessel that did include aircraft plus the associated hangar and crane. Thus, the final design was very much freelance, but not a totally impossible and unrealistic vessel.

Turret troubles

It seemed best to start with this item, around which the rest of the model was to be built. A little research came up with several different ways to achieve rotation and elevation using geared motors. This idea was rejected since it quickly became expensive and too complex as limit switches would be needed to prevent the turrets rotating too far. I had the image of the gun barrels removing parts of the superstructure as the turret spun round and round! An extra speed controller, or two if the barrels were to elevate by the same system, would push up the cost. So, just using servos to move the turrets and barrels looked more promising. The only problem being that standard servos only rotate through 45 degrees each way and a turret would require 90 degrees each way from neutral. The movement of a servo can be increased by adding two suitable resistors to the feedback pot within the servo. Alternatively, some transmitters have the facility to increase the travel of a servo, but probably not to the degree required. However, either method might run foul of the mechanical stops designed to prevent the servo arms from rotating too far, so a bit of a conundrum.

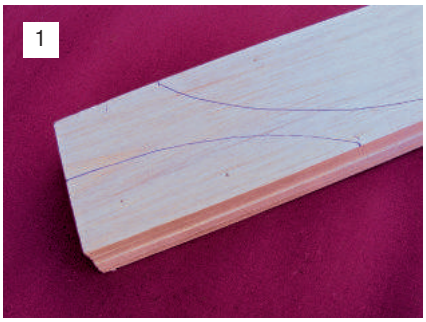
Thoughts then turned towards sail winch servos as those used in r/c yachts. Two such winches were to hand, but one was an old and rather large of the lever arm type and the other was more compact, but rotated through three to four turns which would bring me back to knocking bits off the model with the gun barrels!

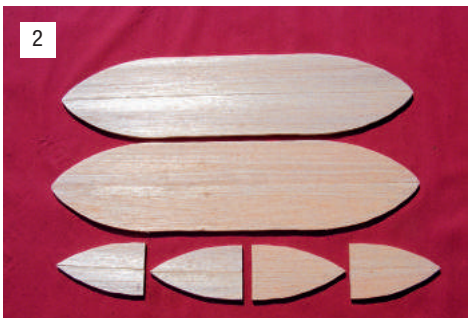
I almost bit the bullet and was going to purchase a modern small lever arm type sail winch, but chanced to see a servo that claimed to rotate through 180 degrees on the 'Mr. RC World' website. Along with increased rotation, it featured metal gears and a hefty output torque. The price was around £15, which placed it midway between cheap standard servos and the lever arm sail winches, so it was a tempting package and two were duly ordered.

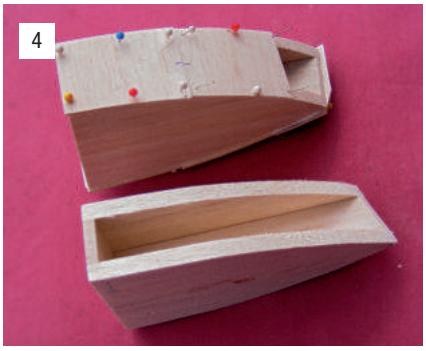
The servos arrived promptly and were identified with labels proclaiming them to be 'Tower Pro MG 995' types. They were the same size as standard servos and thus would fit inside the planned barbette and they did have the desired rotation. Problem solved, well this problem was solved, as it was now on to the next one!

Awkward bulges

These big gun monitors incorporated a massive







bulge along the sides of the hull. This offered protection and helped to limit the draught, a vital thing if they were to operate close inshore. The bulges also made them steady gun platforms which aided accurate bombardment.

How to make a model hull with these bulges but without becoming too expensive or complex occupied my thoughts for a few days. Many ideas were dreamt up, puzzled over, discarded and replaced in what seemed like an endless cycle of thought.

The monitor book did have some illustrations of these vessels which suggested that the bulges were not always visible especially when sailing. However, the idea of leaving the bulges off had to be dismissed since they were such a characteristic feature of these vessels. I also doubted that the narrower central part of the hull would have produced a stable model by itself.

Making the hull and adding bulges to each side was tempting, but would have been an untidy method as well as limiting internal volume. In the end I decided to make the lower part of the hull which incorporated the bulges as a unit, and add the central part on top of it. The bow and stern sections of that could be glued in place with the middle part removable for access into the hull. This would result in a joint just above the waterline, but I hoped that generous coaming strips would keep water out of the hull's interior.

I had never built a model boat hull in such a fashion, so spent some time trying to spot any potential problems. This must be the professional engineer in me - never happy until I can find something to worry about! Nothing was obviously wrong in such a concept (which can be worrying in itself) and so the model was started.

Materials

The design used some thick sections which would require a fair amount of cutting and shaping. Past experience has shown that balsawood would be strong enough without becoming too arduous to cut and shape. Alternative materials could be used, but changes to the model's design might be needed.

A little care was taken to avoid the lightest grades of balsawood sheet. They can be recognised as the surface is easily compressed between your fingertips and they weigh very little. Such balsawood is easily damaged and the model would probably be in a state of permanent repair if it were used. Equally, super-hard grades are not really needed as their extra strength might seem to be an advantage, but will make construction a challenge, as you fight to cut and form pieces to the desired shapes!

The prototype was built using medium weight balsawood sheets with a uniform grain pattern, ensuring they were flat and supplied with square cut edges. The latter is essential, as some parts require gluing together along their edges.

The basic hull structure requires the following balsawood sheets:

Four sheets of 3/8 x 4 inches (9.5 x 100mm)
Three sheets of 1/8 x 3 inches (3 x 75mm)
One sheet of 1/4 x 3 inches (6 x 75mm)

The rest of the model structure made use of what was to hand in the scrap box. This included plywood, card sheet and tube. The only thing to watch, as with most models, is to keep the top weight to a minimum and thereby avoid stability problems later.

Water-resistant white wood glue was used for the wood to wood joints. Being cheap, fumeless and with accidents being easily wiped away, has always made it a good choice for this type of model. Epoxy adhesive was needed for the wood to metal joints. Most of the card was glued in place using a contact adhesive. These glues may lack the virtues of the white wood glues, but they also lack their water content which can distort thin card before curing.

Power and radio control

The full-size monitors were quite slow vessels with 12 knots being about the best that could be hoped for. This meant that the model would have only modest power needs and a single RE 385 motor might have been enough. However, twin independent motors, with a suitably mixed r/c operation were to be installed for steering and propulsion, no rudder being installed. Using a six cell NiMH battery pack, two 385 motors could overpower the model a little, but the monitor book suggested that these vessels were notorious for being difficult to handle, so too much power might be safer than too little?

Two 'Radio Active' propshaft assemblies, with 7 inch (18cm) long tubes, seemed to be a good match for this model. Their three bladed plastic propellers matched these motors at the slow operating speeds expected.

As for the r/c outfit, at least four functions are needed if the guns are required to rotate and elevate under radio command. If this is not required, then a basic two function outfit can be used. It would also be possible to modify the design for conventional rudder control, with one or two motors and so avoid the need for electronic mixing of the steering and throttle functions.

Hull construction

The plans include a suggested sequence in which to build the hull and the following notes supplement this information. The more eagle-eyed amongst you might spot that the prototype was built in a slightly different sequence - I now know the very best way to do it!

By dint of a little animal cunning, only two differently shaped curved cuts have to be made in this model's construction. These are the curves in the hull bottom and bulge top pieces plus the curves in Parts A and B which form the bow and stern parts of the hull. I made templates from stiff card to aid marking out these curves on the 3/8 inch (9.5 mm) thick balsawood sheets. Careful planning of the parts layout on the balsawood sheets will ensure minimum waste, **Photo 1.**

These parts need to be glued together along their centreline edges, **Photo 2.** Pinning the parts together so as to prevent movement, plus weighting them down on a flat surface avoids producing distorted parts.

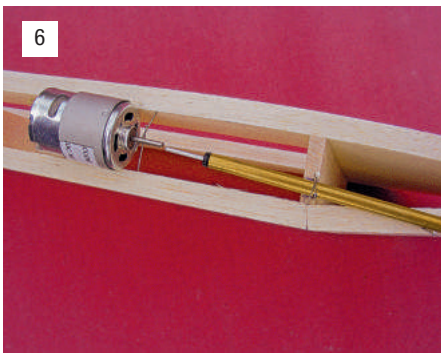
The bow and stern structures of the hull were made by gluing the bow and stern pieces plus Part C onto the appropriate lower parts, **Photo 3.** This being Parts B for the bows and Parts A for the stern. After checking everything was square, the upper (deck) parts were added.

The edges of the bows and stern structures were sanded smooth before being covered with 1/8 inch (3mm) balsawood sheet, **Photo 4.** These sheets were cut slightly oversize which allowed the excess to be sanded away to become flush with Parts A and B.

The lower part of the model's hull was built by first gluing the bulge bow piece and three bulkheads to the underside of the bulge top. Note the access cut-out had been made in this part after the bulge top pieces had been glued together. Also note that this cut-out piece had to be saved as it forms part of the removable deck section.

The two hull bottom pieces were then glued in place. It is a good idea to position the bottom pieces so that they meet over the third bulkhead as this glued joint gets a little extra support. The leading edge of the stern bottom piece was chamfered to produce a good fit with the other bottom piece. The extreme rear of this bottom piece was also sanded to make a flat which would mate with the deck sheet and create a stronger glued joint, **Photo 5.** After the glue had fully set, the edges of this structure were sanded with a sanding block.

The propeller shafts and tubes could have been added later, but I found it more convenient to do so at this stage. A motor was temporarily secured to the propeller shaft and the whole assembly held against the side of the hull,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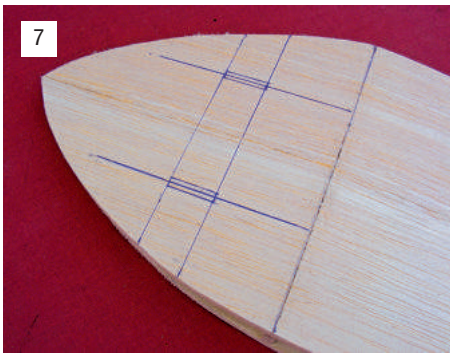
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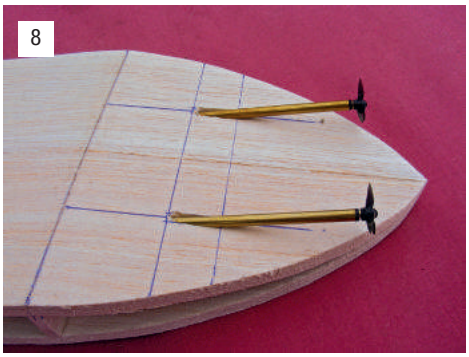
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Photo 6. Once satisfied, the positions of the holes needed in the bulkhead and hull bottom were marked on the edges.

Looking through the access cut-out, a shaft spacing of 3 inches (75mm) appeared to be suitable. Using this spacing and the marks on the hull edges, the positions of the holes for the propshaft tubes were drawn on the bottom sheet, **Photo 7.** These holes were drilled, together with the corresponding holes in the bulkhead. Adjustments were made until the motors and propeller shafts were aligned, not forgetting the all important check that the propellers could rotate without fouling the hull bottom, **Photo 8.**

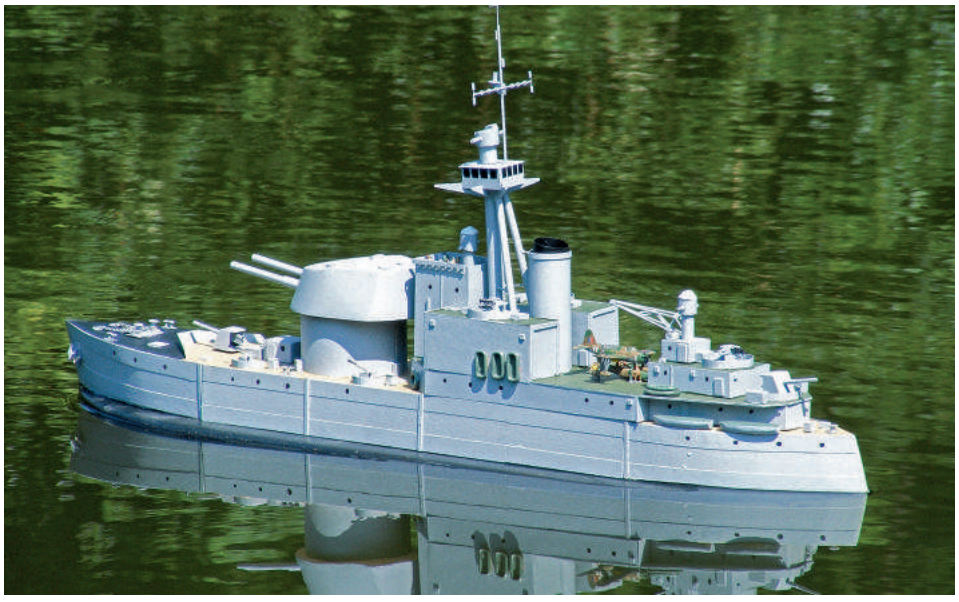
The propeller tubes and motors could have been fitted permanently into the model but there was a lot of hull work still to do and I could see the potential for possible damage or even getting things jammed-up with glue. So, the motors and tubes came out and were fitted later, something I do not regret at all in this instance!

The sides of the bulge will need to be skinned with 1/8 inch (3mm) sheet balsawood in the same fashion as the bow and stern hull structures, **Photo 9,** after which the bow and stern structures can be placed and fixed on its top. These units have to fit with Part C being in line with the access opening, **Photo 10.**

The coaming along the sides of the access opening needs to be stiff and I used a piece of 1/8 inch (3mm) thick plywood that had been sitting in the scrap box for many years, **Photo 11.** A little extra reinforcement was given by gluing triangular fillets of balsawood between the coaming and fixed hull structures plus adding a strip of it across the top of the second bulkhead running between the coaming strips. Upon reflection, this was probably not needed since the hull had now become surprisingly rigid with no suggestion of weakness.

A 'flat' was sanded on the bows on which a strip of hardwood could be glued, **Photo 12.** I've been adding such strips since I built my first model boat from balsawood and so far never had an impact do any more than dent this strip. Of course if you regularly halt your models by sailing at full speed into a concrete landing stage then something more substantial might be needed, although a different hobby might be better then? Anyway, the hardwood bow strip has to be blended into the hull shape.

The corners of the bulge unit, port and starboard, were then rounded off. The balsawood thicknesses used do allow for a generous radius, but care was still taken not to excessively weaken the glued joints. The cross-sections on the plans give you some idea of what to aim for.



Removable hull section

This was built in-situ, so as to be a good fit over the coaming strips. The section of the bulge top cutout was used to make the deck between the fixed bow and stern parts of the hull with 1/8 inch (3mm) balsawood sheet glued to its edges to form the sides, **Photo 13.**

This section ought to drop snugly in place with no suggestion of it requiring any force. A little sanding of the ends was needed on the prototype model to achieve this.

It should not need to be said, that care has to be exercised to avoid gluing this part to the hull or the coaming strips! Likewise, marking the front end of the removable section is a good idea. Unless you have made a perfectly symmetrical model, then the removable section will probably only fit snugly one way. A final sanding, together with checking for external defects, correcting these as needed, was required to produce a smooth and grain free external surface.

Sealing the hull

The skeg, cut from 1/4 inch (6mm) balsawood sheet could be added now, or after sealing the hull surfaces, whichever is more convenient. I also opted to seal the outer surfaces of the hull before permanently fitting the two propeller tubes. This suited my methods, but you may feel it is better to install them and then start the sealing process. I did not initially include this skeg, but on the water trials revealed its necessity, more later!

Cellulose dope and tissue was used on the prototype, but any other method that works for you could be used. I like dope and tissue because it is quick, relatively cheap and makes the balsawood surfaces tough enough for my sort of usage. A couple of coats of thinned dope (50/50) were applied with a light sanding after each coat had dried. This thinned dope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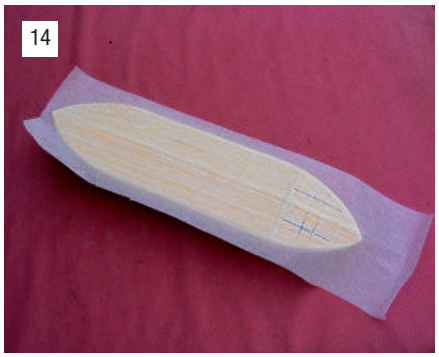
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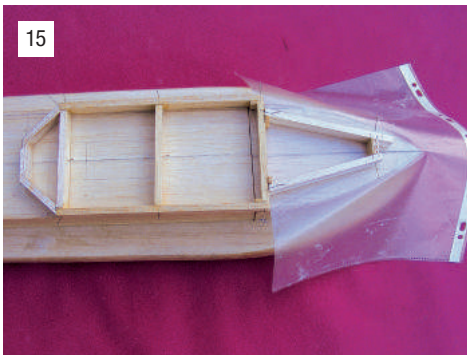
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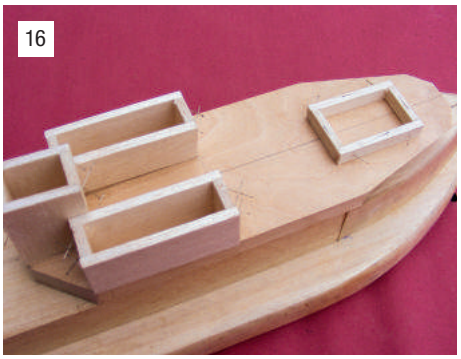
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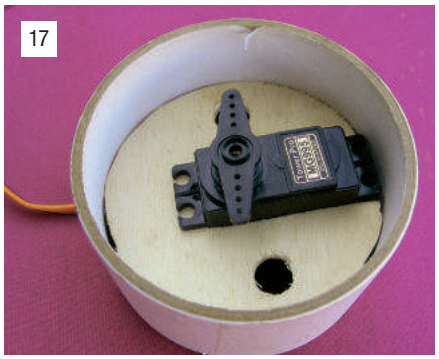
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penetrates more readily into the balsawood to give a better bond and strengthening effect.

Lightweight model aircraft tissue was then cut into suitably sized panels that would cover the flat areas of the hull and wrap around the curves. For example the whole of the hull bottom could be covered with one piece of tissue as in **Photo 14.**

The trick to avoiding wrinkles, is to lay the tissue on the surface and apply a brush, well loaded with un-thinned dope to the centre of the panel. The dope is then brushed through the tissue working outwards. If wrinkles or creases appear, then the tissue can be peeled back and re-laid with more dope. Tissue will accommodate gentle curves, but more acute ones such as the on the corners of the bulges, are best tackled by slitting the tissue before pressing it down with the dope brush. A small overlap between adjacent tissue panels is also a good idea. The slight steps at these tissue overlaps will disappear with further applications of dope and sanding. Two or three coats of neat dope usually produce a good surface finish on which to then paint the model.

It also seemed desirable to waterproof the outer surfaces of the coaming strips and the inner surfaces of the removable sides that fitted over them. Being close to the waterline, I could envisage water washing over the bulges and given half a chance, capillary action would draw water up between the coamings and hull sides.

First water trials

After reinstalling the propshaft tubes, securing them with epoxy adhesive, the motors and coupling were fitted. Since only limited power was to be applied to the model, the motors were secured in place with clear silicone bathroom sealant, care being taken to keep the motor and propeller shafts inline whilst the sealant hardened.

You might think that silicone sealant is not a secure way to mount motors, but so far it has never failed me. Should the motor ever require removing, then the sealant can be cut way with a sharp blade and this is usually the point where you realise just how securely it has been held in the model!

With the outer surfaces waterproofed, it was a good time to test the model on the water. A temporary 'lash-up' of receiver, battery and speed controllers was installed and the model, along with a load of lead ballast was taken to the garden pond.

The first thing noticed, was that lacking any ballast it seemed to sit on, rather than in, the water. Using all the ballast I had taken to the pond, the model still floated with the tops of the bulges, port and starboard, well above the waterline. Returning with more lead eventually had them almost submerged.

Playing with the transmitter sticks had to be limited as it is only a small pond and my wife, to say nothing of my poor old back, would object to me making it any bigger. Even so the model, through differential operation of the motors, could easily be turned on the spot. Short bursts of full ahead had to be immediately followed by full astern, but the model looked like it would be quite brisk and of course stability with those large side bulges was never going to be a problem. Back indoors and the hull was weighed to give a figure of 11 pounds (5kg). This surprised me as it was significantly larger than my initial, but admittedly rough, estimate. Perhaps being more familiar with slimmer warship models, its fuller hull shape had fooled me?

Superstructure

Being a freelance model you can let your imagination run free when making this part of the model, but hopefully not too wild so as to create a bizarre looking craft!

A simple framework built from 1/4 inch (6mm) balsawood was glued to the removable section of the hull. It extended aft over the fixed stern part of the hull and plastic sheet made sure that it did not stick to this part, **Photo 15.** Over this, a deck, cut from thin plywood, was added and then the aircraft hangars and bridge, **Photo 16.**

The vertical surfaces on the superstructure were covered with thin card using a contact adhesive. Longitudinal card strips were also glued to the hull sides to suggest the steel plating of full-size vessels.

A couple of light coats of dope are usually enough to seal thin card. One tip is to avoid using too heavy a coat of cellulose dope as it can soften the contact adhesive holding the card to the balsawood, and that's my voice of an unfortunate experience!

Big gun time

The plans do not show the parts used to rotate and elevate the guns. If you decide to incorporate this feature in your model, it is unlikely that exactly the same servos will be used. As the design is quite simple, it seems better to let you make the parts to suit, rather than puzzle out how to modify what I used.

My magpie tendency to store potentially useful items proved handy once again .A thick walled card tube, ex-roll of self-adhesive tape, was found to make an ideal barbette. If you have nothing to hand, then it would not be too difficult to roll your own tube, remembering that it needs to be rigid and big enough to accommodate the servo.

Mounting the servo was achieved by cutting a plywood disc to fit inside the barbette and then making a slot for the servo as in **Photo 17.** Note that the slot for the servo was made so that the servo shaft would be at the centre of the barbette, otherwise when the turret rotated it would look odd. Two holes were drilled for the elevating servo lead to pass through, but only

one was eventually needed.

I found it best to make the servo a snug fit into this slot. This allowed the servo to be lifted out along with the turret should any maintenance work be required later. The plywood disc was glued into the barbette tube such that the top of the servo arm was just above the top rim of the tube.

The turret base was cut from a piece of plywood and a hole, large enough to clear the servo arm securing screw, drilled at its centre of rotation. The servo was then attached to the underside of the base. I found that a servo disc gave the most secure fitting when fixed with four small screws, **Photo 18.** The servo was then refitted into the barbette and checked that it could rotate the turret without fouling anything.

The gun barrels, made from aluminium and brass tubes, were glued into holes drilled through a suitable piece of hardwood strip. It is essential that the barrels are parallel, otherwise it will look odd, very odd indeed!

An aluminium U-shaped bracket was made to support the hardwood strip via screws through the ends of the bracket into the strip, making sure that everything is square, but can still moving freely being vital.

A permanent link between the elevating servo and barrels was not used. I figured that any accidental knocks, highly likely with my clumsiness, risked damage that would be hard to access. Instead the servo arm was to press down on a wire 'U' glued into holes drilled in the rear face of the hardwood strip for when the barrels were to elevate.

The barrel bracket and servo were temporarily held in place on the turret base, whilst the best positions were found for reliable operation. It is worth pointing out that my plans were to use the transmitter's right-hand dual axis stick to drive the model; right/left for steering and up/down for ahead/astern. This freed up the left-hand stick to control the turret; right/left to rotate and down to elevate the barrels. It took a little time to get the best location after which the barrel bracket was glued to the base and the servo secured with an aluminium strap screwed to the base, **Photo 19.**

The assembly was refitted into the barbette and tested on the hull after making a hole in the deck for the two servo leads. Repeated testing failed to reveal any faults, so the barbette could be glued in place. I did find that a piece of balsawood packing had to be glued to the deck inside the barbette, so that the rotation servo would remain level, as it just slid into its securing slot.

The turret was finished off by adding a roof from 1/4 inch (6mm) balsawood. This needed some internal support, also from balsawood, but carefully positioned so that the operation of the elevating servo was not fouled, **Photo 20.**

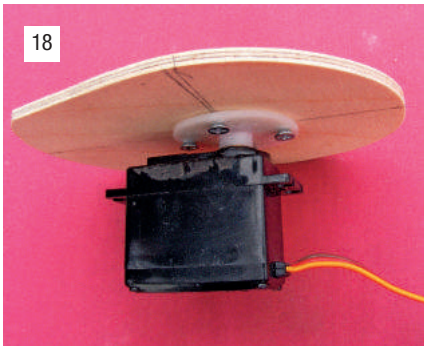
The barrels were carefully removed and the edges of the turret base and roof sanded to accept the side sheeting. After replacing the barrels and checking things still worked okay, card was used to cover the turret sides. A large piece of card being cut to an approximate, but oversized, shape together with cut-outs for the gun barrels, **Photo 21.** This was glued in place and the excess trimmed away. The rear and top of the turret were also covered in card.

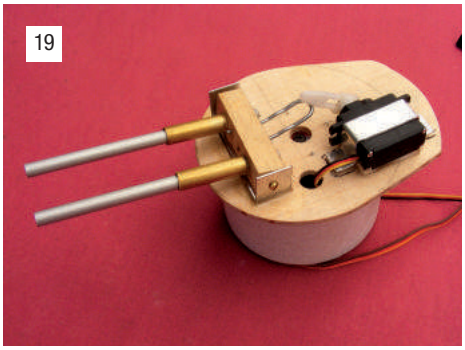
A couple of light coats of dope, together with with gentle sanding sealed the barbette and turret surfaces. Card is surprisingly good at suggesting a solid steel structure and the final effect has the desired 'massive' appearance.

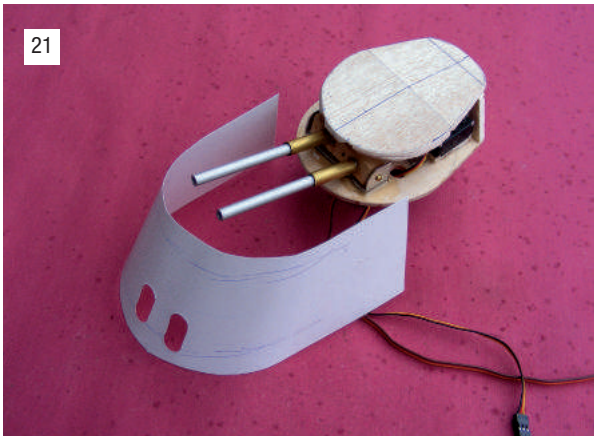
If elevating barrels are not required, then the turret could just be made from solid balsawood and in that case the barrels would be simply stuck into holes in the front of the turret.

Details

Being a freelance type of model allows you to finish off this model in any way you fancy. My approach was to try and suggest a layout that might reflect early wartime experience. This included a defensive armament of light, but







rapid firing, weapons to counter air attacks. Two single medium guns could offer some anti-aircraft fire out to longer ranges, but also would deter the lighter naval forces of an enemy.

The Spotting Top was made from a block of balsawood. Dowel was used for the tripod supports; the foreleg was actually from an old wooden spoon my wife had tried to throw away - magpie mode again! These dowels were bound together and glued with epoxy adhesive at the top whilst some brass rods glued into holes at the mid-point maintained the shape, **Photo 22.** For ease of transport, the tripod was removable, its foreleg being simply stepped into a matching hole in the deck.

The mast was soldered-up from brass rods with additions of plastic tubing to create a better impression. The aircraft crane jib and support were also made from soldered brass rod glued to a plastic base, **Photo 23.**

The aircraft was an old plastic toy being based on the Vought Kingfisher. These aircraft only saw limited service with the Royal Navy, but we are in freelance territory here! It was originally in US Navy colours and markings, and to be honest looked very toy like, but painting it in British colours and markings improved it no end, **Photo 24.**

Any suitable aircraft from this wartime period could be fitted, provided it was of a suitable scale, the plans being drawn to approx. 1:144 scale and one intriguing possibility would be the floatplane versions of the Spitfire. These were tested during the WW2, but carrier based aircraft were favoured. The speed and manoeuvrability of the floatplane Spitfire could have made it a great asset when spotting over enemy held territory.

Painting

Ian Buxton's book illustrated some attractive camouflage schemes, but caution made me stick with a plain grey, as losing sight of any model, especially a compact one like this, is not something to be encouraged. The hull, superstructure and details were sprayed with grey primer. For convenience the small details were painted away from the model by securing them to scrap lengths of timber with either double sided tape or Blu Tack. Using several light coats always works best, but you still need to check that all the awkward corners have been covered.

The hull below the waterline, which includes the tops of the bulges, was painted gloss black. Gloss, because it is tougher than matt paint, and black because you ought not to see the underwater hull when sailing anyway. The decks were painted matt black, brown and green, so just enough colour to make the model interesting, but not toy like.

The whole model was then lightly dusted (light spray coat) with clear satin varnish. This protects the paints, especially the matt ones, but avoids the unrealistic shiny appearance that gloss would produce, **Photo 25.**

Finishing off

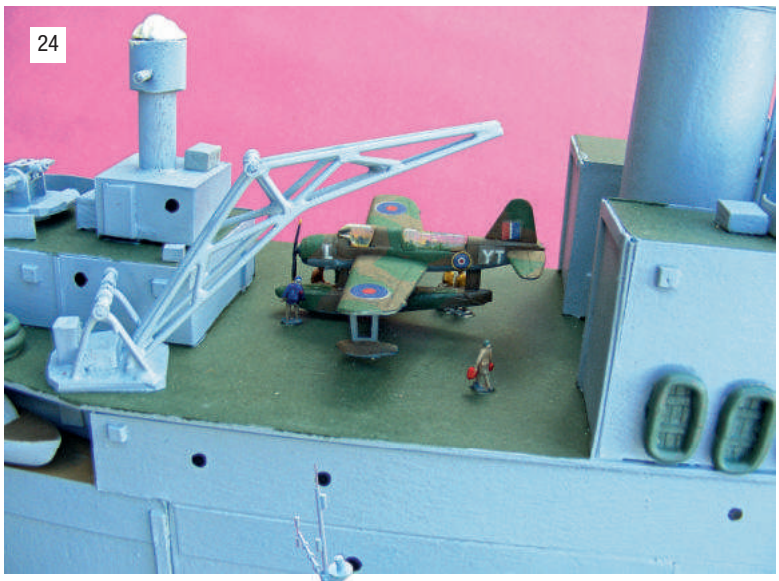
Building a model can sometimes be like painting, as there is always the temptation to keep on adding bits here and there. Being a freelance model made this temptation even greater as I could not stop myself by saying, 'the real ones never had this'.

Eventually the model had that complete look without becoming too cluttered or over busy. The final addition being some small figures which are actually N Gauge model railroad passengers suitably painted and placed on the bridge and around the aircraft (which you can see in **Photo 24).** They do manage to give a sense of scale to the model without which this model might be lacking.

Sailing trials

The model was re-ballasted and the r/c gear installed properly, for a trim check on the garden pond. Once again I was impressed with the way this model sat in the water, almost as if it defied the elements to interfere with it.


23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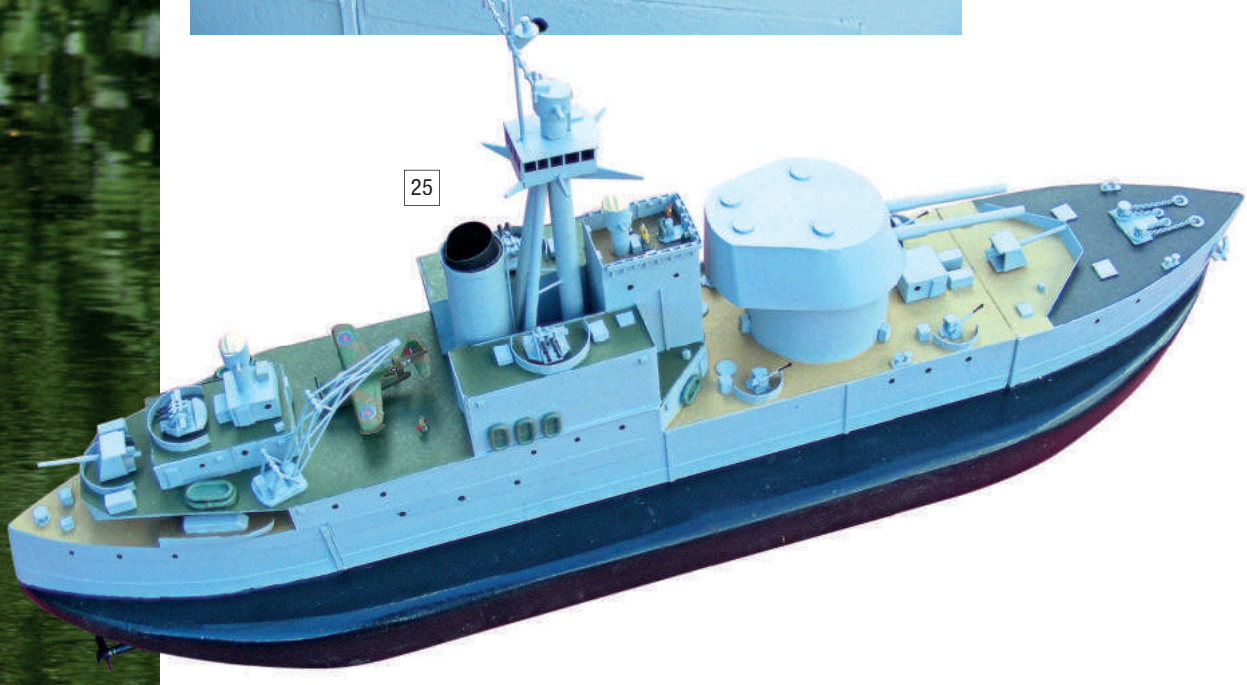
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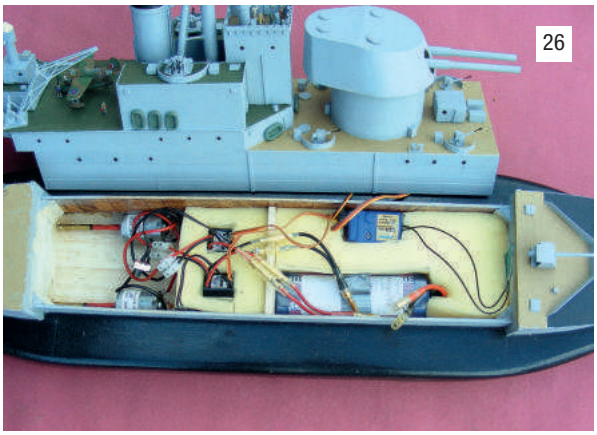


Photo 26, is a picture of the internals. Sailing trials coincided with a bright sunny day and light winds, perfect for any new model.

The impression of stability was still apparent on the larger water and the waterline was just below the top of the bulges, **Photo 27.** Advancing the throttle stick immediately proved that two RE 385 motors and a six cell NiMH battery pack was more than enough power. The top speed was later found to be around 2ft/sec (0.6m/s) which was a shade over dynamic scale speed for the full-size vessel's 12 knots.

Steering, using differential throttle via the transmitter mixer was okay at slow speeds, but at higher speeds the model became directionally unstable. Once a turn had been entered, no amount of differential throttle could return it to a straight course. The only answer being to let the model slow to almost a stop before control could be regained.

After investigating the model's handling for 30 minutes, it was recovered and I was disappointed to find some water inside the hull. Thus I returned home with two items on my 'gripe sheet', the poor steering and water getting inside, but at least the turret worked flawlessly.

Solutions?

Whilst drying the model out the hull was checked for signs of leaks, but nothing could be seen, so I did wonder if despite my precautions, water was getting inside the hull via the coaming/side gap. I had noticed that when in a tight turn, the model would heel outwards and water was driven forcefully across the top of the bulge on to the coaming/side junction.

The answer to this problem would be to lower the waterline by removing some of the internal ballast, that is to say, raise the model further out of the water, Looking at the monitor book again, it was clear that in calm water the top of the bulges could be well above the waterline. Eventually some 3 pounds of lead were removed to bring the model's operating weight down to about 8 pounds (3.6 kg) which was ironically my original estimate for the model's weight. The new waterline was now about 3/8 inch (9mm) below the top surface of the bulge, **Photo 28.**

The models 'wandering tendency 'was put down to a mistake on my part. Unlike most of my models that have been both propelled and steered by twin screws, the monitor model did not have a skeg between the propellers, so one was promptly fitted to the model as was mentioned earlier!

Second trial

The reduced draft did not seem to affect the model's stability, nor was the top speed noticeably different. The handling was however much improved with better steering control at low and medium speeds. The model would still not return to a straight course after entering a turn, but the application of opposite rudder to straighten up soon became a natural action.

At full speed, which was still too fast for realism, the monitor tended to wander. Now that I am aware of this characteristic, corrections are automatically given to keep the model heading in the right direction. Comments made about the full-size vessels handling suggest that the model now behaves much as they did. Only a small amount of water would now arrive on the top of the bulge when turning tightly at speed and it was pleasing to find that the reduced draught had prevented any water entering the hull.

Since then the model has run with no operating problems. The aft superstructure does produce a degree of weather helm, that is to say the model tends to turn into the wind. Again, once aware of this, it can easily be countered with a little differential throttle, but to be fair this is probably not the best model to sail in windy conditions. It would look mightily silly bobbing around in the waves and the shallow draught allows it to be blown downwind more readily than most models.

My favourite sailing involves cruising around the lake at a moderate speed, then closing the shore and coming to rest. The slow rotation of the turret and elevation of the guns can then be used to threaten any spectators. Alternatively you could slowly sail past fellow model boats and make suitable gestures with the barrels!

And the name?

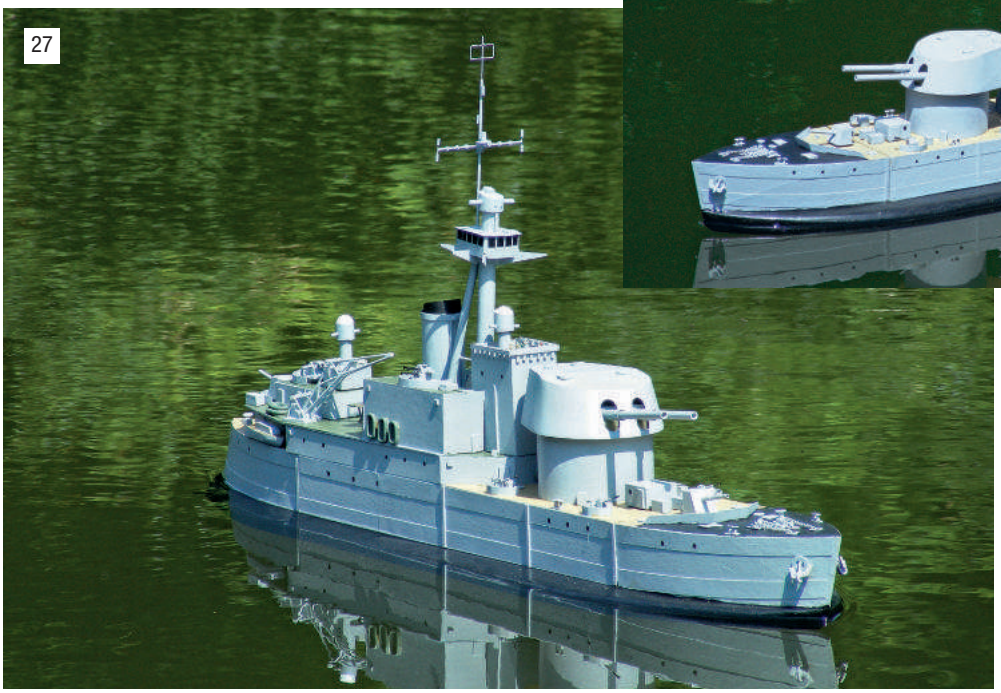
Being a freelance type of model, a fictitious but still appropriate name was needed. The Royal Navy showed some favoritism towards using volcanoes for their big gun monitors. Searching through an atlas failed to locate anything appropriate, but the name HMS Vulcan came to mind. In mythology he was described as a skilled metalworker and the armourer of the gods, providing them with thunderbolts to hurl at anyone who annoyed them. As volcanic eruptions were associated with Vulcan's underground furnaces, this all seemed to be appropriate for a big gun monitor. This name had been used on a Royal Navy vessel before, a torpedo boat carrier of 1889.

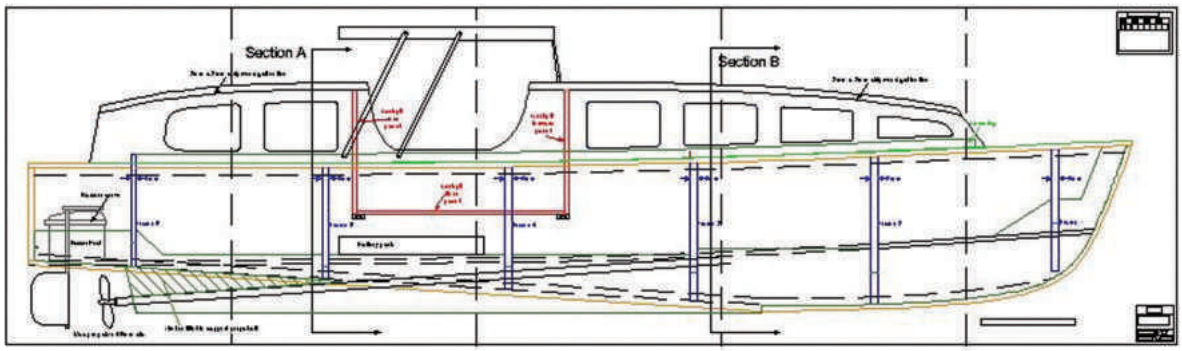
Final thoughts

Building this model proved a different and welcome challenge. The hull design proved to be simpler than I first thought, but only after a lot of wasted paper. Being a freelance model also allowed the pleasure of letting my imagination, if not to run riot, at least have more freedom than usual. This monitor model has its own sailing qualities, peculiarities if you prefer, which need to be learnt. This might not appeal to everyone, but I find it much more rewarding when sailing a new model that demands effort to master.

The working twin gun mounting was a challenge in its own right and the final design has proven to be simple and reliable. By using a 180 degree rotation servo, the complication and cost of geared motors, limit switches and probably other extra items has been avoided. Having the rotation and elevation under direct control of one transmitter dual axis stick seems to work well.

So, in conclusion, this monitor has reinforced the urge to build a model based on a capital ship. I can see such a model now, surging through the waves, turning with the turrets rotating to fire a broadside on the enemy, but alas my wife has other plans for my time at the moment, so perhaps next year?





CAD drawing of the Norfolk Broads cruiser variant of Paul Thomason's design.

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The Forum

In addition to all this our Forum offers the opportunity to share your work with like minded modellers and draw upon the huge amount of authoritative expertise offered by other members among whom are some of the best model boat modellers in the UK who are happy to give their advice for free in resolving both general and specific issues and queries. We all had to start somewhere and, as in so many other situations, what seems to be an insurmountable problem when you are stuck in your workshop on your own becomes a simple fix when someone explains the correct technique and gives you that added incentive to see your project through to successful completion.

As well as solving problems, the Forum also showcases new developments in boat modelling by some very experienced exponents of the hobby. Recent examples include Paul Thomason's development of downloadable CAD based plans for three distinctive models based upon a common easily constructed hull design; a traditional Norfolk Broads Cruiser 'Ellie', a racier cabin cruiser 'SeaSpray' and a freelance MTB 'Red Leader'. Paul's plans are available online in return for a donation to a well worthwhile charity so you can combine your pleasure in your hobby with helping a good cause too. We look forward to welcoming you on board.

Colin Bishop, Website Editor

Above left: The basic hull construction of Paul Thomason's design as constructed by Bob Abell.
Above right: Bob Abell's 'Ellie' in an advanced state of completion.

Below: 'SeaSpray' - The fast cabin cruiser version of Ellie built by Dave Milbourn.

'Red Leader', Paul Thomason's MTB build of the basic 'Ellie' design shows its versatility.

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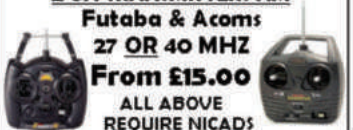

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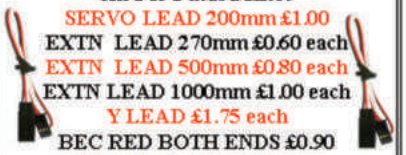

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GARETH JONES builds something a bit different

Nessie
A Monster Model!

Nessie's origins are rather unusual for a radio controlled model. She started life as the subject of a bet between my wife Elizabeth and Sean Stewart, a freelance photographer who occasionally visits Goole MBC to take photo hs for local and national newspapers. The subject of the Loch Ness Monster came up in conversation in June 2013 and Sean said that if we could build a radio controlled model of it, he would come to the pond in his kilt and play the bagpipes. Coincidently the current issue of Model Boats magazine included an article on using Nessie's body, be leak-proof because it would be under water, but accessible for easy installation and removal of the battery. No problem you might say if you build model submarines, but a bit of a challenge if you have never tried it before. I started by sketching out some ideas and Nessie took shape as shown in **Photo 1**.

Making an accessible, but watertight compartment at home in our workshop would be difficult, but I knew such things exist for electrical equipment and a tour around, amongst others, the B & Q website revealed that an IP65 rated enclosure might well be suitable. IP65 is an international standard for Ingress Protection of mechanical casings and electrical enclosures. The 65 indicates that the enclosure would be dustproof and proof against ingress by water jets from any direction. The propulsion system had to fit in a fairly small space under Nessie's head and neck and my initial thoughts were to use two 500 sized motors with a mixer unit to provide directional control. This had the advantage

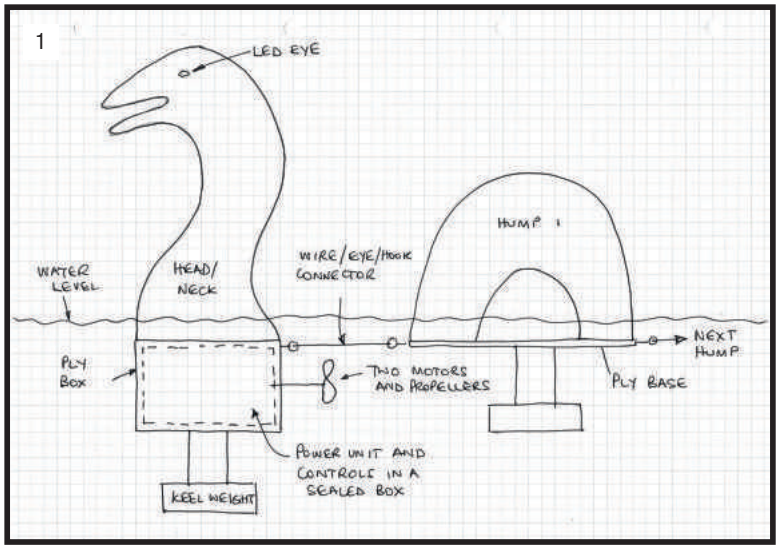

Photo 1. Initial sketch for Nessie.

that the overall length of the unit could be kept short, since there was no need to fit rudders behind the propellers and the number of potential leak paths was reduced, since there would be no rudder pivots in the watertight enclosure. I had a couple of suitable motors, so I tried out various layouts on the bench until I came up with what looked the most compact option, **Photo 2**. I did briefly consider other options such as Schottel or Voith Schneider drive systems, but in the end I decided to stick with components I had in stock and probably more importantly, those with which I had some experience.

We were going to need a box around 200mm long, 150mm wide and 60mm deep to fit everything in and a hunt around the B & Q shelves of our local store actually failed to find the suitable enclosure. However, Maplins had a range of IP65 rated enclosures on their website, so a suitable box was chosen and

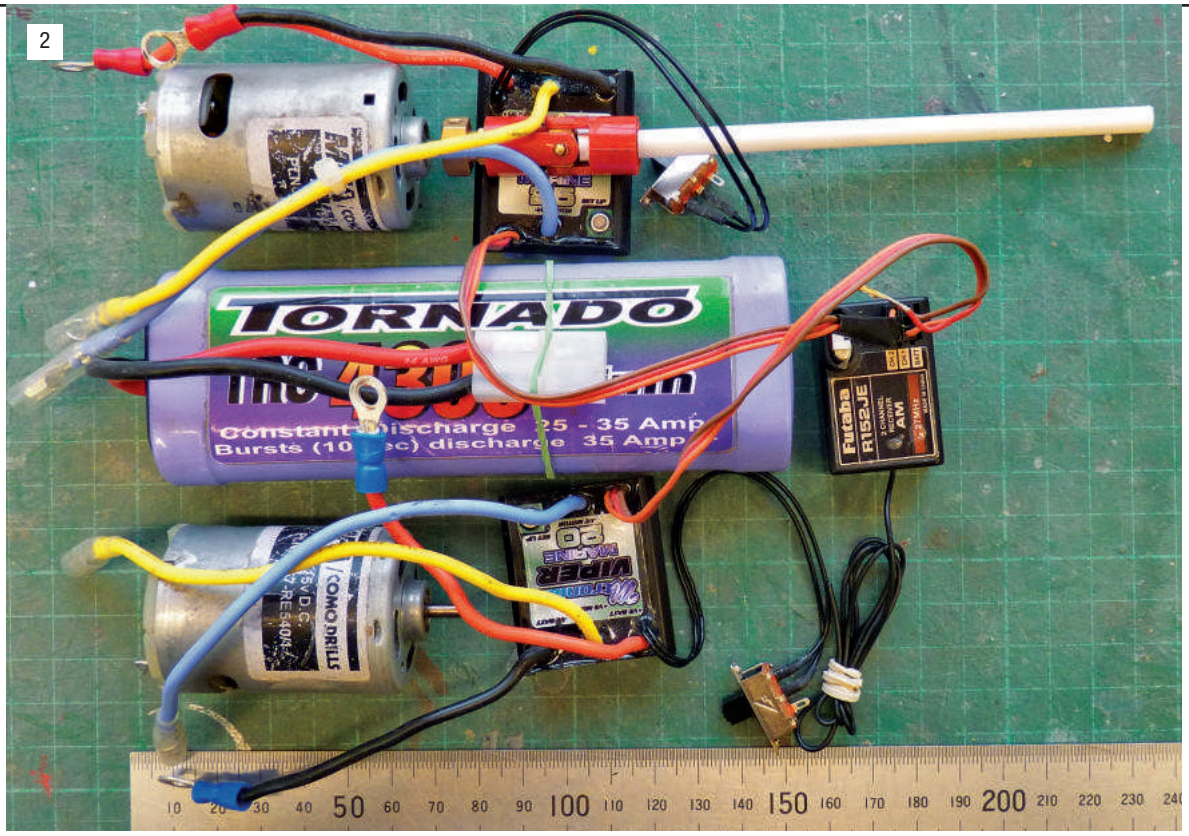

Photo 2. Trial layout of power unit parts on the bench.

Photo 3. Waterproof test of the power unit.

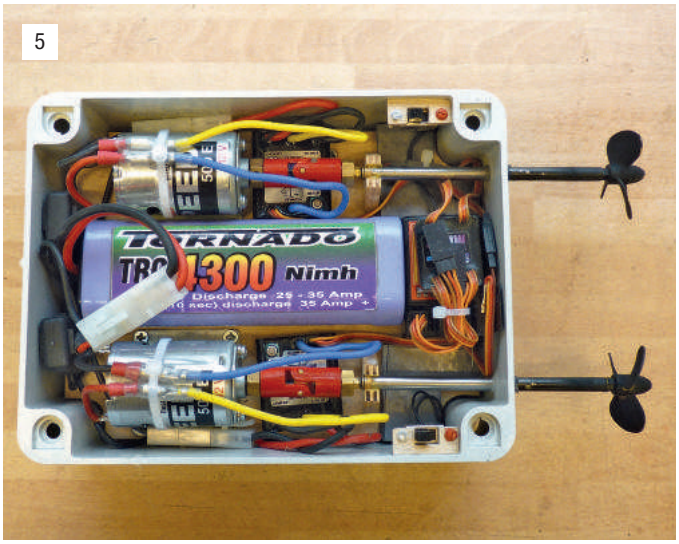

Photo 5. Internal layout of parts in the power unit.

ordered (Maplins order No. N09GJ) . These boxes have a clear plastic cover, sealed with a rubber O-ring and secured by four large countersunk plastic screws. The first step was to make sure the enclosure really was watertight, so it was filled with a few lumps of lead and left overnight in a bucket of water, **Photo 3**. The following day the lid was removed and apart from a small amount of condensation on the inside of the box, it was completely dry, which was a promising start.

A 3mm ply floor was fixed to the bottom of the enclosure using countersunk screws. The box has a number of suitable attachment points on the inside and outside which can be used without piecing the box itself. All the components were fitted, basically as in the original layout on the bench, using Velcro for the speed controllers, battery and receiver. The radio receiver was mounted at the rear of the box with the mixer unit on top. Since 2.4GHz systems will not work reliably underwater, a 40MHz receiver was used. For the initial trials, the aerial was just coiled around inside the box.

Two 15 amp Mtroniks speed controllers were used together with an Mtroniks W tail-mixer. Each speed controller is powered from the same 7.2v battery via a 10 amp fuse. The motors I had in my spares box were MFA Part No. 457-RE540/1 which had been rejected from a previous project as being electrically noisy, despite being suppressed. However I thought they would be adequate for Nessie, driving 30mm three bladed propellers via 100mm long propeller shafts, which were the shortest I could source. Subsequently I spotted a pair of Graupner Speed 500E motors on a supplier's stand at Haydock Park and snapped them up as they are pretty difficult to find nowadays. These were substituted for the MFA units and now each drives a 40mm three bladed propeller, **Photos 4 and 5**. This is the combination we have in our 1:12 scale narrow boat and springer tugs and I find it works quite well for low speed models.

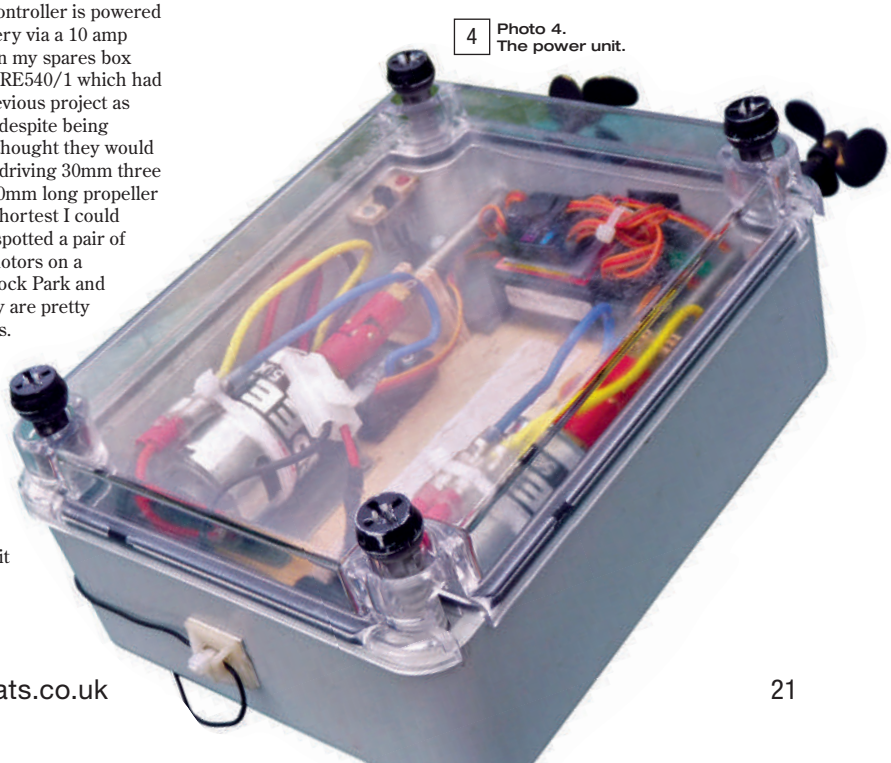

Photo 4. The power unit.

Photo 6. The power unit goes for a swim in the nude.

First pond trials of the power unit

The completed power unit was ballasted with some small pieces of lead flashing tucked under the rear of the propshaft and initial pond trials carried out. Not surprisingly perhaps, these showed the radio had limited range and it would be necessary to bring the receiver aerial out of the box and up inside Nessie's neck. During later development of the model, a small hole was drilled in the power unit to allow the aerial to exit the box on the right hand side. This was sealed, inside and out, with silicone sealant. The aerial is now routed along the right hand side of the enclosure and retained by self adhesive cable clips. The remaining section of the aerial is then fed up the tube in Nessie's torso just prior to sailing.

Overall the system worked well, although directional stability was poor and it was obvious that Nessie would need a keel to minimise her tendency to snake from side to side when trying to steer in a straight line. However, since she is to all intents and purposes a snake, a bit of snaking is no bad thing! After about 20 minutes wandering around the pond on its first trial, the power unit was recovered and the lid removed to reveal a dry interior, so all seemed well with the propulsion system and it was time to move on to Nessie's body.

Head, body and tail

The Ron Rees' article in the July Model Boats magazine suggested various possible types of foam which could be easily carved or sanded to shape. A trip to our local Travis Perkins builder's merchants came up with the suggestion to use Celotex. This is a foam insulation board, available in various thicknesses and we came away with a 1200mm by 450mm sheet, 50mm thick after parting with about £7. Bigger and thicker sheets are available, but this size is convenient to handle and would be big enough to make Nessie, The sheet is covered on both sides with a thin layer of aluminium foil, but this can be peeled off quite easily to leave a smooth, carvable and sandable foam surface.

The next step was to roughly mark out the head and neck of Nessie on a cardboard template and then cut out two pieces so that they could be laminated together to make a 100mm thick section. The first component was laminated using waterproof PVA adhesive which worked, but was not a totally satisfactory glue for bonding the two pieces together. The fact that our sheet of Celotex was slightly bowed did not help either and we had to use a heavy weight to hold the two pieces flat together while the glue dried. So, first lesson: Make sure your sheet of Celotex is flat! A second sheet we bought later for another project was much better and easier to work with.

Our daughter Katherine had volunteered to be the sculptor and we went off to Kirklees MBC Gala day early in July, leaving her with the slab of foam, several sharp kitchen knives and instructions to be careful (i.e. not to cut herself!). We had expected the first attempt to be a bit of an experiment, probably to be followed by a second carving session on another block of foam. However on our return, there was a very lifelike head and neck, about 350mm high, and a big pile of foam shavings. After this encouraging start the two humps and tail section were made in the same way. Each of the humps is about 350mm long and 200mm high. Having learned from the experience of using PVA adhesive on the head, we changed to a cartridge of Evo-Stik 'sticks like ****' all weather adhesive, but this was not much better than the PVA as it turned out.

Elizabeth then took over from Katherine and sanded down each of the body parts to a final smooth finish, filling where necessary around the mouth, eyes and eyebrows, **Photo 7**. Each section was covered with the leg of an old pair of tights and given several coats of Eze-Coat water based resin until the mesh of the covering had been filled. The covering method has been very effective giving a tough waterproof coating that seems to resist bumps and knocks well.

After finally sanding smooth, each section was given several coats of Halfords acrylic grey primer, followed by an overall coat in a lighter shade of grey that we happened to have in stock, **Photo 8**. The upper surfaces were then given several coats of dark green with lighter green patches applied afterwards with an airbrush. All the painted areas were allowed to blend into each other giving a very realistic camouflaged look representative of a real aquatic animal.

Power unit box and keels

Elizabeth made the box to hold the power unit from 3mm ply. The rear wall has two 45mm diameter holes to allow the power unit to be fed into the compartment at an angle from the top and then sit snugly inside with the propellers protruding from the back. The corners of the compartment are reinforced

Photo 7. Filling and sanding Nessie's torso.

Photo 8. The humps and tail.

Photo 9. The power unit inside its box.

with strips of pine, about 8mm square, **Photo 9.** The whole box was eventually given a couple a coats of Eze-Coat resin to protect it and coat of matt black primer to camouflage the underwater sections.

We had decided that Nessie would have a green LED in each eye and a red one inside her mouth. These are powered from a 9v battery fitted in a compartment at the bottom of the neck, **Photo 10**. This works well and the fact that the battery and connections are underwater does not affect the operation of the LED's. However since the water in our pond at Goole is slightly salty, it is necessary to remove the battery and rinse and dry the connections after use, something I am not very good at remembering to do.

It was easy to drill a hole up through the foam from the base to the back of the mouth using a length of brass tube mounted in the chuck of an electric drill. A cross-drilling from each eye socket into the mouth allowed all the wires to be inserted. It was a bit of a fiddly process, but some stiff wire was used to pull through a length of fishing line and then this was tied to the LED wiring and they were all pulled into place. The tongue was made from a piece of red satin and the fangs from small pieces of white styrene sheet glued into slits in the foam of the head. A second hole was drilled up inside the neck and head from the base and a length of plastic tube inserted and glued into place. This is to allow the receiver aerial to be fed up inside Nessie's torso prior to sailing which was glued to the lid of this box and at this point we finally found an effective adhesive for the foam. Gorilla Glue is a foaming adhesive activated by water and it worked really well to fix each of the foam body parts to their respective ply base. A hole was previously cut in each corner of the box lid to allow any air trapped inside to escape, **Photo 11**. The lid is fixed to the sides of the box by a single screw through each side which engages a captive nut on the lid.

The keel on the power unit box was made from brass plate (in fact, part of a door fingerplate from B & Q). It was attached to the base of the box using two pieces of aluminium angle which are fixed onto the underside of the box using short countersunk screws, **Photo 12**. The keel weight is made from lead flashing strips, and trial and error testing was carried out with them clamped to the keel until we had the right weight and position. They were then bolted in place with a couple of 6mm stainless steel bolts.

The same principle was used for the other three sections of Nessie's body. I was uncertain where to position the keel on each piece as I was concerned that the individual sections might wander around as the head towed the two humps and tail. In the end I fixed the keel and weight just aft of centre on the head section, **Photo 13**. For the two humps the keel was made from a length of aluminium strip with the lead weights attached to form an L-shape under water, **Photo 14**. The theory was that if the hump yawed to one side the lead weight would act like a rudder and straighten it up. The tail end tends to wag around a little, but overall the effect of Nessie sailing through the water is very realistic, not that I have ever seen the real thing to compare it with!

Each of the sections is joined together with short length of curtain wire engaging in hooks or eyes at the front and back of the sections. This method was chosen for two reasons. First, it gives a bit of stiffness to the connection so that as Nessie slows down, the back does not concertina or overtake the front. The second reason is that it is much less likely to foul the propellers in a tight turn when Nessie winds herself into a spiral.

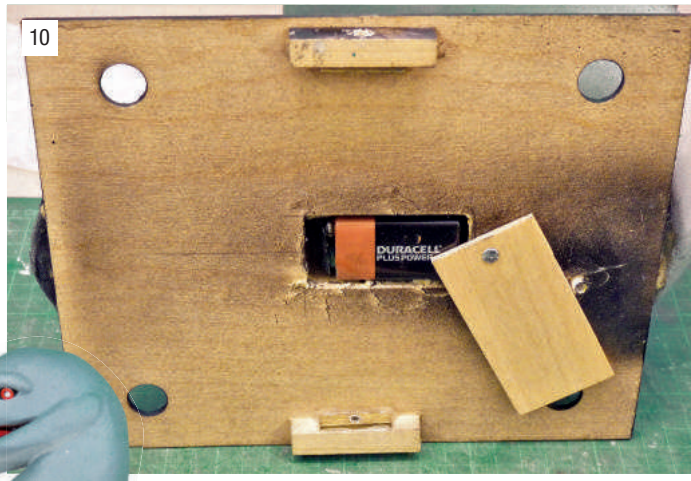

Photo 10. The battery compartment for the LED eyes.

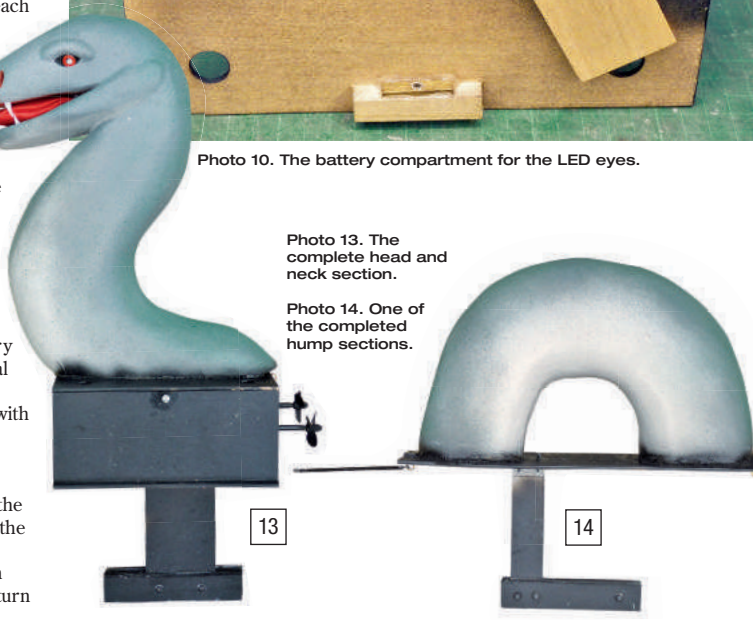

Photo 13. The complete head and neck section.

Photo 14. One of the completed hump sections.

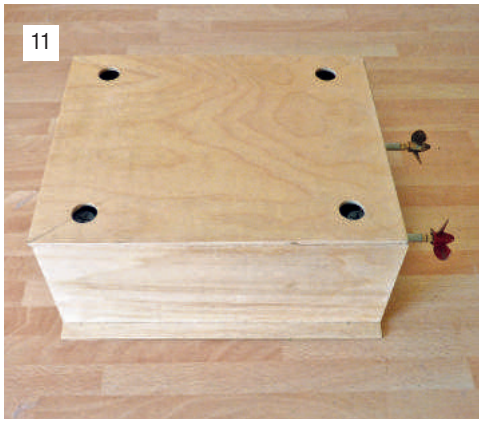

Photo 11. The box lid prior to fixing the neck and head.

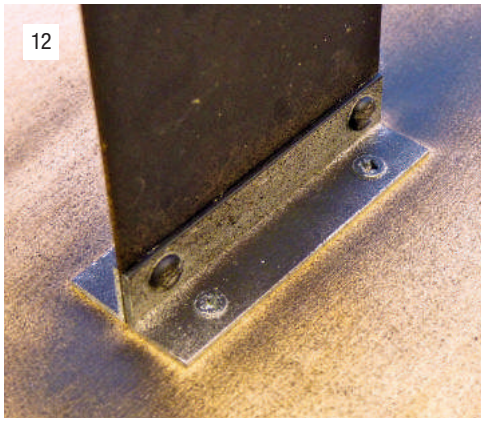

Photo 12. Attachment of the keel to the box.

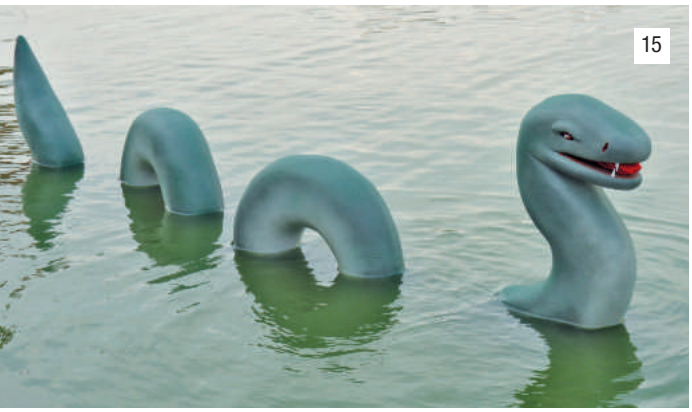

Photo 15. Nessie sailing.

Photo 17. The storage and transportation box.

Sailing Nessie

Preparing Nessie to sail is quite straightforward. The main 7.2v battery is fitted into the power unit and connected, the two speed controllers are switched on and the operation of the system checked from the transmitter. The lid of the power unit is then fitted and the four corner screws tightened to pull the lid down on to the O-ring seal. The power unit is then inserted into Nessie's base and the aerial wire is fed up the tube in Nessie's torso. If required, the 9v battery is also fitted into the base of the torso to light up the eyes. The torso and lid is then attached to the base unit using two screws and each of the sections fixed together with the curtain wire hooks. It takes two people to put Nessie into the pond in one piece, but if necessary this can be done by one person by sequentially connecting each section in the water.

Nessie sails remarkably realistically, **Photo 15**, and has attracted a lot of attention when sailing at club events or at our local water sports lake. She is very manoeuverable and can turn tightly, but is not very quick and can't really reverse. The use of a mixer unit and differential propeller thrust for steering works well in this type of model. It is difficult to synchronise the two motors over the whole throttle range, so there is some lead or lag between the motors when accelerating and decelerating. To some degree this effect can be minimised with rudder trim, or by setting the neutral for the two speed controllers to slightly different signal positions. However the slightly wandering behaviour is not out of character and adds to the appeal of the model.

Dogs seem to find her very worrying and usually growl, bark or run away! Onita, one of the trainee hearing dogs that we have socialised, was very wary of Nessie when she was taken along for the maiden voyage, **Photo 16**!

The idea of a power unit in a self-contained box is quite a versatile concept. The power unit can be used in other models with minimum work and cost. There are lots of potential applications such as a duck, swan, crocodile, turtle, shark, submarine or whatever wacky idea your imagination can come up with.

Nessie is an awkward shape to transport and store, so she now has her own box which keeps all the parts together, protected by foam pipe insulation and bubble wrap. Because I find it difficult to remember the right packing sequence, probably a result of old age, we fixed four photos inside the lid for reference, **Photo 17**.

Overall Nessie has been a very unusual and interesting model that has given us some new challenges. It was an excellent family project with the work split three ways between my wife, daughter and myself. It is probably the fastest build time of any of our models being only four weeks from start to finish and we are really pleased with the end result.

We have still not seen Sean Stewart in his kilt, but he did bring along a set of bagpipes to the Goole MBC Night Sail event, but fortunately he was so keen to take photos of Nessie and the other models he never found time to play them.

Nessie at dusk in the garden pond.

Photo 16. Our daughter Katherine and trainee hearing dog Onita.

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1:35 HMS Renown (BB604)
This ship is a 50-foot steam pinnace from around the middle of the 19th Century. These boats had a small forecastle, a room for the crew, a boiler room and a cabin.
14cm (H) x 45cm (L) x 9.5cm (W)
Build Complexity Beginner

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1:30 Norden Fishing Boat (BB603)
This type of boat was originally designed by local boat builders along the Western coast of Denmark around 1930. It represented an improvement of the existing boats and has remained relatively unchanged.
28cm (H) x 34.5cm (L) x 11.5cm (W)
Build Complexity Beginner

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1:10 RNLI Waveny Class Lifeboat (BB101)
This former 44-foot Coast Guard is a very seaworthy lifeboat, designed to carry out search and rescue assignments in poor weather and water conditions. With a skilled and experienced crew, this vessel can carry out the most demanding of rescue operations.
23.6cm (H) x 36.3cm (L) x 10.7cm (W)
Build Complexity Beginner

£329.99

1:75 Cutty Sark (B564C)
The most famous of all tea clippers, the Cutty Sark was built to transport tea from China. She was designed by Hercules Linton, whose ambition it was to outstrip the Termopylae, the fastest ship of the times.
67cm (H) x 110cm (L) x 15cm (W)
Build Complexity Experienced

£69.99

1:75 Colin Archer - (BB606)
Built in 1893 and originally named the RS 1 the Colin Archer was used by the Norwegian Society for Shipwreck Salvage and later named after its designer and builder.
50cm (H) x 47.5cm (L) x 12.5cm (W)
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1:45 Calypso (B560)
The Calypso was built in the USA in 1942 as a minesweeper. She was bought in 1950 by Jacques-Yves Cousteau, and after extensive changes and modifications has become a fully equipped ocean research vessel. research vessel. 33cm (H) x 94 cm(L) x 17cm (W)
Build Complexity Expert

£84.99

1:67 Will Everard (B601)
A 280-ton bark built for F.T. Everard & Sons in Great Yarmouth in 1925 to 1926. The ship is owned today by P & O Containers Ltd.
49cm (H) x 58cm (L) x 12cm (W)
Build Complexity Beginner

£90.99*

1:50 Marie Jeanne (BB580)
Built as the 19th Century was drawing close. This is a "dundee" of 50-60 tons and equipped with many sails, making necessary a ballast of 20-25 tons and a 12-man crew.
50cm (H) x 57cm (L) x 13cm (W)
Build Complexity Advanced Beginner

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Above:
HMS Pembroke moored in Liverpool's Canning Dock, during the Battle of the Atlantic commemorations of May 2013.

Range finder

DAVE WOOLEY with his Worldwide Review of Warships and Warship Modelling

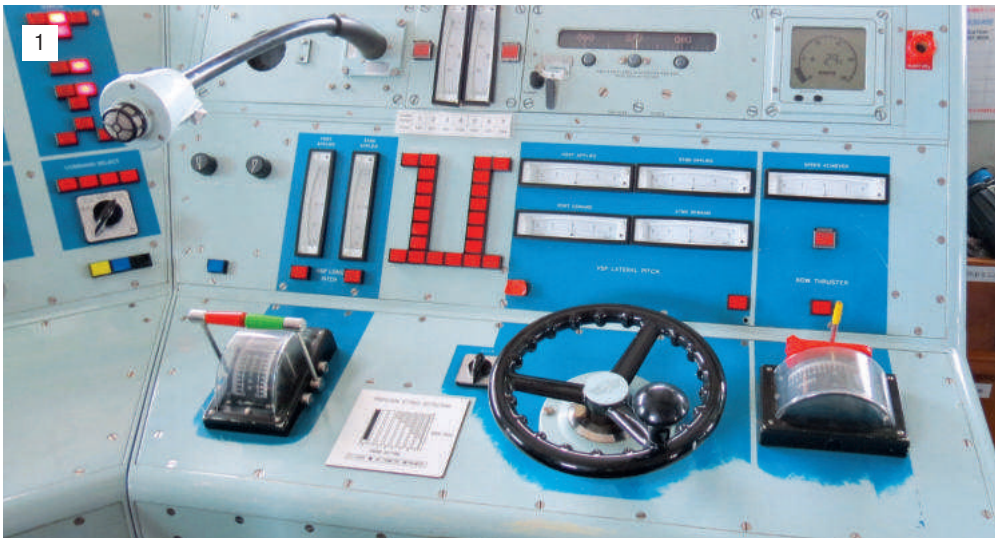


Photo 1. Full control of the ship can be maintained from this position on the port side of the bridge.

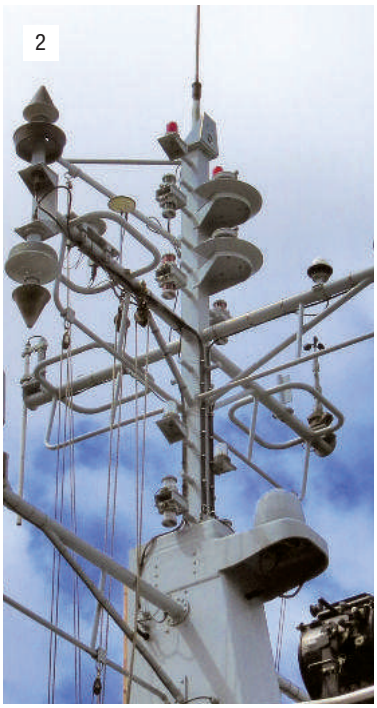


Photo 2. The head of the mast showing the various navigation lights.

Welcome once again to our regular sortie into the world of fighting ships and this month we have the final part of our Photo File for HMS Pembroke, a Sandown class mine hunter. We also have Part 31 of our 1:72 scale HMS Daring project, plus the usual Mystery Picture teaser.

HMS Pembroke Photo File, Part Two

In the January 2014 issue we completed our tour on top of the bridge roof. Our first picture for this month brings us into the bridge and the main helm and control console. The Voith Schneider Propeller (VSP) drive units are a series of vertical blades that combine the functions of propulsion and steering in a very precise way. The wheel in the centre of the console provides VSP lateral control whilst the green and red levers to the left of **Photo 1** provide VSP long pitch. The propulsion system generates thrust in all directions as necessary. Whilst the amount of thrust is determined by the rotational speed of each rotating VSP unit, the blades' angle of attack determines the direction of thrust. To the right of the picture are the bow thruster controls.

Moving now away from the bridge and having a close look at the mast from starboard in **Photo 2**, this shows the top of it and the upper yard with the cluster of lights at the masthead. At the very top there are a side-by-side red lights; beneath that double side-by-side green lights and below them a further double side-by-side set of red lights. On the extremities of the lower yard (port and starboard) are a further set of lights. The UHF sensor is the familiar candle stick array on the upper yard.

Moving over to port, **Photo 3**, we have a slightly different view of this mast. It's worth noting that the ladder is of wooden construction and also halfway up on each side of the mast are a further set of red lights. Also, most of the halyards from the two yards lead to a position close to the flag locker.

It is often said that whilst working on a particular scale model you really can't have enough pictures. So, with that thought in mind I would also like to focus attention on the base of the mast to starboard, which shows an access door, which that is not fitted to port, and some of the surrounding detail, **Photo 4**.

01 deck

Moving to this deck and arriving at the base of the mast housing. I always have the impression that the Sandown class epitomise the old adage of trying to get a pint and a half into a pint bottle! Maybe it's just an impression, but the word busy reflects the perception and none more so than in **Photo 5** which shows the amount of equipment concentrated into just this one confined area of the ship. Moving further aft, by the funnel casing there are a number of stowage boxes close to the liferaft containers. These contain survival suits in the larger boxes and the smaller ones are for life jackets, **Photo 6**. Also to the right, in the foreground, is the starboard amidships mini-gun, its operator being protected by a Kevlar shield.

Photo 7 is a rear view of the funnel casing including the louvre vents. Note the number of loudspeakers which seems to a bit of an overkill! Immediately behind the funnel and below it, there is an opening in the deck which you can just see at the bottom of this picture and **Photo 8** is looking forward and down into it, but from further aft. The object

Photo 3. A wood ladder is used to gain access to various sections of the mast and its fittings.

Photo 4. The base of the mast from its starboard side.

Photo 5. On 01 deck, the housing supporting the mast has a huge number of surface fittings.

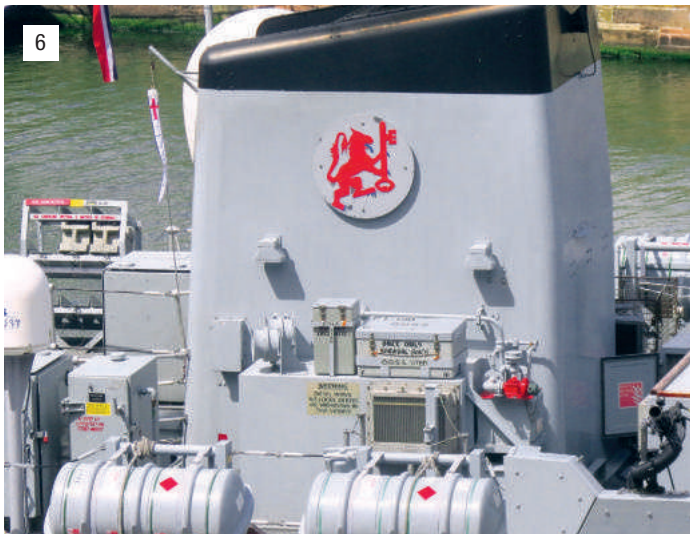


Photo 6. A starboard side view of the funnel and the various fittings, lockers and vents surrounding it.

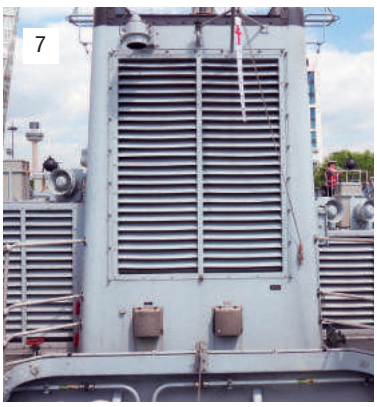


Photo 7. Looking directly at the rear of the funnel and its air intake grills.

Photo 8. The open well on 01 deck is above the decompression chamber.

Photo 9. The entry hatch of the decompression chamber, seen here from the port side and looking forward to starboard.

Photo 10. Starboard side, 01 deck, looking forward towards the bridge wing. In the centre of the picture are a number of ready use lockers for storage of such items as pyrotechnics etc.

in the middle below the opening is a two person decompression chamber. Divers are routinely used when mine hunting and all mine hunter vessels carry these chambers in case of accidents or emergencies. **Photo 9** is an end view of the decompression chamber and its access hatch. Returning to 01 deck and moving over to starboard, **Photo 10** is looking directly forward towards the bridge which has a slightly different arrangement on this wing to that of the port side. Moving on to **Photo 11**, this is a close-up picture of the lockers on the starboard side of the funnel. The locker design is pretty much standard across RN warships and rather prominently in front of them is the satellite communications dome!

Looking further aft on this very cluttered 01 deck, **Photo 12** is the stowage for the Avon mine clearance workboat and please note that actually two are usually stowed 'nose to tail'. You can also see the additional outboard test tank, centre picture. The crane is to port and if you refer back to the heading picture of the vessel in Canning Dock you will have another view of it all. Notably in that earlier picture, the ship had both Avon workboats stowed. **Photo 13** is looking aft from the bridge's port side, and yes, both Avon boats are there again, stowed and in opposite directions. Actually, during the vessels' visit to Liverpool, one Avon was un-shipped and these pictures were all taken at different times, hence the 'Now you see one rather than two' syndrome.

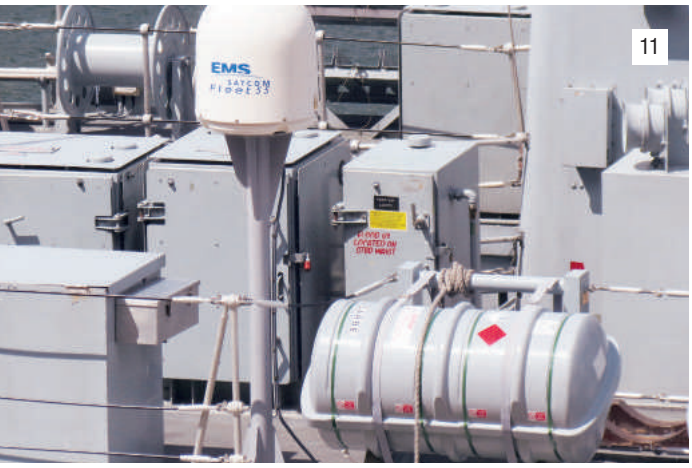


Photo 11. Same area as in Photo 11, but a different viewpoint. Note the design of the lockers!

Photo 12. A busy after section of 01 deck with the tiered stowage arrangement for the two Avon mine clearance workboats.

Photo 13. Looking aft from the bridge towards the mine clearance workboats of which there are now two again!

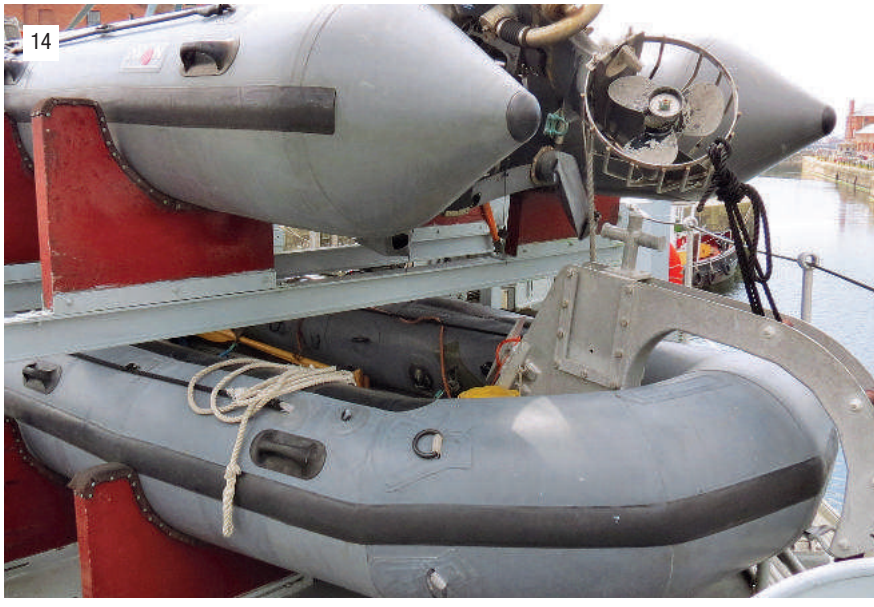


Photo 14. Two Avon mine clearance boats are normally stowed onboard HMS Pembroke.

Photo 14 is a close-up of the two Avon workboats. Note the propeller guard on the outboard and the unusual curved device fitted on the prow of the lower of the two boats is part of a device for deploying mine detection and recovery equipment.

On the port side is the crane and **Photo 15** is of its lower part with numerous wheels and hydraulic piping. In the foreground is the covered control panel on its pedestal. Adjacent to all this is the petrol can stowage rack, **Photo 16**, from which in an emergency all the cans can be speedily jettisoned.

Stern quarter deck

On this deck are the remotely operated devices for detecting and dealing with mines. Initially HMS Pembroke was equipped with two PAP 104 Mk. 5 remote controlled mine disposal submersibles. These have now been replaced by the new Sea Fox Types I and C type of mine hunting systems and both were briefly described in October 2013 MB, Page 31. **Photo 17** shows the hydraulic crane for transferring these devices into the sea.

The orange coloured Sea Fox I seen in this last picture is a reusable device for identification and training and it is not fitted with an explosive charge, whereas Sea Fox C (black) is capable of the semi–automatic disposal of mines and other types of explosive ordinance using built-in homing sonar and a CCTV camera. This latter type can automatically find the previously acquired positions of underwater objects and can detonate its explosive charge in close proximity to those objects. **Photo 18** is close-up of the Sea Fox 1 and note the NiMH battery warnings on it!

Photo 19 is of this whole deck area and again note how cluttered it is. There is a hangar arrangement for having the Sea Fox devices inside out of the weather for maintenance. Twin tracks enable the Sea Fox cradles to be slid in and out as need be. **Photo 20** is looking from starboard again, but a bit further forward, and yes, the Sea Fox device has now disappeared! More to the point, this picture shows exactly how the stanchions are fixed to the deck.

Photo 21 is our last picture in this two part Photo File and here we are a little bit further forward, adjacent to the passageway leading to the decompression chamber. The small hoist device against the bulkhead is termed a 'Velocity of Sound Winch'. When in use, it is swung outboard to deploy a small lozenge shaped profiling device.

This completes our tour of HMS Pembroke, but for those interested in building a model, Jecobin can supply an excellent three sheet set of drawings in 1:96 or 1:48 scale, consisting of lines and body plan, general arrangements, side profile and plan, plus numerous drawings for the fittings as seen in this Photo File. Jecobin can be contacted via: www.jecobinplans.com.

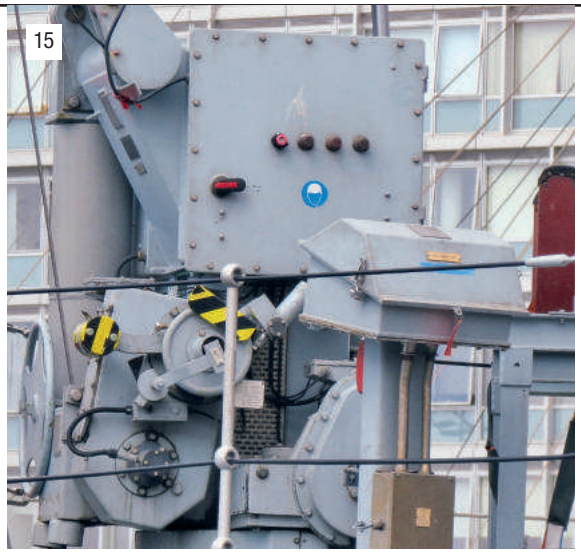


Photo 15. At the extreme stern end to port on 01 deck is a crane for the two mine clearance boats. In the foreground is the (covered) crane operator control panel on its pedestal.

Photo 16. Petrol can stowage.

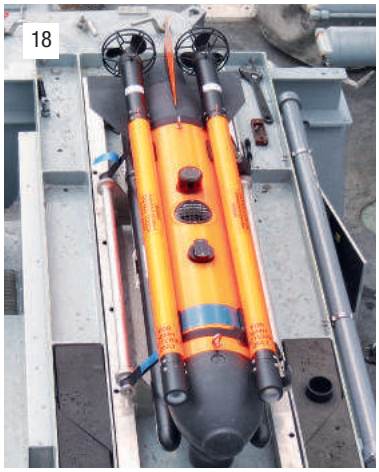


Photo 17. Looking down at the Remote Control Mine Disposal Vehicle (RCMDV) deck with the new Sea Fox 1 device (yellow) in place.

Photo 18. The versatile Sea Fox I is a reusable mine disposal vehicle used for identification and training.

Photo 19. The quarter deck showing the entrances to the hangar bays for the maintenance and internal stowage of the Sea Fox vehicles.

Photo 20. The starboard side immediately below the 01 deck overhang aft.

Photo 21. A bit further forward and against the bulkhead is the 'velocity of sound winch'.

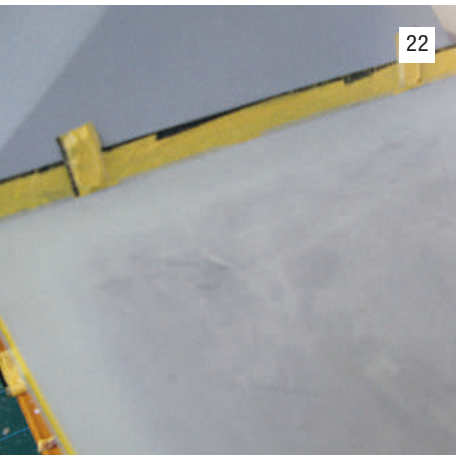


Photo 22. Starting to mask-off the light grey surfaces of HMS Daring by the forecastle, initially with Tamiya tape.

Photo 23. Masking of the upper deck, now with conventional tape and newspaper.

Photo 24. Cover everything! Sprayed paint has an annoying habit of going where you least it expect it.

1:72 scale HMS Daring Type 45 destroyer - Part 31

With the hull and most of the vertical surfaces airbrushed, attention shifted to painting the decks and any other horizontal surfaces. Interestingly, when viewed from the air, HMS Daring merges convincingly very well into the surrounding sea. This of course is no accident, as the paint developed for the entire ship has camouflage properties that allow the vessel to blend into the seascape and this applies as much to what you see from the air as from the sea's surface. Together with reducing the radar cross section, visual camouflage is still an important feature of modern warships, as well as their reduction of electromagnetic, acoustic and infra-red radiation.

Paints, masking and technique

For the main deck and most other horizontal surfaces, the finish is basically a dark grey and getting that right for a warship model can be a challenge when mixing paint. However, White Ensign Models (WEM) prepare their own mix under the heading of Modern RN Deck Grey and their website is: www.whiteensignmodels.com.

You can of course use other paints such as Humbrol, Testers and Revell, or use specialist paint manufacturers such as Phoenix who are well know to model railway hobbyists. With the appropriate Chip and BS number they (Phoenix) can identify and produce the paint to a specification, but usually in tins of one litre or more, which may be a too much for our purposes. WEM restrict their paint volumes to the usual small tinlets, but they are consistent and a good match to the original colour.

I cannot emphasise enough the value of good preparation and this is often more actual work than for brush painting something, because of the fineness of the eventual sprayed finish. As when masking the superstructure, I recommend Tamiya low-tack masking tape at the point of separation between an already painted surface and that which is to be now airbrushed, **Photo 22**. Standard conventional brown masking tape can then be applied, partly over the Tamiya tape, hopefully avoiding the risk of it lifting parts of the painted surface when being removed. In this last picture, the inboard deck edge is also masked as this is where the stanchions will be fitted. Newspaper, brown paper, old magazines or even silver kitchen foil are then used to completely cover the areas that should not be painted.

You cannot 'mask' enough, as sprayed paint has an annoying habit of going around corners and underneath tape when you least want it. So, **Photos 23 and 24** show the lengths I went to when preparing to airbrush the dark grey. The time spent is in the masking, as the painting actually takes just a few minutes. Here the model is inside my workshop, with everything, including the normal work area protected as far as possible.

Airbrushing itself is all about practice and developing a technique. Getting the paint consistency and pressure right helps enormously, but the application process is the key. There are workshops run by some manufacturers and retailers which provide a really useful guide for the beginner and the more accomplished into the best use of the various types of airbrushes. For HMS Daring I used a single action suction type of airbrush and applied the paint left to right in a downward pattern, keeping a continuous flowing motion with the nozzle approximately 25cm from the surface.

Avoid pausing, as this can lead to more paint being applied to a given area than need be, which in turn can lead to 'runs' or 'pooling'. Initially I like to apply a dusting coat of paint to the surface followed by two subsequent thin coats. Paint applied by an airbrush dries reasonably quickly and allows one or more follow up coats quite promptly. In effect all three airbrush passes can constitute a single overall coat and generally that is all

Photo 25. Airbrushing skills improve with practice, but preparation is all important. The paint applied to the deck surfaces is WEM RN Modern Deck Grey.

Photo 26. The flight deck and hangar front being masked-off ready for painting the flight deck.

Photo 27. The sprayed flight deck.

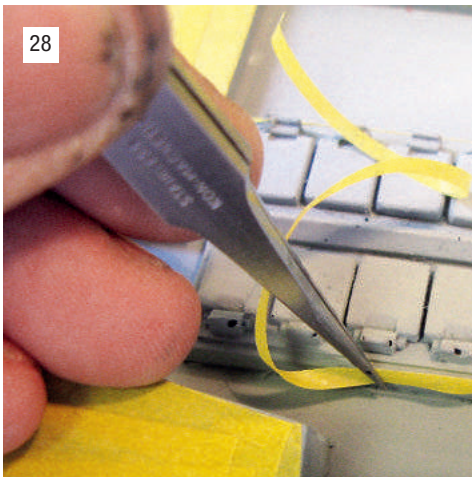


Photo 28. The VLS housing forward gets the same masking treatment. If you don't want to paint it, cover it and leave exposed only what you want to paint!

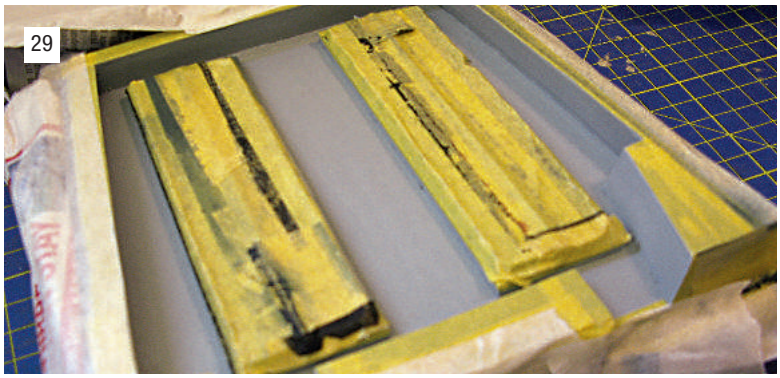


Photo 29. The Tamiya tape is more expensive than traditional tapes, but can be reused if care is taken.

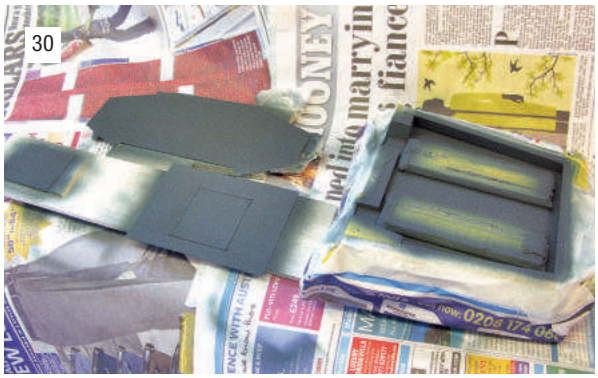


Photo 30. It is prudent and economical of time, to paint like-coloured items together.

that is required for depth of colour, unless there are application or coverage problems and **Photo 25** is of the painted forward part of the model. The same approach was used for masking the flight deck, **Photo 26**, and then painting it, **Photo 27**.

Vertical Launch System housing

On this, there are a number of surfaces that will need to be airbrushed RN Deck Grey, the others already having been painted in standard RN Warship Grey. Once again, identifying and masking-off the appropriate surfaces is essential, even to the point where the flat surface between the silo doors extend very slightly up the surround of the housing. So for that, thin strips of the Tamiya tape were added as in **Photo 28**. All of the surfaces NOT to be airbrushed the dark grey were covered, leaving exposed only those surfaces requiring this colour, **Photo 29**. The lesson here being that it is best to be safe rather than sorry. Time spent properly masking means that the painting process is much more likely to be successful and correctional repaint jobs not then needed.

If applying a particular colour, I try where possible to airbrush other pieces that need to be painted the same shade, as for example the bridge roof and access panels that are just aft of the fore funnel exhaust casing, **Photo 30**. The reason is simple, in that it reduces time and avoids duplication in cleaning the airbrush tool, an essential chore, but a chore nonetheless.

01 deck and the fore funnel top

As mentioned before, the Sampson mast and the fore funnel casing are a single moulding. Thus masking off and covering these, **Photo 31**, was much the same process as earlier.

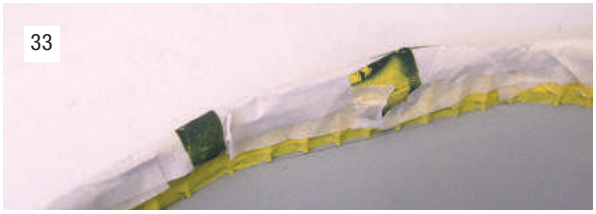
Photo 31. Preparing the fore funnel exhaust casing and the surrounding deck area. The inner part of the top of the funnel will be added later.

The raised lip around the funnel top was also masked using the Tamiya tape as it remains light grey. As a matter of interest, the insides of both the fore and after funnel exhausts are lined in a very specific way and these were made as separate inserts to be added later. With good preparation the actual process of airbrushing takes only a short time, **Photo 32**, and here a single action suction feed airbrush is being used

Bridge wing unit

This part of the model was specifically made in such a way that the bridge housing itself would be detachable from it, as it would be most convenient to airbrush the entire deck surface in one go, even though part of it would later be covered. Masking was less straightforward than previously, as the vertical inboard surfaces and the bulwark supports were to remain light grey, but the dark grey was to be seen in between each of them. Once again, the low-tack Tamiya tape worked wonders, it being easy to fold around each bulwark support and the remaining light grey areas, as in **Photo 33**. The

Photo 32. A single action airbrush was used here.



exposed surface was airbrushed, applying the same technique much as described earlier and **Photo 34** is the end result and not too bad, even if I say it myself!

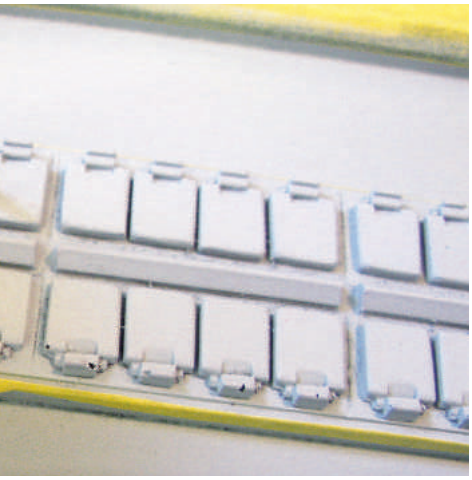
Low-tack tape

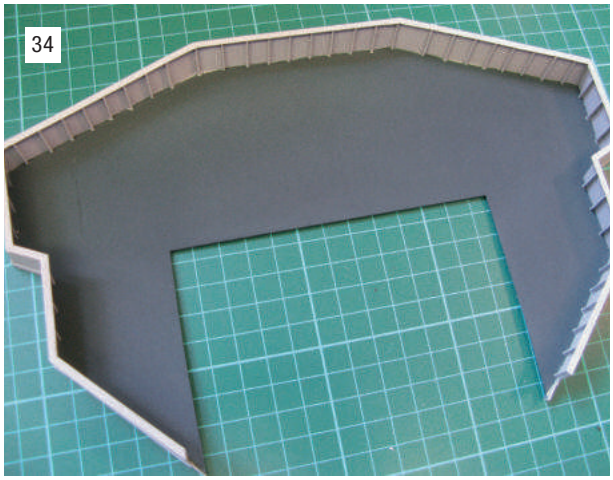
A few words about this. Even though nominally of low-adhesion, it must not be simply ripped away from the model once the painting has been completed.
It should always be gently peeled back against itself and do try to avoid touching newly painted surfaces to any degree, since unwanted finger marks have an annoying habit of being where you least want them and are usually not noticed until too late in the model's final assembly process.
Here in **Photo 35**, you can see the tape

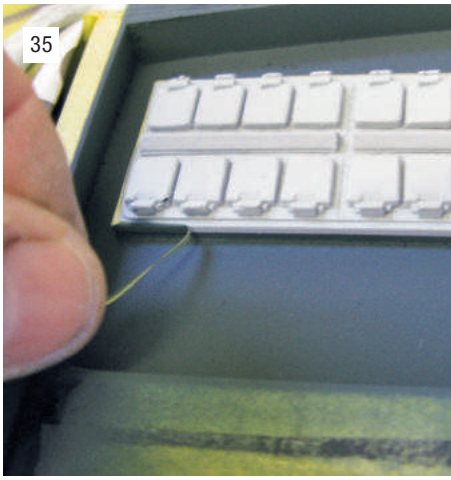
Photo 33. Preparing the bridge wing unit for painting and a this was a really fiddly masking job!

Photo 34. The painted bridge wing unit.

Photo 35. Always gently remove masking tape, even if it is of the low-tack variety.







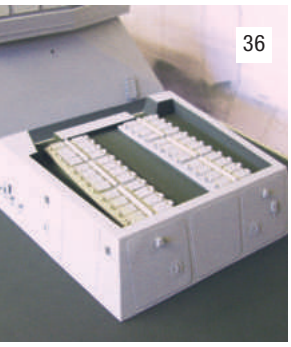


Photo 36. With the major airbrushing tasks almost now completed, the VLS housing was temporarily refitted to the forecastle. Preparation takes time, but the end results are worth the effort.

being carefully removed and **Photo 36** is of the completely painted vertical launch system housing.

To finish this month, **Photo 37** is the model thus far on my workbench and the end is now very much in sight. Next month I will devoting time to many of the final detail parts. As always, it suddenly occurred to me that there might be better ways of simulating some features and it was still not too late to incorporate those ideas.

Answer to the January 2013 Mystery Picture

The clue was: When does a County become a City?

It was a giveaway clue and the answer is HMS London. London as a city was of course run for some years run by the London County Council, but HMS London was also an improved Washington Treaty cruiser similar to the Kent (county) class, but was actually designated as a separate class of vessel. The other three ship within this class were HM Ships Devonshire, Shropshire and Sussex.

HMS London was laid down at Portsmouth Dockyard on the 26th February 1926, being completed on the 31st January 1929. Her full load displacement was marginally over 11000 tons and the hull length to beam ration was revised, as unlike the Kent class, the London class vessels did not receive side anti-torpedo bulge protection and the net result was a slightly longer hull of 632ft 8ins, but narrower having a beam of 66ft.

Four propeller shafts driven by geared steam turbines developing 80000shp also gave HMS London a marginally better top speed than HMS Kent, this being 32.3kts rather than the 31.5kts. Initially the armament was the same, being eight 8 inch guns in four twin turrets, four x 4inch in single mountings and four 2pdrs, also singly mounted. It was not until March 1939 when HMS London was taken in hand for a major refit which included better side armour, improved hangar facilities, a fixed catapult, two x 8 barrel 2pdrs, four twin 4 inch Mk. XIX guns and most noticeable of all, the reconstructed bridge tower. HMS London was the only ship of the class to undergo a major reconstruction because of the outbreak of WW2.

HMS London was actively involved in the KM Bismarck chase in late-May 1941 and together with the destroyer HMS Brilliant was successful in intercepting a number of German supply ships, one of which was the tanker Egerland which was scuttled by her crew. Eventually HMS London underwent a further refit between late-1941 and early-1942 to improve her structural integrity. The cruiser was then dispatched to cover the Artic conveys. Major structural problems persisted and from late-1942 through to May 1943 she was again in dockyard hands, when additional 20mm guns and an improved radar suite were fitted.

Eventually HMS London was sent to join the newly recreated Eastern Fleet for operations in the Indian Ocean, remaining on that station until 1946. After some repatriation duties and involvement with the HMS Amethyst incident, in 1949 she returned to the UK and disposal in 1950.

This month's Mystery Picture, Photo 38

The clue is: Admiral Fisher was quoted as saying of this class of ship: 'Guns on the main deck are pretty useless. We know this from experience. Half the times they cannot see the object for want of a view and the other half they are flooded out by the sea'!

References and acknowledgements

HMS Pembroke refs: Combat Fleets 15th Edition, Pages 551 & 552.
MOD website: www.armed forces.co.uk (Sandown class).
Jecobin Plans: Drawings for HMS Sandown.
HMS London ref: Cruisers of WW2 by M J Whitley, Pages 87 to 90.
My thanks to the **Commanding Officers and Ship's Companies** of HMS Pembroke and HMS Daring for their help and assistance during my visits.

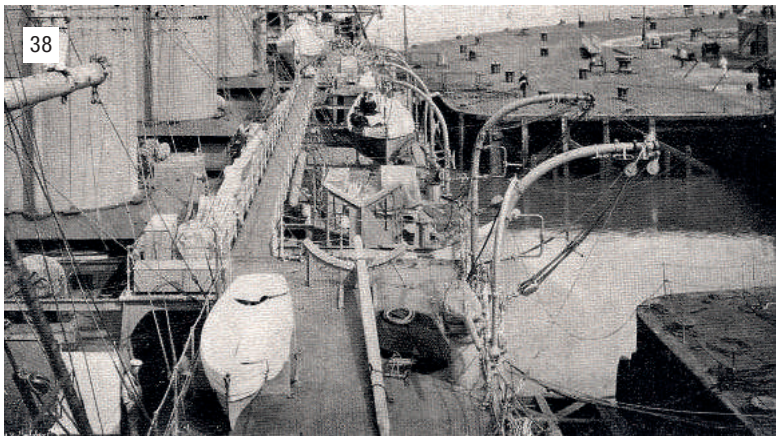
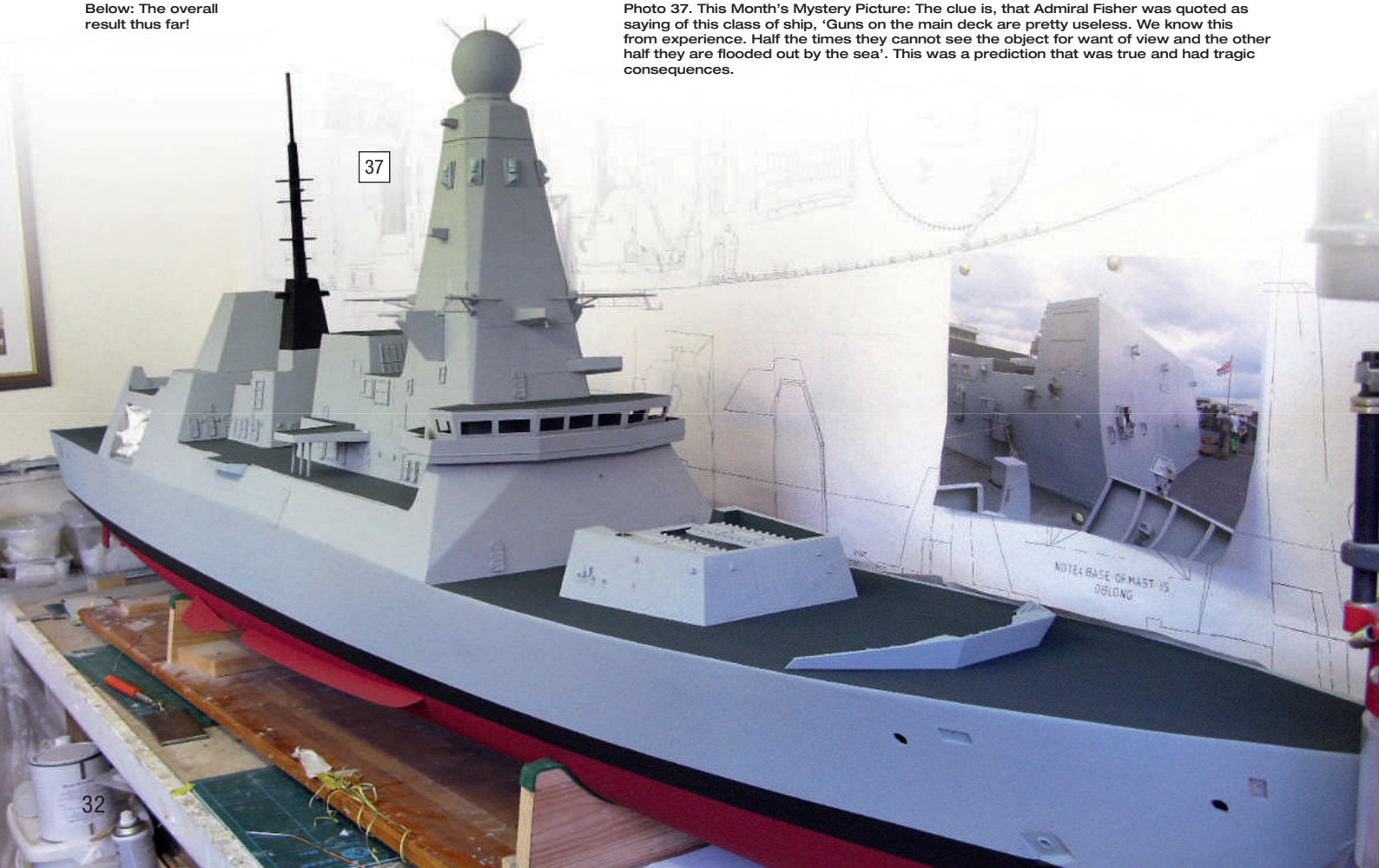


Photo 37. This Month's Mystery Picture: The clue is, that Admiral Fisher was quoted as saying of this class of ship, 'Guns on the main deck are pretty useless. We know this from experience. Half the times they cannot see the object for want of view and the other half they are flooded out by the sea'. This was a prediction that was true and had tragic consequences.

Below: The overall result thus far!



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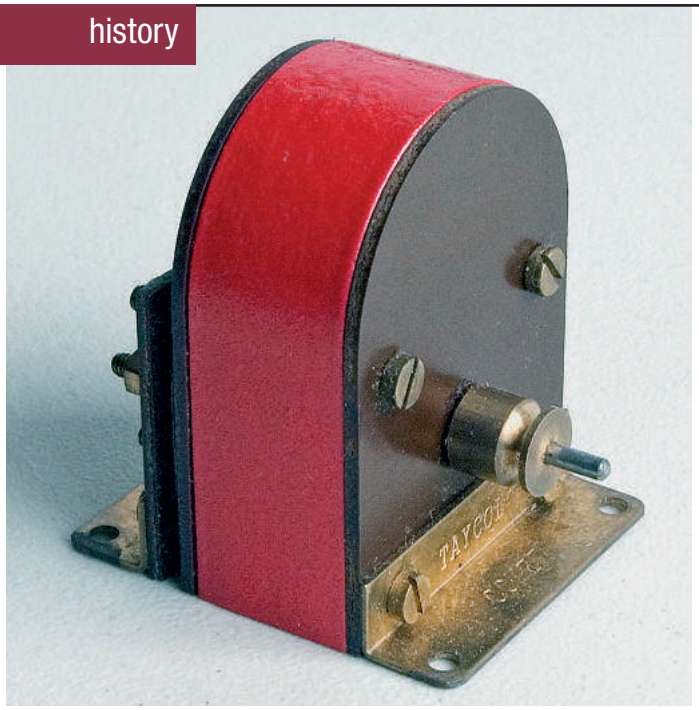
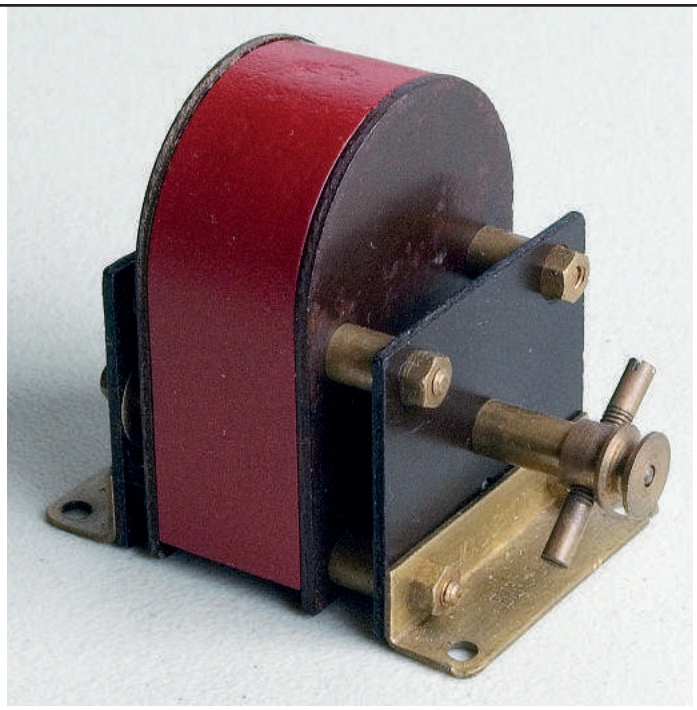
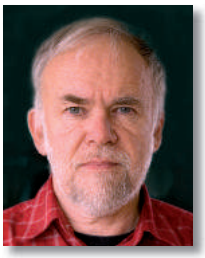


Taycol Comet - ungeared.



Taycol Comet – single geared.

Flotsam & Jetsam

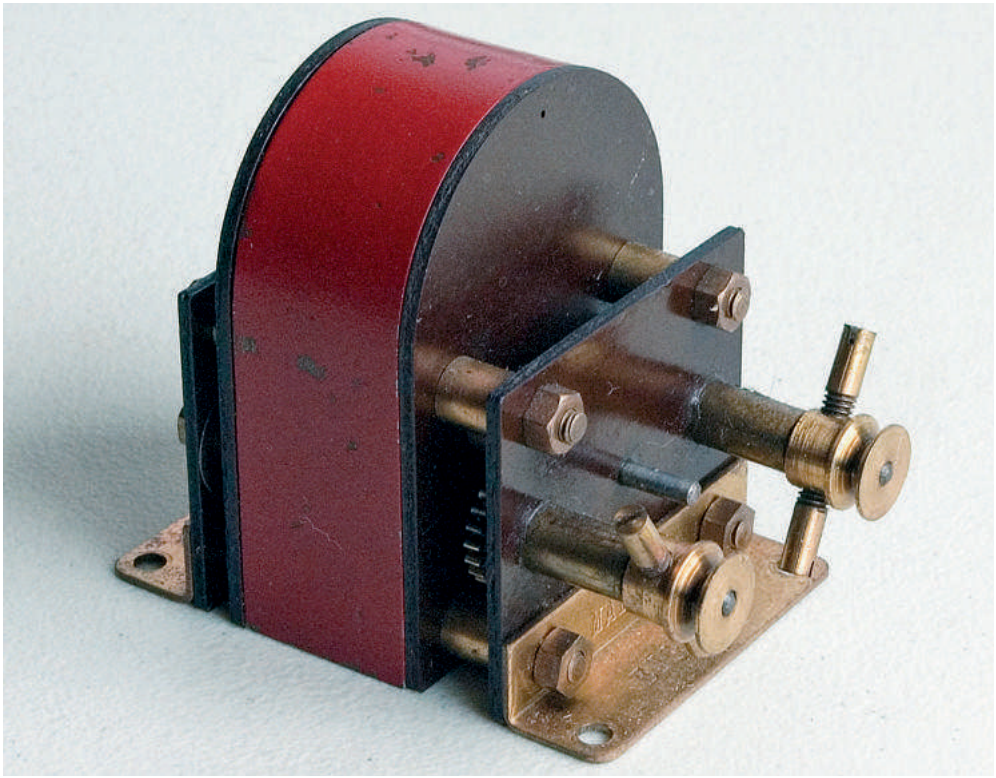


JOHN PARKER delves into the archives

11: Taycol Motors

Much has been written about **'The Famous Taycols'**, the model electric motors produced by Taycol Limited of Bournemouth, England, and I was at first reluctant to add to it. However, most of it has been of the: 'Does anyone know what this is?' or 'Look what I found when clearing out the attic' variety, so I concluded that a single reference point for the company's history and products would still be of value. Please bear in mind that dates and details have been difficult to pin down and should be viewed with suspicion in some cases.

A number of factors combined to create opportunities for new-start companies in Britain after the Second World War finished in 1945. Servicemen were returning to civilian life with the new skills that their military service had provided; new materials and processes such as plastics and injection moulding were becoming available; there was a pent-up demand for leisure goods and toys after years when their manufacture was banned; traditional market rivals such as Germany were out of the game for the time being and new rivals such as Japan were not yet a force to be reckoned with. It was in this environment that well-known companies such as Lesney (Matchbox Toys) and Airfix were founded.



Taycol Comet – twin geared.

The early days

Taycol was named after its founders, Peter Taylor and Donald Collis, after a fashion of the time (Lesney, from Leslie Smith and Rodney Smith, being another example). Though the company must have been in existence for some years, the first mention I have been able to find of their products appears in the April 1951 issue of Model Ships and Power Boats, and is for a small permanent magnet motor called the **Comet**, available in geared and non-geared versions. The design used an upright horseshoe-shaped magnet and was intended for operation from 4.5 to 6 volt batteries. A combined pulley and drive dog on the output shaft made it suitable for both general use with construction sets or as the power source for a model boat. That the manufacturers had the latter firmly in mind is shown by the geared versions, offering a step-down ratio to either a single in-line or twin counter-rotating shafts. These variations were made possible by the modular design of the motor and its gearbox, using the same parts in different combinations. It was quite neat, but came at a cost in efficiency due to the large number of gears (four for the single-geared, and nine for the twin-geared) being needed. Tufnol phenolic board, a laminate of synthetic resin bonded paper or fabric similar to kitchen bench-tops, was used for the end plates with the armature

shaft running directly in it. Once impregnated with oil, the material provided a reasonable bearing life.

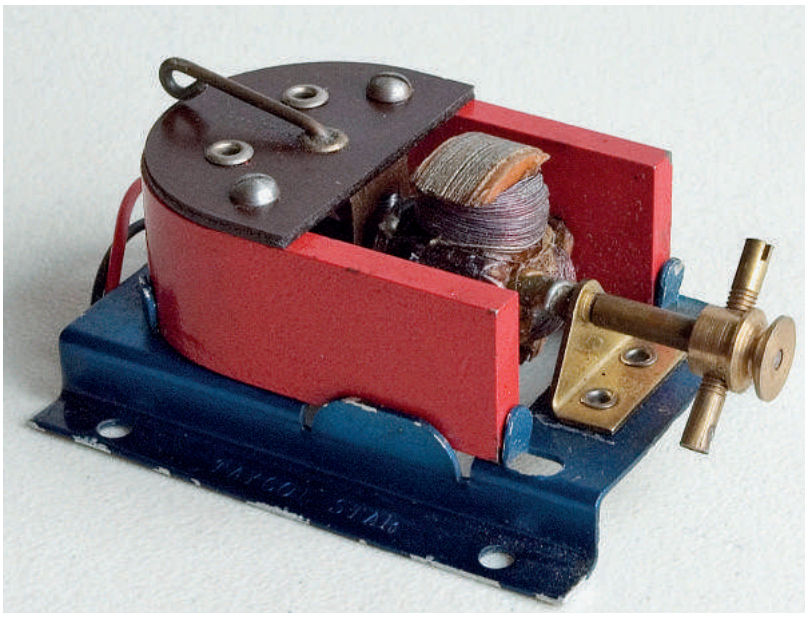
The motors were priced at 12s/10d (12 shillings and 10 old pence) for the ungeared version, 17s/9d for the single-geared and 20s/2d for the twin geared, equivalent to around £17.10, £23.60 and £26.85 respectively in today's money. Please note that from here on, I will quote the original prices followed by the 2012 inflation-adjusted equivalent in brackets. The gearbox was available as a separate item for 7s/11d (£10.55). The main rival to the ungeared Comet was the Frog Revmaster which sold for the same price.

The other model in the early Taycol line-up, which probably pre-dated the Comet, was the 4.5 to 9 volt **Star** which made use of the same horseshoe magnet in a horizontal configuration without any gearing options. Great things must have been expected of the Star, for its instruction sheet was printed in colour and proclaimed it to be: 'A little masterpiece. Will fascinate Young and Old'! Taycol were granted Patent No. 613602 in 1948 for its unique integral speed and reverse control lever. Only one of the two brushes touched the commutator at a time, with a pressure set by the control lever; swinging the lever one way increased the brush pressure and thereby the speed (sort of) while swinging it the other way brought the other brush into contact and did the same in reverse. The return circuit was completed through the armature shaft and bearings. In practice this did not prove to be a very successful arrangement, particularly with varying motor loading and could be seen as no more than a gimmick.

Developments

After the Comet and Star, Taycol made no further permanent magnet motors, adopting wound fields or electromagnets for all their subsequent models. At a time when permanent magnet alloys were improving, this could be seen as a retrograde step, bringing with it extra cost, weight and bulk, potentially higher energy consumption and more complicated switching arrangements to provide reverse. Taycol probably saw it as a means of providing greater field strength, and thereby a range of more powerful motors than what their permanent magnet competition could then provide. It came to define the unique appearance of their motors, all now designed by the engineering consultant Mr. W. N. Baker and all intended for model boat propulsion, though their instructions made token reference to other types of models.

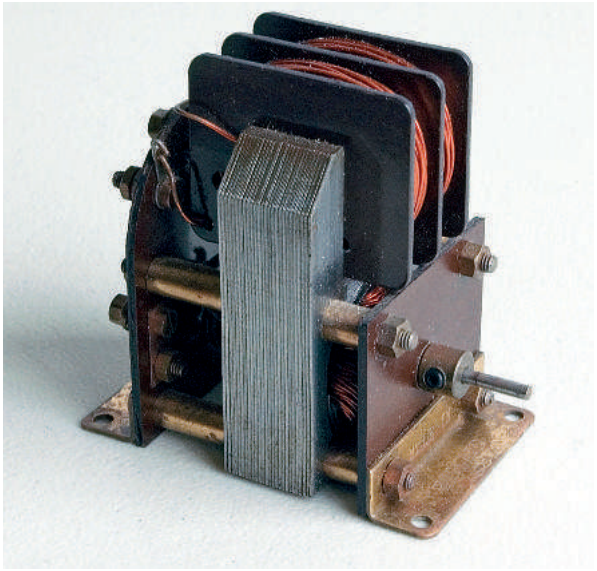
The **Marine** motor was announced in May 1955 at a price of 64s/2d (£71.30), a large motor with two series-connected wound field coils in a built-up frame measuring 102 x 92 x 60mm. Intended for model boats of 36 inches (900mm) length and upward, it weighed 1.1kg and really needed an accumulator to supply its typical 3 amp current draw at the rated 6 volts. Maximum efficiency of 40% came at 2.1 amps. The 1/4 inch (6.4mm) diameter shaft still ran in plain bearings formed by the phenolic end plates, but these were now tripled up and fitted with oil-retaining felt pads with brass caps. Lubrication was required every 15 minutes of running and contrary to usual practice, a little oil on the commutator was also recommended to improve performance. The connections to the field coils and brushes were all brought out to the rear end plate where they presented a bewildering array of brass screws, binding posts and bridging links to the user.



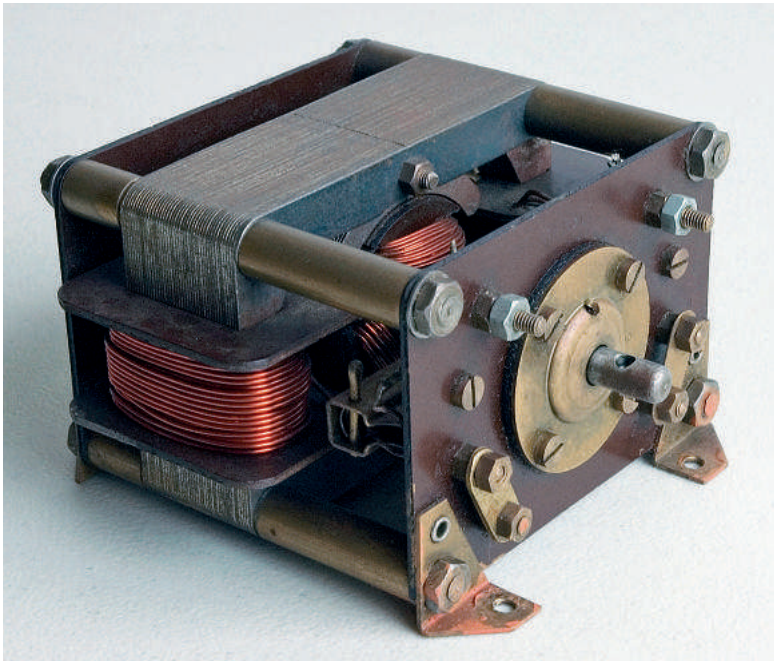
Taycol Star.

Taycol quickly followed up the Marine with a mid-sized motor they called the **Torpedo**, released in December 1955 in time for the Christmas season. This was clearly intended to fill the yawning gap between the small Comet and Star motors and the large Marine. It featured a series-connected overhead field winding, a three-pole armature with a 3/32 inch (2.3mm) shaft, dimpled phosphor-bronze brush gear and the usual built-up open construction with phenolic end plates. It was rated for 6 to 12 volt operation and at 12 volts drew 2.75 amps at maximum power or 1.6 amps at maximum efficiency of about 48%. The price was a more affordable 30s/- (£33.30) and it was said to suit model boats of 20 to 30 inch (500 to 750mm) length. Its base size was 66mm by 42mm and it stood 69mm high.

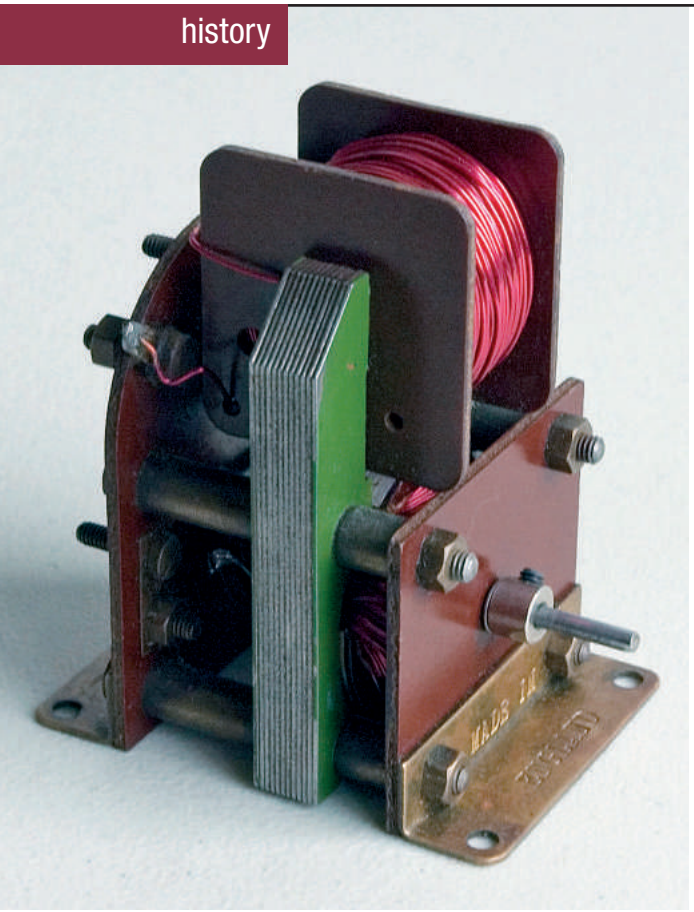
The built-up construction of the Torpedo enabled Taycol to quickly introduce a complementary lower-powered version more suitable for operation from dry batteries. They did this by reducing the number of laminations in both the armature and field



Taycol Torpedo (early split-field version).



Taycol Marine.



Taycol Target.

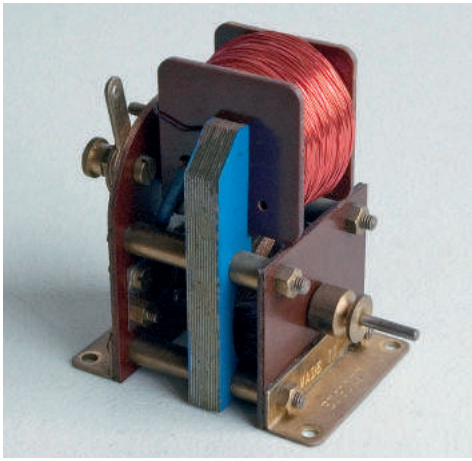
windings to produce the **Target**, which drew 1.75 amps at maximum power on 12 volts. It looked so similar to the Torpedo that Taycol, to the confusion of modern day collectors, used their photo of the Torpedo for the box label and advertising. The Target was in fact slightly smaller with a 58mm by 42mm base size and had a slimmer look due to its fewer laminations. The earliest reference I could find for the Target is an advertisement in the May 1956 Model Maker, where it was introduced as their newest model and priced at 29s/7d (£31.35) including purchase tax, the Torpedo having risen to 36s/- (£38.15) by this time.

Around September 1956, the Marine was replaced with an upgraded 6 to 12 volt version called the **Supermarine** at 79s/2d (£83.85), making the original Marine motor quite rare today due to its short production life. The Supermarine was a little larger at 102 x 102 x 60mm and was fitted with a disc type commutator in place of the Marine's drum type, but both had spring-loaded copper gauze brushes. The Supermarine had a current draw of 4.75 amps on 12 volts for a maximum output power of 25 watts at an efficiency of 44%. In typical Taycol fashion, they continued to use their photo of the Marine to illustrate the Supermarine, even on the latter's box label!

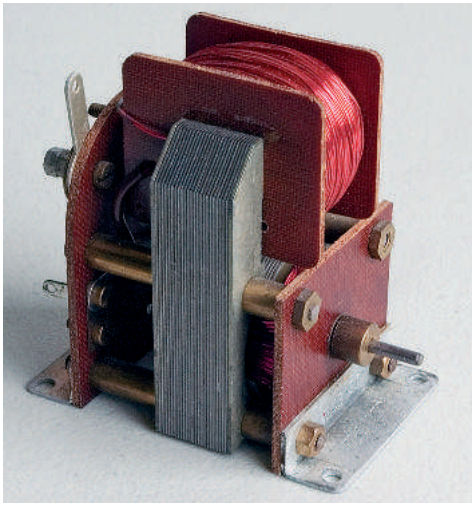
Improving the reverse capability

Taycol's next efforts were aimed at making their wound-field motors easier to reverse in response to user demand, this being because when the supply wires are swapped over with a wound-field motor, both armature and field polarities are reversed and the motor runs the same way, unlike a permanent magnet motor. They did this by putting an extra reverse winding over the existing field winding(s), switched in by a simple single-pole switch built onto the end plate of the motor. This could be activated manually or via a radio control actuator to provide 'instantaneous reversing' at a deliberately lower speed. When this feature was applied to the Target motor it became the Asteroid, and when applied to the Torpedo, that became the Meteor. Both types were announced in an advertisement in the July 1958 Model Maker with the **Asteroid** priced at 33s/10d (£33.55) and the **Meteor** at 39s/9d (£39.40). They sold alongside their equivalent Target and Torpedo motors and had the same performance.

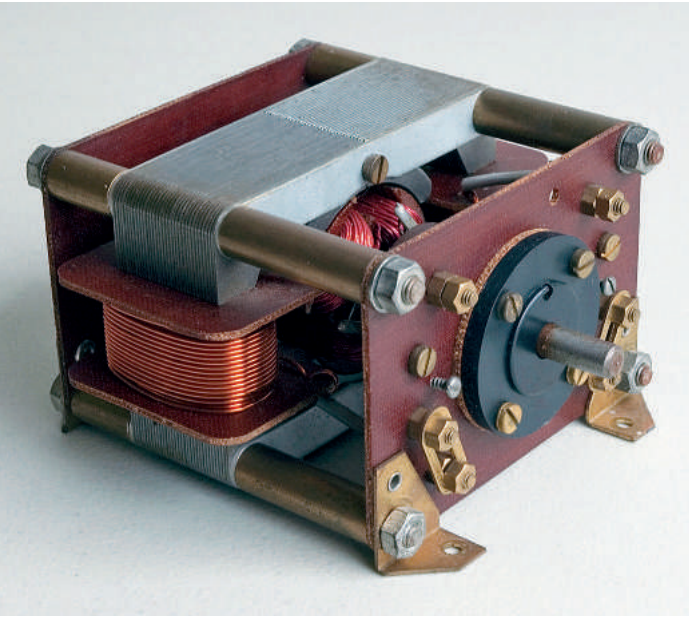
New for early 1959 was the Taycol Cardan Coupling at 5s/11d (£5.85), a metal double universal joint for coupling the larger motors to a propeller shaft. Toward the end of that year the Supermarine was fitted with reversing coils to become the **Supermarine Special** at a premium of some 4s/4d (£4.25) over the standard Supermarine, which remained available. Extra connections on the end plate enabled the reverse winding to be selected by means of a separate single-pole changeover switch or relay wired to it. By this time the Star and Comet did not have long to run, but there were still two new models in the wings, though they were based on existing ones.



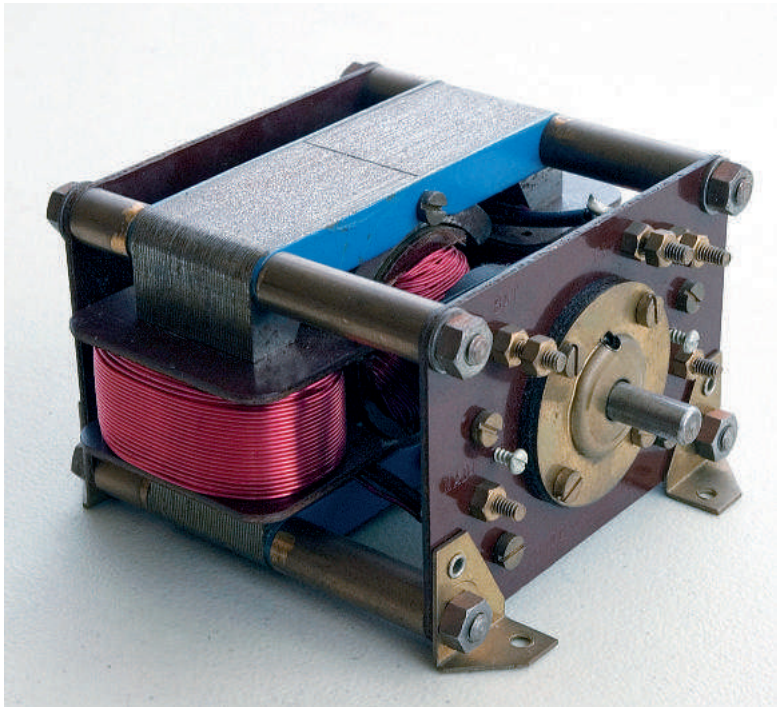
Taycol Asteroid.



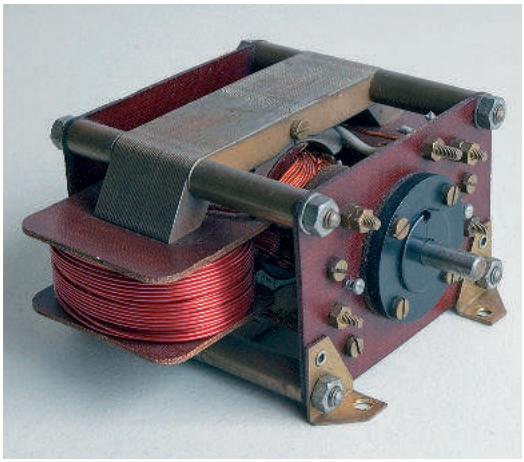
Taycol Meteor.



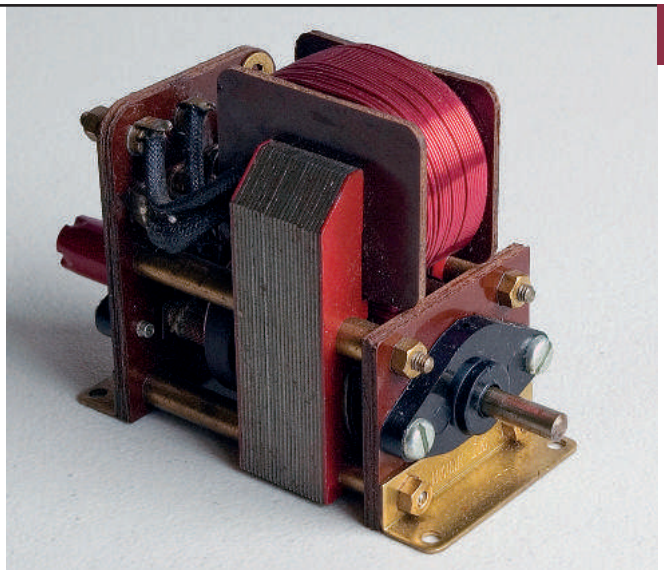
Taycol Supermarine.



Taycol Supermarine Special.



Taycol Supermarine Double Special.



Taycol Standard.

1960 onwards

The first came in late-1960 in the form of the **Supermarine Double Special**. This was the final development of the original Marine motor and both the most powerful and most efficient motor Taycol ever made. The name most likely came from the fact that it was about twice as powerful as the Supermarine (Double) and was only ever available with the reversing coil arrangement (Special). It looked much like the Supermarine, but with larger field windings carried on canted-out yokes that increased the width to 130mm and helped bring the weight up to a hefty 1.275kg. It produced 51 watts of output power when drawing 7 amps on 12 volts; maximum efficiency of 74% was claimed when delivering 45 watts at 5 amps. It was priced at 95s/- (£92.70).

The **Standard** arrived in January 1961 priced at 59s/2d (£55.85). It used the same lamination pressings as the Torpedo/Target/Asteroid/Meteor, but in a longer stack and combined this with the heavy-duty copper gauze brush gear and bearing design of the larger motors using a 3/16 inch (4.8mm) shaft. This made it a useful motor, having long-life design in a compact size with more power than the original Marine motor. The Standard produced a maximum output power of 26 watts drawing 6 amps on 12 volts, efficiency peaked at 40% and it was only ever made with the reversing coil arrangement.

A January 1962 advertisement shows the Taycol line-up at that time to be: Double Special, Supermarine Special, Supermarine, Standard, Meteor, Torpedo, Asteroid and Target, indicating that the Star and Comet had been quietly dropped from the range, although stocks were still available in shops for some years. There were no further new product announcements and Taycol appeared to be adopting a lower profile, running just a small regular advertisement in Model Maker/Model Boats showing one of the Veron boat kits (Veron were the trade distributors for Taycol) powered by their motors, but not listing the complete range. At some stage the logical step was taken to rationalise the range whilst still covering the same power options. This had been done by 1967 by dropping the Supermarine, Torpedo and Asteroid, leaving the Double Special, Supermarine (Special), Standard, Meteor and Target as the line-up that continued until the final days of Taycol. The 'Special' suffix of the Supermarine tended to be dropped once the non-special version of the Supermarine was discontinued, but the motor retained its reversing coils.

The demise of Taycol

By this time the wound-field motor was looking decidedly old fashioned against the modern German Marx and Japanese Mabuchi permanent magnet motors and less suited than these newer motors were to radio control, because of the extra interference they produced. A major investment would have been required to produce a modern range of permanent magnet motors and this was not on the cards. The final advertisement I could find for Taycol appeared in the November 1976 issue of Model Boats and the company closed not long after that.

Conclusion

In retrospect, the decade of 1955 to 1965 can be viewed as Taycol's golden years, when new and competitive products were being launched and achieving ready market acceptance. After that, it was a case of managed decline in the face of more modern competition and some interesting comparisons can be drawn. Today, even Taycol's vaunted Double Special is out-performed by a small brushless motor that weighs less than the cardboard box the Double Special came in, and the apparently exorbitant prices sometimes paid by collectors for old Taycol motors, when compared with their original cost in inflation-adjusted figures, shows they have in fact lost value.

Model Maker, Model Boats predecessor, provided detailed tests on most available electric motors and the Taycol models may be found in the following issues: Star (April 1956), Comet (September 1955), Marine (June 1955), Torpedo (December 1955), Target (refer Asteroid, July 1958), Asteroid and Meteor (July 1958), Supermarine (October 1956), Standard (April 1961) and Double Special (November 1960). The production variations on Taycol motors and their packaging are legion and there is no room to discuss them here. For an absorbing website offering practical illustrated advice on identifying and running Taycol motors, please see:
http://taycol.hobby-site.com/index.html ●

THV Patricia

The ship was photographed at Liverpool in May 2013. THV Patricia was ordered by Trinity House and originally designated as a buoy & lighthouse tender. She is now considered to be a multi-functional tender for her work around the coastlines of England, Wales and the Channel Islands which involves maintaining navigation channel markers, wreck location, etc. THV Patricia is fitted with a full array of the most up to date navigational aids including side scanning sonar and echo sounding wreck location equipment. She has a 28 tonne bollard pull for towing and a suitable winch is installed aft, plus a 20 tonne main crane and a one tonne stores crane.

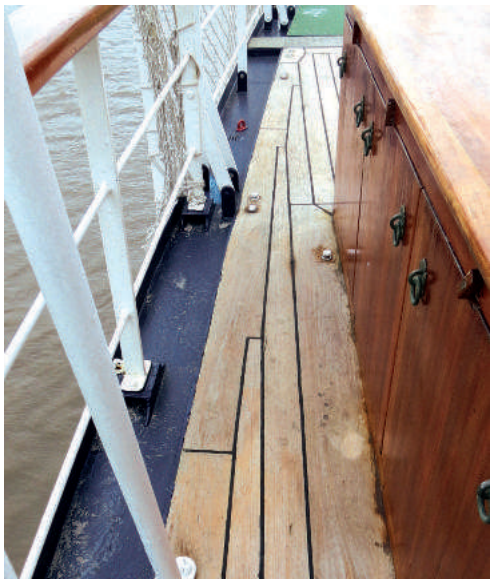
On my visit I was impressed at the spotless condition of the vessel, even though THV Patricia is a functional and busy ship. Up to 12 passengers can be accommodated in sumptuously furnished cabins with an equally well fitted conference room and mess room which helps offset some of the operating costs. THV Patricia is an elegant ship and is often called upon to attend official events such as the recent 70th Anniversary Commemoration of the Battle of the Atlantic that was held in Liverpool during late-May 2013. Consideration is currently being given to a replacement for THV Patricia by 2020, but as yet no design specifications have been released.

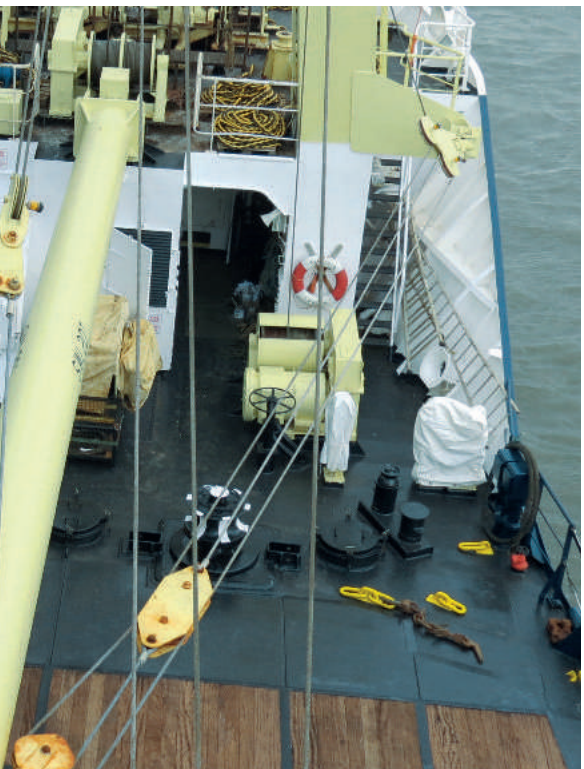
Dave Wooley, 2013.

Particulars

Builder:	Leith Shipyards of Robb Caledon (Henry Robb)
Launched:	30th September 1981
Port of Registry:	London
Operator:	Trinity House
Function:	Multi-functional buoy tender
GRT:	2541 tonnes
DWT:	1194 tonnes
Length OA:	86.3 metres
Moulded beam:	13.8 metres
Moulded draft:	6.9 metres
Service Speed:	12 knots
Endurance:	21 days
Propulsion:	Diesel Electric Main engines - four Rushton 6RKcZ 750kW @750rpm
Propulsion motors:	Two 1120kW@250rpm
Auxiliary:	Two Ruston 4AP230Z 240k W @600rpm
Bow thruster:	360 degree Whitegill 7 tonnes 690kW @480rpm
Propellers:	Two fixed pitch outward turning
Accommodation:	Maximum of 46 depending on service requirements


PATRICIA






PATRICIA

A Foamboard Hovercraft

PAUL THOMASON builds something a bit different

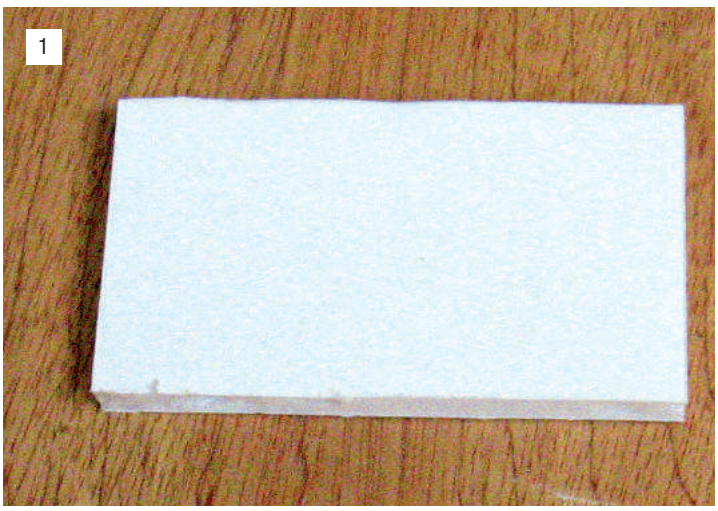
This model hovercraft had an odd beginning as its conception began with a discussion on the Model Boats Website Forum about the suitability of rigid foamboard as a construction material for model boats. I have been using a craft foamboard to test my design prototypes for some time, but had never thought of using it to actually build a finished model. The type of foamboard used is 5mm thick and has a foam core sandwiched between two sheets of card and is usually used as photo mounting board or as a material for building architect's models, **Photo 1.**

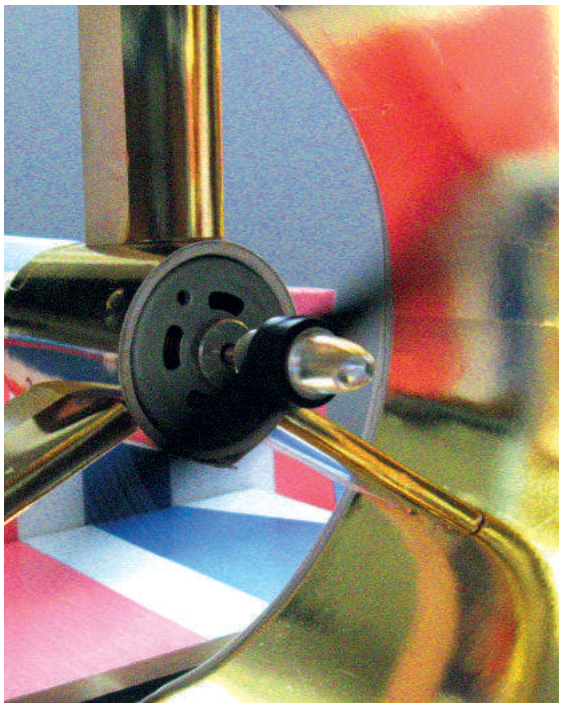
You might ask as to why use foamboard, especially when traditional construction materials such as plywood are readily available, and the answer is that foamboard is lighter than the equivalent size and volume of plywood, and is quicker and easier to work, requiring only a combination of a sharp knife, a straight edge, a cutting mat and waterproof PVA glue, **Photo 2.** Best of all foamboard offers the prospect of a trouble-free smooth surface for decoration and so it does away with all of that tiresome filling and sanding.

Other big advantages are the lack of sawdust and power tool noise when cutting, so whilst foamboard might not be environmentally friendly, it is certainly spouse and house friendly which could mean that you won't be banished to the cold confines of the shed whilst you are working with this material!

Of course for every advantage there is always a disadvantage and one major drawback with foamboard is its inability to withstand sharp object impact damage and it will perforate far more easily than plywood. It is possible to increase the strength of the boards by laminating two sheets of foam board together and this is achieved by gluing them together with PVA adhesive, either side of a fabric core, **Photo 3,** this core being from a very inexpensive 'Pound Shop' dust sheet. This creates a very strong and rigid double thickness board as in **Photo 4.** Care must be taken when making the deck plate in particular, as the component parts must be kept perfectly flat during the gluing process and an even light pressure applied over the entire surface until the glue is fully set.

Another disadvantage is foamboard's inability to create curves without creasing, but this can be overcome to a certain extent by scoring one side of the sheet. We will look at this process later in the article when we discuss the main thrust tube. During the Model Boats Website Forum online discussion it occurred to me that a hovercraft would make an excellent candidate for building with foamboard as the need for weight saving and the large flat areas of its construction could benefit from this lightweight material, so I decided to build one that would not only test the theory but would also be suitable and robust enough for my six year old grandson to use.





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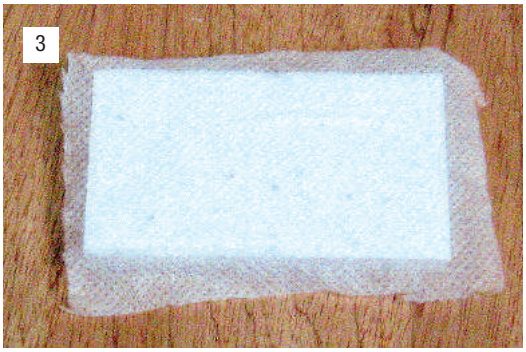

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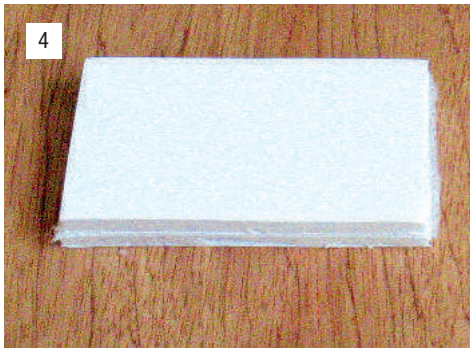

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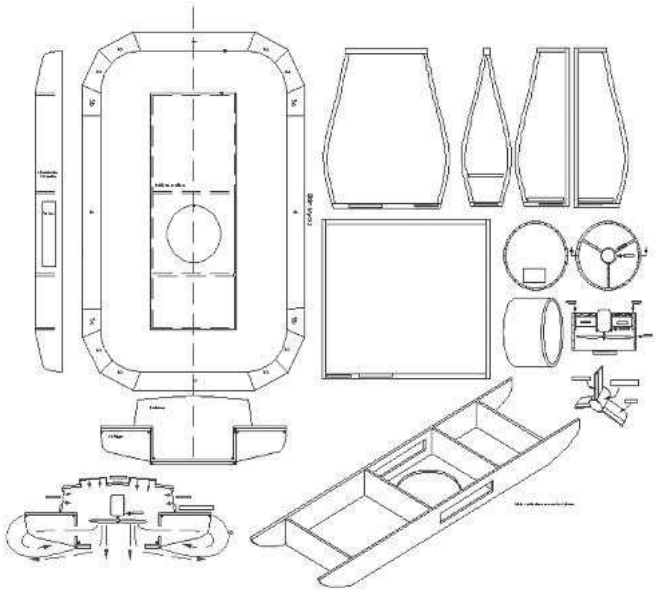

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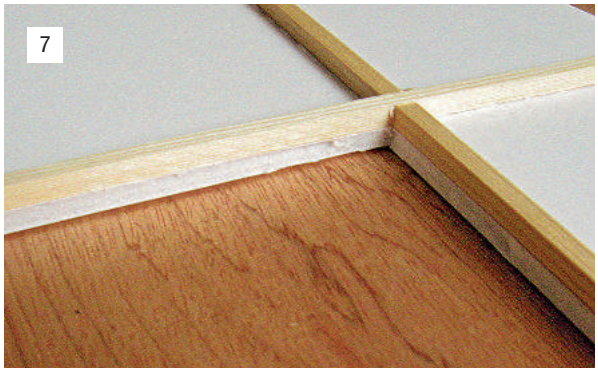


Research and design

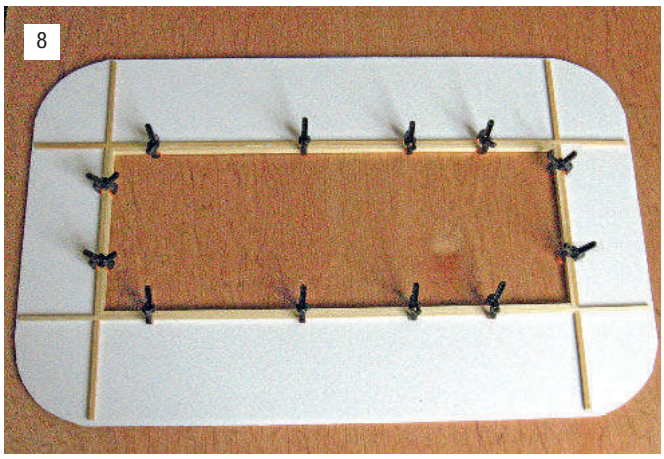
The basic design criteria were that the model had to be of a manageable size and strong enough to survive the uncompromising handling techniques of a bright and inquiring six year old. Given my grandson's age I was also restricted to using electric motors rather than more powerful i.c. units and of course the propeller and fan blades would need protective guards to keep fingers from getting hurt.

To commence, the design and construction of model hovercraft was researched and a secondhand r/c toy hovercraft purchased for experimentation purposes. There was (and is) a great deal of very useful information on Mark Porter's website: www.model-hovercraft.com and the design was based on the data and advice that he made available.

Having decided upon the rough size and shape, creating the design on CAD proved to be a fairly quick operation and the whole design was completed within a couple of hours, **Photo 5** and construction could commence.

Deck plate

This is the major part of the model, around which the hovercraft's main body is constructed and as such this piece, **Photo 6,** has to be strong and non-flexible. To help achieve this, some lengths of 6mm x 6mm stripwood created a frame on the top side of the deck plate. These reinforcing timbers run from edge to edge of it and were glued in position with waterproof PVA adhesive, **Photo 7.** The inside edge of the central opening void was then further reinforced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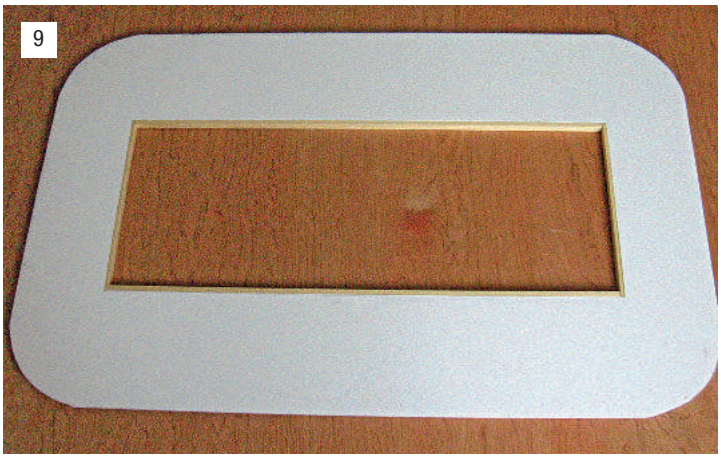
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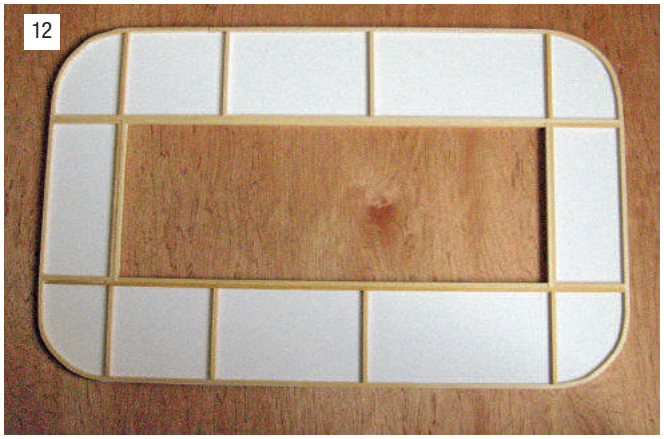
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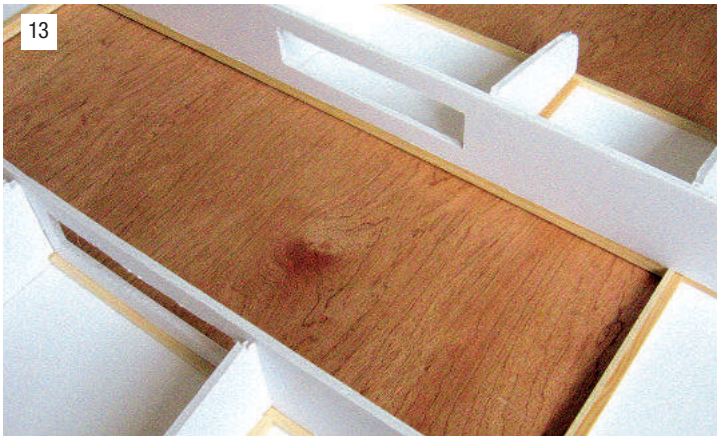
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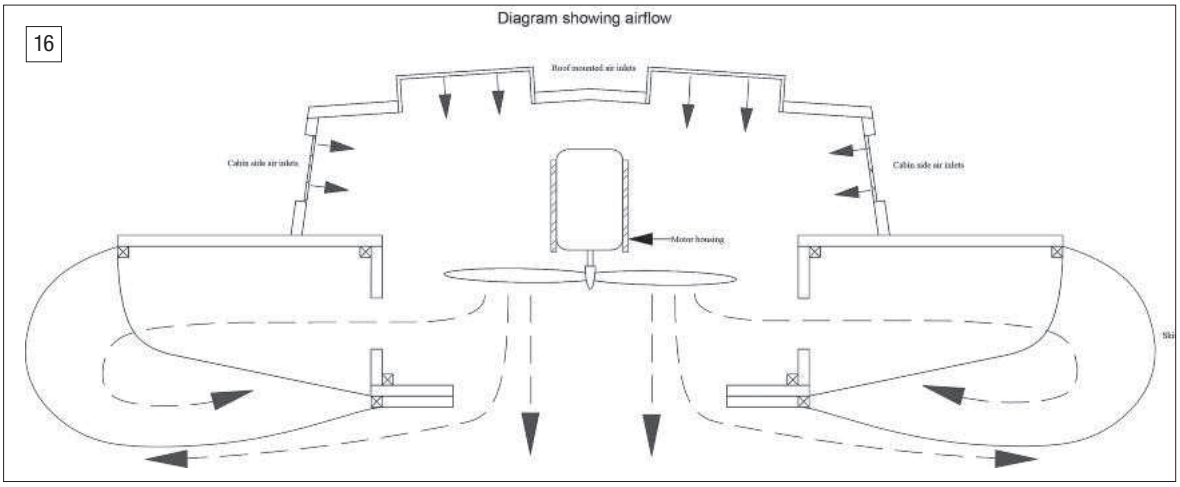


with a frame of 10mm x 6mm stripwood, **Photo 8,** clamping the pieces in place whilst the glue fully set. Once the glue had set, the top plate from above looked like **Photo 9,** where you can see the additional stripwood has now part covered the inside edge of the foamboard opening.

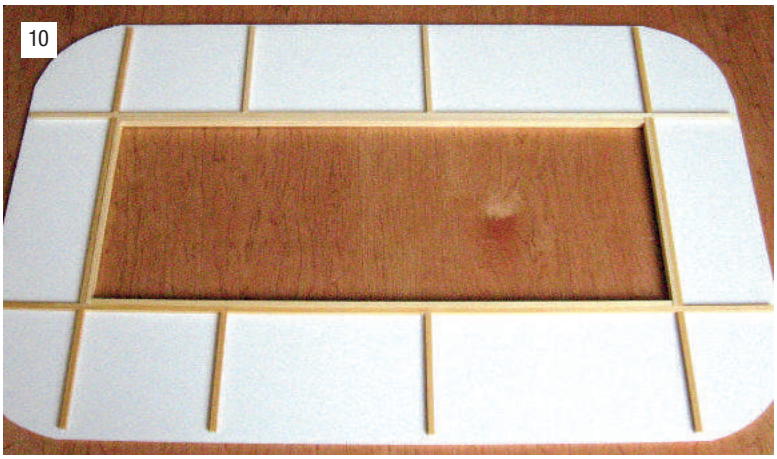
The next parts fitted were the outrigger supporting pieces, **Photo 10,** which serve not only to further strengthen the deck plate, but also to locate and reinforce the forthcoming joints between the outrigger panels and the deck plate. Remember that here we are building the model upside down. The final wooden part to be fitted to the deck plate top edge is the external frame which not only gives the necessary reinforcement to the edge of it, but also provides a secure fixing point for the Ripstop skirt. This frame was from 6mm x 6mm stripwood glued in place with waterproof PVA. To create the corners, 4mm deep cuts were made into the stripwood at 5mm centres which allowed it to be bent around the tight radius without snapping as in **Photo 11.** With the deck plate framework complete, **Photo 12,** work could now proceed with building the rest of the hovercraft's body.

It is worth mentioning that the stripwood framing and reinforcing timbers not only support each other, but also provide extra strength and rigidity to the entire structure and create a skeletal frame that helps resist accidental impact damage by spreading the energy of the collision throughout the whole structure. That's the technical bit over!

Bodywork

The main central body of this hovercraft is basically an open topped box that is divided into compartments by bulkheads. Work started by gluing two longitudinal sides, **Photo 13,** directly to the 10mm x 6mm timbers that frame the large opening in the deck plate. Here we are looking at the underneath and NOT the top. The outrigger panels were then carefully fitted and glued into position checking that they were plumb and square to the deck plate. This was followed by the fitting of two longitudinal 10mm x 6mm framing timbers which sit in cutouts on the outriggers and are glued to the two long body panels after which the base plate was fitted. This base plate slotted neatly between the 10mm x 6mm longitudinal timbers and was glued to both these and the lower edge of the long body panels, **Photo 14** and we are still looking at the bottom of the hovercraft, i.e. it is upside down at this stage.

Turning the hull (I can now call it that) over the right way up, further bulkheads were added and 6mm x 6mm timber stiffeners to the critical joints, **Photo 15.** You will note that the stiffening timbers surrounding the central chamber are all facing inward. These timbers are positioned in this way in order to fulfill the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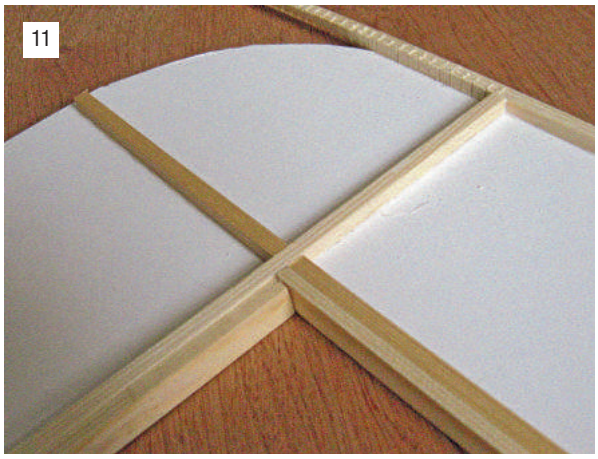
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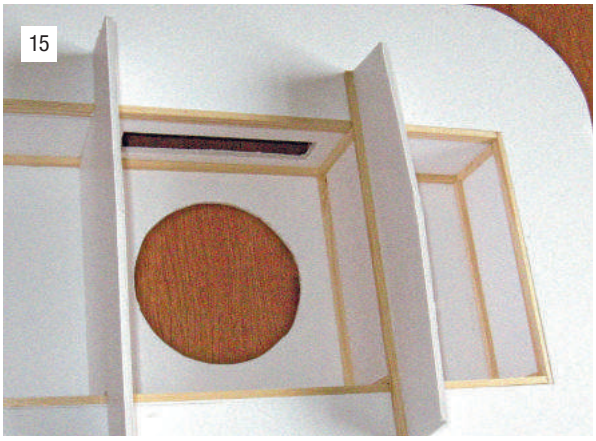
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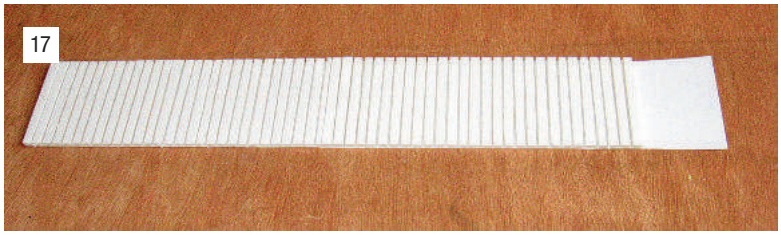
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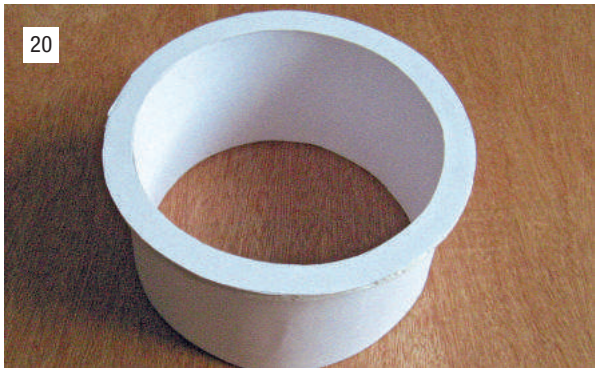
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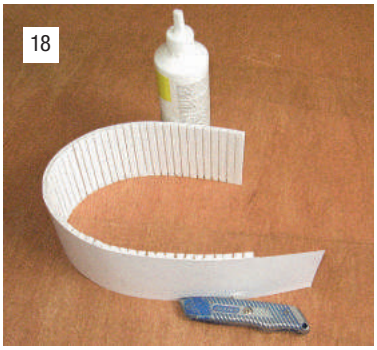
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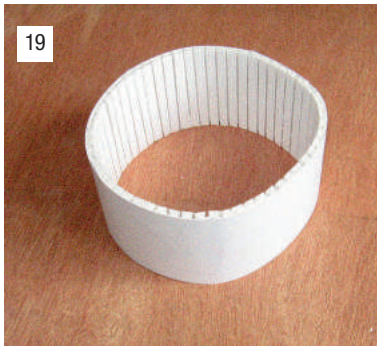
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dual role of stiffening the body and supporting the lift motor housing. The sharp eyed among you will have noticed the holes in the central compartment; the circular hole is 150mm diameter and is the exhaust vent for the lift fan and the rectangular slots (there is one on each of the long sides) are the inlet ports for the air to inflate the skirt. This arrangement allows a single fan to provide lift and also inflate the skirt. I should explain that this particular design of model hovercraft uses a sealed bag type of skirt as in the diagram, **Photo 16,** and in this arrangement the skirt is fixed at both the outer edge of the deck plate and at the base of the internal body and inflates like a child's rubber ring. This picture shows the direction of airflow from the intakes, the air being compressed through the fan and then exiting the fan plenum separately to inflate the skirt and also provide an air cushion for the model to travel on.

Thrust tube

Whilst the glue was setting on the central body section, work could commence on making the horizontal thrust tube. This is a grand sounding name for a simple enclosure surrounding the forward drive propeller and which has the sole purpose of channelling the airflow in a specific direction. To create this tube, a piece of 580mm x 100mm foamboard was prepared and score lines cut into one side, **Photo 17.** The cuts were coated with waterproof PVA glue and then it was rolled into a tube, **Photo 18,** the lap joint being held together until the glue had set, **Photo 19** and note how part of the cardboard backing was used to help make the lap joint.

It is essential that this thrust tube is perfectly circular, so to ensure this, a collar was created by cutting a 160mm diameter hole in a piece of flat foamboard and gluing the leading edge of the thrust tube into that aperture, **Photo 20.**

To add some shape to the exterior of the tube adjacent to the collar, a 30mm wide strip of card, **Photo 21,** followed by a 20mm wide strip and finally a 10mm strip were added before cutting the collar down to match and covering that cut edge with a 10mm wide card strip as in **Photo 22.**

Some more card was added to the rear of the tube and then these areas were carefully covered with epoxy filler and sanded to produce


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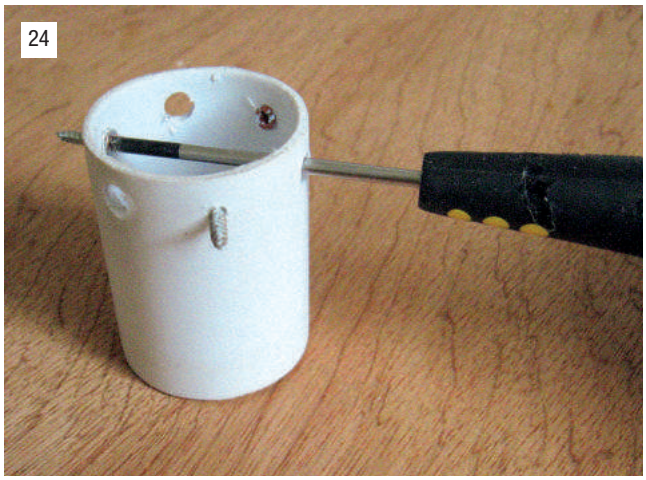
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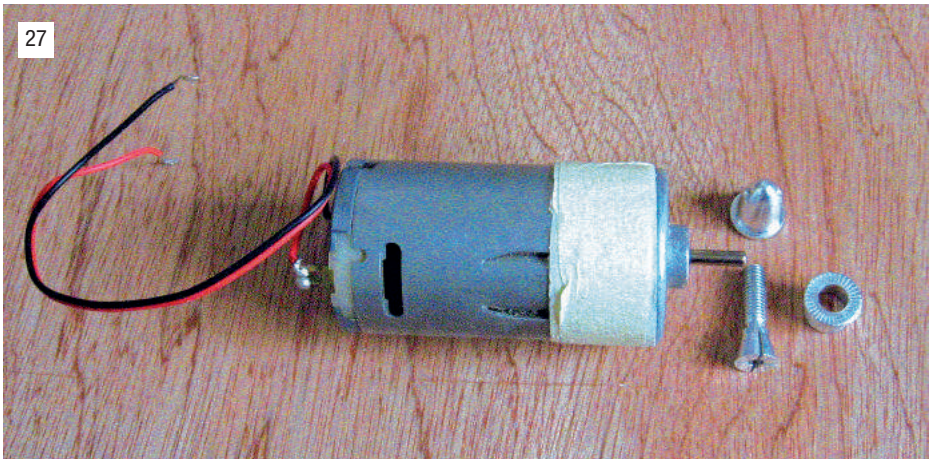
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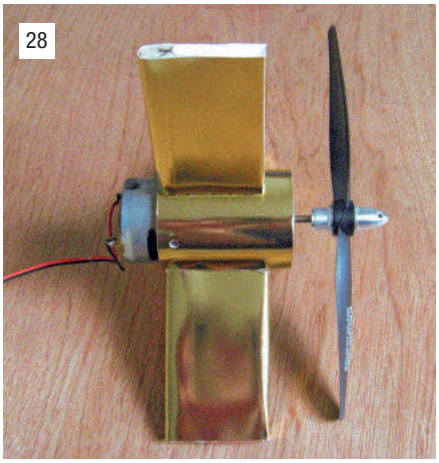
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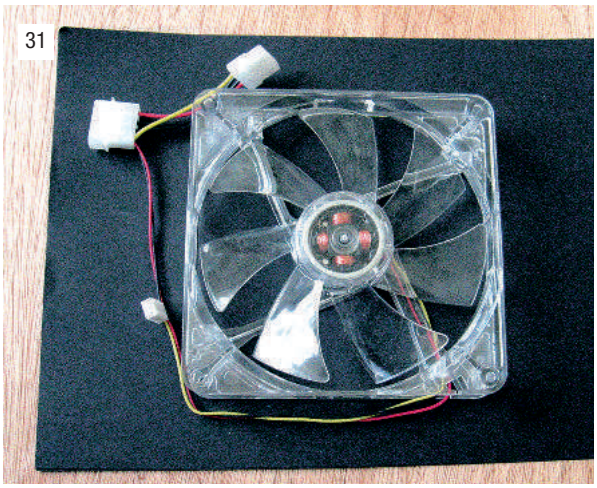
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an aerodynamic decorative styling to the whole thing. When fixing this thrust tube assembly to the hovercraft later, I added some angled pieces between the deck plate and tube as buttress supports.

Safety?

To stop little fingers from getting to close to the forward thrust propeller, a guard was created out of bamboo skewers and glued in position. The rudders are simply two more pieces of foamboard cut to size and fitted on bamboo skewer posts, which allow the rudders to move freely from side to side controlled by a single servo mounted in the rear compartment of the hull.

Forward thrust motor and its mounting

A 500 type size of brushed motor fits quite snugly inside a piece of 40mm domestic waste pipe and only requires a couple of small bolts (or screws) to hold the motor firmly in place. Six 3mm holes were cut into the pipe, **Photo 23,** 8mm from one end of the pipe. Three of the holes were countersunk on the inner face of the pipe and used for fixing it (i.e. the motor mount) to its supporting pylons whilst the other three are for the screwdriver access, **Photo 24.**

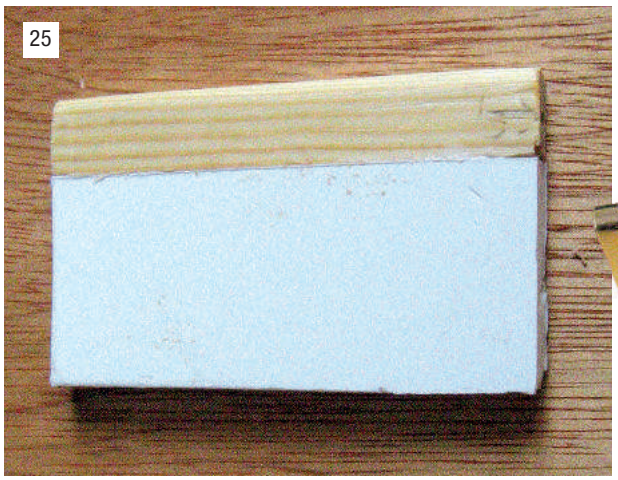
The thrust motor supporting pylons were also made from foamboard fitted with 6mm x 10mm stripwood leading edges, **Photo 25.**

Fixing the pylons to the pipe was a simple matter of marking and drilling a pilot hole in the wooden leading edge and using short screws to fix the parts together. However it is advisable to decorate the parts before assembly, as it can be a little difficult afterwards, **Photo 26,** and as you can see from the picture, a gold foil finish has been applied, this being to show how easy it is to apply a decorative 'wrap' to these materials.

The thrust motor is a spare Johnson motor unit coupled to a twin blade aircraft propeller with a standard commercial propeller adaptor. If the motor is a little loose in its mounting tube, simply wrap some masking tape to increase the diameter of the motor and create a snug fit, **Photo 27.** Gently push the motor into the mount until the correct position is achieved but make sure the air vents are unobstructed, **Photo 28.** For ease of maintenance, this thrust motor and its pylon assembly is easily removable from the forward thrust tube, it being held in place by simple slotted brackets.

Lift motor

This is fitted to a plate in the upper part of the central compartment, the motor being contained within a housing in exactly the same way as the thrust motor, but instead of pylons the housing is gripped between two wood bearers as in **Photo 29.** This lift motor mounting plate is held firmly in position within the compartment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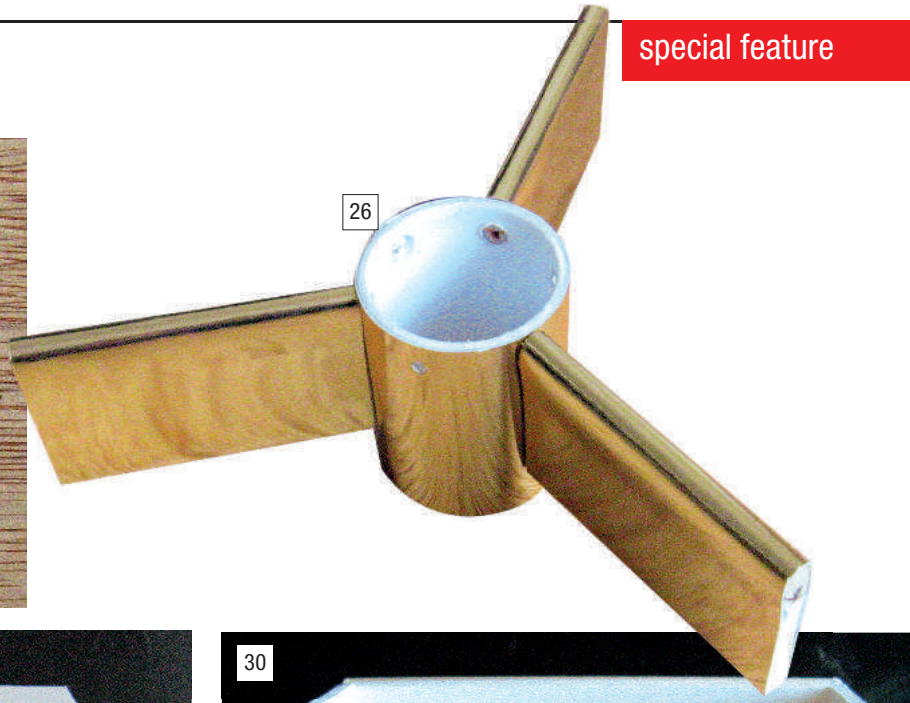
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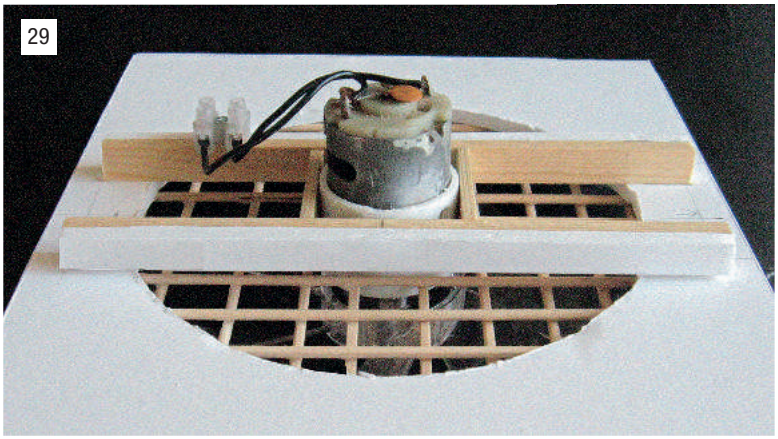
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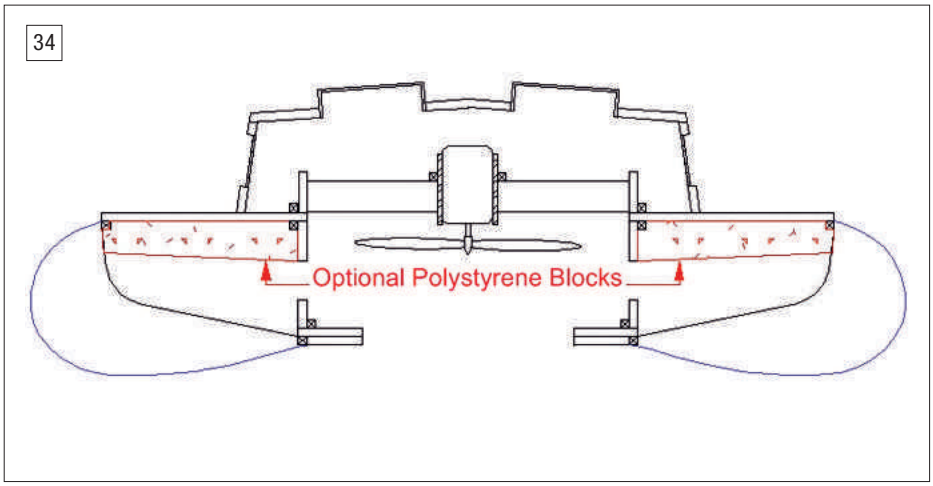

between timber rails and secured with clips, but is removable for maintenance. A bamboo skewer finger guard was fitted, **Photo 30,** and the fan must revolve freely within it all.

I had some trouble finding a suitable rotor for the lift fan as my first thoughts were to use a twin bladed aircraft propeller, but soon found that whilst forward propulsion could be achieved with such an airscrew, the task of lifting the hovercraft was an entirely different matter.

Further research and development trials revealed that a multi-bladed fan was needed to move the much greater volume of air required and create the compressor effect. After a couple of abortive attempts, a 150mm diameter computer cooling fan, **Photo 31,** coupled to an old, but very fast, buggy motor did the trick.

I remember that my comment at the time on the Model Boat Website Forum was that this motor and fan sounded like a couple of cats stuck in a tumble drier, not that being a cat lover I would ever want to hear that in real life!

Hull superstructure

This is the part of the hovercraft body above the deck plate and the cabin has a removable roof, as you can see in **Photo 32.** The cabin design doesn't follow any established style and was simply created to provide the maximum amount of internal volume for the fitting of equipment in the form of batteries and r/c gear and one thing of importance is that the windows on either side of the lift chamber were left unglazed to allow the free passage of air to the lift fan inside, as is evident from this last picture.

To aid airflow, two additional scoop intakes were fitted in the roof directly over the lift fan, **Photo 33.** These are from mini-gutter stop ends, the type of guttering that is usually fitted to garden sheds.

Possible later modification?

As an aside, if a lift motor is struggling to raise a model to full hovering height it is possible to increase the air pressure in the lift chamber by reducing the available air volume within the skirt void as in the diagram in **Photo 34,** where it suggests the fitting of polystyrene blocks between the outriggers and underside of the deck plate.

The skirt

This was made from Ripstop kite material that was purchased online and put together by Jane who is an absolute wizard with the sewing machine. Ripstop is a difficult material to sew and frays if not sewn correctly so Jane initially sewed the parts together with a standard stitch and then re-sewed the seams with an over locking stitch to ensure that the material didn't fray. The thread used was standard

dressmakers' cotton, certainly strong enough to hold the Ripstop material together and withstand the air pressure when the skirt is inflated, **Photo 35.**

The skirt fits snugly, **Photo 36,** and is held in position with double-sided tape and whilst looking at the bottom of the model in this last picture, it is worth pointing out that the underside has timber runners to protect its surface and the gaps in between are filled with polystyrene which provides floatation in the event of power loss over water.

Decoration and testing

Decoration proved to be quite easy as all of the surfaces were already flat and smooth and just to demonstrate how easy decoration can be, the Union Jack finish was adopted with self-adhesive film, **Photo 37.** However, it was necessary to seal all of the open cut ends of the foamboard with PVA glue prior to decoration to prevent the foam core from reacting with the decorative material adhesive. It has also to be remembered that all of the surfaces must be decorated or sealed in some way, by paint or sled-adhesive film, to prevent the card covering from warping when damp, something that is inevitable if the hovercraft is used over water.

Trials

The initial testing of the lift rotor and propeller blades proved to be quite a task to get right, but everything else went well and after a little ballasting to correct the trim, the model worked perfectly and was strong enough to withstand the rigorous handling of an inexperienced six year old. The only design change that I would make, is to increase the size of the rudders to improve the turning response time. **Photo 38** is of the hovercraft traversing a small step. It is rather difficult to take a picture of a hovercraft moving on dry land as there are no wheels turning and it appears to be almost just sitting there, but hovering it is! On the water - now that's a different matter! It worked fine for a few minutes, until the wind flipped it over because it is so light. Okay, it didn't sink, but the r/c gear got wet, so after drying out, it has become a dry land hovercraft until some means of waterproofing the electrical installation has been devised, and here ends the story for now.

Conclusion

All in all the foamboard made a very good substitute for plywood as it is far easier to work with and the resulting model hovercraft looks good, performs very well and is considerably lighter than a wooden version.

Owing to its ease of use, foamboard may well be a suitable choice for younger or inexperienced modellers wanting to have a go at a simple project without having to spend huge amounts of money on more specialist tools and equipment. As I indicated at the beginning, only basic hand tools and PVA glue are needed, plus someone who can use a sewing machine if you are making a hovercraft!

Enjoy your hobby - Paul Thomason


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37


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Left: The pool is a focal point for the event, here with the Chandler Family demonstration in full swing.

Above: An unusual model of the RNLI A class inshore rescue boat No. A-508.

The Blackpool Model Boat Show 2013

DAVE WOOLEY reports from the A Model World sponsored event

I have reported from this event for many years and I enjoy the ambience of the show. I have noted on the internet forums some adverse comments about the venue of the Norcalympia Hall at the Norbreck Castle Hotel and in particular the lighting, but these pictures here were all taken with a pretty much standard camera and as to the facilities? Well, not everyone is always pleased with everything, but it is a dedicated model boat trade and club event in the North West and we should be grateful that it exists and is supported by unpaid enthusiasts who do their very best with what is available. So, a big THANK YOU to them all for their efforts and of course the event is under cover with adjacent parking, so no muddy fields to tramp around!

Club stands and models

Where do you start with so many models to see? I was impressed by the models shown on the Hull Model Boat Group stand, particularly the models of the Ross Cleveland and Our Lass 11, but to be fair all of the fishing vessel models on their display oozed character. Hull MBG seem to be gifted in their interpretation of these types of vessel. Mind you, there were others of note at the show, including Navena by Rodney Sanderson from Fleetwood.

Something completely different was a large model of a Vietnam War river patrol boat PBR Mk. 11. This was built by Ian Gallagher, better known for his fully working armoured vehicles and it shows how these 9.75m long craft appeared during that period, right down to the US marine figures in action poses, especially the one manning the 50 calibre machine gun forward. These craft were originally powered by water-jets for safe operation in shallow water, with over 500 being built.

When visiting shows like Blackpool, one of the joys is seeing a diverse display of models and none more so than on the North Western Model Shipwright Society stand on which there was an unusual small flat-hulled Pacific island inshore fishing vessel of balsa construction and at the other end of the spectrum, a 74 gun warship based on the one shown in Rees's Naval Architecture of 1819 to 1820 book. That author, with others of the period, was a radical thinker with innovative ideas. This 1:64 scale model was constructed of Boxwood and built over a six year period by Peter Barker and is not of a specific actual full-size vessel, but is superb nonetheless.

As is now usual at a number of shows, there were a number of building demonstrations taking place - all good stuff and the sort of things that make such an event so much more interesting for the casual visitor.

For those of you that perhaps have not had an opportunity to visit this show, there is a

Left: A fine model of the sailing/ pulling lifeboat Maude Pickup by Neil Howard-Pritchard.

Right: J Class Hulls. A range of classic yacht hulls.

Right: An all scratch built Italian MAS boat in its striking paint scheme, built by Nick Rigby of Ribble MBC.

Far right: The all new hovercraft model from the Chandler family!

reasonably sized pool at the far end of the exhibition hall with seating around it. The running order is organised by Anne Finnis, a lady who has been on the model boating scene for many years.

Close to the pool was the Lifeboat Enthusiasts Society and this year there were a number of unusual models on display. One of these was the Falmouth McLachlan A class A-508 inshore lifeboat. You really don't see many examples of these boats, but it looked good and performed really well on the indoor pool. There was also a superb model of Maude Pickup, a sailing and pulling lifeboat built by long standing enthusiast Neil Howard-Prichard and still on the lifeboat theme, the Chandler family introduced their new RNLI hovercraft and ROSV Archimedes, a working submarine with strobe lighting etc. This family are really creative and innovative with their models, with no doubt more to come in 2014.

Having a chat to the Vintage Model Power Boat Group, they mentioned that they had acquired a truly vintage 1950's model with an original diesel engine that has never been run, plus a 1950's unused rudder actuator, from a modeller keen to find a suitable home for such elderly items of interest. The Surface Warship Association was represented, as usual, by Allan Derham with his fine example of a Tribal class frigate HMS Zulu.

Traders

New to Blackpool was Chylds Hall Model Shipyard (Steve Pickering) offering the model builder something different in period and style. New from Steve, since the 2013 Model Boat Convention at Haydock Park, was a 1:48 scale semi-kit for a twin funnel steam picket boat. Notably to keep the price low, the resin fittings are supplied on their carrier sheet ready for the modeller to remove and prepare. Mac's Mouldings continues to expand their range of fishing boat accessories with new fittings including a 'hauling in the catch' accessory and a lone seagull pecking its way through a hearty meal of fish!

Keith Jewel is better known to many as Modelling Timbers, but in recent years he has introduced precision made generic brass fittings to his product range. Having a chance to have a look at some of the fittings on offer, I was amazed at their quality and detail, especially of the various types of stanchions on offer. Another newcomer to Blackpool was J Class Hulls who specialise in high quality yacht and power boat hulls. Alan Horne, the proprietor, showed me some of the yacht designs on offer and one of his powerboats fitted with a 6hp brushless electric motor! The yachts have a J Class Association (no surprise there) and are indeed some of the most elegant racing yacht designs ever produced.

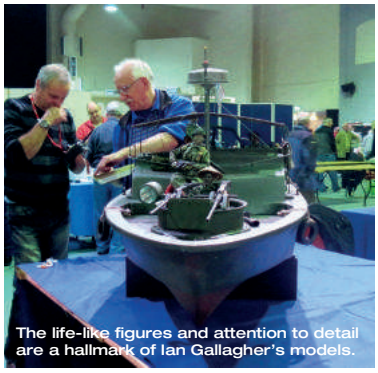
There was on the whole good trade support and more than enough to meet all the enthusiast's spending needs.

Conclusion

This is a long established show in the North West of the UK which is sponsored by A Model World with support from local clubs, in particular the Blackpool and Fylde MBC. Enthusiasts from Scotland make the journey down to it, as do some of those from across the Irish Sea, because there tend to be no other trade events of this sort further north in the UK. So this event has a good following from modellers in this region and serves their needs well.

Above: Modelling Timbers: They don't just sell wood!

Left: A superb example of Our Lass 11 on the Hull MBG stand.



The life-like figures and attention to detail are a hallmark of Ian Gallagher's models.

Chylds Hall Model Shipyard now produce this lovely semi-kit of a 56ft steam picket boat with all the resin fittings moulded ready to be cut from a single casting.

Left: Rodney Sanderson built this award-winning model of the famous motor trawler Navena.

Right: Allan Derham with his 1:96 scale model of the Type 81 frigate HMS Zulu.

Right: Mac's Mouldings has a range of fittings that are imaginative!

Far right: An excellent working model of the research vessel Meteor built by Ribble MBC member Nick Rigby. The Smit Hunter behind it gained the Best Tug Award for Phil Scales.

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Photo 1 The new Green Book gives more guidance to Inspectors and modellers to enable easy and effective testing to be completed. Steam tests can be completed as part of an open steam event and should take not much longer than ten minutes.

Boiler Room

Part Thirty Eight: The Green Book, Part 2

RICHARD SIMPSON's series on model steam plants

Last month we started our comparison of the old Blue Book Set of Regulations and what has been changed in the latest revision that came into effect on the 1st January in the guise of the new Green Book. We had got as far as the Design Verification section so now move on with the next section.

The requirements

The Green Book now has a new section entitled Preliminary Requirements and Preparation for Test which goes on to describe exactly that and is a useful addition over the old Blue Book. This is actually a great resource for the modeller because it clearly lists the things an inspector will want to look at during a test, **Photo 1.** It must be remembered that this section covers the Steam Test and the Hydrostatic Pressure Test because it starts with the sentence: 'Before any testing is carried out on a boiler it must satisfy the following conditions'. This section also clearly states what is required as regards a certified test gauge and how to check the calibration of the boiler pressure gauge. This is a very useful section to be referred to when preparing a boiler for testing, to ensure that the test process is as quick and easy as possible and there are no embarrassing pauses as it is realised that something has been forgotten. One paragraph that does seem to cause a bit of difference of opinion is that which refers to the CE marking of commercial boilers. Although it states that they have to be marked, it also mentions that it is to be as required by the Pressure Equipment Regulations 1999 No. 2001 and the Pressure Equipment (Amendment) Regulations 2002 No. 1267. If you want to dig into this, and you will be a braver man than me if you do(!), you will find that boilers below a capacity of two litres are not required to be CE marked, so they can be tested as any

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Photo 2. This old Cheddar Certificate is typical of a manufacturer's boiler pressure test certificate and should state the working pressure, so that combined with its capacity, enables all the other test criteria to be determined.

Photo 3. If the plant does not include a feed system, then it should have more water capacity than fuel. Care should then be taken with using large capacity gas tanks that can far outlast the water carried in the boiler.

other boiler.

After this, all the sections refer to the test procedures that will be done on any of: Non-Commercially Built New Boilers, Commercially Built Boilers and Previously Tested Boilers, most of which will not apply to our boilers anyway, if they are below the 3 bar-litre limit. Another point here though worth mentioning, is the requirement to ensure that new boilers are supplied with a pressure test certificate that includes either their dimensions or capacity, the test pressure and date of the test, an ID number and the working pressure, **Photo 2.** I have known of vendors in the past who do not supply test certificates and quote that they are not required. They most definitely are, and you should not purchase a boiler that does not come with a test certificate.

The tests

The procedures for the actual tests are next described in the chapters entitled Hydraulic Test Procedure, Steam (Accumulation) Test – Annual, and finally Certification. There will be some in the steam model boat world who will still require hydraulic pressure testing such as those above the 3 bar-litre limit, new home made boilers and any that have had any remedial or modification work done to the shell. It is also worth considering for your own piece of mind that if you have any doubt as to the condition of your boiler then have it tested anyway. For instance if you have used de-ionised water in your boiler for any length of time, then discovered why this is perhaps not such a good idea, then just to put your mind at rest, have it pressure tested. Nowhere in the regulations does it say that you cannot have it done if you want to do it. Again however most of this will refer to larger boilers and rarely have anything to do with us in the model boat world.

What are really interesting sections though are the new Regular or Routine Inspections & Maintenance and Small Boiler paragraphs. The Regular or Routine Inspections & Maintenance section is a great resource and reminds us of the requirement to simply take care of the plant throughout its life between inspections. Again I would recommend everyone reads though this section and, more importantly, actually does what it states as a regular and routine procedure. The more experienced steam modellers may well think this is all obvious stuff, but it is a good guide for those ne to the hobby and looking for help and even the more experienced could well take note of some of the points here to avoid the onset of complacency in conjunction with maturing years and before anyone asks, yes, I do include myself in this as well.

I once got caught out with a blocked gauge glass connection and had to watch my model and its boiler sit stranded in the middle of the pond as the smoke started to rise from the overheated lagging. I make a point of checking the operation of the glass regularly now.

So finally the section that is going to be very relevant to just about all of us and that is the Small Boiler section. Small boilers are defined as having a product of below 3 bar-litres and should be fitted with a safety valve and a pressure gauge. They may also be fitted with a level gauge of some form and even a filling system. A point worth noting here is that if they are not fitted with an automated filling system, the amount of fuel available should be exhausted before the water is used up, **Photo 3**. I'm sure at some point we have all seen a nice large gas tank supplying a boiler that will be dry in around half an hour at the most.

Another interesting paragraph here is the final one that refers to simple small boilers that do not have a pressure gauge. I have noticed some discussions online where modellers seem to think that this is the great onslaught of the Thought Police because their Mamod powered boat is now covered by regulations, although I really don't think this is such a bad thing in practice. In the old Blue Book, such boilers were not separately identified and I have had a few discussions over the years as regards just how to go about testing such boilers. Coincidentally I came to the conclusion that a simple steam test and visual inspection was worth doing and I wrote certificates out accordingly, **Photo 4,** for these relatively simple models, which nevertheless can be as pleasant to sail as something with the most sophisticated steam plant on Earth!

Now, the Green Book actually states that this is what should be done and this really is nothing to complain about and should give the model builder that bit of peace of mind that the boiler has been checked and the inspector has been satisfied that the steam plant is safe, and I cannot imagine anyone not wanting to do that.

Conclusion

So that in a nutshell is the new Green Book set of rules for the Examination and Testing of Miniature Steam Boilers. I actually think it is a much better book than the old Blue Book as it gives more guidance to examiners and modellers alike as well as clarifying one or two points that were open to personal interpretation in the Blue Book. I would strongly recommend that any steam modeller gets hold of a copy and read through the parts that apply to their own particular plant as I think you will find it interesting and informative, whatever your point of view. We have to now accept that the days of the 'throw it together' and 'see what happens' steam modeller are gone and whilst there were some who will always complain about rules and regulations it really isn't a bad thing to have some sort of structure to how we go about testing such things.

I hope the last couple of issues have helped modellers overcome their apprehension of the steam Green Book regulations and will encourage some to take the plunge and get into the incredibly rewarding hobby of steam modelling. As always the first bit of advice is to join a club and pick the brains of the guys who have been through it all already, and preferably one that does have a steam examiner in its membership. To finish, here is **Photo 5** of a very nice model of Lydia Eva, which goes to show that you do not need to sacrifice detail when building a scale steam powered boat.

5

Photo 5. The great advantage of having a certificate system is that it not only to ensures that models are maintained and operated to a safe standard, but when models such as this superb scratch built trawler visit other clubs, everyone can be satisfied that the model is suitably up to 'steam' standard and safe to operate.


4

Photo 4. This lovely launch is powered by a Modeen Crompton plant of a similar design to a Wilesco or Mamod plant. Previously tests have been conducted anyway to satisfy the owner that everything was working well, but now this process is actually described in the Green Book rules.

Darlington & District MBC

IAN ARCHIBALD reports on their 2013 Paddler Open Day

A paddle-duck!

Above: Marchioness of Lorne - very realistic on the water.

After one of the warmest Augusts for some years, the first day of September felt decidedly Autumnal, having cloudy skies and a stiff breeze, so not the best of weather for the club's final Paddler Day.

Sadly there was no contingent from Scotland as in previous years, but the North East was well represented by members from the Gateshead, Killingworth and Roker Park clubs. From the West there were visitors from Rawdon (Leeds) and Southport. The father and son team from Luton turned up again, plus a father and daughter from Hampshire. Our honorary club member Hans Freund came all the way from Switzerland and was accompanied this year by his girlfriend Beate. She deservedly received the award for Best Paddler on the Water with her outstanding model of the tug Dragon Eye.

Having opened up the event to steam powered models of any kind, the award for Best Model went to Mark Groucher for his clinker built open launch Martha. This was a large, beautifully built and engineered model and some said: 'Who would want to hide all that superb workmanship under a deck'!

Such were the weather conditions this year we unfortunately had a model sink. Perhaps sailing Bohemia with her lightweight moulded plastic hull and low freeboard was not the wisest of decisions, but Ernie Lazenby bravely went into the lake to recover it.

Twenty models were present on the day of which 15 were registered to sail, mostly paddlers. Unfortunately, this continued the steady reduction in numbers over the years and the club do not intend to organise this event again, although it has run annually since 2007.

As ever, those club members who turned out and assisted with the heavy work such as carrying benches from the community centre to the clubhouse area and erecting gazebos are to be commended and thanked, as are Geoff Sutcliffe for selling raffle tickets and Ernie Lazenby who looked after the transmitter pound as well as recovering the sunken model. The catering was taken care of by Sue and Nicola Fish assisted by Kath Sutcliffe. So, a big THANK YOU to all of them for their efforts on the day.

Ernie Lazenby to the rescue!

In conclusion, no mention of the Paddler Open Days would be complete without recalling the late Stuart Badger's enormous Irish Sea ferry Connaught which was entered in 2011. It must have been one of the biggest model boats we have ever seen and we remember him fondly.

Finally, Hans Freund presented Walter Snowdon, the D&D MBC chairman and event organiser, with a lithographed biscuit tin in the shape of a continental paddle steamer and this will be displayed (sans-biscuits of course!) in our clubhouse. Thanks to everyone who has supported this event during the recent years.

Club website: www.ddmbc.co.uk

Ian Archibald

Bow detail of Jeanie Deans, a classic model of a classic paddle steamer.

The event was not just for paddle boats. This clinker-built steam launch Martha is superbly built and engineered.

The R.E. Lee. Paddler models come in all shapes and sizes giving their builders a lot of pleasure.

Speed? Getting on for 80mph I believe.

Ton Up!

DAVE WIGGINS visits a hydroplane race meeting in Essex

Following a chance contact with Norman Lara of the Model Hydroplane Club (affiliated to the MPBA), I was able to attend their October 2013 meeting at Althorne in Essex.

The building and racing of tethered hydroplanes is just about the oldest established specialist area within model boating, and together with the straight running and some steering and r/c pairs racing events, it formed the core of most MPBA (Model Power Boat Association) regattas when I first took up the hobby in 1963. Nowadays, hydroplanes and straight running are really 'niche' interests in a radio control dominated world, but the speed of the hydroplanes and the aiming skill required in straight running, require personal capabilities that are no less demanding than those of other branches of the hobby.

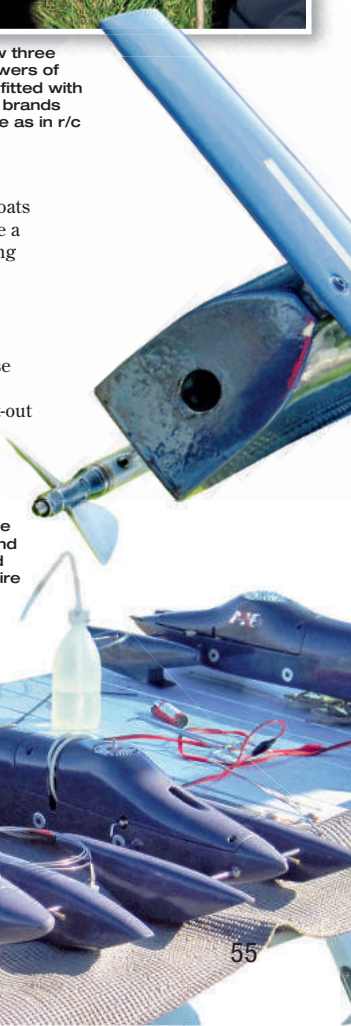
Hydroplane classes

At the start, i.c. engine powered and water screw propelled, tethered speed boats were graded in classes and not surprisingly these were A, B, C, and D, according to engine capacity being broadly 30, 15, 10 and 5cc in capacity, the A and B classes normally having home built petrol engines with commercial glow motors like the Dooling/McCoy/ETA being used in the smaller C and D class boats.

These petrol, glow and flash steam powered models were tethered to a pole, hence the term 'round the pole racing'. The pole is firmly anchored to the lake bed and the boats, connected to the pole used nylon or stranded 'Laystrate' wire (as for control line model aircraft) all connected to a rotating plate at the top of the pole. These models were timed using two or three averaged runs by hand-held, mechanical stopwatches, plus the naked eye as the boats hopefully completed five laps. There were a few variations on this, as sometimes timing began from the first pull of the engine's starting cord for example, but that was basically what happened. Another way of describing these craft was as control line aeroplanes, but running on water. In those days, all tethered i.c. hydroplanes were required to have a lever operated fuel cut-out fitted and the owner used this to stop the boat after each successful run,

The very latest in electric powered hydroplanes by Norman Lara who has been a lifetime Victoria MSC member.

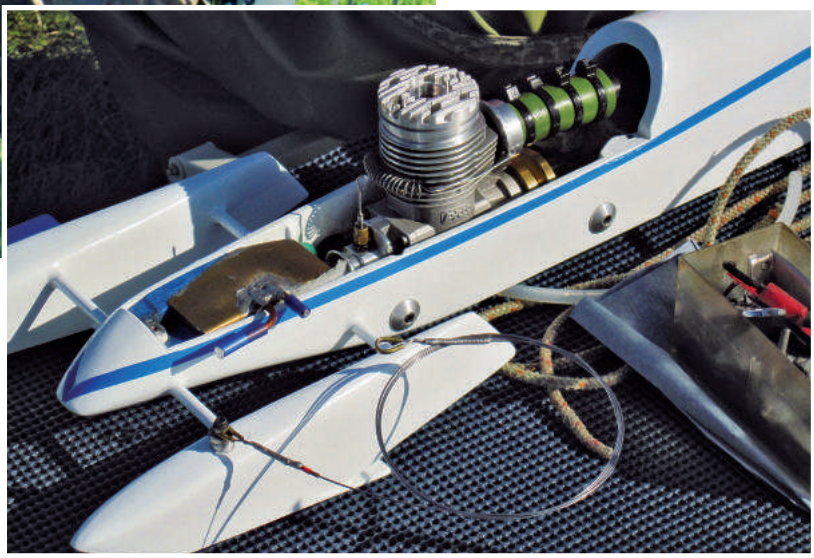
This picture is of the three red and yellow three point hydroplanes by Lynn and Hugh Blowers of the Retro Racing Club. Their models are fitted with 5 and 10cc glow motors. Popular engine brands are CMB, Picco and OPS, much the same as in r/c multi-racing boats.



These are craft raced by Steve Poyser, a man who like Norman Lara, has a long established pedigree in model hydroplane racing and these boats of his have 7.5 and 10cc glow motors. Note the hand crafted propeller as all tethered race boats require precision engineering.

Nothing changes! The racers still like a good yarn between their runs!

The timing apparatus, but backed up by a 'ye olde' stop watch I notice!



Power! No wonder these hydroplanes go so fast and they are all invariably superbly engineered.

but nowadays, single strand piano wire has replaced Laystrate and cut-outs are no longer used, the owner merely waiting for the fuel to run out. In the case of steam, once the 'puff' had gone, the model stopped.

Later, airscrew powered tethered models were introduced and were authorised by the MPBA and by Naviga, this last organisation running World and European Championships to which the British have sent a contingent regularly, and with some success.

Not being constrained by a propshaft and couplings etc. these new boats proved to be a huge step forwards speed-wise and by the late 1970's, tethered hydroplane speeds had virtually doubled to 120mph or so. However, this was not entirely all good news as taken together with the high noise levels, local authorities started to stop the running of hydroplanes on their public waters in their parks used by families and young children. So, the number of venues then shrank quite speedily.

That said, there undoubtedly remains something special about tethered hydroplane racing, including the noise of the high revving engines; the smell of exotic fuels and their sheer power and speed which are a heady mix for onlookers and the drivers. In recent years there has been some progress with electric brushless motor powered water-screw hydroplanes now making an appearance. These boats are quiet, but still fast of course, although they are not quite as exciting to watch as a flat-out flash steamer or a 10cc hydro' at full pelt!

Althorne: October 2013

Before I begin, I'd like to thank Norman Lara, Steve Poyser and Lynn Blowers for welcoming me to Althorne Lake on a truly lovely Autumn day and for answering my numerous questions, plus of course Stephen Hart for getting me there in the first place. Much has changed over the years as for one thing, there are more classes raced now there were in the 1960's. I also noticed that the general reliability level is much better nowadays, most boats getting away first time which was simply not so when I started. To be fair, modern hydro' fans have also given themselves a bit of an advantage compared to the old-timers, in that the initial launch is now catapult assisted! I was able to take a few pictures of the technology in these models, which was much easier than trying to take action pictures of a boat rotating at 100 plus mph!

I will let the captioned pictures do the talking now, but anyone interested in this section of our hobby would do well to look at the website: www.onthewire.co.uk and go to 'Links' in its home page menu, or the MPBA website: www.mpba.org.uk and go to the Tethered Hydroplane Section for more information.

Below: And away it goes! Note the launching pen.

Colonel Lamb

HAYDN FOULKES describes his US Civil War blockade runner, based on a Glynn GUEST plan

I knew that the US Civil War from 1861 to 1865 had had a naval dimension to it, most famously the clash between the USS Monitor and CSS Virginia in 1862, but I had not heard of the Confederate blockade runners before coming across a plan by Glynn Guest for a semi-scale model called Phantom that was in MB, October 2006.

I discovered that blockade runners were sleek and fast ships that brought much needed weapons and supplies from abroad to the Confederacy in return for cotton. One such vessel was Colonel Lamb built in Liverpool in 1864 and she was the largest iron-hulled vessel of her kind when she was launched. Colonel Lamb was named after William Lamb, commander of Fort Fisher, North Carolina, who worked closely with the blockade runners. She ran the Union blockade successfully once and evaded capture before the war came to an end in 1865. Sadly whilst under a different owner she was destroyed by an explosion when at anchor off Liverpool, eleven years later.

The Glynn Guest plan for Phantom is of a generic blockade runner, but there is ample scope as is usual with his plans for the modeller to vary the scale and incorporate more detailing. Glynn's article refers to a book in Osprey's New Vanguard Series entitled, 'Confederate Blockade Runner 1861-65' which was duly purchased, **Photo 1** (seen here alongside the MB article). The book's colour illustrations and commentary about the Colonel Lamb made me choose this vessel for a modelling project.

The model

From the start I decided to enlarge the plan to 1:72 scale so that commercial figures could be used as crew. Building a larger model would also make it easier to fit and handle the r/c equipment within the hull. Despite my initial enthusiasm, work did not properly start until 2012.

The model was built as per the enlarged plan, but with several deviations. By laying the plan on top of balsa sheets, the hull's main sections were marked directly with pins ready for cutting, **Photo 2**. As this model was going to be longer, an extra bulkhead to support the rear deck was included, but I also decided that the 3mm balsa side sheeting recommended by Glynn would still suffice. The stern was carved out of a block of balsawood and its inside hollowed out, so that

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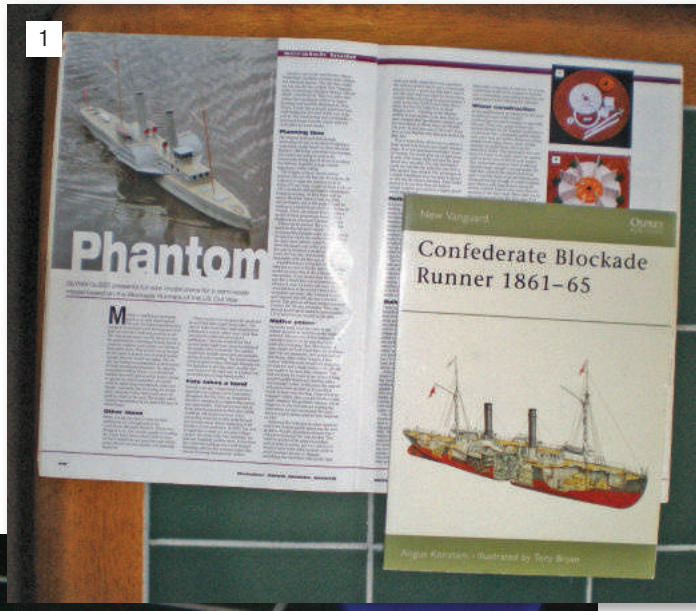

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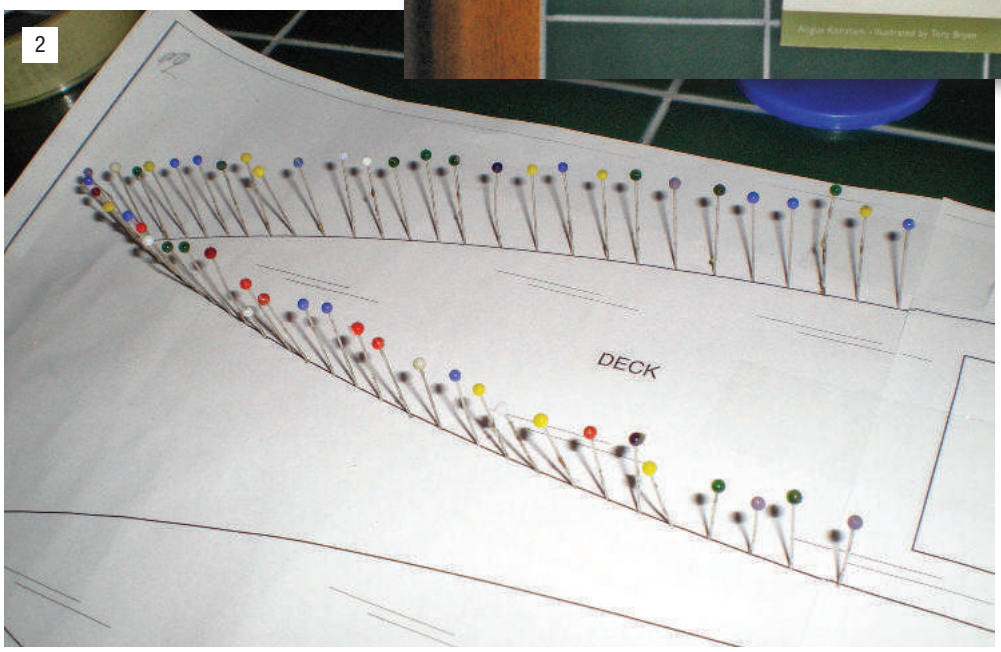


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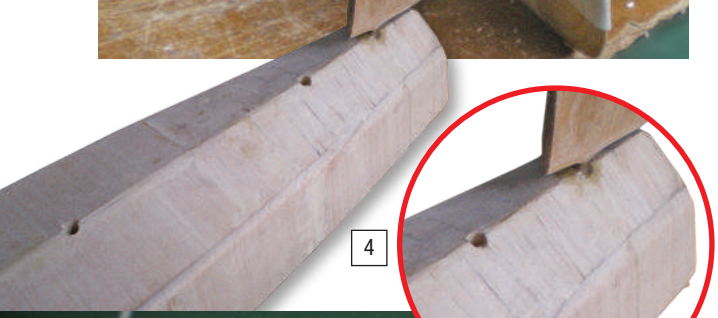
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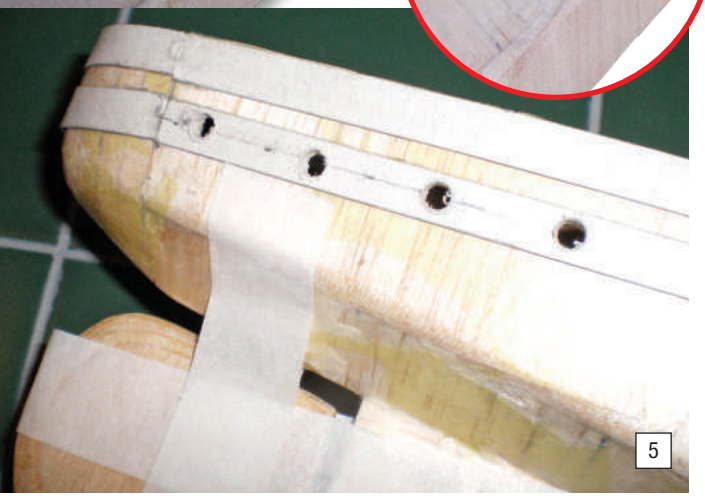
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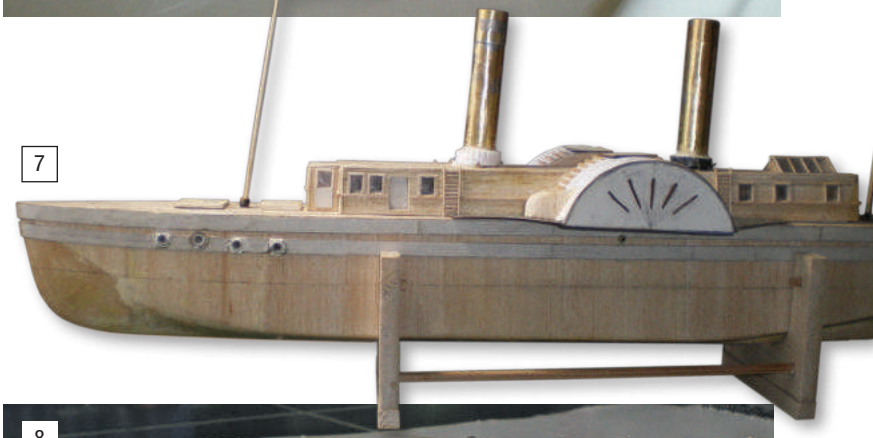
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there would be space under the deck from bow to stern like the real vessel, **Photo 3**, and then the hole was closed off with a skin of 3mm balsa. The greatest deviation was to change the shape of the hull's bottom from flat to round and **Photo 4** shows this and the holes made for fitting the new skeg dowels. Portholes were drilled in the bow and stern sides of the hull and clear plastic used for glazing, **Photo 5**. Deck planking was from strips of balsa.

After the hull was built and waterproofed, an initial bath test was performed and it was no surprise that the empty and very lightweight hull floated high in the water, but also stayed upright and level, **Photo 6**, at least for now!

Superstructure

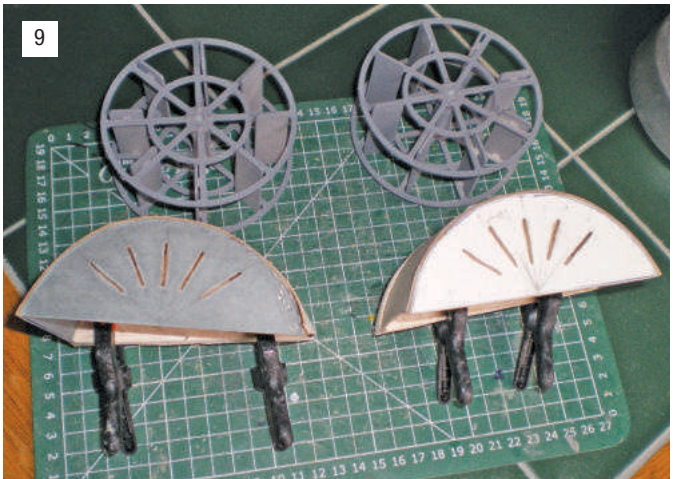
This was constructed to look like Colonel Lamb as in the Osprey book and is removable as one piece together with the paddle boxes, **Photo 7**. The funnels are of brass and not cardboard rolls as Glynn recommended, because I wanted to create smoke when the model was operating, and it was the easiest way to make them fireproof, but it did of course add considerable top weight and please note that comment! Stanchions and railings are also of brass rod, and hatches were cut into the main deck with removable covers for internal hull inspection. The anchor was simply a bent paper clip and the furled sails on the masts of the completed model are from an old (clean!) handkerchief, but the cowls and flags are commercial. The figures, **Photo 8**, were sourced from various 1:72 and 1:76 scale sets, painted and glued to the deck. Notably, blockade runner crews did not have a uniform as such, because they were of course civilians.

Paddle wheels

There are a number of plastic kits for these in the marketplace, **Photo 9**, and as these would 'do', they saved a lot of time, but fixing them to their driveshaft proved somewhat more difficult. A collet on each side of the paddle wheels was meant to hold them tightly to the driveshaft, but these worked loose on the pond later due to water resistance. Another modeller then suggested soldering a piece of brass shaped like a two pronged fork to the outside collet and bending the prongs to fit between the paddle wheel spokes as in **Photo 10**, which solved the problem, although engineers will no doubt wail in dismay at this solution!

A near disaster!

A second bath test was carried out a little later with the r/c equipment and lead ballast installed just after the hull had been painted and the superstructure constructed. Disaster! I had expected to adjust the weight and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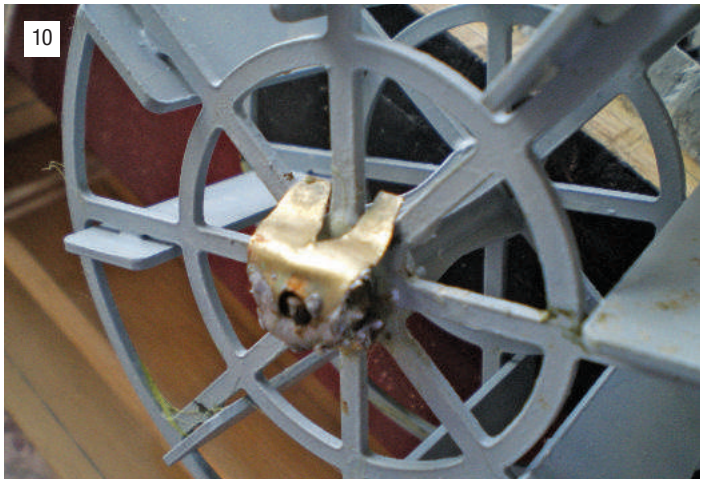
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12

balance of the model in the bath, but when let go, it keeled over and nearly turned turtle. The reason was blindingly obvious in that the model was clearly top heavy (remember the funnels?) and adding more lead inside the hull was not a solution. It was too late to make the hull deeper and in any event, paddle wheels need to be set at just the right depth to function properly and they could not be easily moved.

The solution was to create a new keel containing lead underneath the hull which meant that the C of G was lowered, but also not as much lead was required, **Photo 11**. Okay, not ideal, but a practical solution nevertheless.

On the water

Colonel Lamb's first successful sailing under two channel r/c, with a 380 type of motor driving the paddle wheels, did not finally happen until July 2013, **Photo 12**. Crosswinds made her heel slightly to leeward, but the model functioned well enough. It sailed elegantly at a scale speed downwind and was no slowcoach going into the wind. Moving astern worked well too and perhaps most important of all, no water went into the hull, so it had eventually turned out okay.

Conclusion

I would like to thank the people who have helped me with Colonel Lamb. First, my friend Howard Evans from Penrhyncoch, who helped with soldering and always has to hand any additional material or equipment I might need. Second, several members of the Colwyn Bay MBC who have been free with their time and advice and a nice finale to this project was when the model won third prize in the Mayor's Cup Competition in the club's 2013 Regatta, **Photo 13**. So, a happy ending for me with this project which was initially inspired by Glynn Guest and his Phantom plan. ●


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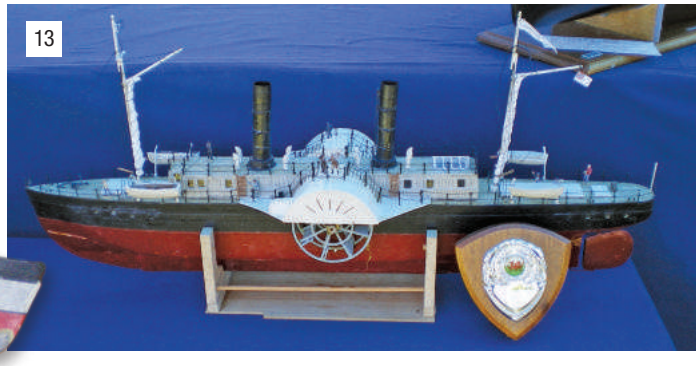
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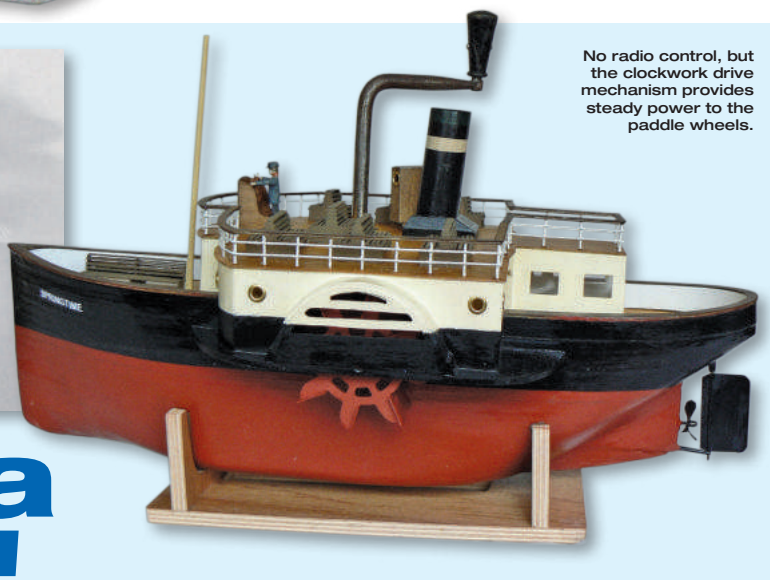
Springtime is quite small, but great fun to operate.


No radio control, but the clockwork drive mechanism provides steady power to the paddle wheels.

A Bit of a Wind-Up!

BARRY MARTIN's Springtime model

Many years ago, my first model boat was a paddle steamer constructed entirely of balsawood and powered by a Meccano clockwork motor. With gearing from a large crown wheel and Meccano's smallest gearwheel, my adolescent effort ran for nearly 15 minutes and even crossed the width of the famous Fleetwood boating lake on one winding. No radio control of course in those days, but after building a couple of fully controlled paddlers, now that I have the time and money to enjoy this hobby in my later life, I wondered if I could try another clockwork one – just for fun!

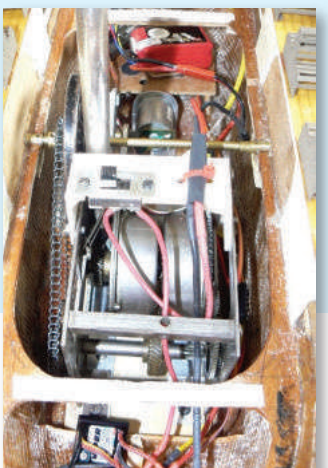
Another hobby over the years is the restoration of collected vintage gramophones, and a spare spring-driven motor was selected, and after some experimenting and a couple of false starts, Springtime is the result. Why Springtime? Because it is driven by two substantial springs, and one has to watch the time whilst sailing it!

I decided not to use one of my precious HMV motors for such a project, as they are cast iron and extremely heavy, but the motor used was a cheap model with steel plate sides, which I was able to lighten by careful sawing and the original flyweight governor was disconnected to reduce mechanical losses. Meccano chain drives the paddle shaft at a ratio of 4:1, so the normal 78rpm is reduced to less than 40rpm, This gives about 20 minutes sailing between winds.

The eagle-eyed amongst you may also notice a small propeller and this serves three purposes:

First, to bring the boat back if the spring runs out.

The interior of Springtime.



Second, to help the boat to turn, since paddlers don't like turning.

Third, to provide a reverse through a normal speed controller and small electric motor.

I tried a reversing gearbox, but the complication was too great. The radio control not only supplies rudder and propeller control, but a servo is used to apply a brake to the paddle shaft, so that the boat can be stopped and re-started.

It would have been much easier to use a battery and electric drive to the paddles, but I've got two boats like that and this was more of a challenge. Springtime is only 23 inches long and is easy to transport, but the amusement it generates at the pondside when I screw the winding handle through the deck has made the project worthwhile!

Barry is a member of North West Scale Model Boat Club - Horwich

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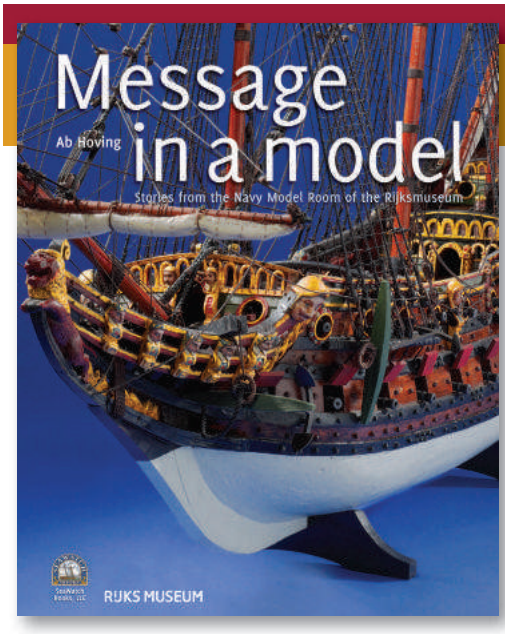

MESSAGE in a MODEL

NEW

From the newly restored Navy Model Room of The Netherlands Rijksmuseum.

Newly translated from the Dutch version, Ab Hoving takes you through the modeling exhibits in the newly restored Navy Model Room of The Netherlands national treasure, the Rijksmuseum. Ab spent 29 years as head model maker and restorer of this collection and he has picked some of his favorites to show in text and over 350 color photos. Come and see the treasures selected for you from one of the world's great maritime historians and model maker.

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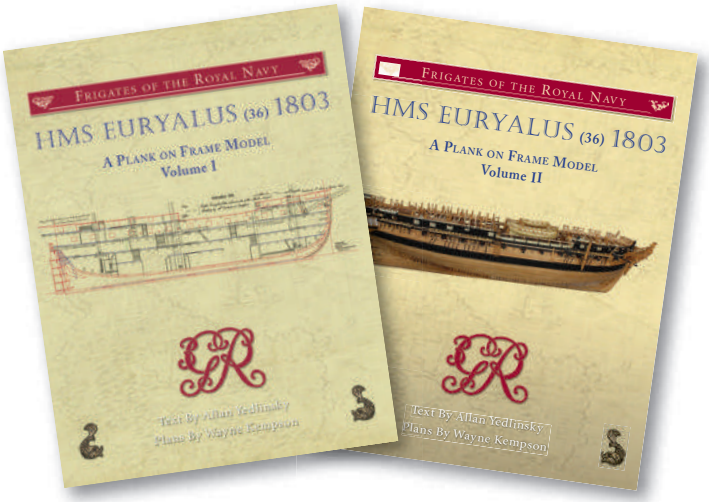
Frigates of the Royal Navy

HMS EURYALUS (36) 1803

Text and Model by Allan Yedlensky • Plans by Wayne Kempson



EURYALUS was part of Nelson's fleet. Volume I begins the plank on frame model using David Antscherl's upright method and covers building through the lower deck. Volume II completes the framing, starboard planking, upper decks, head and stern details, ships boats, cannon and more. 8-page color section features a painting by famed artist Geoff Hunt. Plans included for masts and spars.

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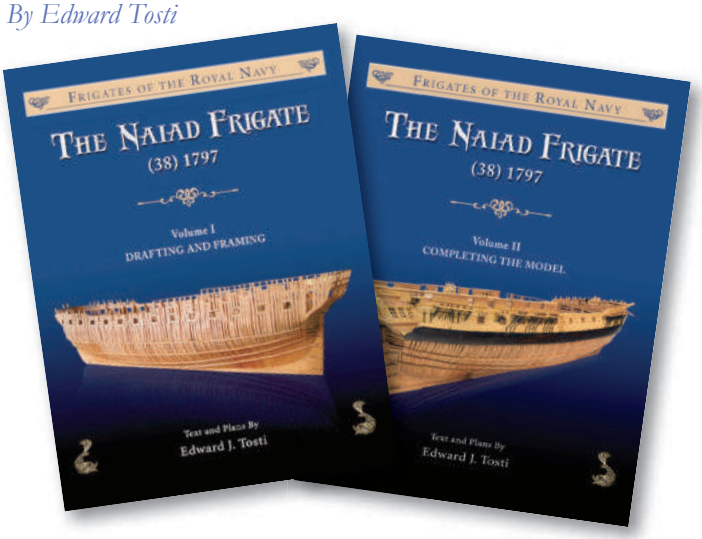
$80 each Shipping $9US/$20Canada/$30 all other locations

NAIAD FRIGATE (38) 1797

By Edward Tosti



THE NIAD FRIGATE served in the Napoleonic Wars. Features include descriptions and photos of jigs and building tools for this "keel up" style of building. Volume II deals with interior construction, berth and gun decks, weather decks and all other details of construction. Nine sheets of detailed plans, 16 pages of color photos and a CD containing many details are included.

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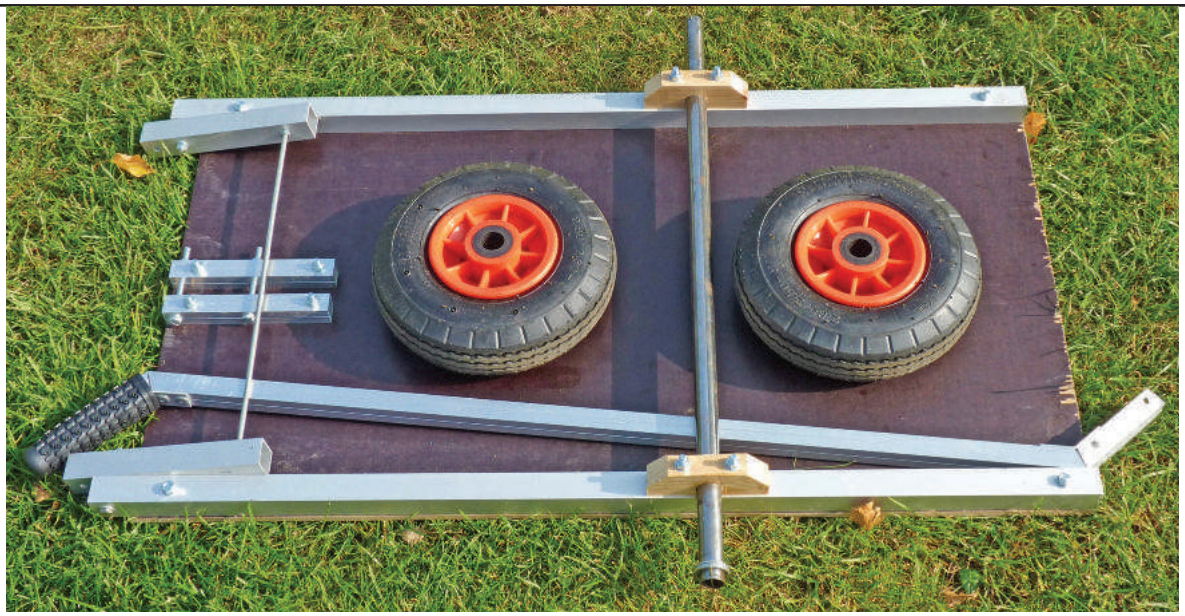
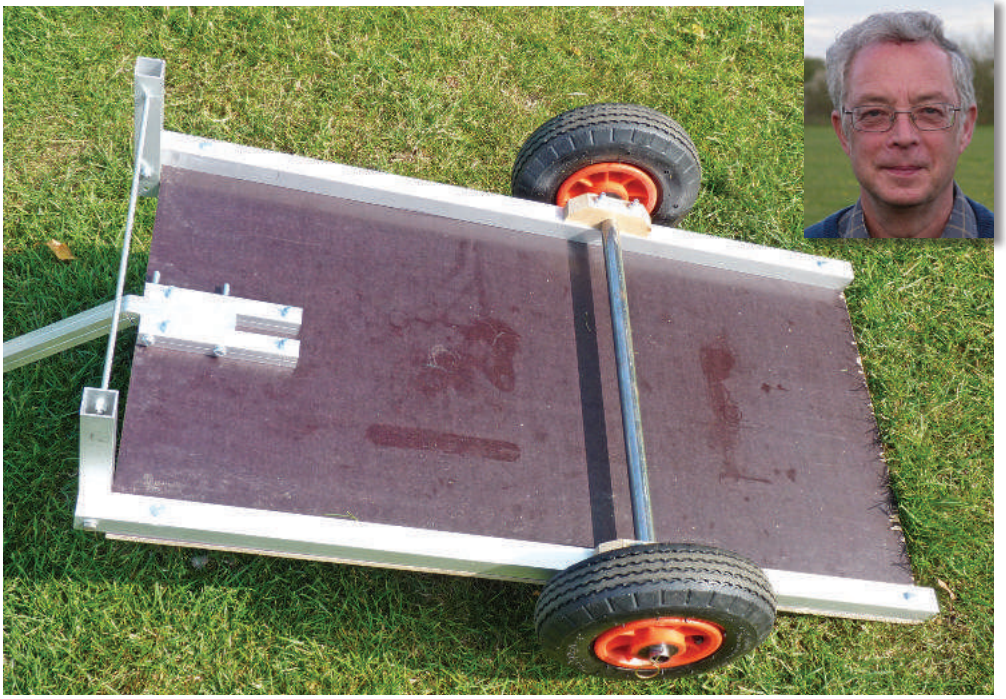


Right: The trolley dismantled for storage or transporting.

Shemarah's Trolley



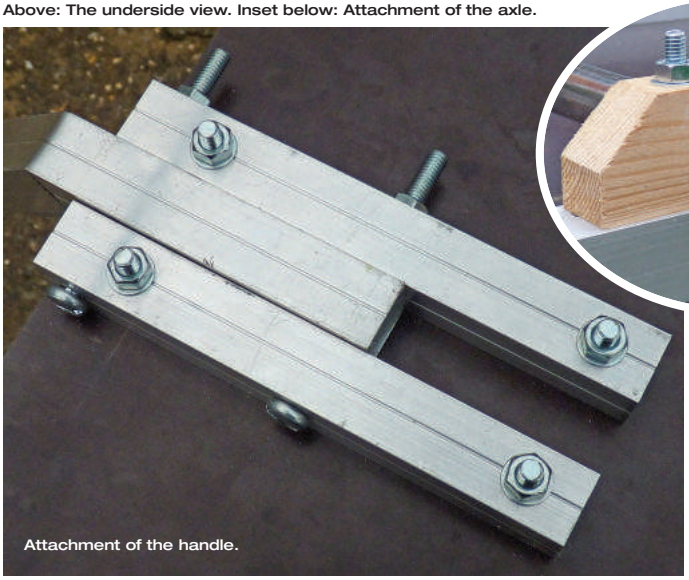
GARETH JONES overcomes the problem of moving a very heavy model

For the past couple of years I have been building a 1:25 scale model of a modern Scottish trawler called Shemarah II which has been serialised on the MB Website Forum. The hull is quite compact, being only 43 inches long, but it is 14 inches (36cm) wide, 14 inches (36cm) deep and rather heavy at 65 pounds (30kg) sailing weight!

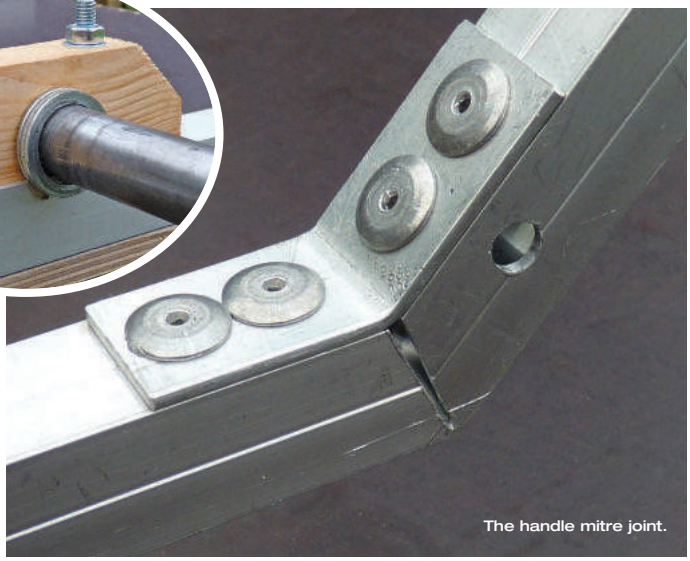
I have built-in a lifting handle to make launching and recovery from the pond relatively straightforward. However, once the model was approaching completion and ready for sailing or display, some means of transporting it from the car to the pond or exhibition hall was required.

My wife is also a keen model boating enthusiast, but her speciality is vintage model yachts, so the trolley had to be adaptable to carry any of her yachts as well as Shemarah II. It also had to be compact enough to fit in our car, alongside any likely combination of models that we might transport to a regatta or exhibition.

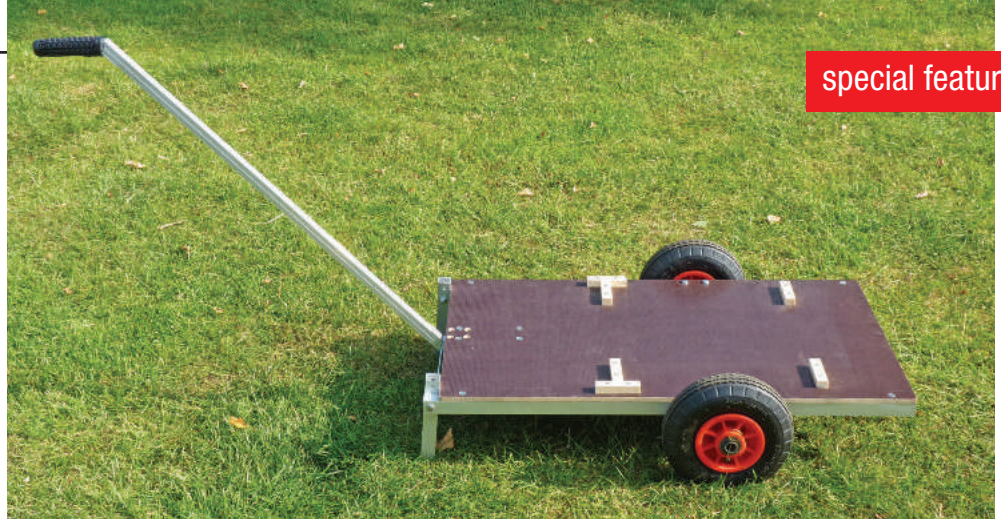
Above: The underside view. Inset below: Attachment of the axle.



Attachment of the handle.



The handle mitre joint.



After visiting numerous car boot sales and charity shops we eventually ruled out adapting prams and pushchairs. A folding sack barrow was considered, but because of the width of Shemarah it would have to be tilted back a long way to get the weight over the wheels. Four wheeled trolleys were ruled out because of the space they took up in the car and the complication of steering them. The only practical option seemed to be to design and construct a purpose-built two wheeled trolley and the photographs show the result.

Construction

The main base unit is good quality 1/2 inch (12mm) plywood with one inch (25mm) square aluminium tubing to stiffen it and locate the axle. A pair of legs at the front support the base in a horizontal position for loading or can be folded backwards when transporting it. The axle is 3/4 inch (20mm) mild steel tube. The wheels were bought on eBay for around £10 and have pneumatic tyres. The handle is made from 20mm square aluminium tubing bent through about 60 degrees in two places. There are mitred joints where three sides of the tube were cut away and a separate piece of aluminium strip was pop-riveted on after bending to shape. The handle and wheels are easily removable and the whole thing takes up little space when dismantled. The base unit has a number of locating points which have been positioned to allow any of our large models to sit on the trolley securely and as we add more models to our collection we will make sure their stands pick up on some of the existing locating points. Weighing 65lbs, means that Shemarah is most unlikely to simply fall off!

There are no doubt lots of alternative designs of trolley for moving model boats, but the pictures supporting this short article might provide ideas or inspiration for other modellers to build their own.

Above: Ready for loading with the front legs down.

Below left: Shemarah on board.

Below: The trolley with a Marblehead yacht on board.

scale musings

Mooring Post

GLYNN GUEST with his column of advice and tips for modellers

Learning from Regattas?

Over the years my attendance at model boating events and regattas has decreased. During the summer months I used to try to get to as many as possible, but other commitments now seem to get in the way. To be honest, there was also a feeling of 'the same thing again' beginning to creep into some events, but it is still nice to get out to an event now and again. The social side to this hobby is quite enjoyable, but I also still manage to learn something new. The last event I attended was no different and I came away with three things to puzzle over.

First: With all the talk about 2.4GHz radio outfits, you might think that no one sails models, save submariners of course, with anything else. In fact numerous 40 and even some 27MHz radio outfits had been used at this event. Were these modellers being old-fashioned Luddites in refusing to join the modern high tech world we are now supposed to live in?

In fact I realised that they were being very sensible by still using their 27/40MHz gear. If it works reliably and perhaps more importantly, you are totally familiar and happy with it, why not carry on using it? The dash into 2.4GHz has freed up the 27 and 40MHz frequencies so that you rarely might have to change crystals nowadays or wait for a free slot.

My own collection of r/c outfits includes some old gear that still works flawlessly. It does not owe me anything, but I'm not going to discard it because it is now thought to be old-fashioned by some. It is also very useful when trying out a new idea that might result in watercooled radio gear(!) or even its total loss.

The second thing was the appearance of a fellow modeller having to beg some tools to solve a problem. I still find it amazing that anyone fails to give their models and radio control gear a thorough checkout before leaving home. Even more puzzling is that someone should not take a few basic tools to cope with the inevitable things that go wrong. My sailing gear includes items to cope with just about every problem I've ever encountered when sailing. As a result I go to the lake to sail and not expect someone else to solve my difficulties.

The third thing was that on switching on my new shiny computerised 2.4GHz r/c outfit, I found the rudder servo was reversed on one model. This, like most things these days requires a ritual of button pushing to correct and was no problem as I had the good sense to bring the rather thick instruction manual with me. However, whoever had written the thing (or perhaps it was the translation from an oriental language that was at fault?) had failed to allow for a frustrated modeller trying to find the right sequence of button pushing. In the end I simply reversed the servo-tiller arm linkage and successfully sailed the model.

Back home and in a calmer frame of mind, the correct sequence was quickly deduced and so from this I learnt that more work was needed to master the new r/c outfit. I also could not avoid thinking that if I'd used the old 27/40MHz gear then just a flick of a switch would have speedily reversed the rudder servo! So perhaps current manufacturers of sophisticated r/c gear might like to consider retaining the bank of reversing switches on the Tx, rather than burying the command within one of the numerous electronic menus?

test Bench

Model Boats looks at new products

ATTENTION - MANUFACTURERS & DISTRIBUTORS

These pages are open to you - your shop window to bring to the attention of our thousands of readers, new products - kits, books, videos, engines, R/C gear, motors, anything that could be of interest to model boat builders. Send your information initially to Model Boats Test Bench, PO Box 9890, Brentwood, CM14 9EF - or ring the Editor on 01277 849927 for more details. You cannot afford to miss this opportunity!

News from Fleetscale

HMS Lord Nelson 1:96 scale semi-kit

This was a pre-dreadnought battleship launched in 1906 and completed in 1908 and she was the Royal Navy's last battleship of this particular type.

The semi-kit includes:
A well detail GRP hull; running set (frames, propellers, shafts and rudders); two detailed resin funnels; eight detailed resin guns; set of plans; comprehensive fittings pack. All the castings are of high quality white metal, designed by John Haynes and of museum quality. Price is £720, available from: Fleetscale, Westward Mouldings Ltd, The New Factory, Greenhill, Delaware Road, Gunnislake, Cornwall, PL18 9AS, United Kingdom, tel: +44 (0) 1822 832120, email: contactus@fleetscale.com.

RBC Kits

A new manufacturer to us here in the UK, it is owned by Rob Bulk and it offers a range of wood kits for all sorts of models including the two listed here.

Saucy Shingle 152 electric outboard racer

This is a scale outboard racer available as complete kit and is a model of an original outboard powered open class racer. The kit contains cnc cut wood parts for the frames and hull skinning, fittings, building jig, a picture CD with other useful information and a 3D PDF drawing. A suitable outboard drive unit and motor will be required and r/c, batteries etc. as well as a turn fin. Length is 493mm without the outboard, and beam is 260mm. LiPo batteries were used in the prototype. Price is 69 euros, plus p/p.

Suzie Q - semi-scale vintage offshore racer

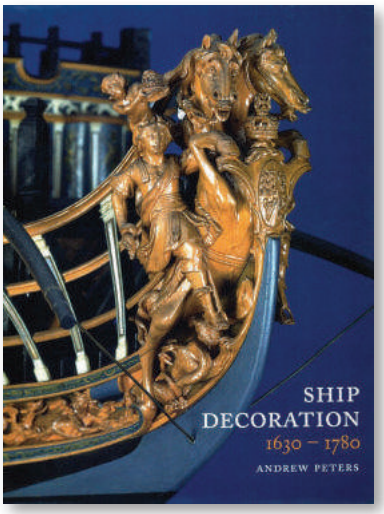
Modified from an original design by Vic Smeed, this kit also includes cnc cut wood parts, fittings, a building jig, CD etc., but no running gear or hardware. Length is 684mm and beam is 231mm. The model is particularly suitable for brushless motors, lightweight r/c and LiPo batteries. Price is 89 euros, plus p/p.

Contact details

RBC Kits can be found at: Rontgenweg 16G, 2408AB Alphen aan den Rijn, Netherlands. Hardware for both models listed here can also usually be obtained via the manufacturer. The comprehensive website, that also lists numerous other kit models, is: www.rbckits.com, or email: info@rbckits.com, tel: 0031(0)1725 33954.

Above: Saucy Shingle!

Beelow: Suzie Q, from a Vic Smeed design.



Ship Decoration 1630 - 1780

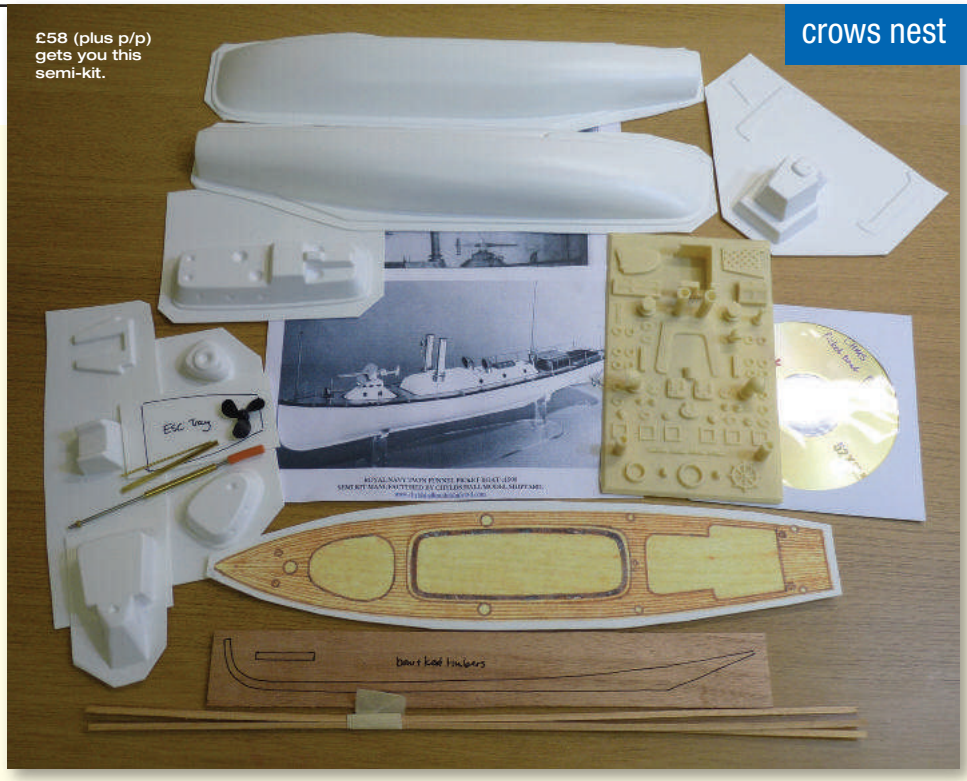
Written by Andrew Peters. Hardback, 240 pages, 284 x 228mm, over 350 photographs, illustrations, drawings and maps in black & white and colour. ISBN 978-1-84832-176-2. Price (RRP) £30.00. Published by Seaforth Publishing, an imprint of Pen & Sword Books Limited, 47 Church Street, Barnsley, South Yorkshire, S70 2AS, tel: 01226 734222, website: www.seaforthpublishing.com. Available direct from the publisher or through the usual retail outlets.

This book is a detailed comparative study of the decorative work, i.e. the figurehead, topside ornamentation and stern gallery design, that was carried by the ships of the major maritime states of Europe at the zenith of the sailing era. It covers both warships and the most prestigious merchant ships, the East Indiamen of the great chartered companies. The work began life in the year 2000 when the author, well know professional woodcarver Andrew Peters, was commissioned to carry out research for an ambitious project to build a full-size replica of a Swedish East Indiaman. This led him to museums and archives all over Western Europe and Scandinavia, producing a vast collection of information whose relevance stretched way beyond the immediate requirements of accurately decorating the replica.

The artistic influences on European ship decoration are essentially the Baroque Style, its dissemination from France and its gradual transformation into distinct national variations in Britain, the Netherlands, Denmark and Sweden. The author has divided this beautifully presented book into three parts. In Part 1 he give us 'A Brief History of the East India Companies' themselves; In Part 2 he documents the development of 'Ship Decoration' in each of the five principle countries that engaged in trade with the East Indies. Both Parts 1 & 2, are illustrated with numerous photographs of contemporary ship models, paintings, and plans, as well as the author's own interpretive illustrations of details. Part 3 is devoted to 'The Götheborg Project' in which he describes the building of a replica of a Swedish East Indiaman, the Götheborg (1738) in Sweden between 1994 and 2005, which is also illustrated with photographs and drawings.

As the first major work on this subject for nearly a century, it will be of obvious appeal to both ship modellers and historians alike, but with comparative examples drawn from architecture and sculpture, it makes a broader contribution to the history of the applied arts.

Book Review by John Deamer



New semi-kit from Chylds Hall Model Shipyard

Steam Picket Boat

This is a new 1:48 scale semi-kit of an RN twin funnel steam picket boat and was first seen at the Blackpool show in October 2013. Included is:

A high impact polystyrene vac-formed two part hull, the main above deck superstructure units, a motor mount and deck support beams. Also in the package are the keel and bow reinforcing timbers, a colour printed plastic card deck and the hull top edge timbers, plus a complete 68 item resin cast fittings set with a rudder servo mount. There is a very useful research photo sheet as well as the propshaft, propeller, brass wire rudder post, tiller and A-frame material. A CD includes construction photos, building notes, tips and suggestions. Price for all this is **£58**, **(Kit Ref: P-CH03).**

The finished model measures 335mm long by 67mm beam and has been designed to function with two channel r/c (not supplied), the rudder being operated by a mini-servo. It can be powered by a miniature electric motor or a standard servo motor which are additional to the kit.

Additional accessory packs

Ref: V-C036/B
A 3lb QF gun. This accurate mini kit, suits the picket boat model, **£8.50**.

Ref: P-SC001
A miniature electric motor (4.8v to 6v) with a flexible coupling, **£3.50**.

Ref: P-SC002
A Lime stripwood deck planking pack. The printed plastic card deck supplied with the semi-kit shows the planking lines and can be used as supplied. This additional pack is for those modellers who wish to add extra detail to their kit, **£4.75**.

Ref CHB 001
Acrylic deck caulking, **£5.00**.

This kit and the accessory packs are only available from:
Chylds Hall Model Shipyard, Old Dairy Cottage,
Upper Stepford, Dumfries, Scotland, DG2 0JP.
Tel: 01387 820558, Mob: 07596 596332
Email: chyldshallmodelshipyard@gmail.com
Website: www.chyldshallmodelshipyard.com

Review by John Elliott

Below: The gun, motor, planking and caulking extra accessory packs.

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Sales

TOOLS, Tugs and much more! Ill health forces sale. Photos if required. Mel Cooper, tel: 01626 682723 (Newton Abbott, Devon).

NEW UNSTARTED KITS: Deans pipefish, £160; Billings Evelyn Rose, £110; Midwest Lobster Boat, £150; Amati Robert Lee; £140. Sergal 170 Mississippi, £140; Also: Axminster compressor, £80 & Milling machine, little used, £260. Janet Bode, tel: 02476 383994 (Nuneaton).

LEPAGE electric outboard c.1920 in working order (see November 2013 MB Page 7), £150. Also Taycol Torpedo unused. as far as can be determined. Offers? Bernard Chambers, tel: 01394 384349 (Woodbridge, Suffolk).

CALDERCRAFT IMARA KIT. 1;32 scale, unmade, complete with GRP hull etc. £350. Mike Nicholson, tel: 02380 420487 (Southampton).

GENTLEMANS LUXURY CRUISING YACHT. 1:48 scale, 35 inches long, two 385 Como motors with 6v battery and r/c. £200 ono, buyer collects. Alan Argent, tel: 01279 812418 (Stansted, Essex).

MODEL SLIPWAY FOUR HATCH COASTER. Built to high standard, class winner at CADMA show, no receiver & battery, but could be supplied at extra cost. £250, buyer collects, Bryan Lindley, tel: 01226 755845 (South Yorkshire).

HMS DARK BITER from Nautical Marine Models kit. Complete with motors, NiMH batteries and Mtroniks esc. Includes stand and transport box. Ready to go, but no Tx/Rx. Buyer collects, £375. Paul Freshney, tel: 01277 849927 (Brentwood, Essex).

Wants

PLANS for HMS Ashanti F117. Also any grey boats part built for reasonable prices. Mike McGuinn, tel; 01204 559525 (Bolton, Lancs.)

MODEL BOATS January 1980 issue or photocopy of article for Paddle Tug RMAS Forceful and plan. Richard Scrutton, tel: 07802 603607 or 01832 732714 (Islip, Northants).

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Steve Porter's well prepared GPL 1000 boats for the AA and A classes. These boats are relatively inexpensive to build, but are as much fun to race as the big petrol engined boats.

BMPRS News

Website: www.bmprs.co.uk

Below: Ian Searle's brace of Apaches for the C and D classes. C class boats use 15cc glow engines whereas the D class uses petrol engines of around 27cc.

MARK WILD with a report from Fairlands Valley Lakes, Stevenage

Our BMPRS meeting at Stevenage in August 2013 was in roughly the middle of the annual calendar, a month that BMPRS don't usually organise any race meetings, owing to that period of the year being prime holiday time with many of us away with our families. However, Bill Warder decided that in true model boating style, even with the small number of entries, the race must go on! Unfortunately I wasn't able to attend, but my young son Luke was up at 4am (yes, before dawn!) and had his boat and equipment ready to go and meet Mike Barnes who had offered to take him at 5am from Cheshire and indeed, off they went! A day of wondering how well they would do and how the meeting would go was safely concluded when on their return they had a handful of certificates and big smiles from an excellent day's racing. So here is a short report complied from the notes of those who were there.

Racing

This went well from what I have heard and two heats were run for each class. The scores noted later in this report are the combined laps from the two heats. A problem early on in the AA class heat was discovered with the lap scoring equipment, but Bill promptly sorted it out and all was well again. There was some very good driving by all the competitors and Bill commented to me that even though the racing was on the small lake at Stevenage, the boats were still carrying good speeds and all the drivers were being sensible on the course.

AA class

In this class, Mike Barnes lead the way yet again with his Sea Spirit 2 powered by an MDS 28, taking the win with 95 laps followed by Stevenage members Steve Porter with his Nova 21 powered GPL 1000 and Ian Searle with an OPS 21 powered Challenger 43, their scoring 75 and 70 laps respectively. Bringing up the tail end

Above: Young Kian giving his dad a helping hand or two. The BMPRS encourage juniors to participate and have proper safety and child protection procedures in place.

was our lady driver Sha Simon, who was not having a good day with her Cavalier with a Go 28 on only 8 laps and last but not least was Greg Saddler with his GPL 1000 powered by a West 28 with 6 laps, he sadly also having problems.

A class

Well, here was a turn-up for the books, as Junior Luke Bramwell romped home with a staggering 105 laps with his Super Custom (SC) 40 powered Sea Spirit and 12 laps behind him came Steve Porter with yet another GPL 1000, this time powered by an ASP 46 with 93 laps even though he had a 'coming together' with Kurt Cave causing damage to the hull. In third spot with 83 laps was yet another junior who this year has done very well, this being Kian Searle with his Crusader 3 powered by yet another ASP 46 and fourth place went to Kurt Cave with his Cougar also with an ASP 46. Greg Sadler was fifth, having retired after just seven laps in his first heat with an unknown engine problem.

B & C classes

These were a 'one horse race' with Malcolm Pratt running a CMB 67 powered Apache 50 (B class) and Ian Searle with his CMB 90 powered Makara (C class). Both ran together in the same heat with neither having anything to prove as they were the only class entries. Malcolm completed 99 laps and Ian 87 laps.

D class

Just three entries in this, the petrol engine class, meant everyone of them was on the podium if any one of them could do at least one lap! Mike Barnes took the lead from the start with his Patriot powered by a Gizmo 28.5 and turned in a very good run with a total of 134 laps followed by Ian Searle in second place with 69 laps with his RCMK powered Apache and close behind him was Kurt Cave with 67 laps with his KRC 29 tuned engine in a Sigma hull.

Catamaran classes

In the T1 class Kurt Cave was the only entry, yet again, but I am told new boats will be joining him in 2014! In the T2 unrestricted class, Kurt Cave ran a Conquest 43 powered by a KRC 27 and Mike Barnes with an Aeromarine Avenger (borrowed from me!) was running a works Arrow 26 petrol engine. It was Mike's first time racing a catamaran which he told me he enjoyed so much that I had to prise the boat out of his hand in the evening on his return! Anyway the heat was quite close with Kurt winning with a total of 97 laps and Mike on 91 laps. Apparently Mike had a 'stop' due to slowing down too much and if you believe that, well I leave you to think about it!

Conclusion

So that's a short report from Stevenage in Hertfordshire and to be honest even now we are all only slowly getting over the sad loss of our good friend Stewart Rae. Anyway, on the racing side of things, it is worth mentioning that if you are looking to get into racing it doesn't need to be expensive as new boats can be built for approx. £300 pounds and in forthcoming issues I will be mentioning more and more about the builds and set-ups that I see at the lakesides, so as to give newcomers, and even the seasoned racers, hints and tips on what others have done to their advantage when building and racing these boats. One name that virtually everyone in the offshore scene will know is that of Bernard Holder who attends as many races as possible with BMPRS. At a meeting you can normally see quite a few of his designed boats being run in many of the classes. He makes all his own parts too and really is a 'one-stop' shop so to speak. Bernard is actually now in his late 60's, but you wouldn't think it as he continues to build and supply offshore model power boat parts. For more information about our organisation which now has 100 members at the last count, please visit our website as listed at the beginning of this article.

Mark Wild - December 2012

Top: The winners! Some competitors went home with a lot of certificates.

Above: Kurt Cave and Steve Porter battling for position in the A class.

Above: Mike explaining the theory to Malcolm, but he is not convinced I think!

Left: Young Luke with Mike making final checks before the race start.

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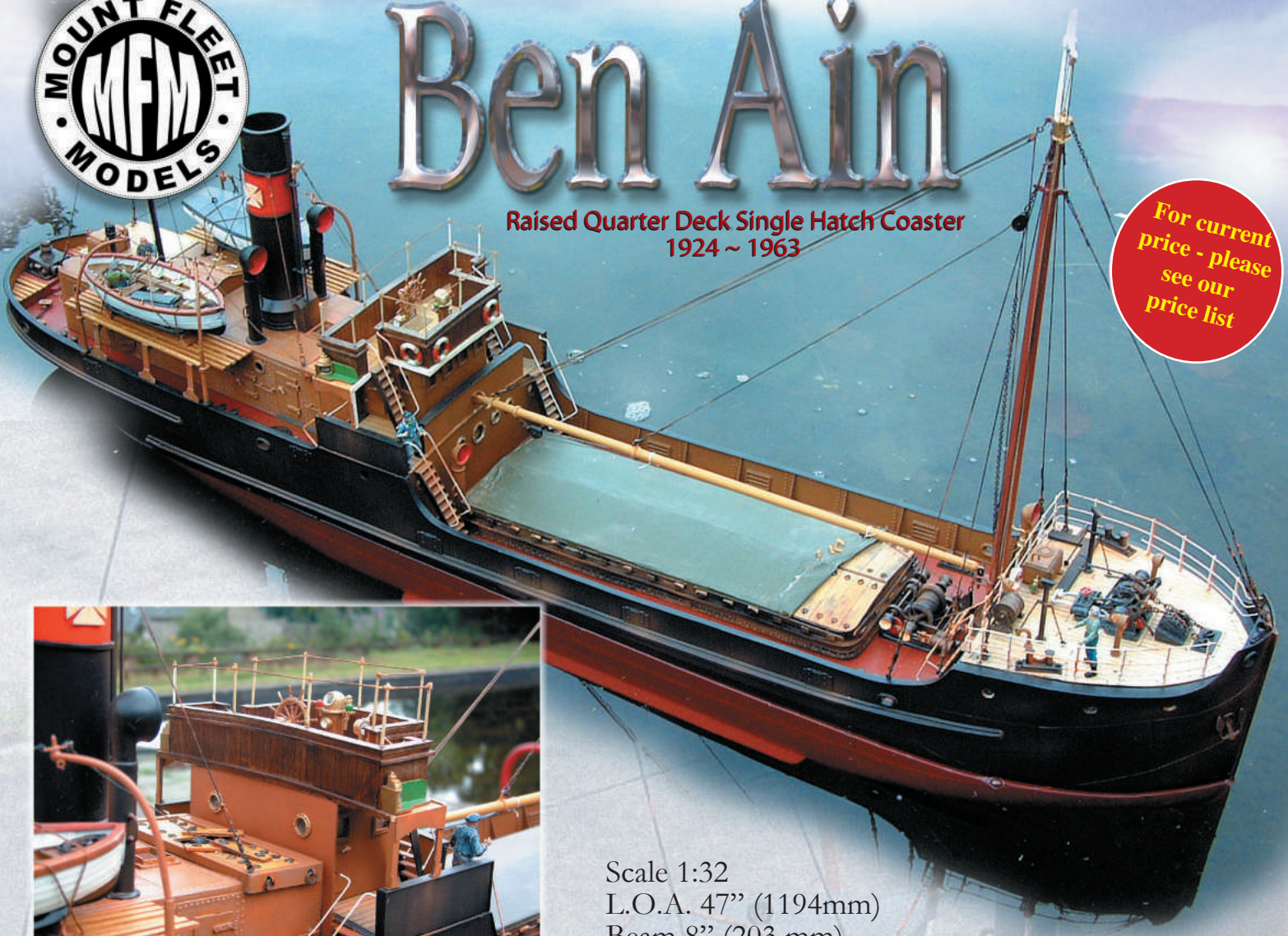

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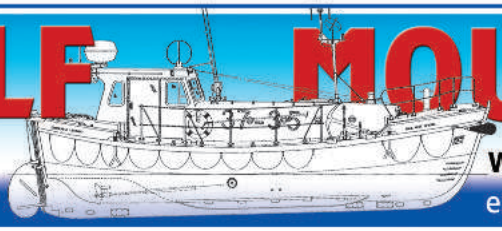

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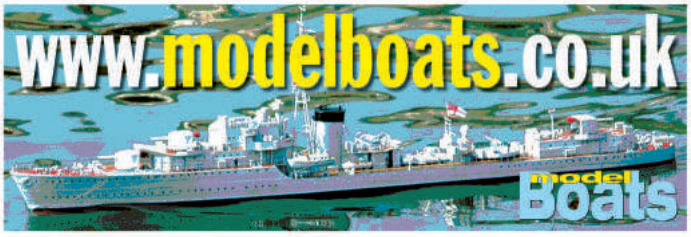

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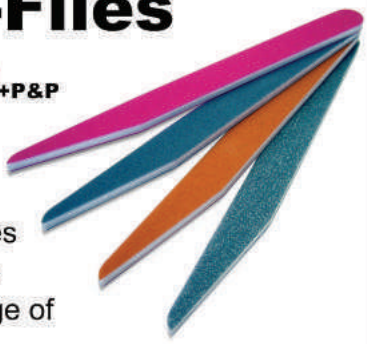

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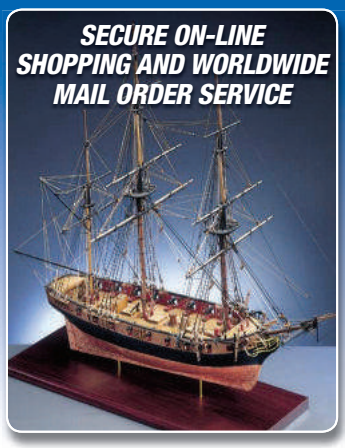

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