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FLOTSAM & JETSAM

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BOILER ROOM

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Jeremy Bull describes in detail the restoration of Ellise





CADMA 2015 NORTHERN MODEL BOAT SHOW

Gareth Jones reports from this popular mid-season Doncaster show

INTERNATIONAL MERSEY RIVER FESTIVAL - 2015

Dave Wooley reports from Liverpool and the important promotional work for the hobby by local clubs



Bow piece

his issue includes a Full-Size Complimentary Free Plan worth £12.50 for a Landing Craft Support vessel. The plan has been drawn by Glynn Guest and makes for an unusual and interesting model project and as is usual with his plans, comes with step by step comprehensive building instructions. In addition, Jeremy Bull restores Ellise, a free running vintage steam model, the project starting after an unexpected email.

We welcome Peter Charlton to Readers' Models with his model of Sapphire, a steam yacht based on an Deans Marine hull, but built using the plans for Greta drawn by James Pottinger. Peter's aim was to build the model using as much as possible from his 'Bits Box' and stock material, just to see how inexpensive it could all be, and I am sure you will be impressed with the final result. Also in Readers' Models, David Hawes relates the 11 year project of another fine model, his nephew's K.D. Perkasa.

We have all the usual regular articles including Range Finder, where Dave Wooley has the first part of a superb Photo File for HMS Biter, a P2000 class training and patrol craft that would make an excellent model. In addition we have in-depth photo reports from the CADMA Northern Model Boat Show and the 2015 International Mersey River Festival that had support from the local model boat clubs promoting the hobby to a wide general public audience.

Paul Freshney - Editor

Compass 360

Model Boats notice board for your news

Editorial Contact - Paul Freshney

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Vintage Model Yacht Group

This group exists, as it title suggests, to promote vintage model yachting in all its various forms. Their journal 'The Turning Pole' which is part printed in colour, is sent to all members and it

includes articles, event reports and forthcoming relevant dates, plus all sorts of other useful information for those interested in this aspect of model yachting, restoration being very much part of the ethos. Turning Pole No.31 Summer 2015, has 42 A4 pages and a nice touch is that it has a page welcoming the

Obituary Keith Julier (1930 to May 2015)

Keith's early enthusiasm for model making was nurtured by his father while still at school. It was also as an impressionable youngster that his interest in ships was fired by a visit to the cinema to see the Errol Flynn movie 'The Sea Hawk'. His enthusiasm for the film and its recreation of the men-of-war of the time never waned. Initially focusing on balsawood planes and then plastic model aircraft, Keith's National Service with the RAF later enabled him to gain first-hand experience of the nuts and bolts of aircraft design and manufacture that ultimately led to a career in machine tool engineering. For Keith, model making was a hobby for life. There were periods devoted to cars, railway engines, soldiers, farm vehicles and stagecoaches, but sailing ships always inspired him most of all. He was never happier than when aided by his wife Edna, who regularly stitched the sails on many of the earlier galleons he



produced. Despite the difficulties of Parkinson's Disease, Keith was still gamely working on a model of a racing car until just a few weeks before he died at the end of May 2015. He had of course been very much involved with Model Boats magazine, writing articles about period ships as well as doing kit reviews and being the author of some notable books on the subject. *Ian Julier - August 2015*

Obituary Brian Freegard

It is with regret I have to report the death of Brian in May 2015. He was a keen model engineer building steam plants and model boats, eventually joining the Swindon Model Boat & Engineering Club where for many years he was the Secretary, being forced to resign from the post at the end of last year due to illness. He will be sadly missed, as he was always present at club events and also being one of the club's boiler inspectors as well

as a member of the MPBA. Our sympathy goes to his wife Doreen and two daughters. Brian's superb picket boat model has been passed to Portsmouth Historic Dockyard who own the prototype. The model is complete with scratch built steam plant and it is hoped it will be running at future events held in the dockyard.

George Kirkham, Chairman SMB&EC - August 2015



Brian Freegard's Picket Boat, now in the safe hands of the Portsmouth Historic Dockyard.

new members. The VMYG website is: www.vmyg.org.uk and the secretary is Alistair Roach, tel: 01749 831552, email: Alistair Roach@aol.com

2016 March Model Boat Show

This event will take place as usual at the Ellesmere Port Waterways Museum on the **5th & 6th March 2016.** More details in due course. *Information supplied by Malcolm Watts*

Midlands Model Engineering Exhibition

A reminder that this is being held from Thursday 15th to Sunday 18th October 2015 at the Warwickshire Exhibition Centre, near Leamington Spa, Warwickshire, on the Junction of the A425/B4455 (SAT. NAV. CV31 1XN). This is primarily a model engineering show, but with some support from model boat clubs. The International Model Boat Show follows during the next month and is from the 6th to 8th November at the same venue and is devoted entirely to model boating in all its various forms. Further information on both events can be had from: www.meridienneexhibitions.co.uk, or tel: 01926 614101

Mutual Model Boat Society

On 27th September 2015,

this club is having its Grand Modellers Bring & Buy Sale at Crimble Croft Community Centre, Aspinal Street, Heywood, Manchester, OL10 4HL. Please go along and enjoy this famous event, either to sell or buy your supplies and there are always lots of unusual bargains to be had. Also enjoy the great range of snacks and drinks at sensible prices. The whole site is wheelchair friendly and full personal facilities are available. Doors open for buying at 0930hrs prompt. Information supplied by Colin Travis

Carlisle Model Boat Club

Members sail various types of boats except i.c. powered models on 65 acres of open water based at Talkin Tarn Country Park near Brampton, Post Code CA8 1HN. Club members meet on Wednesday afternoons but can sail all week weather permitting. For more information please contact Derek Potter, tel: 01228 810916, or email: carlislembcsecretary@outlook.com

Balne Moor Model Boat Club

Pro-Am Tug Towing

ver the weekend of 20th and 21st June 2015, several model boating enthusiasts had their first experience of towing at Balne Moor's Annual Pro-Am event. Unlike the golfing pro-am tournaments this one is not competitive, but is informative and instructive, where seasoned professionals (unpaid of course) share their knowledge and transfer some of their skills using scale tugs to tow various vessels around obstacles and bring them safely back to port. Three courses had been devised on the day:

- One for absolute beginners.
 Another for those who had
- tried it once or twice before.

 3) A more complicated course for those who had more experience but wanted additional

coaching.

'Newbies' were able to try two man towing from the bow and stern which require different approaches and a great degree of team work to ensure the towed vessel turns within the space available and doesn't overwhelm the tugs.

Amongst the 'Ams', this year's event had three women towing for the first time. Each of them found the tuition helpful and went on to single tug towing which they found more





rewarding than the traditional scale steering around a course.

If you haven't tried it, please come along to Balne Moor MBC and one of the remaining 2015 listed events on **20th September and 4th October,** as there is always someone willing to coach and even loan you a tug if required. Location of the private sailing water is DN14 0ER and on open days, refreshments are usually available. The website is:

www.balnemoormbc.co.uk Information supplied by Teresa Butler

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- A Features area that has sections for: Build Features, Kit and Product Reviews, Hints, Tips and Technical, Show and Regatta Reports and General Interest Articles on Model Boating.
- A Link to www.myhobbystore.com which has over 3000 plans available and numerous modelling items, books and kits. These can all be purchased online.



The main features are for an outstanding radio controlled 1:72 scale model of HMAS Sydney with a functioning missile system, built by Scott Rice from Australia, and a new Feature

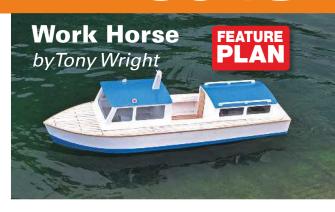
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Plan for Work Horse by Tony Wright.



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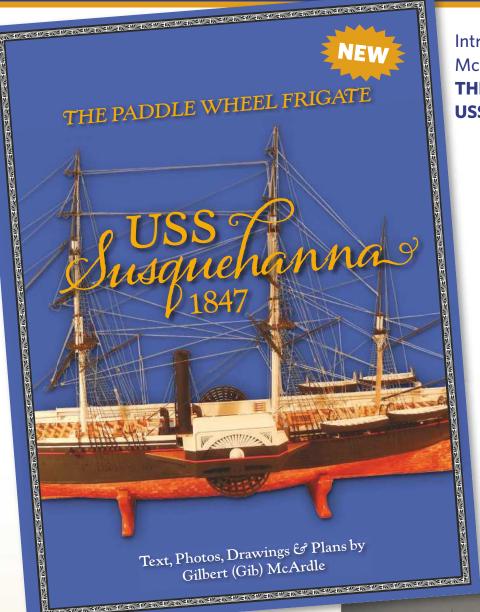
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of the great transition warships of the early 19th century. Using sail and steam, she had full career in the navy. She served as Admiral Matthew Perry's flagship on his historical trip to Japan and as part of the blockade fleet during the Civil War.

While Gib has built his model using the plank on frame method, it could also be built using plank on bulkhead, or with lifts for a solid hull. Plans for all of the frames are provided along with a full set of templates for a plank on bulkhead build. The ship is fully rigged and makes a beautiful model at 1:96. 10 sheets of plans are provided.

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During WW2, the techniques needed to land troops and armour on to enemy-held beaches was developed and refined. During the actual landing operation, some craft were altered to carry guns, mortars and rockets.

aving built a model landing craft that was capable of depositing and, if my steering was up to it, recovering a radio controlled tank from a beach (Model Boats, December 2009), it was not long before the idea of building another complementary model occurred to me. Operating two such models together can be much more fun and have greater spectator appeal, so as usually happens, a few initial ideas were sketched and then dropped into a file whilst another project was started.

Sometime later when walking around the toy section of a store whilst ostensibly looking for possible presents for the grandchildren, but also keeping an eye open for items with potential modelling use, I spotted a range of toy space guns. Several different types were on display and it was possible to try out their sound and light effects. All had striking effects, but to be honest most could never be realistically used on a model boat. One did seem worth considering as it had recoiling twin barrels together with gunfire sound and light effects, **Photo 1.** It also had bizarre rotating light effect which fortunately looked like it could be discarded. An example was bought for a few pounds before I could have any second thoughts.

This radio controlled model is based on a World War Two landing craft, modified to provide close gunfire support whilst other craft were landing troops and vehicles on to a defended beach. It is a freelance model with an approximate scale of 1:35 and construction is from timber, plywood and card. The prototype featured here has a small working toy gun with appropriate sound and light effects. The model is 80cm (32 inches) long and weighs 4.8kg (10.5lb) and is powered by a single mild 540 type of brushed motor and a 6 volt battery.

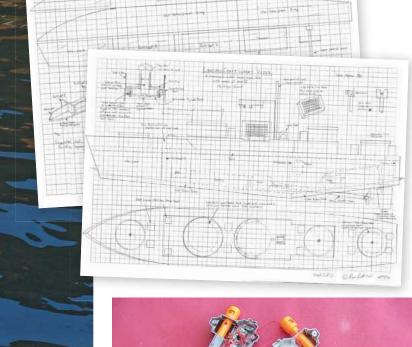
Back home and the toy space gun seemed if anything to be more impressive than when tested in the store. Take away the weird rotating lights and you had, with some surgery, a working twin barrelled weapon that could, with modeller's licence, be used on a functioning model. Well, a working model that was the right scale as, even when cut down, the gun was quite big. Such 'weapons' are available in toy stores as you only have to look, but his one may not be available now in late-2015, but I noticed similar products could be readily purchased very recently.

The model

Something like a monitor, a craft used to support land forces and armed with relatively large weapons for its size, was an immediate thought. At that point the file of landing craft ideas was recalled and a little more research was undertaken. The book that had inspired the LCT 6 model originally (Allied Landing Craft of World War Two, ISBN 0-87021-064-5) also contained details of vessels modified to offer gunfire support during landing operations.

During WW2, the techniques needed to land troops and armour on to enemy-held beaches was developed and refined. During the actual landing operation, some craft were altered to carry guns, mortars and rockets. This proved successful, and standard designs were modified to create purpose built LCS (Landing Craft Support) vessels for this task. Some were armed with guns as large as 5 inch (125mm) but most carried a mixture of 20 - 40mm weapons. Even so, the toy gun I wished to use was way too large for anything remotely approaching a scale model of a practical size, so it was off into freelance territory.

After some initial sketches, one design looked









promising with a length of 80cm (32 inches). It would be shorter than it ought to be, but still was recognizable as an LCS. The toy gun could be fitted into the superstructure unit and could possibly be made to traverse. Even better was be the ability to use 1:35 scale military figures, which are widely available, to provide the crew.

If you do not want to fit your model with a toy gun then it could be built with suitable 40mm weapons or similar, and you could adapt the design by lengthening it, but then it would become perhaps too large to fit in the average car boot.

Breaking the toy

The toy gun was bought a couple of years ago and as noted earlier, a recent look around a toy emporium found the same and similar still to be had. However, what was done to allow the featured gun to become a working model will be described in general terms as after all, we are all model makers and overcoming problems and using our ingenuity is what we do.

The gun's body was moulded in two halves with several screws holding things together. Carefully removing the screws allowed the halves to be separated to find all the operating mechanisms mounted in one half with just a couple of fine wires going to the other half to operate the flashing muzzle effect, **Photo 2.**

The insulated wires used to connect the battery, trigger switch, motor, sound and light effects, were very fine and all of the same colour, so in anticipation of these wires breaking, the circuit board was carefully examined and then extracted. The soldered connections proved to be very easy to fracture and in the end it was easier to identify all the wires, disconnect the board, remove it to a

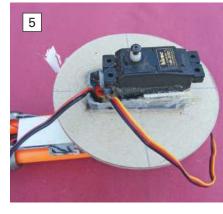
place of safety, and hope it would be possible to later correctly reconnect everything.

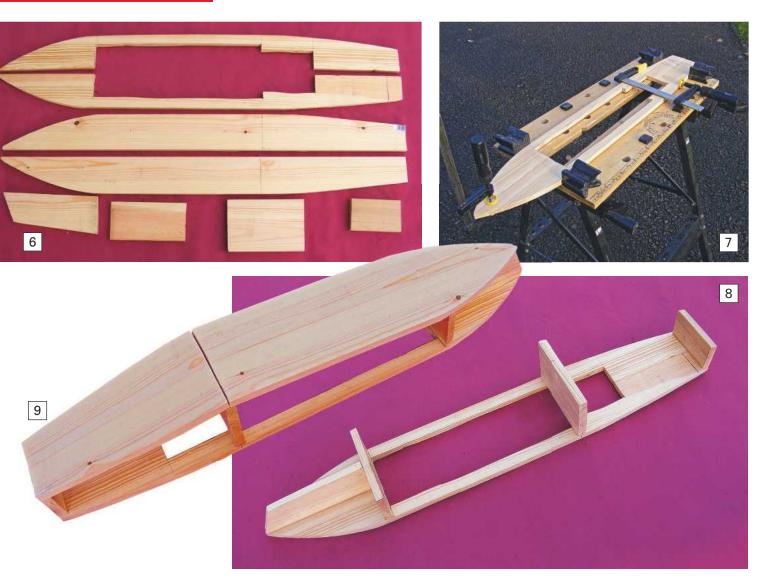
It was clear that the handle, trigger mechanism and most of the support material under the barrels would have to go. Cutting lines were drawn on one moulding, taking care to avoid the reciprocating barrel parts and cautious work with saw and craft knife was performed, **Photo 3.** Enough screws could be used to fix the cut-down half back in place to check that everything still functioned and it did, so after removing all the internal items the other moulding was cut to match the first one.

The plan was to fit the reduced-size gun into a tub and then rotate it with a remotely mounted servo. Looking at the gun, there was a large cavity in the body into which a servo would, with a little packing, slide snugly. This produced the idea to fit the servo into the gun inverted, and build the tub around it. This would allow the servo to fit through a hidden hole in the superstructure deck and be held in place by the servo output disc that was secured to superstructure. Easy to install and perhaps more important, very easy to remove for servicing and/or repairs of it all.

A standard size servo was glued into the base of the gun, **Photo 4.** I used some Latex adhesive which would hold the servo firmly, but thinking of possible problems ahead, this would allow the servo to be removed with a firm 'peeling' action. A card disc was cut to form the base of the gun tub. A slot was cut to accommodate the gun/servo, but the servo's output shaft has to be exactly central, otherwise the gun tub will not rotate correctly. It took a couple of tries to get this right, after which the gun was glued to the disc, **Photo 5.** The bulwark of this gun tub was not fitted, as some adjustment whilst installing it all into the model was still likely.







Although the LCS model was not intended to come aground, this was the area it would likely operate if supporting the LCT 6, so an equally tough construction seemed prudent.

Basic hull construction

The earlier LCT 6 model had shown the value of a sturdy hull when running on to a beach to discharge or recover the tank. The 'beaches' used at boating ponds are usually not the smooth golden sand type as shown in holiday brochures, but more likely rough gravel or worse. Although the LCS model was not intended to come aground, this was the area it would likely operate if supporting the LCT 6, so an equally tough construction seemed prudent.

The basic structure of the hull was made from some 12mm thick planks of planed pine. A couple of well finished, square and straight lengths of 71mm wide pine were bought from the small local DIY store. This shop always seems to have what is needed, better in fact than some of the larger and heavily advertised DIY 'sheds', as some call them.

This size of timber will allow all the hull parts save Bulkhead 2, to be directly cut out. This part could be made by gluing two pieces together, but a suitable piece of wood was found in the scrap box. The curved parts of the deck and bottom were drawn on to the wood using card templates to ensure the hull would be symmetrical. The actual cutting was done with an electric jigsaw and the edges tidied up with a plane and sanding blocks, **Photo 6.**

A trial dry (without any glue) fit of the parts will show if any need adjusting. The bottom edges of the bulkheads and transom needed chamfering to create a good fit for a strong glued joint. For the glue, a weatherproof white wood glue, also purchased from the local shop, was used. It admits to not being suitable for continuous immersion in water, but this has never resulted in any problems, but then I don't leave my models full of water.

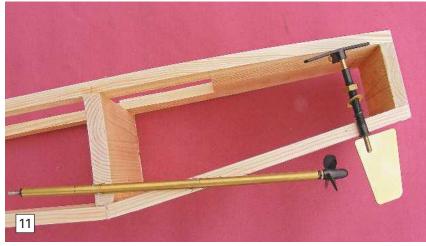
Building began by gluing the deck and bottom pieces together. To keep the parts firmly in place and properly aligned, they were clamped in an adjustable workbench, **Photo 7.** When dry, the stem-piece, bulkheads and transom were glued to the underside of the deck, **Photo 8.** After checking the parts are square, they ought to be left for the glue's recommended drying time. A personal confession here is that because of the overall sturdiness of the hull's structure, it was further ensured that these parts stayed in place with a few well positioned nails.

The bottom pieces were glued in place next, **Photo 9,** again checking for alignment and using a few well positioned nails did the trick. My old woodwork teacher must be turning in his grave, but it somehow seemed to be wickedly satisfying to give the model a good whack with a hammer.

Once the glue had fully set, the vertical edges of the hull frame needed sanding to make a smooth and level surface to which the side sheets could be glued. One advantage of building tough is that the hull can be secured in the adjustable workbench and sanding performed with an electric belt sander.

The leading edge of the stem-piece will need to be sanded to match the deck and hull bottom, **Photo 10,** as this enables the sides to fit properly and also provides a larger gluing area.









Driveline

The plans show a suitable arrangement for powering and steering the model with a single screw and rudder. It would be possible to alter this to twin screws and rudders without too much trouble, but I would caution against using too much power in this model, so as to avoid potential handling problems. This model used a single mild STD540 brushed motor from Howes Models, but the RE540/1 from MFA looks equally suitable. For twin motors though, I'd be inclined to use two RE385 brushed types.

The position of the holes for the propshaft tube and rudder in Bulkhead 2 and the hull bottom could be taken from the plans. I usually locate the holes in the bottom by placing the tube and rudder assembly on the hull side and adjust until things look right, Photo 11, These positions being transferred to the centerline of the hull bottom to guide drilling and cutting.

Both these tubes were secured into the hull with slow setting epoxy adhesive, Photo 12. If the rudder shaft is too long and fouls the underside of the deck, then it (and its tube) can be cut down before fitting into the hull. The Radio Active Large RC Rudder (Item No. RMA3066) was fitted into the prototype and had to be modified this way.

The plans show a simple method of mounting the 540 can type of motor into this hull, it being secured between two balsawood blocks and then held in place with an aluminum strap and screws into them, Photo 13. A little packing had to be placed under the motor to get its shaft in line with the propeller shaft. This is worth doing as the coupling used (Robbe No. 1445) uses a rubber tube with limited flexibility to connect the shafts. This was an experiment on my part as I usually use the conventional universal type of coupling.

The rudder servo was also mounted between two blocks of balsa in the rear hull compartment, Photo 14. You might note that both the rudder tube and servo were mounted square to the hull bottom. This does result in them being at an angle to the waterline, but the model still handles okay and it ensures smooth operation of the servo and tiller linkage.







Hull sides

A further experiment was to cover the hull sides with some 1.5mm (1/16 inch) plywood which been in my timber stock for long enough. At first it looked rather thin, especially for the unsupported spaces between the bulkheads, however a few tentative flexes of this sheet suggested that it would perhaps be tougher than I thought.

The shape of the two hull sides is not shown on the plans, since any minor variations in the hull's construction and materials used could easily lead to problems and the waste of expensive plywood. It seems much better to use the hull structure as a template to draw slightly oversize hull sides on to a sheet of plywood, Photo 15 and some allowance has to be made for the curves in the bow and stern areas of the hull. The sides were quite easy to cut from the sheet using a heavy duty craft knife. A fresh sharp blade and making several light, but firmly applied, cuts along the edge of a metal rule (remembering to keep one's fingers safely out of the way) is all that was needed. You might note that the hull sides were cut so as to incorporate the forward bulwarks in them, which saves adding these later, Photo 16.

The sides had to be fixed to the hull, one at a time. The first stage was to glue a side to the two main bulkheads, with the edges of the deck and hull bottom between them. I'll confess to using a few small panel pins to secure the sides whilst the glue set, having really got into hitting this model with a hammer. Once dry, glue was applied to the deck, bottom, stem-piece and transom edges and the plywood side pulled inwards. To keep it firmly in

place, a couple of those elastic luggage straps were looped around the hull and once again, a few pins were hammered into the model, **Photo 17.**

After the glue had fully set, the excess plywood was carefully cut from the bows and the process repeated with the other side sheet piece. Cutting the excess from the second sheet should leave you with a neat joint at the bows. If not, then do not worry, as filler and sanding will hide many less than perfect joints on our models.

If the top edge of the plywood side sheets has been aligned with the deck aft of the forward bulwarks, there will be little excess to cut and sand away here. The joint between the sides was only roughly trimmed, the hull then clamped in the workbench and the corners rounded off with sanding disk in an electric drill chuck. The amount removed was limited to that shown in the cross-section on the plans, which is not enough to weaken the side to bottom glue joint and hardly enough to streamline the hull, but it does help to keep the paint on, as this may readily crack on sharp corners.

It became apparent that access to the rudder tiller arm was going to be difficult with it well and truly buried under the deck, so a hole was cut through the deck above the tiller position, for which a circle cutter used in an electric drill did the job, **Photo 18.** The hole will later be hidden beneath the gun tub planned for this location.

Surface sealing

Wooden hulls require their porous external surfaces sealing, unless that is you like operating a short-

Wooden hulls require their porous external surfaces sealing, unless that is you like operating a short-lived model (!), but before doing this any defects need correcting as any small cracks and dents need fillin

lived model (!), but before doing this any defects need correcting as any small cracks and dents need filling. If we are not dealing with a defect that weakens the model in any way, then I usually reach for a tube of ready mixed domestic filler as it is cheap, quick drying and sands easily. Larger defects might require something more substantial and pieces of glue coated wood might have to be forced into them. The enthusiastic use of the hammer meant that the prototype also had lots of nail and pin heads that had to be punched below the hull surface, just far enough to allow them to be hidden with a layer of filler after which a light overall sanding soon gave the hull a smooth finish. It is often difficult to visually tell if a wood surface is smooth, so running a fingertip over the hull will quickly locate any rough areas that need additional sanding and I've just realised that to help my concentration on the sensations at my fingertips, this is a task often best done with the eyes closed.

There are numerous ways to seal and waterproof a wooden model boat hull and no single method can definitely said to be the best and experience, effort and availability can dictate which method is used. This is why for this model, a couple of thinned coats of cellulose dope with a light sanding after each application, and then a couple more thin coats of neat dope completed the sealing process.

Card strips

The superstructure was intended to be completely detachable, and so coaming strips were required around the deck access opening. Thin plywood could have been used but some card, about

1.5mm (1/16 inch) thick was perfect for the job. Strips approx. 25mm (1 inch) wide were glued around the inside edges of the opening, taking care to keep them perpendicular to the deck. Please see the cross-section on the plan for these.

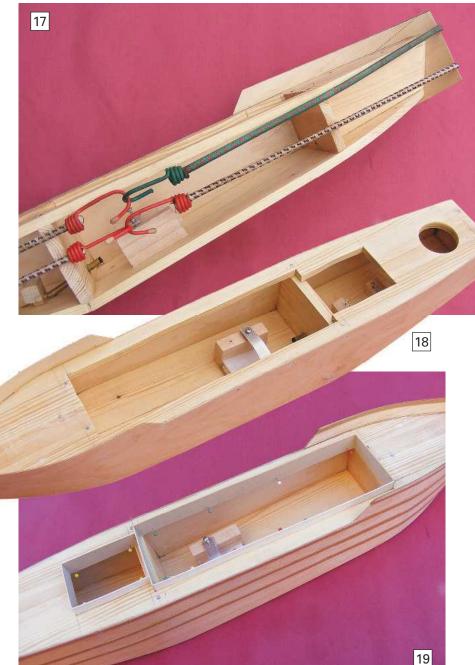
Photographs of the real vessels sometimes showed strips along the hull sides, presumably joints in their welded steel construction. These would add a little extra texture to what would otherwise be a very plain smooth hull and so card strips were glued, using a contact adhesive, to the hull sides, across the transom and the top edges of the bulwarks, **Photo 19.**

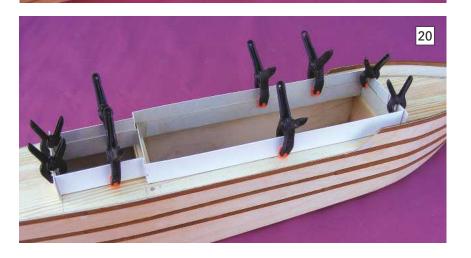
The external surfaces of the hull and the card strips were then given further coats of cellulose dope. The card strips will need a light sanding to remove any surface roughness after which they are well and truly bonded to the hull.

Superstructure

To ensure a good fit over the deck coaming, this was built over the coaming itself, but taking great care not to glue it to either the coaming or deck. Card strips were cut and glued together around the outside of the coaming as in **Photo 20.**

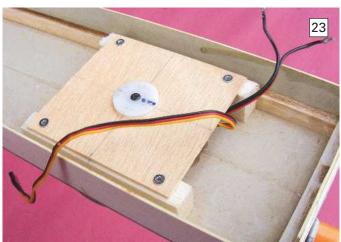
The superstructure's deck was made from a slightly thicker piece of card. In most of my models, the superstructure serves only to make the model look pretty and keep the water out, but in this LCS model, the superstructure has to carry the gun and its associated mechanism, so it seemed prudent to

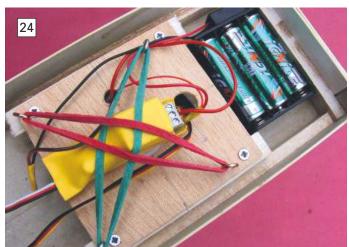












add some balsa strips as reinforcement to the side to deck joints, **Photo 21.**

This card deck was cut slightly oversize, then with the strips still over the coaming to maintain a good sliding fit, it was glued in place and a few weights kept it all firmly in place until the glue set. After lifting it up and off the main deck, any excess card was carefully trimmed away from the edges.

Gun installation

This is shown in a cross-section drawn on the plans. First, a hole was cut through the superstructure deck to accommodate the servo. With this installation, a hole about 75mm (3 inches) was just right and a compass cutter was used for the task. With the gun mounting in place, this hole was hidden by the base of the gun tub, **Photo 22.**

A plate from 3mm (1/8 inch) Lite-ply was cut to fit between superstructure sides, but with an approx. 6mm (1/4 inch) clearance as this was to ensure that it would not foul the coaming strips when fitted to the model. The centre of this plate was drilled to enable a servo disc to be secured. A hot glue gun was used for this job, but small screws could also be used, provided they do not interfere with the servo's rotating motion.

Two strips of balsawood were used as spacer between the plate and underside of the superstructure deck. Their size was adjusted, which really means quite a bit of 'cut & try', until when the servo output shaft was secured to the output disc the base of gun tub was just clear of the deck and it could rotate freely in both directions.

The spacers were glued to the superstructure and another test of the gun's rotation showed that some material still had to be trimmed to clear the servo at its maximum travel. After this, holes were drilled at the corners of the plate for screws which would secure it to the spacer strips, **Photo 23.**

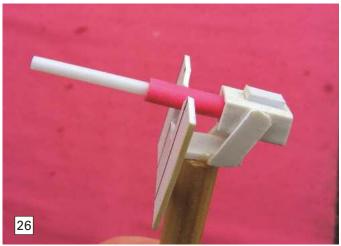
It is important that any wires that pass into the model's interior from the gun mounting do not get caught anywhere when the gun operates. A couple of extra holes were drilled in the plywood plate for the servo and power supply leads so things could move with no risk. To keep the wiring reasonably neat, a small RC relay switch (from Mr. RC World) was fitted to the plate with a couple of elastic bands. The gun needed three AA size cells to power it and a small battery box was purchased and installed just ahead of the plywood plate, **Photo 24.**

The small circuit board that carried the electronics which operated the light and sound effects was secured to the side of the gun and the small speaker placed under the barrels as this avoided having to replace the gun's wiring. With the bulwark fitted around the gun, these items are hardly noticeable, particularly when later over-sprayed grey, **Photo 25.**

Completing the model

The original landing craft looked to have two quite different conning and bridge shapes. It could be an angular block or a cylindrical shape, the latter reminding me of a turret on a castle. The latter appealed to me and a tube with an internal cut circle to create the bridge deck, all cut from card, was





quickly made. One prominent feature of the original vessels was a wind deflector around the bridge, which was easy to make with balsawood spacers and a strip of card,

The secondary armament was to be three 20mm guns and these were made from plastic strip, tube and card, **Photo 26.** When building such items, I usually start by making twice as many as needed, thus allowing errors and mistakes to be discarded without having to start all over again. So, six of these guns were started and as luck would have it, I ended up with three spare ones. These guns were to be fitted into their individual gun tubs, again just simple card tubes. The tub to be mounted on the stern had the disc cut from the deck (for access to the rudder tiller) stuck to its underside and which plugs into the deck hole and hides it from view, but still allowing easy access.

Building a model in the freelance zone of our hobby meant that the remaining items could be made from the odds and ends that tend to accumulate in every modeller's workshop. The only precaution taken was to avoid adding too much top weight to the model as it was clear that the superstructure with its gun and associated items, was already heavy enough.

Painting

It has always worked out best to paint the basic structure of a model and its smaller detail fittings separately, before adding these. With this model the primary colour was grey, and I usually use aerosol cans of grey primer for this job and the

hull above the waterline, the superstructure and all the detail parts were given three or four coats which included the electronic circuit board on the side of the gun, although only the lightest of coats for this. Since the gun's light and sound effects still function, this must have been okay with no detrimental effect.

The underside of the hull below the waterline was brush painted with gloss black. This helps to hide the distinctly un-scale shape of this part of the hull and a gloss finish is also more abrasion resistant than a matt paint. The lowest card strip along the hull sides had been positioned to be a painting guide, so no masking tape was needed to produce a good demarcation line between the black and grey.

In the absence of any information on the full-size craft, the decks were painted in a matt blue/grey shade, but most vessels seemed to have been given some sort of camouflage pattern and had a dull matt green paint partly applied to their hull and superstructure sides to create it.

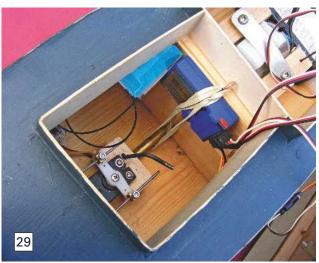
Only when the paint had fully hardened, was the whole model given a light dusting with clear satin varnish, **Photo 27.** This always helps to bring all the different paints to a common degree of

reflection with no areas being more shiny than any other.

It also toughens the softer







Crew?

One of the handy things about building models at this scale, even if it is only approximate as with this model, is the ability to take advantage of the numerous plastic 1:35 military figures available. On some models you can get away with having no humans at all, but the open nature of most small vessels usually needs a visible presence. Without such additions, a model, no matter how well constructed and finished, can look impressive on static display but lifeless when sailing.

A well-stocked hobby shop or internet site will probably offer many potentially useful sets of figures. When manning previous models at this scale, the Trumpeter WW2 USN LCM Crew (Item No. 00408) and Tamiya US Infantry (Item 35048**900) have been very useful.

Perhaps some degree of alteration from the intended poses is usually needed to suit their new role as crew on the model and this is not too difficult to achieve with a little cutting and sanding, plus use of filler. Mixing the bodies and limbs can also be done to achieve a better effect. One tip is to pose them in a position that could match them being stationary for at least a few moments as being frozen in mid-stride rarely looks realistic on a model. The crew were positioned at action stations, either manning the guns or staring apprehensively for a sight of the enemy, **Photo 28.**

Radio control installation

The motor and rudder servo mountings had already been taken care of, so it was just a case of reinstalling them and checking for correct operation. You might have noticed that small Allen Keys are placed in these mounts as these match the securing screws in the coupling and servo linkages and thus avoids having to search in a toolbox should anything come loose when out for a sail.

The drive battery was to be a 6v 7Ah sealed lead acid type which would fit just ahead of the motor. To prevent it moving and thus causing a potentially disastrous change in the model's trim, it was held firmly in position with foam plastic strips wedged between itself b and the hull sides.

Another piece of foam plastic was cut to fit into the space between the first bulkhead and the battery. Into this a cut-out was made which would firmly hold the esc (electronic speed controller) which made for some tangle free wiring between the motor, battery and itself.

The position of the receiver took some experimenting with to find the best place for

it as it would be desirable to be able to lift the superstructure on and off the model without having to fight a tangle of servo leads. In the end, placing the receiver on the rear of Bulkhead 2 seemed to work and it was secured using an elastic band, **Photo 29.** A couple of servo extension leads were needed to ensure clear access inside the hull when the superstructure was removed. So far this method has worked well, provided the servo leads are not trapped over the deck coaming when replacing the superstructure and **Photo 30** is a view of the whole interior.

Final ballasting

The hull had been tested in the water after the initial surface sealing, so I knew it would float with its planned internal installation, but it still needed ballast to bring it down to the desired waterline. In order to maintain domestic bliss, the ballasting trials were carried out in the garden pond rather than the bathroom, even though it was a cold day.

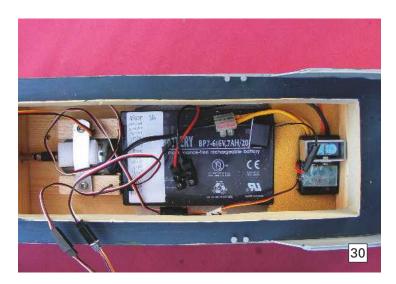
The model initially had a distinct bows-down attitude, so lead ballast was added to the rear compartment, between Bulkhead 2 and the transom until it was level, which luckily coincided with the model floating at its desired waterline. This lead was secured inside the hull using domestic silicone sealant. This will hold the ballast firmly in place (essential when sailing), yet will still allow it to be removed (handy if the model is ever modified). The resulting weight of the model ready to sail was 4.8kg (10.5lbs). Perhaps a shade more than expected, but the model is stable and within the limits of the garden pond, handled well for this first test.

Sailing trials

A bright calm day occurred when the model was ready for testing, always a good sign, but it was also cold, so cold that part of the canal was covered with a thin layer of ice. It was not enough though to stop me or a couple of intrepid canoeists who conveniently crunched their way through the ice and made a larger area for sailing the LCS, **Photo 31.**

During initial testing of the response to rudder and throttle commands, the model appeared to roll a little more than expected. This was a gentle motion and left to its own devices would quickly dampen down. As the model appeared to have more than adequate stability, I can only put this down to either my imagination or the result of the inertia of the gun and associated items which are relatively high above the waterline, but either way it is now never a worry.

One of the handy things about building models at this scale, even if it is only approximate as with this model, is the ability to take advantage of the numerous plastic 1:35 military figures available.





Working up from low speed, the rudder was found to be very effective. One nice feature was that on centring the rudder, the model immediately returned to a straight course. Some models need a touch of opposite rudder to run straight again, but this was not one of them. The minimum turning circle was found to be about 2 metres (7 feet) in diameter which was in line with expectations when using a rudder throw of plus or minus 35 degrees.

It was also nice to find that when sailing astern, at least at modest speeds, the model could be steered, but going too fast astern would build up a destabilising mass of water at the transom which the rudder could not overcome.

Having taken a few spare propellers along just in case the model's performance was unsuitable, it was found that the original choice was satisfactory for this combination of model and motor. This propeller was a Robbe three bladed plastic version, 35mm diameter, 30 mm pitch, Item No. 1473.

It was enjoyable sailing back and forth spraying suspicious looking pieces of foliage on the canal bankside with the model's gun, **Photo 32**, before it became apparent just how cold my fingers and toes had become. Recovering the model, it was nice to discover no water inside the hull and everything still worked perfectly, but to be honest, turning on the car heater was probably even more satisfying.

Subsequent sailing confirmed the initial encouraging results. The absence of ice enabled the speed to be measured at around 1.2 metres per second (4 feet/second). The current drawn at this speed was around 6 Amps, which explains the model's lively performance. This is too fast for realism, so most of the time the model is now sailed on part throttle at which the current is a more

modest 1 to 2 Amps. This does suggest that a less powerful motor could be used, but extra speed can be handy when coping with thoughtless modellers sailing too close for comfort.

One novel thing occurred in one sailing session when a cat appeared on the opposite canal bank. It was probably attracted and then mystified by the sound and light effects of the gun and I'll swear that as the model cruised along the canal, this cat started to stalk it.

Lesson's learnt?

A new model is an opportunity to try out an idea or two. Converting and installing the toy space gun was the major difference in this model. The final result, whilst not a perfect scale rendition, is at least a practical and effective addition to a radio controlled model and at infinitely less cost than bespoke model boat sound effect modules and speakers.

The use of pine planks, plywood and card, although not a novel method of construction, does show that practical models can be built without recourse to expensive materials or equipment and the tools used were only those that one could reasonably expect the average DIY householder to possess.

So in summary, developing this model provided the sort of challenge that is need to maintain interest in the hobby. The result is fun to operate and by sailing up to unsuspecting spectators, rotating the gun mounting and opening fire, it attracts the attention of young and old alike. Even better would be to get a few fellow modellers to build similar models and stage an armed landing assault in front of spectators.

Enjoy your hobby - Glynn Guest

One novel thing occurred in one sailing session when a cat appeared on the opposite canal bank. It was probably attracted and then mystified by the sound and light effects of the gun and I'll swear that as the model cruised along the canal, this cat started to stalk it.



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You have one new

Jeremy Bull describes the restoration of Ellise

s is perhaps usual nowadays for many of us, on a new morning I went to check emails and there it was from the previous day:

'Good Afternoon. I have attached three photographs of my model steamer. To give you some background, I was given the boat about 65 years ago, it was in effect a 'hand-me-down' so it must have quite an age. When I played with it as a child, the boiler was powered by methylated spirits. It is 62cm long and 13cm wide. As you can see, it has not been used in some time and I wanted to know if it can be restored? I look forward to hearing from you and thank you for your time.'

The email was from Les' Spence, and so my involvement started with a rather nice, but tired steam powered model boat. **Photo 1** is the emailed picture of the model and how it actually was when received.

The restoration project

The email understated the task which only became apparent once the hull was opened up, **Photo 2**, this picture being of the rear of the boiler and oscillating steam engine as received. Worse was to follow, as once the boiler was lifted out and its

casing removed, this was the sight that greeted me, **Photo 3**, all now clearly not looking good. On turning it over, things got worse as at some point in time the boiler failed as there was this obvious split (arrowed) in one of the seams, **Photo 4**, so it rather looked like 'game over' as the rest of the boiler seemed pretty rough and I was guessing that it had been soft-soldered. Thoughts of a full restoration of the steam plant to working order therefore seemed unlikely and whilst mulling things over, three possible options came to mind.

- 1) The boiler was a low pressure type powering the single oscillating cylinder steam engine and was very similar to the old Mamod design. So, could I buy a Mamod type of boiler to replace this seriously damaged one? A quick trawl of eBay and the answer was an emphatic NO, at least for now.
- **2)** What about making a new boiler, as after all it is not a complicated design, but the cost and regulations regarding manufacturing boilers for commercial use as I would be charging the owner for the work, put me off that route.
- **3)** Could in fact the boiler be repaired, as the hull restoration could be resolved relatively easily, this being my specialty.









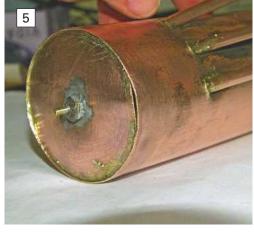
email...

Boiler repairs

Stripping the cladding off and thoroughly cleaning the boiler to bright copper was the first break, **Photo 5**, as it turned out that it had been brazed throughout, possessed an internal longitudinal stay and the copper used in its construction was of a good thickness. After carefully cleaning the split-joint area with a fine needle file, the split gap was gently tapped back into the boiler barrel using a soft copper mallet. Fluxing this area, it was then silver soldered and some fillets added for extra strength, **Photo 6**, so far so good.

The internal longitudinal stay had broken and needed to be replaced. Fortunately the builder had fitted this by threading the ends 4BA and using brass nuts had then tightened them against each endplate. To caulk it, soft solder had been run around them, so it was a straightforward process to replace the rod and re-caulk the ends. The new threaded ends extend out by a further 0.5 inch and are used to go through the cladding endplates to support the boiler and one end of this longitudinal stay can also be seen in this last picture.











The next step, an essential one, was to test the integrity of the repair and of course the boiler with a proper hydraulic test. I had decided that the working pressure was not going to exceed 25 pounds per square inch (psi) and to make doubly sure of its strength the boiler was pumped up to 75psi which is three times its working pressure, the reasoning being that if it withstood that, then the boiler would stand 25psi.

The boiler was set up on the bench and connected to the water pump and the certified test gauge of my model engineering club. As can be seen in **Photo 7**, the boiler held the test pressure with no problem, so a successful repair was the end result. For those not familiar with this, a boiler is filled with water and then pressurised, so that in the event of failure, all that should happen is that it will split or an endplate come away, rather than actually exploding.

What had caused the boiler split I will never know, but my guess is that at some point during its long life the boiler got 'frosted' as there was no way to drain the boiler without removing it from the hull. The ice then found the weakest point, which was the damaged portion of the seam. It looked like the joint had not been cleaned properly in that area and so the braze had not flowed into the join, but who knows as it may have always had a slight weep in this area?

New burner

The boiler now being restored and safe, the next job was to construct a new methylated spirit burner as the original was missing and the owner's memory after 65 years described it as; 'A cigarette tin I used to fill with meth's, light and push under the boiler'!

This could be a recipe for a huge conflagration inside the hull and examination of the fire-hole end of the cladding revealed an opening far too small to insert a cigarette tin. Also, a clip screwed into the





bottom of the hull near the bow suggested that the burner was probably a little longer than a cigarette tin. Establishing the steam raising time of the boiler from cold was 15 minutes, plus a sailing time of say 20 minutes with the engine running at full throttle, it was easy to work out that the burner required 11 wicks (in burner tubes) of 0.187 inch diameter and a fuel capacity of 50ml of methylated spirits.

Starting with a piece of 28mm diameter copper pipe 6 inches long, the burner was silver soldered together. For the wicks I use stainless steel woven wire of 60 mesh. This is rolled into a tight cylinder which can be inserted snugly into the burner tubes. This mesh gives a good capillary action to draw the methylated spirits up with the added advantage that these wicks last much longer than the regular fibre versions.

The burner tank is filled using a syringe to ensure a precise 50ml is measured. It is critical that the fill does not exceed this, otherwise the methylated spirits will flood out of the burner and an unwanted boiler room fire could quite probably result.

Photo 8 is of the burner doing its business with the 4-3-4 lines of burner tubes.

There is a vent tube at the front of the burner for the vapour produced as it gets hot. This sticks above the deck in front of the foremast to vent the vapour away harmlessly. It looks rather like the ship's cook is stoking up the galley stove when it's venting and the vent tube runs through a piece of cork which also acts as the filler plug. This is a very simple burner, but it works and has proved reliable, even if a bit 'Heath-Robinson' in appearance.

Steam engine

The single cylinder oscillator steam engine, despite its age, required nothing more than a good cleaning to remove the old solidified steam oil, a polish with Brasso and a thorough oiling, **Photo 9** and **9A.** Testing it on air, it at once sprang into life, hummed like a good 'un, and this was the easiest part of the whole restoration project.

The hull

This model was not radio controlled and there was no intention of making it so. Restoration of the hull was not going to be difficult, it requiring only a good sanding, **Photo 10**, filling and making good, **Photo 11**, before repainting, but there was one conundrum to be resolved and that was a locking mechanism for the rudder and like most of these things, it turned out to be more difficult than originally envisaged.

By now I should have learnt my lesson from previous restoration projects, as the rudder post was not vertical and the tiller arm scribed an off-

centre half circle and worse than that, when turned to port it was up in the air and to starboard it wanted to be 1/8 inch (3mm) below deck. So, this was now looking a bit like the previous restoration of Joanne of Kyle all over again.

Rudder and tiller changes

So, off came the rudder and out came its tube. The resulting hole through the hull was opened out sufficiently to get the new rudder tube vertical in all its planes. The rudder shoe was reattached to the bottom of the hull and a long length of round straight steel of the internal diameter of the rudder tube was inserted into the tube and located into the hole in the shoe where the rudder stock would fit, **Photo 12.**

With the hull now levelled fore and aft, port and starboard, the rudder tube was then set vertically in these planes using a setsquare measured against the hull and with small wooden wedges, the tube was fixed in place in the hull. A good drop of slowsetting Araldite epoxy adhesive to set the post in position, **Photo 13**, was left to harden fully (two











special feature









days to be sure), and now there was a vertical rudder post that could be trimmed to size.

The tiller mechanism now became straightforward. A semi-circular brass quadrant was cut out and screwed to the deck and a tiller arm manufactured with two collars at each end. One collar was placed over the rudder stock and secured with an 8BA screw whilst at the other end the collar was tapped 8BA to take a locking screw. This bears down onto the quadrant and prevents the rudder from flapping-about, but does not make it so rigid that if the rudder gets struck hard it could be damaged, **Photo 14.**

Testing?

The next step was the critical 'Accumulation Test' when the burner is tested at full output with the



main steam valve shut to establish that the safety valve clears the excess pressure without a pressure rise of more than 10% of working pressure.

In this case the boiler working pressure is 25psi, therefore maximum pressure cannot exceed 27.5psi. Using the engineering club's test gauge again, the steam plant passed with flying colours, and the added bonus of seeing the steam plant ticking over once more, but now on steam,

Photo 15.

Shakedown cruise and final completion

After all this, a trial cruise was required to test everything worked; that the hull did not leak; the boiler and burner performed as anticipated and we did not have a catastrophic methylated spirits fire whilst out on the water. This cruise was undertaken on a local pond and despite looking forlorn in her rubbed-down and masked-up state, Photo 16, once Ellise (her future name) was on the water, the model had a spring in its step once again and looked absolutely grand whilst cruising round and round. This shakedown voyage was a great success and the restoration could now be completed, which followed the now familiar path of further rubbing-down of the hull, more filling and priming, undercoating, more rubbing-down, more painting and waiting for the paint to dry to result in it looking like it is in Photo 17. This was followed by final assembly and rigging, with Photo 18 showing the model with its deck and superstructure removed, but basically ready-to-go.

21





Handover

The job was now completed and the model sat there in all its glory. Prior to the restoration the model was never named and I had previously suggested to the owner, Les' Spence, that this should now be corrected. He had made a suggestion, but his wife thought it would be more appropriate for it to be named Ellise, with the Port of Registration being Glasgow, his city of birth. More to the point, Ellise is an anagram of Leslie and I think that is a nice touch.

To complement the name of Ellise, it has a flag set based on the Royal Northern and Clyde Yacht Club based at Rhu on the Gare Loch. This would allow the boat to fly the Blue Ensign and the appropriate burgee flag. Whilst not strictly accurate I thought it appropriate with the owner's connection to Glasgow and on a model of this type and vintage, surely one is allowed a little artistic licence?

And what of the origins of the model? As usual there was nothing inside the hull to indicate who built it or when. It could be a model that was manufactured by one of the well known Glasgow model shops and Clyde Model Dockyard springs to mind as their pond yachts have appeared from time to time at auction. Who knows? Perhaps a reader can throw some light on Ellise's origins, if they perhaps have an old catalogue in their possession with a picture.

To conclude this article, Les' provided me with a photograph taken in 1947, Photo 19, when in company with his father he was off to sail the same model on a pond at Dunoon in Scotland. Those were the days when you wore a suit to pursue your hobby - 'keeping up appearances' as it were.

Photo 20 is of the handover day, myself being on the left of the picture and it is now 68 years later from the previous picture of father and son, so a nice memory of those happy days. The newly restored model now has pride of place in a display cabinet in Leslie's family lounge, Photo 21. A lot of enjoyment can be had from restoring and bringing-to-life old models and in this case also bringing much pleasure to its owner and renewing his childhood memories.







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Range Finder

Pelcome once again to our regular sortie into the world of fighting ships and this month we take a close look at the Royal Navy's HMS Biter, a P2000 patrol and training craft. Also we continue with Part 12 of our Deans Marine HMS Skirmisher, plus have our usual Mystery Picture teaser.

HMS Biter is normally moored at HMS Eaglet in Liverpool, together with HMS Charger which is assigned to the Liverpool University RN Unit.

HMS Biter P270 Photo File - Part One

Over the past 20 years I have been fortunate on behalf of Model Boats to go aboard many types of warship, however the one class that has eluded me up until now is the Archer P2000 patrol and training craft. Although I had seen both HMS Charger and HMS Biter on a number of occasions, it was not until 2013 during the Battle of the Atlantic commemorations that ten of the class berthed within the Albert Dock on Liverpool's waterfront, **Photo 1.** At that time, scheduling was tight and although I did get a number of pictures I was not down for a specific ship visit, but in May 2015 that was remedied.

The sixteen boats of the RN Archer P2000 class are the largest number of a single type currently in service with the Royal Navy. The original design was based on the Dheeb al Bahar 1, a P2000

design built by Watercraft Marine Ltd of Shoreham, Sussex, for the Police Service of Oman, that boat entering service in December 1984.

Of the 16 RN boats built, only HM Ships Archer, Biter, Smiter, Example and Explorer were completed by Watercraft Marine, nine being built by Vosper Thornycroft at their Woolston shipyard (now closed), and HMS Tracker and HMS Raider by Ailsa Shipbuilding. Although classed as fast training boats, all except HMS Tracker and Raider are assigned to University Training Squadron duties, with HMS Biter assigned to the Manchester and Salford University Royal Navy and Reserve Unit based in Manchester. HMS Biter is normally moored at HMS Eaglet in Liverpool, together with HMS Charger which is assigned to the Liverpool University RN Unit. HMS Biter entered service on 5th November 1985 and her GRP hull is 20.8m in length x 5.8m beam, with a full displacement of 54 tons and powered by two Rolls Royce M800T diesels to two propshafts developing 1590bhp with a cruising speed of 21 knots.

Currently, HMS Biter has a Lieutenant in command with a crew of four consisting of two Chief Petty Officers and two junior rates. HMS Biter can also accommodate a further twelve, including an RNR training officer of Lieutenant or Sub-Lieutenant rank. For now, we will concentrate on









Photo 1. You wait for one for ages, then eight come all at the same time! Here are some of the RN Archer class when visiting Liverpool for the Battle of the Atlantic Commemoration of 2013.

Photo 2. A general view of the forecastle deck on HMS Biter.

Photo 3. The anchor arrangement.

Photo 4. A further side view of the housing for deploying the bow anchor, a useful picture for model makers.

Photo 5. Bedded on checker plate is a spare CQR (plough) anchor.

the exterior forward with some internal detail being shown in Part Two next month.

Forecastle

Our tour begins right forward with a picture from the starboard side, **Photo 2.** At the stem is a hawse guide for the CQR (Plough) lightweight anchor. For modelling purposes I've also shown the view looking from above, **Photo 3,** and from the side, **Photo 4.** A second spare anchor is secured on a piece of shaped checker plate slightly to starboard, **Photo 5,** and it's worth noting in this picture how the stanchions are secured to the deck edge. On the centre line is a cable stopper along







Photo 6. Although only 54 tons and 20.8m in length, the anchor handling arrangements still require a cable stopper and Blake Slip.

Photo 7. An on-board perspective of the arrangements right forward. It's worth noting the green coloured nonslip deck surface.







Photo 8. Two box type liferaft containers are mounted forward.

Photo 9. The deck housing has forward windows that provide good all-round visibility.

Photo 10. On the sloping face of the front section are three stowage hatches, the middle one being slightly larger than the others.

with the Blake Slip with the anchor chain lying over steel checker plate, Photo 6.

Looking forward now in Photo 7, it's worth noting that all the stanchions are round and are of stainless steel, very much 'luxury yacht style'. Moving further aft along the centre line of the forecastle deck are two liferaft containers and between them is an escape hatch which is directly above the forward crew compartment and at various intervals flush with the deck are some rectangular light-boxes, Photo 8.

Superstructure

This is box-like a single unit with an enclosed wheelhouse at the front and an open steering position on the top. On the front of the superstructure beneath the large windows are three hatches, the middle one being larger than the other two, Photo 9, and on looking closer, the handle on centre hatch is also slightly larger to allow for a padlock, **Photo 10.** Beneath these hatches are storage compartments and on the outer faces of

this lower front section are high luminosity deck illumination fittings with protective covers,

Photo 11.

Each front window has a linear (straight line) wiper box each with a pair of wipers. In other words, the wipers do not pivot and scribe an arc, but actually slide back and forth across the windows. Also in each corner is an outlet tube for the screen washer fluids, Photo 12.

Our last two pictures concentrate first on the upper starboard side of HMS Biter, **Photo 13,** and then on the port side of HMS Charger of the same class, where there are some subtle differences, Photo 14. In the forthcoming November issue of MB we will be having a look at the upper conning position and the inside of the enclosed wheelhouse.

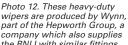


Photo 13. The main deck housing on HMS Biter is of GRP.

Photo 14. HMS Charger and HMS Biter have slight differences along each side of their deck housings, particularly the row of lower vents.

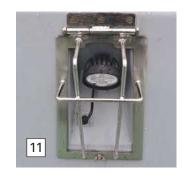


Photo 11. On the lower half of the superstructure front are two

waterproof deck lights in protective

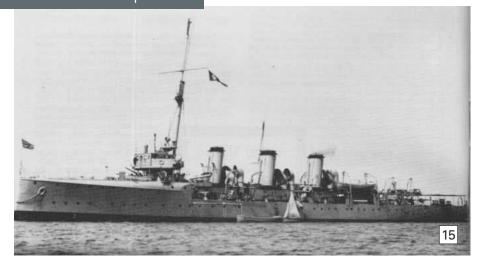
wipers are produced by Wynn, part of the Hepworth Group, a company which also supplies the RNLI with similar fittings.





coverings.





HMS Skirmisher - Part Twelve

Before outlining the methods adopted for making and fitting of the watertight doors, I thought it would be the appropriate time to ballast-check the model, which is one of those things that ought to be done. In an earlier part of this series before any detail work was undertaken, the basic hull was tested on the water to check the functioning of the rudder linkage, drive motors, r/c and how the battery position could affect the trim.

The time was now fast approaching when a 'near-final' ballast check was needed, **Photo 15** being of the original warship. As a matter of interest, many warships of this period omitted having a broad defined boot topping, as on modern larger RN vessels, with the hull bottom anti-fouling paint being just visible above the waterline .

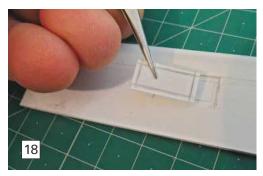
In some of my previous models, the internal volume allowed large batteries to be used, these providing much of the ballast and the ability to move them fore and aft as well as slightly port to starboard for final trimming, but on this 1:96 scale HMS Skirmisher it was apparent that the batteries alone would not be totally sufficient. What was

required was some ballast fore and aft, with some further trimming ballast amidships. The batteries can be moved fore and aft on a tray amidships, but not really port to starboard or vice-versa.

The usual method for visually identifying the fore and aft trim is by temporarily applying black tape at various points along the sides of the hull, indicating the desired waterline. Having said all of that, there is a lot to be said for, `if it looks right then most likely it is right'.

Distributing the ballast

It is desirable to have the ballast distributed around the inner hull, rather than as one large lump (or a single battery) in one place, this reducing the possibility of the model pitching and rolling too much because of the concentration of weight. For additional ballast, sheet lead cut into strips was carefully distributed fore and aft. Then the batteries were added and adjustments made until the hull was on its waterline marks fore and aft. The weights can be secured with silicone bath sealant, which is permanent, but not so permanent that the weights cannot be removed later if required. Further weights can be positioned to ensure no list





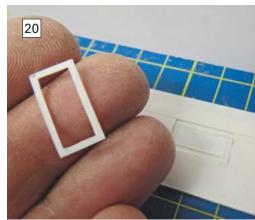


Photo 15. HMS Skirmisher at anchor.

Photo 16. Final ballasting trials before the superstructure and deck details are added.

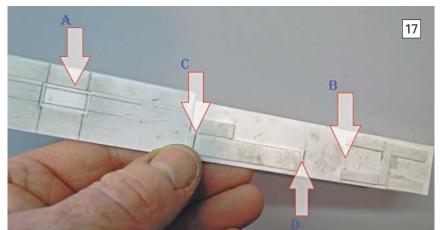
Photo 17. A simple jig from scrap styrene for making all of the standard single panel watertight doors, please see text for more information.

Photo 18. The panel surrounds marked and ready for cutting within the jig.

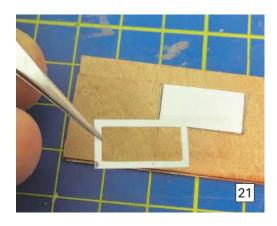
Photo 19. Cutting the panel surround whilst in the jig.

Photo 20. The panel surround is removed from the jig.





warship scale



to port or starboard, but if you have built your model symmetrically, then it should float pretty much upright anyway. The key point though, is that the ballast should be as low in the hull as possible, so that if the hull should list outwards on turns, it will return to the vertical quickly and safely. **Photo 16** is the hull on its second sea trials, due allowance having been made for the expected weight of the superstructure units and fittings.

Watertight doors

These were different from the, usually triple panel, style of those on succeeding eras of RN warship. HMS Skirmisher was fitted with single panel doors which had a number of dogs (clips) around their outer edges and a single main grip handle. In all, 18 doors are required and as an alternative to making a master and resin casting each of them, it was decided to create a jig and make each one individually, and why? Well, in practical terms probably four masters would have to be made anyway, plus the handles would still have to be fitted to each of them, so the 'individual' route was chosen. The first task was to determine how many parts would be required for each door and how these could be easily made using a jig.

Creating the jig

There are five different parts for each door namely:

- The backing
- A panel surround
- The panel backing
- Six identical dogs
- One gripping handle

All that is required is a jig that can be used to replicate precisely each of these parts, with the result that each door would be the same as the next and although not much to look at, this simple jig in **Photo 17** actually works. The annotation on the picture is as follows:

- A is for cutting the panel surround
- **B** is for joining and lining up the panel surround to the backing
- C is cutting the dogs
- **D** is for cutting the door handle

A separate wooden jig was used for fixing the panel surround to its backing.

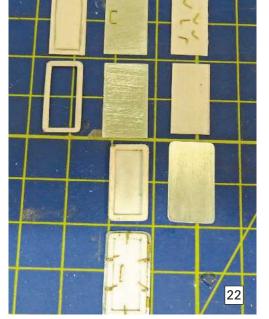


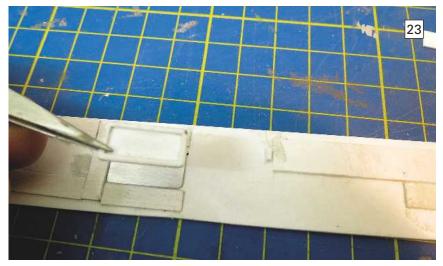
Photo 21. Using a timber jig to set the panel surround on to its styrene backing.

Photo 22. All the parts cut for the single panel watertight door in their order of assembly.

Photo 23. Fitting the single panel to its Litho backplate piece.

Photo 24. Using the jig to prepare the door handle.

Photo 25. Cutting the door handle within the jig.



Working with the jig

The first task was to mark out the panel ready to be inserted into 'A' on the jig, **Photo 18.** The advantage of the jig is that it holds the styrene in place whilst the centre panel is cut, **Photo 19,** and the end result is an outer panel surround as in **Photo 20.**

Joining this panel surround to its backing, both of which are of styrene, required the use of a wooden jig which creates a quick and simple means of lining up the two parts and being of timber, this means that these parts can be bonded together without any chance of inadvertently bonding them to the wood. **Photo 21.**

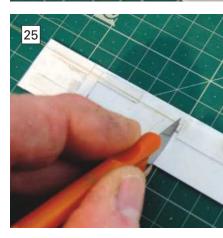
Photo 22 hopefully illustrates how each part progresses from one stage to the next and at the end of the sequence is a completed watertight door. All of this may be appear to be a lengthy operation, but far from it, as it took approximately just five minutes to prepare each door.

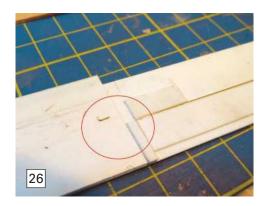
The raised panel surround and its styrene backing can be fitted to a slightly larger 0.5mm thick piece of Litho plate backing. For those readers not familiar with this material, it can be bought new, but the usual source is as scrap from offset-litho printer, it being a form of aluminium coming in thin sheets. The jig ensures this Litho backing piece is kept firmly in position whilst the surround is added,

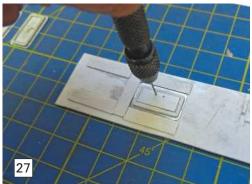
Photo 23.

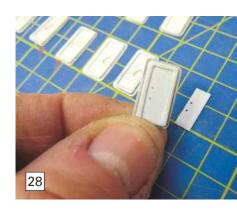
Using 0.31mm fine brass wire, the door handles can be bent into a U-shape and placed in the jig to be cut to size as in **Photos 24** and **25**, a sharp knife doing the cutting. With the same gauge of wire, the jig can also used to cut each of the dog

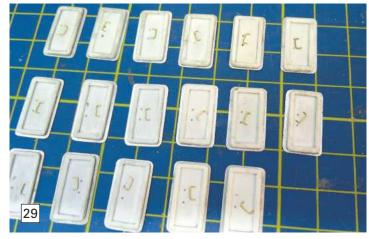












And where do they go?

Many of the doors are located on the main deck housing and it is this that will be used as an example of how each door has been located and fixed into place.

However, as a first step it was necessary to locate and fix each of the handwheels associated with the cowl vents, as shown on the profile general arrangement. These handwheels enable the cowl part of the vent, to be traversed for the best wind flow into it. Once these were positioned, and taking





So that the door grip handle can locate in the same place on the panel of each door, it is necessary once again to resort to a simple jig and all that is required is a strip of styrene corresponding to the inner section of the panel. Using a pin vice, a pair of holes corresponding to the handle position are made. As this is a jig, all that is required is to gently allow the drill bit to be guided by the jig to indent the surface of the panel below, **Photo 27.**

With the jig removed the indents remain, which allow each handle to be located in the same place on each panel whilst also providing a point of contact for applying a dab of thin superglue to fix it in place, **Photo 28.** This process was simple with all the doors being prepared in a very short time as in **Photo 29.** The final task to complete each door is to locate and fix the dog handles (clips) and the hinges. However, this is one of those jobs where a steady hand and not a jig was the method of choice, each door being secured by masking tape as each extra part was carefully added as in **Photo 30.**







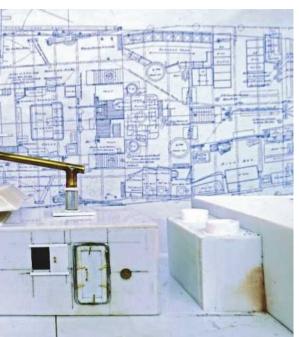
32

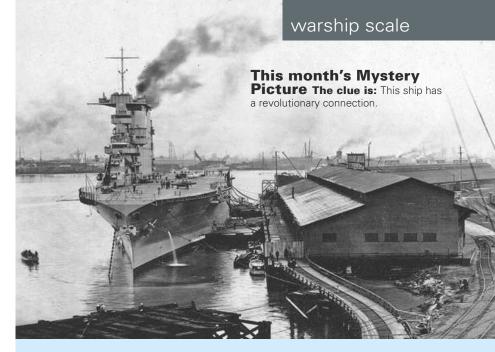
into account the thickness of the deck planking still to be laid, the position of each door was marked as in Photo 31, and yes you have guessed it, another jig came into play.

Using a method devised for setting the doors on the recent 1:72 scale HMS Daring project, a jig was made that allowed the completed door to be dropped into place between two upright arms with a bottom horizontal piece determining its correct height above the deck. As the backing for the door is of Litho plate, the adhesive used was thin superglue (cyanoacrylate), ideal for bonding metal to any surface. The use of a jig ensured that each door was in the right spot every time with no need for further adjustment, Photo 32, and Photo 33 shows the forward deck housing in place with its watertight doors fitted, all to 1:96 scale. Once airbrushed, the features on the doors will be further highlighted in relief.

Hopefully this exercise has demonstrated a simple means of making a series of identical parts without recourse to making moulds and subsequent castings, something that was not available to the master model maker of yesteryear who made extensive use of jigs to produce numerous identical parts. Next month we will be having a look at the torpedo tubes.







Answer to the September 2015 Mystery Picture

The clue was: When does a battleship have the firepower of a destroyer?

The answer was quite simple as it arises when you remove all the 12 inch main armament and replace it with 5 inch guns. For those who are unaware, this is exactly what happened to the old US Navy dreadnought battleship USS Wyoming BB32. You may ask why anyone would you want to convert a battleship of 26000 tons, 562ft length and 93.1ft beam to have the armament of a 2500 ton destroyer? USS Wyoming was the only battleship converted in such a way, starting life on 25th September 1912 as one of a number of similar 12 inch equipped dreadnought battleships for the US Navy.

Built by William Cramp and Sons Ltd and laid down on the 9th February 1910, USS Wyoming was originally fitted with a twelve 12 inch main battery, sixteen 5 inch 51 calibre guns (mostly in casemates), eight 3 inch 50 calibre deck mounted anti-aircraft guns and two submerged 21 inch torpedo tubes. When the Unites States joined Great Britain and France in 1917 in WW1, it was envisaged that their warships would work alongside those of the Royal Navy, but it was not until the beginning of 1918 that this could happen as the two fleets would need to coordinate their operating procedures.

USS Wyoming with its powerful armament was deployed to escort North Sea convoys and patrol with the newly formed Sixth Battle Squadron to counter a possible

breakout of the German High Sea Fleet and she was present at the surrender of that fleet on the 21st November 1918.

For a number of years following WW1, USS Wyoming continued largely unaltered. However by 1930 and under the term of the London Naval Treaty, USS Wyoming was reduced in role to a gunnery training ship and re-designated AG17. The eagleeved amongst you would have seen in last month's picture the number 17 in small numerals on the bow, the warship having had a number of guns and its side armour removed

By the time of the American entry into WW2, USS Wyoming was receiving more of the 5 inch 38 calibre guns although retaining the forward 12 inch turrets, but by April 1944 all of the 12 inch guns had been removed and replaced by four twin and two single enclosed mounts of 5 inch 38 calibre. By April 1945 USS Wyoming had become an anti-Kamikaze 'research' vessel and was fitted with no less than ten 5 inch and four 3 inch dual purpose guns; three twin, one quadruple and one single 40mm; six single and two dual 20mm, two Mk. 17 rocket launchers, plus a Mk. 37 anti-aircraft radar director. USS Wyoming, now fully converted to a gunnery training role, had the distinction of firing more rounds than any other ship in the US Navy's fleet during WW2 and in the process training 35000 gunners, a remarkable achievement. USS Wyoming was finally decommissioned on 1st August 1947 and sold for scrap in October of that vear.

References and acknowledgements

HMS Biter, P2000 Archer class ref: Combat Fleets 15th Edition, page 851 Watertight doors for the period of **HMS Skirmisher ref:** Shipyard Practice by M. J. McDermaid c1911, page 109. USS Wyoming ref: Conway's all the worlds fighting ships 1922 to 1946 pages 90 & 91. Jane's Fighting ships 1924, page 386. Directory of the World's Capitol Ships by

Paul H. Silverstone, pages 422 & 423 .

My thanks to the Commanding Officer and Ship's Company of HMS Biter for their help and assistance. Also my thanks and appreciation to the RN Northern Region Office area for their help in arranging the visit

My thanks to Bill Clarke from the USA for his assistance with photos relating to USN warships for the Mystery Picture slot.

show report

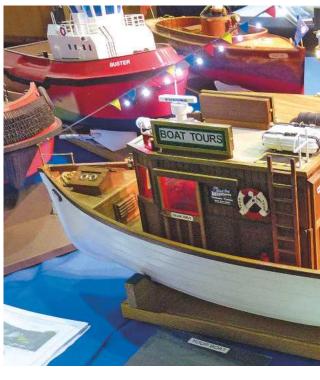




ABOVE: A laid back crewman on the Mac's Mouldings stand.

BELOW: This model of the Hartlepool lifeboat, RNLB Betty Huntbatch, won Kevin Brown of Roker Park MBC, the Rescue and Lifesaving Section prize.





CADMA 2015 Northern Model Boat Show



Gareth Jonesreports

nce again, the show organised by Conisborough and District Modelling Association, took place at the Doncaster Deaf Trust at the beginning of June. The show had a new organiser in Cliff Paskell-Jeffery, although the previous and long standing organiser Bryan Smith kept a close eye on proceedings over the weekend. The layout was similar to previous years, but to create more space in the main hall, the bring and buy stand had been moved to an adjacent room.

One change that was introduced this year was with the judging arrangements, as the previous judges, Tom Gorman and Peter Ritchie have both been unwell. Goole MBC were asked if they were prepared to act as judges for the various model sections and the request was put to the members early in 2015. There was some reluctance to do this as it would effectively rule the club out of contention for the Best Stand award and the various

scale model competition sections, but eventually the membership agreed to the request and yours truly was volunteered to organise it all over the weekend of the event.

Judging

Being involved in the judging put a new slant on the event and I thought it worthwhile that this show report should reflect this. Judging the scale sections was relatively straightforward in that the Model Power Boat Association guidelines were followed with marks apportioned for realism (15), detail (20), difficulty (20), workmanship (20), finish (15) and documentation (5). Three Goole MBC members went around all the models entered in the eight sections and marked them accordingly. Some sections were relatively easy to differentiate but the Naval Vessels group had four models of a



LEFT: Stan Reffin is well known for detailed models and his Booth Bay lobster boat is no exception and won the Fishing Boat Section prize.



RIGHT AND BELOW: Fantastic detail on Chris Behan's stunning model of a US Navy LCAC 90 hovercraft which took the award for Best in Show.





LEFT: The Boat Tours model on the Kirklees MBC stand attracted a lot of attention because of its varied and apparently random collection of audio visual effects, particularly the jumping, barking dog and changing illuminated sign.

BELOW: Yorkshire Belle by Alan Norwood has a very appealing collection of passengers.

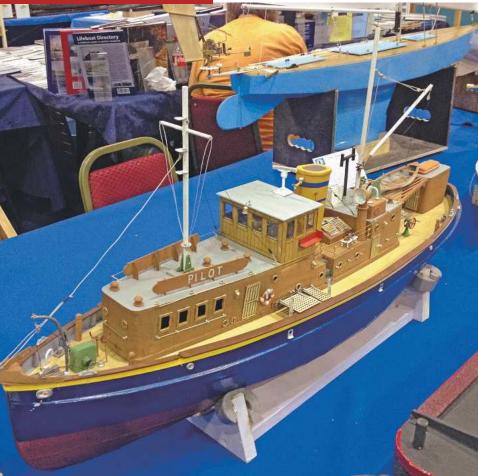
very high standard with only three points separating them. The winner was Chris Behan with his highly detailed and well constructed, scratch built model of a Soviet Zubr Mordovia hovercraft. Only one point behind was Tom Butler of the Surface Warship Association with his model of P28, a World War One RN patrol craft.

Judging the Best in Show and Best Stand was done on a different basis in that around a dozen members of Goole MBC were dispatched around the show on the Saturday, each with a sheet of paper and pencil and some guidelines on how to nominate the winners. In the afternoon these were collated and a couple of winners quite clearly emerged. Kirklees MBC were unanimously voted best stand with an excellent selection of models, clearly displayed, well lit and with lots of supporting information about the models and club. There were also lots of club members accessible to discuss the models and provide information about them and the club. No doubt much of this success is down to the hard work of this club's Public Relations Officer, Stan Reffin.

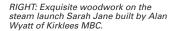
Winner of the Best in Show went to Chris Behan with his model of the US Navy LCAC 90 hovercraft. A fairly close second in the overall voting was Bob Hodgson's scratch built model of the tug Roysterer, which he has been building for around 20 years.



show report



ABOVE: Paddy Rew's pilot boat displayed on the Goole MBC stand.

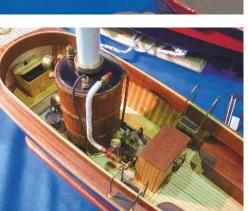




ABOVE: Spindrift, a 76 year old pond yacht, recently restored by Elizabeth Jones, on the Vintage Model Yacht



Group stand.



ABOVE: Numas Warrior, an unusual tug by Alan Wyatt of Kirklees MBC and which includes a pair of completely home built Schottel drives.

However it did win the first prize in the Tug Section of the competition.

Being nominated to judge did mean that we went round all the models on show, looking more closely and critically than we might usually do. It was noticeable that there were a number of fine models that could have done well in the competition if they had been entered. However it has to be accepted that not everyone is competitive and one particular club stand was quite vocal about this, saying they built their models to sail, not to put on a pedestal. Just outside the main hall a large covered pool was available for those who wanted to take their boat off its pedestal(!) and sail it. One rather sad reflection on the current modelling scene was that for the second year running, there were no entries in the Junior Section of the competition.

The show was well supported by traders with all the major model boat suppliers attending. The café upstairs provided a good choice of hot or cold food and drinks, with excellent bacon butties available all day. The venue is easily accessible next to Doncaster Racecourse and has ample free parking. This CADMA organised show is well worth a visit, so clear a space in your diary for the beginning of June 2016 and get some models ready to display and enter in the competition or sail, whichever floats your boat.



RIGHT: Lucky IX seen on the Sheffield Ship Modelling Society stand.

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The kits were primarily of

interlocking die-cut balsa

construction, of which Sterling

were early pioneers, with each

model boat kit taking up to a

year to design and make ready

for production.

John Parker delves into the archives

31: Sterling Models

nother of the manufacturers now lost to the modelling world is Sterling Models, the American company that for the best part of fifty years produced a range of model aircraft and model boat kits and accessories that were sold worldwide. In their first ten years of existence, from 1947 to 1957, they made almost a million kits, moving from three rented garages through a succession of ever larger premises to settle at a 45000 square foot (4200 square metre) plant at the corner of Belfield Avenue and Wister Street, Philadelphia, Pennsylvania, USA.

Founders Edward Manulking and Peter Tinchal attributed their success to the fact that they made the sort of kits they always wanted to build when they were young model makers in the 1930's. Their first products were fittings and accessories for the new craze of control line model aircraft, but they were soon producing their own model aircraft designs and offering them as kits, the S-1A Ringmaster stunt model probably being the best known of these. Tinchal was a boating enthusiast and added model boat kits to the product range, starting with the B-1 Richardson 27ft Sedan Cruiser, a 17 inch (432mm) model. The kits were primarily of interlocking die-cut balsa construction, of which Sterling were early pioneers, with each model boat kit taking up to a year to design and make ready for production.

SCALE BURGER BOX ORIGINAR BOOK STATE FRANCIST SCALE BURGER ORIGINAR BOOK ORI

The Sterling product range

Sterling used a rational system of identification for their kits, with a letter that designated the subject matter. In the maritime ranges, the classifications were B for working model boats, D for rigged display models and G for fully rigged display models. Where a separate fittings set was available, the same kit number was used with the suffix M to distinguish the model and F to distinguish the fittings set. Over the years twenty five working model boat kits were issued as the table shows.

Cabin cruisers can be seen to make up most of the range, with Sterling being licensed to reproduce a number of the then current designs by Chris-Craft and other manufacturers. The largest of these was B-11M, the 63ft Chris-Craft Motor Yacht, which produced a 40 inch (1016mm) model and B-15M, the 42ft Chris-Craft Corvette, 48 inches (1219mm) long with a 14 inch (356mm)

Richardson 27ft Cruiser B-2 Higgins 17ft Speedster R-3 Chris-Craft Buccaneer B-4 Century Resorter 20ft B-5 Century Sea Maid B-6M Chris-Craft 32ft Cruiser B-7M Chris-Craft Catalina B-8M Century Sea Maid B-9 Higgins 26ft Express Cruiser (plastic) B-10M Harco '40' Deluxe Cruiser B-11M Chris-Craft 63ft Motor Yacht B-12 Sea Dart Hydroplane (plastic) B-13M Chris-Craft Monterey 21ft Outboard Cruiser B-14 Chris-Craft 42ft Express Cruiser B-15M Chris-Craft 42ft Corvette B-16 Chris-Craft 21ft Cobra (plastic) B-17M U.S.S. Missouri B-17F Fittings Set (115 pieces) B-18M American Scout C-2 Cargo Ship B-19 Skippy Sail Boat B-20M Caltex Lumba-Lumba B-21M Emma C. Berry Schooner B-22M America Schooner Yacht B-23 Sailfish Yacht B-24 Kingfish Yacht B-25 Starfish Yacht

Sterling Working Model Boat Kits

B-6F Fittings Set (34 pieces) B-7F Fittings Set (66 pieces) B-8F Fittings Set (35 pieces)

B-10F Fittings Set (64 pieces) B-11F Fittings Set (108 pieces)

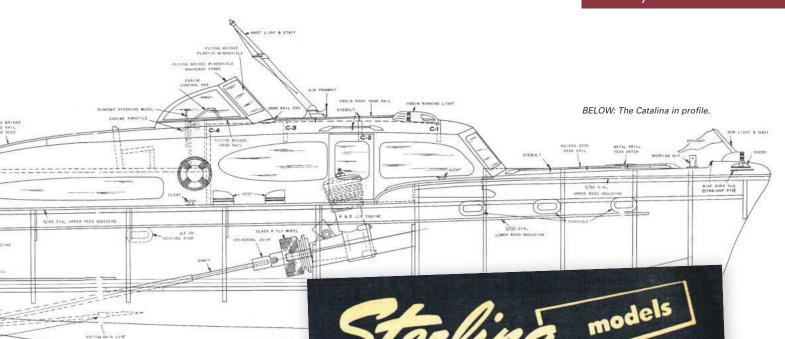
B-15F Fittings Set (62 pieces)

B-18F Fittings Set (339 pieces)

B-20F Fittings Set (38 pieces)



Philadelphia 44, Pa.



Belfield Ave. and Wister St.

beam. These two, along with the B-18M Cargo Ship (50 inches/1270mm) and B-17M the USS Missouri (55.5 inches/1410mm) were touted as; 'Specially Engineered for Radio Control Operation'. Essentially this just meant they were large enough to carry the bulky r/c gear of the day and included typical installation diagrams on the plan. Several of the other larger models were also suited to radio control

Included in the listing are two small injection moulded kits, the B-9 Higgins Express Cruiser and B-16 Chris-Craft Cobra, which appeared in 1955 and 1956. The specialist tooling and machinery required to produce these was quite different to die-cutting, and was likely done by an outside company. At least in the case of the Cobra, a swirl mix of two brown colours of plastic was used to represent the wooden hull; there were a total of 64 parts in four colours, and the kit sold for \$2.98 in 1956.



Actual photograph of model, built from Kit.

CHRIS-CRAFT 50' CATALINA

CHRIS-CRAFT 50' CATALINA

Kit B-7M • Length 311/4" • Beam 83/6"

Fower Boating • Radio Control • Shelf Model!

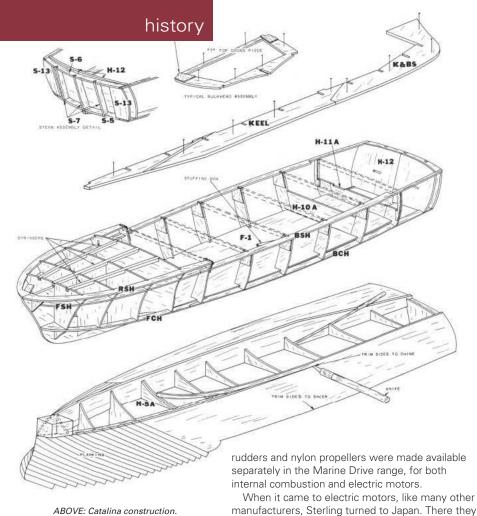
Power Boating • Radio Control • Beam 83/6"

ABOVE: February 1958 advertisement for the Sterling B-7M Catalina.

LEFT: Contents of the Catalina kit.

Fittings and accessories

In addition to their kits, Sterling produced fittings, a range of accessories and hardware. The fittings were generally cast in white metal, a lead-based alloy, and added quite a bit of weight when fitted to one of the cabin cruisers. The soft alloy was far from ideal for items such as a mast as it would bend readily with the slightest pressure and never really look straight. Similarly, propellers and rudders produced in this material were only suitable for a display model. Functional stern tubes (stuffing boxes in American terminology), propeller shafts,



had made for them an inexpensive small motor

they called the LB-139 Li'l Beaver for 1.5 to 6 volt

operation and the much more substantial KB-695 King Beaver for 3 to 12 volts. The Li'l Beaver was

designed for the small plastic kits and had nothing

engagement mounting foot that did away with the

need for screws. It was announced as a new item

in the May 1956 issue of Young Men magazine at a

The King Beaver became available from June

1957 for \$6.95. My own unused example threw its

particular in its favour apart from the spring-

price of \$1.39.

ABOVE: Catalina construction.

When it came to electric motors, like many other manufacturers, Sterling

turned to Japan.

the room) but with this re-fitted it turns in quite a good performance. Slipping off the motor housing reveals a five-pole armature turning in a neat stack of field laminations energised by a permanent magnet, with bolt-up construction, carbon brushes and connection clips on the end cap similar to the Pittman Panther motors. It also has, like the Panthers, integral bearings for a layshaft to provide a geared-down output, but I have not been able to find any Sterling listing for the layshaft or gears.

UK distribution

In an April 1967 Model Boats advertisement, the distributors Ripmax announced the Sterling kits as new to the UK market. Four of the largest kits were featured with the 48 inch Chris-Craft Corvette at £16.9s.6d (sixteen pounds, nine shillings and sixpence pre-decimal currency) plus the fittings set at £5.9s.6d for a total of £21.19s.0d, the equivalent of some £365 today, adjusted for inflation, and you still had to buy the motor, running gear and (optionally) the radio gear. This made the Sterling kits guite a bit more expensive than their Aerokits or Veron competition in the UK and probably accounts for their relative rarity on that side of the Atlantic.

Chris-Craft Catalina

My own example of kit B-7M, the Chris-Craft 50ft Catalina Flying Bridge Cruiser, gives a good indication of what to expect from a Sterling model boat kit. It was being advertised at a cost of \$12.95 in 1958, plus \$5.50 for the B-7F 66 piece fittings set. The colour printed box displays an 'Actual photograph of model built from kit', though it has clearly been retouched to disguise the lack of interior detail and add a little more sparkle to the fittings. Densely packed in a manner that ensures it's impossible to ever get everything back in, the box contains printed and cleanly die-cut sheets



RIGHT: Optional B-7F fittings set and (right) accessories supplied with the kit.



LEFT: KB-695 King Beaver and LB-139 Li'l Beaver electric motors.

of balsa and mahogany, strip wood, plans and instructions, the fittings set (sold separately, but in this case included in the kit box) and various sundry items such as a flag, block balsa, glazing material and what appears to be a length of knicker elastic.

Construction is essentially of balsawood throughout, with the mahogany sheeting used only where a natural wood finish appears on the full-size vessel. Building into a 31.25 inch (794mm) model, main structural members such as the keel need to be assembled from a number of smaller. fit-in-the-box parts. The structure is quite complex for a model kit, the bulkheads are built-up and there are quite a number of them used to ensure correct shaping of the hull, which scores over many other kits in having compound curvature, not the simplified, straight-sided cross sections of kits utilising sheet hull skinning. To this end, planking and shaped blocks are used at the bow. Though I have not built my Catalina from them, the instructions appear to be well detailed and easy to follow, and include some intriguing pictures of the internal arrangements of the full-size vessel. For power, a K&B 0.19 (3cc) glow plug engine is shown on the plan, or a flat style of electric motor from K & O or the like shown on the radio control installation diagrams.

Building this kit up today, or a replica traced from the original parts, would still produce a fine model if the balsawood is thoroughly filled and sealed, with fibreglass or nylon cladding for the hull, prior to painting, and some of the fittings replaced with lighter plastic moulded or scratch-built metal items. The plan shows a single shaft arrangement for a powered model with an internal combustion engine, but a modern twin brushless electric motor installation would retain scale accuracy below the waterline whilst providing ample turn of speed. Unlike most kits of the time, this is not a generic cabin cruiser, but a scale model of a specific fullsize craft with the same pleasing combination of painted and natural mahogany finishes. There is plenty of scope for further detailing, or you can fit some of that elastic strip to provide a convincing representation of venetian blinds.

Latter days at Sterling

In 1976, Sterling opened a museum at their Philadelphia headquarters which displayed built-up examples of all their kit models and made tours of

their plant available to interested parties. The era of rapid expansion and frequent issuing of new kits was over though and the company relied heavily on its established range. Catalogues were issued from time to time illustrating what was available, but the last of these was for 1994 and manufacturing ceased in 1995, possibly as a result of a fire at the factory, though I have not been able to confirm this. The 1994 price list includes only eleven of the kits listed earlier in this article, plus the B-26 Puddle Jumper (an amphibious airboat), B-28 Beginners Kris-Kraf (with moulded plastic hull) and B-29 Racing Runabout, a 29 inch (737mm) wooden kit. Though these last two did not carry official Chris-Craft licensing, they both clearly referenced full-size Chris-Craft designs, the latter being based on the Chris-Craft racing runabout of the 1940s and 1950s.

Estes Industries, of model rocket fame, bought Sterling Models in 2002, but the longawaited revival of the model kit range did not eventuate. This may have been due to the cost of refurbishing the diecutting tooling, a manufacturing technique by then made obsolescent by laser cutting, or in the case of the Chris-Craft model boat kits, the licensing for these not being automatically transferable to the new owner. Whatever the reasons, the only way to acquire a Sterling kit now is to buy an old one that has not been made up. They do still appear on Internet auction sites from time to time, but you'll be bidding against many others, quite likely including myself.



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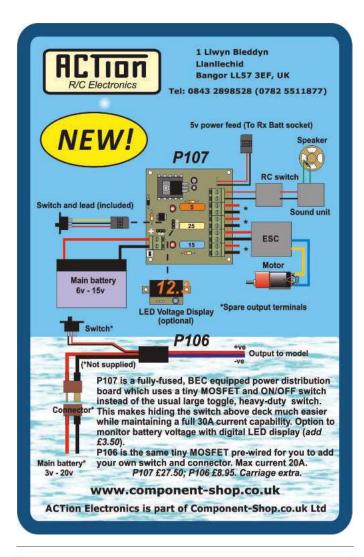
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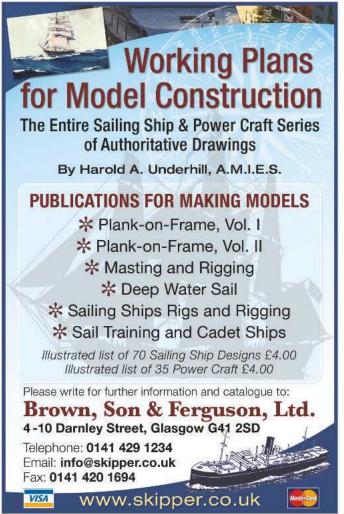
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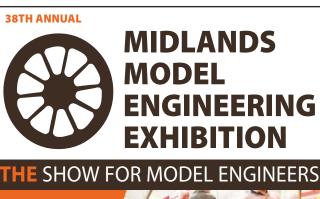










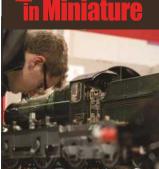


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Boiler Room PART Tapping Tifty Eight: Tapping

Richard Simpson's

series on model steam plants



Photo 1. This captive nut process allows us to use mechanical fastenings thus enabling us to dismantle parts of the model for servicing. Sometimes a bespoke threaded component may be required which you might want to tap yourself.



Photo 2. Although many taps now come just in pairs, traditionally a full set of taps would include three taps with from left to right: The Taper; The Second (or Plug) and the Bottoming Tap.

hile I was musing recently about a subject for a Boiler Room article when pottering around my workshop and looking over a few Stuart Turner bits and bobs, it occurred to me that none of the parts could be assembled without their threaded fastenings. Whether it is a nut and bolt, or more likely a machine screw tightened into a threaded hole, the whole concept of threaded fastenings has been with us for many years. It then occurred to me that threaded fastenings are not just related to model engineering, they are actually a very handy device in the construction of our model boats in general, in particular where we need to fasten dissimilar materials or where suitable glues might not be available, whether this is using threaded bosses, tapped holes or just plain nuts and bolts, Photo 1. This then led me to think of what we did at college as regards tapping techniques combined with those things I have learned over the years and it made me realise that the whole subject of tapping is not only an interesting one, but it has a lot to offer us as modellers. With this in mind I thought this month we could have a look at the ancient art of 'Tapping'.

The basics

Tapping is basically using a cutting tool, the 'Tap', and turning it in a suitably sized hole to create a thread. The tap looks pretty similar to a threaded fastening itself and I have even in the past made a 'one off' tap by cutting up a steel bolt for the purpose, but it is usually a hardened steel tool with cutting edges on the leading edges of the flutes, which run up the side of the tap. The flutes are to

provide a cutting edge as well as give the removed swarf somewhere to go as it is being removed from the hole being threaded. Not un-surprisingly, as usual it isn't quite that simple, because traditionally taps have come in sets of three and an understanding of them is essential to cutting a good thread, **Photo 2**. The three taps you will find in a set are the:

Taper Tap; the Second Tap (or Plug Tap) and the Bottoming Tap, which in good old confusing British engineering fashion can also be called a plug tap!

The idea is to use the three taps in sequence to create the thread. The first tool to use is the Taper Tap, which by having a taper of around 8 to 10 threads long is easier to locate into the hole. The Second (intermediate) Tap takes the thread through even further and you finish off with the Bottoming Tap. This is called 'bottoming' as a result of the threading of blind holes where you want to get the thread as close to the bottom of the hole as possible. If the thread is open both ends, you may be tempted to run through only the taper tap to a point where the taper is clear of the other side. However the three taps are also designed with a slightly different thread cutting form, so the taper tap does not cut quite as deep as the second tap and the bottoming tap removes the swarf right down to the root of the thread. This is basically to create an even cutting force on all three taps when used, rather than have the taper tap cut the entire thread in one pass and leave the bottoming tap with nothing to do. Consequently you should always use all three taps to correctly form the thread, even in open holes.

steam basics



Photo 3. Ideally, whatever you drill your hole with, can then be used to hold the tap, be it either a drill press, milling machine or lathe. Always use the correct size drill for the thread you are cutting to prevent broken taps or sloppy threads.

Photo 4. It takes a bit of practice to maintain a perfectly perpendicular hold on the tap wrench during tapping. If you do not have a guide available, you need to regularly check by eye that the tap is square.

Photo 5. The easiest route to a perfect thread is use any device you have available to hold the tap perpendicular. Here a lathe has been used to drill the hole before fitting the tap to the tailstock chuck to cut the thread. The oscillating motion of the chuck to cut the thread still applies.

Drilling

One thing to mention first is drilling the hole, Photo 3. First, refer to the guidance on drilling in Boiler Room No's 44 and 45 (August & September MB, 2014) and then determine the correct drill size you need. To determine it you need a set of tap and drill bit size tables. These are available to purchase in the form of engineer's pocket tables, such as 'Zeus' tables, or you can find them posted on the internet. Do not be tempted to use the nearest drill size you have available. You will be very lucky if one of your hobby drill sets contains the right drill diameter you need as most taps, particularly British thread taps, will require a very specific drill size. Consequently you will need to purchase the specific drill as a single drill, which is not quite as onerous as it sounds. Most engineering suppliers can sell you individual drills of almost every conceivable diameter and it can be with you the next day if ordered over the phone. I would always recommend that you use the correct drill size as quoted in the tables. Use a slightly larger one and your thread will be sloppy and weak and too small and the threading process will be difficult and you will run a very real risk of breaking the tap.

The process

Once you have drilled your hole you take your taper tap, fit it into a tap wrench and place it into the pre-drilled hole, **Photo 4.** The taper is designed to help you align the tap, however you will almost certainly need to use something to ensure the tap remains aligned while you cut the thread. This may be a basic alignment tool such as a block of metal for the tap to rest against and regular use of your Mark One Eyeball to ensure the tap is perpendicular, or you could cheat by using one of the other available tools.

Two methods I regularly use are with the lathe or the pedestal drill/milling machine. If the part you want to tap can be held in a lathe chuck (four jaw or three jaw), then this is possibly the best method. If you can use this method it is even better to drill the hole first then leave the work in the chuck for tapping. To tap the hole, switch off the lathe power, place the tap into the chuck mounted on the tailstock and slide it up to the job. With the tail stock remaining free on the bed, start to rotate the chuck





steam basics

Photo 6. A set of taps suitable for modelling is a worthwhile investment and will cost less than you think. Two popular thread systems are BA or, as here Metric. Here there are only two taps for each thread, but the set includes all holders and dies for male threads as well.



Photo 7. Once you become proficient at tapping, if you have access to a lathe, simple bosses such as this would take you maybe 30 minutes to make. Even tapping by hand in a vice will prove to be an extremely useful thing to learn.



by hand while applying a gentle pressure to the tail stock against the work with your hand, Photo 5. When the thread starts to cut you can remove the pressure from the tailstock as the threading process will then draw the tap into the work automatically. You then turn the chuck backwards to remove the tap, change it for the second tap and repeat the process. Finally do the same with the Bottoming Tap.

The process with the pedestal drill is basically the same and again it is best to drill the hole before switching off the power and putting the Taper Tap into the chuck. Gentle pressure on the drill head while you rotate the chuck by hand should cut the thread and once started, will continue without pressure.

Cutting

You should always use an oscillating motion with tapping whereby you rotate the tap around 90 degrees or so then reverse it by around 30 degrees. You then turn forwards again another 90 degrees and then back it off 30 degrees again. This way reversing the tap will break the swarf that is formed in the forwards cut and allow it to fall out of the tap

via the flutes. If you do not perform this oscillating motion, the swarf will build up in the flute and start to cause excessive pressure on the tap, possibly leading to its jamming or breakage. The 90 degree and 30 degree motion will progress the tap at a suitable rate and give you the best possible finish. You should use this motion with all three taps because as already mentioned, each tap should be removing around the same amount of material from the thread.

Lubricant?

This can be considered to assist in the clean cutting of your thread, but it does tend to be dependent on the material being cut. For steel, normal machine oil is as good as anything or even cutting fluid, but for most hand-cutting processes, you can probably get away with nothing. Brass does tend to be a lot smoother anyway by virtue of the zinc content, so I would usually not bother with a lubricant on brass.

Conclusion

Tapping is not something only for the model engineering fraternity as it is a useful procedure to have available to you for any instance in your model boat construction where a mechanical fastening might be advantageous, such as when you might want to easily disassemble something frequently. A basic general set of model engineering taps, Photo 6, is a worthwhile investment and does not cost a fortune and is a much cheaper option than buying individual BA or Metric taps over the years. You can also then collect the required correct size drill bits and keep them with the taps to ensure you always have to hand everything you need to produce a neat threaded hole. The process of cutting threads is well worth practising and looking for the ways in which the tap can be held concentrically as in a lathe or a drill are well worth considering. Learning some of the basic tapping techniques can help you to manufacture simple fastening devices such as threaded holes and bosses, Photo 7, or even bespoke threaded fastenings for a specific task such as a brass base plate, which could be used to mount all the components of a steam plant, Photo 8. Either way, tapping is a very useful skill to have.

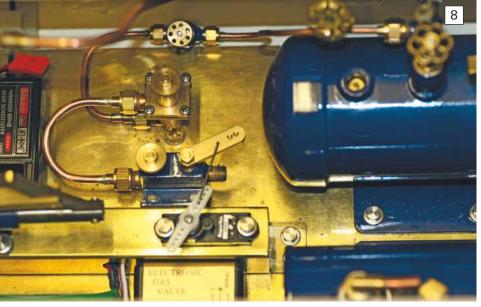


Photo 8. Tapping enables flexible systems as this brass mounting base, threaded to take all the plant components, which are then easily removable for maintenance and servicina.

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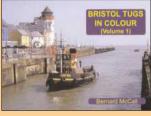
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International Mersey River Festival-2015



Dave Wooley reports

eld from Friday 5th to Sunday 7th June, this was just two weeks after the visit of the three Cunard Queens to Liverpool for the company's 175th anniversary, but nevertheless there were still 500000 visitors to this popular annual festival.



Overview

This is an annual event centred on the Liverpool waterfront that includes the adjacent docks, Merseyside Maritime Museum and the Cunard Building. For 2015, there were a wide variety of events with visiting tall ships, a cruise vessel and numerous other activities that have a maritime flavour. A Royal Navy Sandown class minehunter was berthed in the Canning Half-Tide Dock for the duration and the Royal Marines Band of Scotland regularly entertained visitors. The visiting tall ships included the former herring lugger Morgenster, the sail training ship Pelican of London and one of the last classic all-wood tall ships, the top sail barque Kaskelot, as well as other craft.

Marisa of Liverpool

Open to visitors was this Liverpool University research vessel which was quite an eye-opener into the varied and vital research performed by its Oceanography and Climate Department. One of their new tools is a remote controlled robot mini-submarine, Deep Trekker, that is fitted with two powerful LED lights and a pincer arm that can



LEFT: The unusual figurehead of Morgenster.

BELOW: A superb model of the Leander class frigate HMS Cleopatra, displayed here by John Bradford who was also a crew member during her first 1960's commission in the Far East.





LEFT: An evocative picture by marine artist Leonard Campbell Taylor depicting the Liverpool waterfront c1918 with a small ferry in the foreground and in the background (left) is the dazzle painted RMS Mauretania.

BELOW: Pelican of London started life in 1948 as the Artic trawler Kadett.

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recover samples, all with a real time 5.7 inch TV monitor included in control unit. For demonstration purposes it was fitted with a short umbilical line, but for deep sea use it can be operated with a specially made control cable down to depths of 125 metres. During the demonstration, the device was shown how it dives using a gimbal, which when moved allows it to go down or up with the assistance of two side-mounted thrusters.

Some of the vessels in Canning Half-Tide Dock. The lightship Planet is permanently moored in the dock and open to view.

Ship models

For 2015, the model ship display was located within the fabulously ornate and iconic Cunard Building,

the centrepiece for the visiting 'Cunard Queens' just two weeks previously. The ground floor of this building was once the main booking hall when the Cunard Head Office was based here. Liverpool MBC displayed a fine range of models, together with some from the Wirral MBC. Dave Morris struck a nostalgic theme with his IOM steam packet vessel Lady of Mann, a ship remembered by some of the older generation of visitor to Liverpool, as this vessel used to provide a regular service between the Isle of Man and Liverpool. The youngsters were not forgotten and were entertained by a remotely operated crane, something they could also have-a-go with. A lovely model of Daniel

show report

RIGHT: A fantastic display model built for the Daniel Adamson Preservation Society, a group that is working very hard to get this unique steam tug-tender back into full working order.



BELOW: The RN Sandown class mine hunter HMS Ramsey leaving Liverpool.





ABOVE: Superb detail work on the 1:48 scale model of the Cunard RMS Carmania on display in the Mersey Maritime Museum.



ABOVE: This remote controlled robot mini-submarine has a caliper arm for collecting samples.

Adamson, the Manchester Canal steam tug-tender, was displayed on behalf of the Daniel Adamson Preservation Society. This 112 year old vessel is currently undergoing a major refit at the Cammell Laird Shipyard in Birkenhead using a lottery grant to reinstate the vessel to working condition, together with its outstanding Art Deco saloon.

Mersey Maritime Museum

With so much to see on the waterfront you could be forgiven for missing out on the new exhibitions and displays in the Merseyside Maritime Museum. There are a number of brand new exhibitions which of course include ship models and the Lusitania Exhibition is well worth visiting. As a tribute to Cunard, the magnificent 1:48 scale builder's model of RMS Carmania has also been brought back into the main exhibition area. The display of maritime art is also excellent with much of the history of

Liverpool being depicted through the eyes of the likes of Leonard Campbell Taylor, one picture in particular depicting dazzle painted vessels during WWI, which is quite topical as the Mersey ferry Snowdrop has just received a dazzle painted makeover to commemorate that period in our history.

Conclusion

There are many activities, particularly for families, which are not covered here, but this is a great three days for maritime enthusiasts and Liverpool MBC in particular make a great effort to bring our hobby to the general public, which can be no bad thing. Public transport to the Albert Dock and whole waterfront area is first class, and if you haven't visited before, it is worth checking online for the dates of the 2016 event.

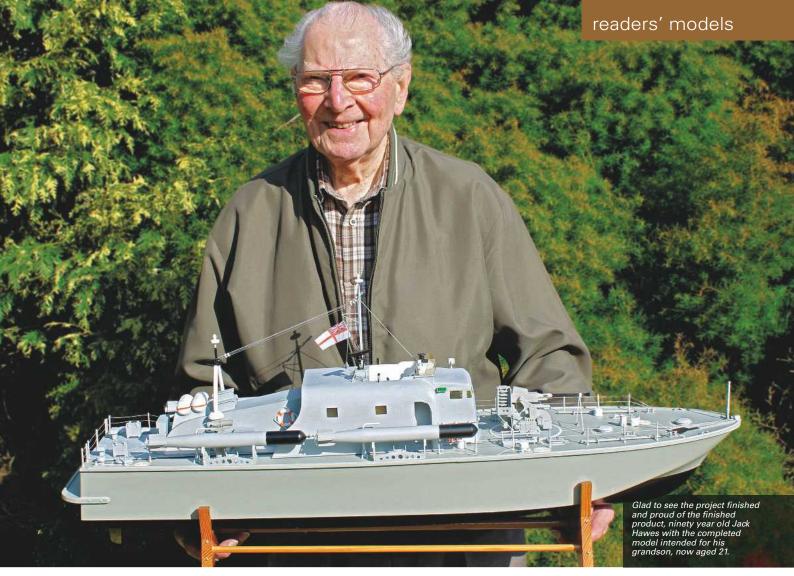
Liverpool visitor website: www.visitliverpool.com



ABOVE: Toys for boys? The TV monitor and controls for operating this remote controlled robot mini-submarine.

RIGHT: Princess Cruises' Royal Princess, named by the Duchess of Cambridge in June 2013, was at the Liner Terminal for part of the weekend. Cruise ships are visiting Liverpool in increasing numbers nowadays and some cruises are even commencing and finishing here on occasion.





Perkasa-lengthy Project Nigel Hawes recounts his father's mission to make his grandson's birthday present a little different

eceiving a Precedent K D Perkasa kit for your eighth birthday is both thrilling and daunting, especially if you have no previous modelling experience and this was the position my nephew Jack Basford found himself in, after dropping hints that he'd like to build a radio-controlled boat. However, when your granddad is a lifelong model builder with a passion for boats and even if at the commencement of the project is nearly 80 years old, there is at least some light at the end of the

A major project

Having established this was definitely a job for his grandfather, Jack whilst on a family trip to Carlisle to visit him, took the kit and it was soon discovered that there is more to model boat building than meets the eye, as the moulded hull was badly twisted, the kit itself was generally poor by 21st Century standards and the plan almost of no use whatsoever. This was without doubt going to be a major project and none of us realised just how

major it would be, or how long the project would actually take his grandfather (also Jack, but the Hawes version) to complete.

The first few months were spent sorting out the main structure, the hull being carefully straightened a little at a time using heat and the main deck being cut at an early stage to provide a large radio gear and motor access hatch should Jack ever decide to have the Perkasa as a working model. To that end, a propshaft and simple 650 size brushed can type of motor was installed, brushless still being in its infancy.

However, my father, doesn't do anything by halves and probably had it in mind from the outset to make the Perkasa as detailed as possible. As already mentioned, the kit was poor, with seemingly random bits of timber included and items such as the strip included for the rubbing strakes being 36 inches long to serve a 37.5 inch hull, and so additional materials were needed for many of the parts.

The cabin timbers went together reasonably well after some adjustment and the basic shape of the



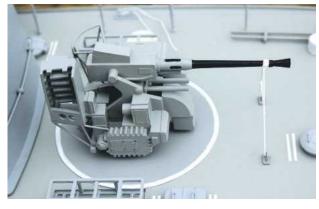






ABOVE LEFT: The three large exhaust outlets have been made up from timber discs with hinge detail added. The railings are dowel posts drilled for thin wire to pass through.

RIGHT: The Rofors



gun began life as an after market part-resin kit, being extensively modified using bits and pieces to make it as in the picture.

ABOVE: Foredeck detail: The anchor is principally from 1/16 inch plywood.

model began to come together, but when it came to detail being added, my father's imagination went into overdrive resulting in some unusual materials and solutions.

Scale detail

For such a perfectionist as Jack 'senior', buying commercially available scale fittings simply wasn't an option. As a result, purchased bona-fide model items were limited to an after-market gun kit, flag and lifebelts. There were instead, numerous trips to craft shops for beads, wire, cord etc. and items such as doorknobs, yogurt pots, parts of an old TV aerial and even car washer tubing, managed eventually to find their way on to the Perkasa.

For example, the rear mast was made from copper tubing, its caps being small doorknobs with the tops cut off. The diameter of the tubing was deemed too thin, so car washer tubing was pushed over the copper, creating a more substantial item.

The liferaft containers are short pieces of 0.75 inch dowel rounded off at each end and wrapped with four strips of thin card before painting.

Once Jack (senior) got started, he couldn't stop and a mass of other additions followed: The anchor was cut from a piece of 1/16 inch plywood with a short brass rod across the flukes, all attached to a piece of chain. The rope coils are wound from suitable cotton cord hoarded from his days in the textile industry and the hatch covers modified from the original wooden blanks to produce the correct shape with thin brass wire handles and paper cleats.

The stanchions are from cocktail sticks or dowel rod, each drilled with a 0.5mm drill for the handrail wire to pass through, the wire being sourced from a craft shop. The three transom exhaust outlets supplied in the kit were very poor, so these underwent much modification to better replicate the originals with hinge and surface detail, and the

fairleads and bollards have been made using shaped wood, capped accordingly. To make more work for himself, cocktail sticks were all he could find to make the boathook poles, but they weren't long enough and so had to be diagonally spliced to the right length, with thin brass wire for the hooks.

You have to remember that these days we are very lucky to have the Internet, allowing us to do the kind of research in an evening that would have taken weeks of phone calls and letter writing in days gone by. Whilst my father now has a laptop and is revelling in the range of information available online, during this Perkasa project started well over a decade ago, he didn't have this facility and a couple of pictures of the full-size vessel were all that there were to hand.

Armament

One of the notable features of Perkasa is its armament, the Bofors gun dominating the forward deck and the four torpedoes are also prominent, so these all had to look right. A resin gun kit was purchased, but only the barrel and ammunition holder were actually used, the rest including the platform, being created by Jack senior's increasingly shaky hands, as by this time he was well into his 80's and not without occasional health problems.

The torpedo blanks supplied in the kit were just cylinders of wood, so were turned to the correct shape by being held in a drill press chuck and gradually tapered. Never happy until a job is complete, Jack (senior) spent countless hours cutting up yogurt pots to create the contra-rotating propellers on each of the torpedoes, plywood fins adding a final touch to each.

The starburst launchers originate from an old VHF television aerial, its aluminium tubing being exactly the correct diameter on which to form the barrel, with wood and wire additions to make them look

BELOW: The liferafts have been created from rounded off lengths of 3/4 inch (18mm) dowel with thin card strips added before painting. The mast is of copper tube with car washer tubing forced over it to increase the tube's girth.





LEFT: The model has space for, but is not equipped with radio control equipment and drive battery.

BELOW: To bring the somewhat inanimate wood block ammunition boxes to life, wire wing-nuts and 1/16 inch square hardwood keepers were added before



LEFT: Probably the most time consuming aspect of the whole model was the bridge.

BELOW: This is the photo on which the



LEFT: The torpedo blanks in the kit were used, but not before being extensively reshaped, plywood tail fins and yogurt pot derived plastic propellers finishing the job.



right. The armament alone took several weeks, but the process wasn't without its problems, there being several aborted attempts.



LEFT: A close-up of one of the starburst launchers.

Bridge

Perhaps the most detailed and time consuming piece of the whole project was the bridge which as you can see, is quite a work of art. It was created entirely from a single photo in the assembly manual that accompanied the kit and everything was made from scratch. By this time, eight year old nephew Jack was now a teenager and on his regular visits to granddad, he contributed to the cockpit, making the compass from a timber stem with the dial painstakingly detailed. The instruments are pieces of thin ply punched out with a leather punch and the throttles are from small headed dressmaking pins.



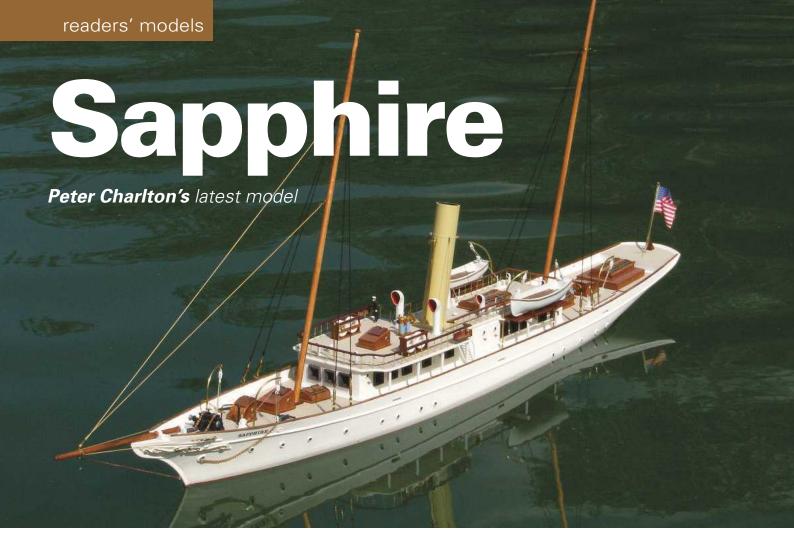
It's difficult to believe that over the 12 year duration of the project, nephew Jack grew from an eight year old boy into a fine young man, soon to be 21, and currently undertaking a sponsored apprenticeship in mechanical engineering at Rolls Royce in Derby. He has finally taken delivery of his model, albeit as a static version for the time being, and as you read this, my father will have recently celebrated his 90th birthday in 2015. Will the Perkasa ever actually see the water as a working radio controlled model? Well, I guess that is now firmly in the hands of young Jack, despite it spending more than a decade in my father's

(Nigel Hawes usually writes for RCM&E, but he thought this true story of the 12 year gestation of the Perkasa model would be of interest to readers and his father, even now at 90, is clearly still very active and creative - Editor)



Model Boats October 2015 www.modelboats.co.uk

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ABOVE: Sapphire on the water. The model is based on a Deans Marine hull, but has been designed using a MyHobbyStore plan.

eter, a keen regular reader of Model Boats magazine, sent in some information recently about a new model of which he is particularly proud, two previous models of his also being featured in June 2014 MB.

The model

This is of a steam yacht from a plan for Greta, designed by Jim Pottinger, price 15 shillings (75p) from the old Model Maker Plans Service, the price showing how old it was and this plan is still available today from MyHobbyStore, Ref. No. MM1306. The hull was bought at a model show and is actually from the Deans Marine Medea kit. It was a hull-only purchase and Peter wondered if it could be largely built using only bits and bobs from the spare parts box which every model boat builder usually has, and so work commenced.

The deck and superstructure is of styrene (plasticard); the funnel is a piece of plumber's plastic pipe; the window frames in the main superstructure are gun ports from a kit that never got built and the deck is of Fablon self-adhesive covering material obtained from a signwriting company, with the planking pattern picked out in pencil. Companionways and skylights are shaped balsawood cores, covered in sheet styrene and then sheathed in mahogany, this coming from an old Billings kit. Portholes have been made from plastic tube, shaped and then cut to the correct thicknesses. Davits, handles and handrails are from spare brass rod of various thicknesses and the two lifeboats (day boats), are duplicates from an old plastic kit for the USS Kearsarge. The model is radio controlled and performs well on the water, but looks equally good as a domestic display model, it all being based on the Jim Pottinger plan. The

BELOW: Sapphire is radio controlled.

BELOW RIGHT: The main central superstructure is removable as a single unit.







name transfers are duplicates from an early paddle steamer kit from Patrick Blunt Models dating back to the late-1970's and all the remaining fittings have all come from the 'bits and bobs' box.

Peter Charlton

Peter lives in Yateley, Hampshire, England, and has been modelling for about 45 years, both scratch building and from kits. He has received Highly Commended and Commended awards for his models at the MyTimeMedia Model Engineer Exhibition and has been a member of the Basingstoke MBC for 40 years.

(I think readers will agree that Peter has done a super job and demonstrated that with a bit of thought, a nice well detailed radio controlled model can be built in an economical way -Editor)



ABOVE: The skylights and companionway are built around balsawood formers.

BELOW LEFT: The planking is actually coloured Fablon self-adhesive covering material, cut to shape and carefully marked in pencil.





BELOW: There is some nice

scroll work on the bows





Colin Watson reports from Chartwell, home of Winston Churchill

he Summer 2015 issue of Quarter Deck Ramblings, the newsletter of the Surface Warship Association, arrived recently in the Editorial Office. This association is a national organisation, its members all having an interest in warships and as a group they support many model boating and general interest events in the UK and Europe. One such event where they were promoting the hobby to the general public was the annual Open Weekend at Chartwell in Kent, home of Winston Churchill. The following is from a short article by Colin Watson, first printed in that newsletter.



RIGHT: The interior of Hilary Breeze's revamped MTB 777, now with brushless motors, and boy, does it go!

BELOW: John Edwards' fine model of HMS Gambia.



LEFT: Roy Skeates and Hillary Breeze demonstrated their Fairmile launches on the large lake

BELOW: Hilary Breeze's Vosper MTB 230.



Chartwell: 20th & 21st June 2015

The SWA were here as usual for the whole weekend with some magnificent models on display and on the water. Association members had travelled from Switzerland, Devon and the Home Counties for the event. The Model Engineer Exhibition gold medal winning HMS Barrosa, built by Alex McFadyen, was on display and two Fairmile D's to 1:24 scale raced across the large expanse of water, Roy Skeates' model with its sound effects enthralling the watchers and Hilary's recent uprating to four brushless motors in his Fairmile 777 certainly made it move very, very quickly!

To 1:96 scale there was quite a fleet, including John Edwards' HMS Argonaut, Robin Lee's HMS Kelly, HMS Falmouth by Alan Hall, Colin Watson's HMS Scorpion and Jeremy Foreman's HMS Ursa, all sailing together on occasion during the weekend. Philip Bellamy also sailed his Fairmile D and Martin Goddard his HMS Bronington, Heather Lee her German Z38 and Peter Revill his 1:48 scale armed tug HMS Envoy, as well as John Coster with his scratch built HMS Brave Borderer.

The large gazebo provided a decent covered display area close to the lake, with 20 tables and numerous other models not mentioned here. The weekend coincided with Father's Day, so visitor numbers were high and of course many of the men had served in the Royal Navy and were keen to relate their experiences. As usual, the SWA members staying overnight shared a meal in a local carvery on the Saturday evening and are all keen to attend again in 2016. Winston Churchill's home is an excellent historic house with lovely gardens including its large lake and is well worth a visit.

Contact information

The SWA Membership Secretary is Mr. Hilary Breeze, 38 Birch Crescent, Holtwood, Aylesford, Kent, ME20 7QE. Tel: 01622 710528, email: hbreeze@ecgroup.co.uk.

Report by Colin Watson

(Editor's note: The SWA are pro-active at promoting warship modelling across the UK and are to be commended for what they do for the hobby as a whole. As an association, they are a national body and membership also means that discounts can be obtained from a number of well known UK suppliers)





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News from Marcle Models

Card kits from Fantom and JSC



HMS Lion

JSC has republished their
1:250 waterline model of the
battlecruiser HMS Lion (£34.95).
Known as one of the 'Splendid
Cats', HMS Lion was Admiral
Beatty's flagship at Jutland and
also took part in the Battles of
Heligoland Bight and Dogger
Bank. HMS Lion was the largest
ship ever built for the Royal Navy
when completed in 1912.

The kit parts are printed on 20 sheets of A4 card and paper and include four Sopwith aircraft for flying off the turrets. As with all JSC kits, full English instructions

are provided. Laser-cut parts for HMS Lion (£17.95), which includes ladders, ships' boats parts and aircraft fuselages, are available separately, as are metal gun barrels for **(£16.95)** comprising 13.5 and 4 inch guns.

Prices include UK p&p; overseas surcharge per order is Europe £5 and ROW £9. Available from Marcle Models, Turnagain, Finch Lane, Amersham, Bucks, HP7 9NE, England. Tel/fax (+44) 01494 765910, website:

www.marcle.co.uk.

HMS Good Hope

Recently published is this 1:200 scale full hull kit of HMS Good Hope (£33.95) The Drake-class armoured cruiser was completed in 1902 at Fairfield, Clyde. Armed with two 9.2 inch guns and a secondary armament of sixteen 6 inch guns, HMS Good Hope became the flagship of Rear Admiral Christopher Craddock who was ordered to prevent the German East Asia Squadron from breaking into the Atlantic. The two squadrons met off the Chilean coast at Coronel on 1s. November 1914. Outnumbered

and outgunned, the British force was overwhelmed and HMS Good Hope was sunk with all hands.

The detailed kit makes a model about 32 inches long. The kit parts are printed on 23 sheets of A4 card and paper with a further eight pages of diagrams and illustrations and some generalised English instructions to supplement the Polish text.

Available separately for HMS Good Hope are laser-cut parts (£25.95) including internal hull parts and railings and metal gun barrels (£14.95) comprising main, secondary and tertiary armament.



Premi-Air SP-35C airbrush



Miniature Shipbuilder 2015

Written by Robert A. Wilson F.R.S.A and presented in A4 format, 158 pages with over 250 illustrations (most in colour) plus 38 plans and drawings. Price £14.99 (self published).

Small scale modelling is very much a niche interest in the wider field of maritime modelling, but in this well produced and informative book, Robert Wilson shows that it has a great deal to offer the modelmaker and the techniques he employs demonstrate that miniatures are by no means as difficult to construct as people often assume. Many people associate miniatures with the very small 1:1200 or 1:1250 scale models seen at shows such as the Model Engineer Exhibition, but the term 'miniature' extends to larger and more manageable scales and Robert's frequent preference is for 32 feet equals one inch or 1:384



Written by Gill Hoffs. Softback, 164 pages, 235 x 157mm, 21 black & white drawings and photographs. ISBN: 978-1-47384-556-4. Price (RRP) £12.99. Published by Pen & Sword Books Ltd, , 47 Church Street, Barnsley, South Yorkshire, S70 2AS. Tel: 01226 734222 website: www.pen-and-sword. co.uk. Available direct from the publisher or through the usual retail outlets.

When she was launched in October 1853 at the Warrington Bank Foundry in Cheshire, the three masted barque RMS

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George Richardson, Paperback,

photographs line drawings and

Brown with illustrations by

Miniature Shipbuilder 2015
Can Vin 1921

scale, which is well within the capability of anyone with normal reading ability. A model of a typical clipper ship would be around 8 inches or 20cm long.

Robert is probably the best known exponent of this type of modelling at the present time and his work is sold to buyers all over the world. His finished models are exquisite works of art but, as explained clearly in this book, the building techniques are in fact well within the capability of modellers

Tayleur was purported to be 'the largest merchantman ever built in England'. Built for the White Star Line and named after Charles Tayleur, the founder of the Vulcan Foundry and Engineering Works, the company that built her, the great ship, aided by tugs, made her way slowly down the River Mersey to Liverpool, where in January 1854 she set sail for Australia, packed with hopeful emigrants and her hold stuffed with cargo.

But the ship's revolutionary iron hull prevented her compass from working. Lost in the Irish Sea, a storm swept the Tayleur and the 650 souls aboard towards a cliff, studded with rocks.

The Fate of the Tayleur is eerily

of average ability to achieve something to be proud of.

Rather unexpectedly and unlike bigger models, the sailing vessels are actually simpler to build than powered ships and this is largely due to the fact that the complexities of the rigging, which are often daunting at larger scales, can be represented using glued on wire instead of cord, together with blobs of glue to simulate blocks without detracting from the realism of the model. Full instructions are also given on how to make sails from airmail paper.

Robert's models are built with the simplest of tools while the materials cost next to nothing. Much can be done with a home computer to scan and reduce detail which can be stuck on to the model. Simple photo etching techniques are also described.

As well as detailed constructional notes for a number of sail and power vessels, the

similar to that of the infamous Titanic, which sank 58 years later. Both were enormous metal ships, run by the White Star Line, which sank in unusual circumstances on their maiden voyages, and both had been celebrated in the press as heralding a new era of luxury for travellers. Both collisions would likely have had significantly lower death tolls had the vessels hit the obstacles head-on instead of sideswiping them. Both tragedies led to better legislation and safer journeys for hundreds of thousands who crossed oceans in search of a better life.

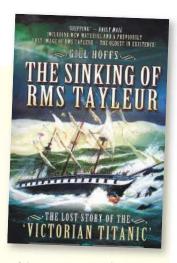
On the 160th anniversary of the sinking, the author Gill Hoffs, reveals new theories behind the disaster and tells the stories book also includes historical information about the original ships which brings them to life.

A book like this, packed with practical information and techniques by a master of his craft comes along only very rarely and deserves a place on the bookshelf of any marine modelmaker, the superb illustrations alone make it worth the very reasonable price.

Robert's latest work can frequently be seen on the Model Boats website forum.

Miniature Shipbuilder 2015 is self published by Robert Wilson and enquiries should be addressed to him at: R. A. Wilson, 53 Woodcroft Close, Penwortham, Preston, Lancashire PR19BX or email: sagamore@mail.com

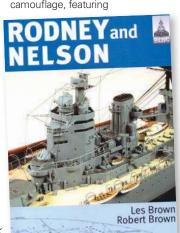
Book Review by Colin Bishop



of the passengers and crew aboard the ill-fated vessel. This thoroughly interesting book is recommended reading for both ship model makers and maritime historians alike.

Book Review by **John Deamer**

famous warship types. Lavishly illustrated, it takes the modeller through the history of the subject class, highlighting the differences between the two ships and changes in their appearance over the course of their careers. This includes paint schemes and camouflage, featuring



be built by the 1921 Washington Naval Treaty, and consequently the most modern capital ships in the world for a decade. Incorporating all the lessons of WW1 and a host of original design features, the resulting layout was unique and instantly recognisable, with the superstructure three-quarters aft and all the main armament turrets forward of the bridge.

During the Second World War, HMS Nelson survived mine and torpedo damage, while HMS Rodney played a major part in the destruction of the KM Bismarck, both of these unique British battleships being broken up post-WW2.

In this book, the co-author Les Brown, provides in-depth information about building and modifying model kits of these colour profiles, highly detailed line drawings and scale plans. The modelling section reviews the strengths and weaknesses of available kits, lists commercial accessory sets for super detailing of the ships and provides hints on modifying and improving the basic kit. This is followed by an extensive all colour photographic gallery of selected high quality models built by various ship modellers. in a variety of scales.

The book concludes with a section on research references – books, monographs, large scale plans and relevant websites. In short, this is an essential reference book for ship modellers contemplating, or in the process of, building a model of one of these iconic warships.

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Craig Dickson reports from Branston Water Park

BELOW RIGHT: D4: Mike Barnes, a happy chap having won the D class, but engine now out for maintenance on that loose bearing.

BELOW: Kian's red topped AA128 Challenger giving Mark Wild's green hulled Lizard a run for the money on the way to his win. (Photo courtesy of Judith Beesley)

This was our first visit of the 2015 season to the fantastic Branston Water Park, known for its occasionally unpredictable water conditions and wind gusts that can give rise to what we fondly refer to as the 'Branston Chop'. Wet and windy conditions greeted us initially, but this did not dampen the spirits of those that turned out. It is worth mentioning that it can be a difficult call for the race organisers prior to the event when monitoring the weather forecast for the day. They have a duty of care to all present and have to weigh up potential health and safety considerations, especially in respect of the rescue boat crew. Consideration also has to be given to those tasked with lap scoring sat at a table for several hours, as they too deserve to enjoy the day. Turnout was slightly down on the previous event, but we had more than sufficient entries in each class for some great and exciting racing

Mark Wild was OOD (Officer of the Day) and as usual did a faultless job managing the day's events, starting with the driver's meeting called at 1000hrs prompt. With the water level of the lake being again low, it required launching from the lake bed and Mark rightly highlighted the importance of taking great care here and suitable launching places were highlighted at the onset. Madelyn Reid kindly handled all of the lap scoring and Mark thoughtfully parked his large van at the vantage point over the lake to allow Madelyn to sit in the passenger seat and get some shelter whilst still being able to view

the full course and count the laps, without getting soaked. With the usual two 15 minute morning and afternoon heats per class, it was time for the racing to get underway:

AA class

Seven boats were entered and this class featured some very close racing with excellent lap scores, considering that the boats in this nitro (glow fuel engine) mono hull class have the smallest capacity of up to 4.5cc. Junior member Kian Searle achieved an outstanding result in this class as his Picco 21 powered Challenger 43 was impressively quick, totally reliable and driven faultlessly with 78 laps in total, comfortably giving him the win he truly deserved, so well done Kian.

Andy Rennie also racing a Challenger 43, but powered by a CMB 21, achieved 71 laps in total for second place. He also drove a great race, but did not quite have the speed to beat Kian. As for me? Well, the West 28 powered Magnet stalled on starting and then stopped once after throttling back too much near the rescue boat, but still managed to clock up 63 laps in total for third place. I need to experiment with this engine to overcome an issue with it failing to stay 'on pipe' for a consistent top speed.







ABOVE: The stern gear on Andy Uttley's D class petrol engined Arrow boat.



ABOVE: Ron Willet's Apache at full speed!

The remaining four competitors in this class were somewhat way below in terms of their total lap scores. Bernard Holder's MDS 21 powered Crusader 1 kept blowing glow plugs and so he had to retire the boat in Heat One and with only 11 laps scored, this meant seventh place. When nitro (glow) fuelled engines start blowing their glow plugs in rapid succession, it is usually a sign of something amiss internally and it is wise to strip-down the engine for a thorough inspection.

A class

This class had seven entrants, but proved disappointing for Bob and Amelia Cheshire because both experienced issues with their boats and ended up with no laps at all. The carburettor of Amelia's ASP 46 powered Crusader came loose after one of the retaining bolts fell out and it all seemed to go downhill from there. The ASP 46 powered Challenger of Mike Barnes achieved 77 laps in total giving him a comfortable first place. Mike drove a very tight course and the relatively newly installed ASP engine, which is now properly run-in, showed what can be achieved with an inexpensive sports engine.

Luke Bramwell also racing an ASP powered Challenger, had an excellent race taking second place with 69 laps in total. The silicone exhaust exit tube came off at one point filling the boat with exhaust fumes, but that was easily fixed to enable racing at full speed to be resumed.

With 67 laps in total, Bernard Holder achieved third place with his CMB powered Crusader 2. The exhaust manifold and tuned pipe came loose from his engine, which was unusual for Bernard whose boats are usually extremely reliable and it was only after the event that he realised that he had forgotten to tighten the retaining clip, so even the most experienced and seasoned racers occasionally



ABOVE: Stable and fast is the D class Phantom of Ian Searle.

overlook things. Sally Dickson, who is still learning the ropes so to speak, drove her Crusader 3 nice and steadily aiming to simply stay out of trouble and stay on the racing course and gain valuable driving experience. With no mishaps she did just that and clocked up a respectable 61 laps for fourth place. Junior member Kian Searle, was really unlucky because in the first heat, a loose fuel line had to be addressed on his CMB 45 powered Challenger and then later in the race he hit a buoy after turning sharply to avoid the rescue boat. This caused quite a lot of damage with a snapped propshaft and damaged rudder, both forcing retirement of the boat.

B class

This mono hull class for nitro (glow) engines up to 11cc capacity, had just four entries and it was great to see all of them running really very quickly, as the lap totals testify, and that made for some very exciting racing and overtaking. Those in the top three places were all powered by CMB 67 engines.

Malcolm Pratt's Apache 50 had superbly consistent morning and afternoon heats, powering its way to first place with 91 laps. Andy Rennie's Warhawk achieved 85 laps to take second place. In the morning heat whilst head to head, Andy's Warhawk and Malcolm's Apache collided with each other whilst racing round Buoy 3. Despite it being a substantial collision, astonishingly both boats survived and resumed racing flat-out with no apparent damage. Usually when this happens, at least one boat will stop with some damage. Bernard Holder's Magnum gained third place with him driving a tight course as usual leading to consistent scores in both heats and an 84 lap total.

Garry Dickson had made some changes to the set-up of his West powered Challenger, and on this occasion it did not perform as well as usual, so 68 laps left him in fourth place, but still a respectable enough lap score.

C class

Featuring the largest nitro fuelled engines, this mono hull class had just three competitors, but again the impressively fast boats ensured some very exciting racing and overtaking. The three boats were all powered by CMB engines which seem to be very popular in their larger capacities.

From the results table you may notice that all three competitors achieved considerably higher lap scores in the afternoon heat, so why was that? The answer is that the blustery morning conditions gave rise to the 'Branston Chop' making it a real challenge for the drivers to keep their boats going and needless to say, there were several stoppages with even these large hulled boats falling victim to



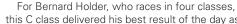
ABOVE:Buoy 3 was recovered after taking a bit of a battering, courtesy of Graham Stanley's T2 Class catamaran.

BELOW: Boyd Elson proudly presenting his winning catamaran.





ABOVE: Who has the edge here in the B class at Buoy 4?



this C class delivered his best result of the day as his CMB 90 powered Magnum achieved 87 laps for first place and lan Searle also enjoyed a good race with his Makara clocking up 82 laps for second position

Mike Gelson's Stratos was astonishingly fast, but with only 54 laps scored he had to settle for third. One aspect of this race that cost Mike valuable laps was that in Heat One, he launched his own boat from the lake bed. He then had to manoeuvre himself back up to the concrete pit area for good viewing, whilst keeping control of the boat and in the process it hit Buoy 1 really hard, flipping the boat so needing rescue and a restart before even one lap had been completed. Some members prefer to launch their own boats and others prefer their pit helper to perform this key task, all very much down to personal preference, but at Branston having launched and then needing to get back to the higher operating level was not easy.

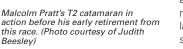


ABOVE: Mike Barnes launching Luke Bramwell's X-Cat.

D class

The Spark Ignition (S.I.) mono hull class had the highest number of entries and with eight competitors ready to race these substantial and large boats, exciting racing was pretty much guaranteed. In the big boat classes, even if the lake is flat calm before the start, it does not stay that way for long once their large hulls are thrashing around.

Mike Barnes raced his Zenoah powered Patriot and delivered an outstanding performance, going non-stop in both heats producing a whopping 102 laps in total for first place. This boat is very well set-up, and combined with his ability to drive it







flat-out through the turns, this makes for a real challenge for others to beat. The Zenoah engine though will need attention before the next race, as he spotted that the front crankshaft bearing had moved slightly within the crankcase casting, possibly requiring a new one.

Ian Searle's RCMK powered Phantom gained second place with 89 laps. He also enjoyed two non-stop heats and this demonstrates how keeping a boat going for the full race duration makes all the difference.

Garry Dickson's Saturn gained third place with 82 laps. In his second heat, the Saturn did a spectacular somersault at Buoy 3, nose dived, and then emerged to keep going. He thought he had got away with it, but the engine stalled moments later and on recovery, it was immediately evident that the hull had indeed taken on a lot of water.

It is worth mentioning that S.I. petrol engines do not tolerate water getting into their carburettors or the fuel supply. The slightest amount of water tends to cause them to stop and unlike nitro fuelled engines, they can be very difficult to restart until all the water is cleared away.

The remaining competitors enjoyed some very exciting racing, but experienced several spectacular flip-overs in the very choppy conditions resulting in too much time off the water following rescue and restarting the engines. Several had to retire after the first heat including Andy Utley, who only achieved one lap in total for his day in the D class. The petrol engine of Andy's new Arrow literally lost its spark, so its ignition system required properly checking at home to find the fault.

Cat T1 class

The four entries in this class included two juniors, Boyd Elson and Luke Bramwell, so how would they perform when up against more experienced adults? Notably, the top placed three of the four hulls, were X-Cat 38's, albeit with different internal set-ups.

Boyd had another outstanding race, achieving 75 laps in total easily giving him first place. He had won this class at the previous race meeting, so this was his second consecutive win and well done indeed. In the first heat, Boyd's Cat' hit Buoy 3, flipping the hull but luckily it was towards the end of that heat and he had done so well up to then that even at the halfway stage of the day, he was well in the lead.

Andy Rennie achieved 46 laps for second place. His X-Cat ran well with its Rossi 40 performing well, but too much time off the water with stoppages cost him guite a few laps. In third place with 13 laps was Luke Bramwell. Unfortunately for him, the conrod of the SC 46 engine snapped in Heat One



RIGHT: The Branston winners and good to see three juniors included holding their well deserved certificates.

leading to retirement and likewise from the second afternoon race. Bob Cheshire's Sprint Cat did not run well and he had to settle for fourth place with only 6 laps, so not the best of days for him.

Cat T2 class

With five entries in this larger class for catamaran hulls, this turned out to be a two horse race.

Garry Dickson had made an adjustment to the strut height of his Mercury to give more stability when at full throttle, and it paid off because the Mercury was able to exploit the power from the MPM 31 engine to the full. Garry was only the second person on the day to score 102 laps in total for a well deserved first place and the joint highest lap total of the day.

Graham Stanley's RCMK powered F1 Cat also performed brilliantly and achieved 89 laps for second place. Heat 2 of this class featured his F1 Cat going flat out with Garry's Mercury tailing him for many adrenalin fuelled laps. Would either of them make a mistake? Graham eventually did under the relentless pressure from Garry and misjudged Buoy 3, hitting it full-on impaling the hull in the buoy itself and coming to an abrupt stop.

The remaining three competitors only achieved a few laps each and all in Heat One, due to various issues with their boats. Malcolm Pratt's catamaran suffered total failure of its radio control system and the Rebel F1 cat of Daz Elson also suffered radio issues with its throttle servo malfunctioning. Paul Edgecombe's new X-Cat had a brand new Zenoah engine installed and after several stops he realised that further attention was needed in respect of the carburettor needle settings.

Conclusion

Special thanks were given to Peter Dimberline and his colleague Alan of the Burton & District MBC for allowing us to use their facilities. These two guys always make us very welcome, and they supply and man the rescue boat often getting soaked to skin in the process.

One striking aspect becoming very apparent in this 2015 season, is the degree to which the boats in all classes have improved in terms of their capability and general build quality. It used to be rare to see lap totals above 100, and yet we had two at this event and one at the previous meeting. As they say, 'Watch this space'.

Cheers for now - Craig



Name	Branston 1 Results: 31st May 2015							
Table Tabl		Name	No	Hull	Engine	Heat 1	Heat 2	Total
2 Andy Rennie 11 Challenger 43 CMB 21 38 33 71 3 Craig Dickson 55 Magnet West 28 32 31 63 4 Mark Wild 5 MHZ Lizard CMB 21 13 16 29 5 Graham Stanley 29 Cavalier OS 21 18 5 23 6 Mark Beesley 176 Cavalier OS 21 OB 13 8 21 7 Bernard Holder 86 Crusader 1 MDS 21 11 0 11 A class 1 Mike Barnes 4 Challenger ASP 46 35 42 77 2 Luke Bramwell 6 Challenger ASP 46 30 39 69 3 Bernard Holder 86 Crusader 2 CMB 45 36 31 67 4 Sally Dickson 77 Crusader 3 SC 46 28 33 61 5 </td <td>AA Clas</td> <td>s</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	AA Clas	s						
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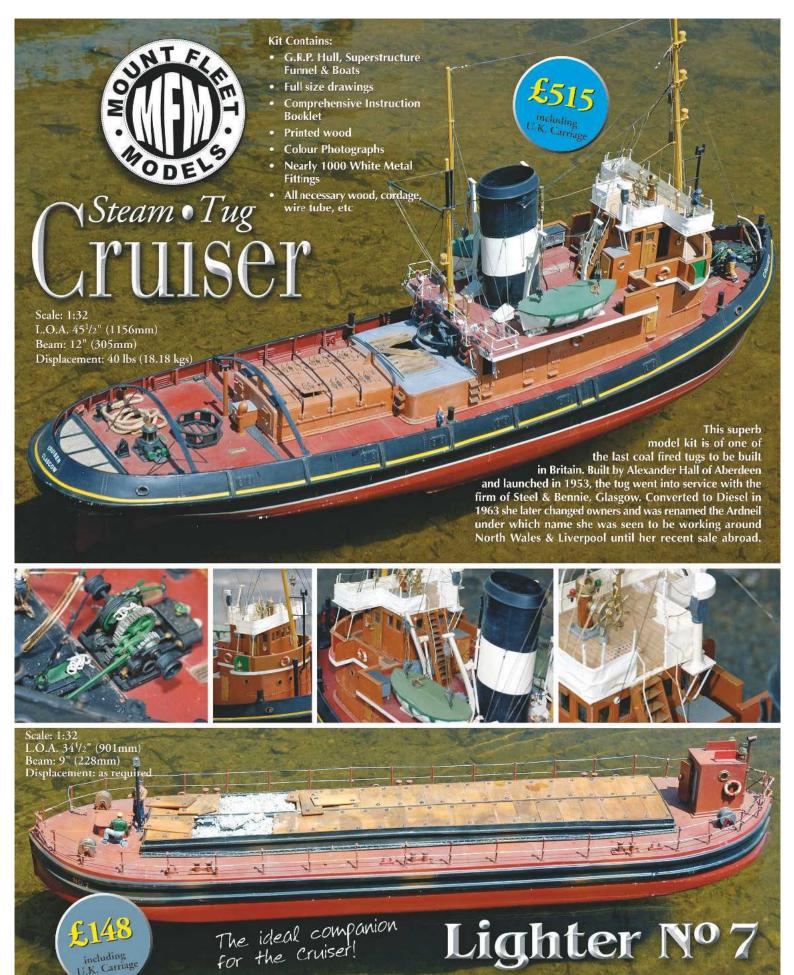
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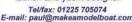








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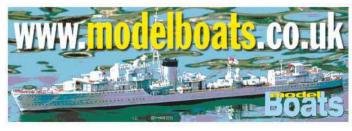
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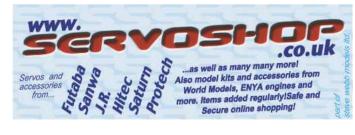












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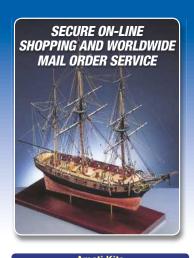
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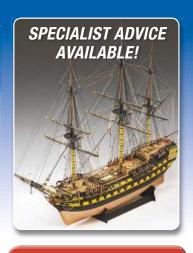
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