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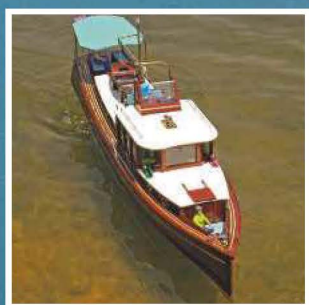
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Suite 25, Eden House, Enterprise Way,
Edenbridge, Kent TN8 6HF
UK and Overseas:
Tel: +44 (0) 1689 869 840
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SUBSCRIPTIONS

My Time Media Ltd 3 Queensbridge The Lakes
Northampton NN4 7BF

UK – New, Renewals & Enquiries

Tel: 0344 243 9023

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USA & CANADA – New, Renewals & Enquiries

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Visit: www.mags-uk.com

Telephone: 01733 688994

EDITORIAL

Editor: Paul Freshney

PO BOX 9890, Brentwood, CM14 9EF

Email: editor@modelboats.co.uk

PRODUCTION

Designer: Steve Stoner

Illustrator: Grahame Chambers

Retouching Manager: Brian Vickers

Ad Production: Robin Gray

ACCOUNT MANAGER

Duncan Armstrong: 01634 238893

E-Mail: duncan.armstrong@mytimemedia.com

SUBSCRIPTIONS MANAGER

Kate Hall

MANAGEMENT

Commercial Sales Manager: Rhona Bolger

E-Mail: rhona.bolger@mytimemedia.com

Tel: 01689 869891

Chief Executive: Owen Davies

Chairman: Peter Harkness



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Bow piece



This issue includes a Complimentary Free Plan for Waddler, a two man fully functioning radio controlled canoe. Glynn Guest has designed Waddler, which is simple to build and operate, to make into an unusual, but practical working model requiring no special skills, tools or equipment.

Ron Rees completes Streamlinia Too, the plan for this reduced size and much modified model being based on the famous 1930's Bassett-Lowke steam powered craft. Streamlinia Too is brushless motor powered with a smoke generating unit and has been largely built from Depron with a dummy steam engine, and is three quarters the size of the original classic model.

There is a Reader's Model Gallery for Alan Owens' remarkable model of the USS Chawasha ATF-151, a naval rescue tug and reports from a number of the Summer shows around the UK that are supported by model boat enthusiasts.

We do of course also have all the usual regular articles, including Range Finder, Flotsam & Jetsam, Boiler Room and BMPRS News together with Test Bench, Reader's Free Advertisements and more. So I hope there is something here for everyone within these pages who is a model boating enthusiast.

Paul Freshney - Editor

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Ron Rees completes his Plan Feature reduced size model based on the famous 1930's Bassett-Lowke Streamlinia



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Compass 360

Model Boats notice board for your news

Editorial Contact - Paul Freshney

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

The email is editor@modelboats.co.uk

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Balne Moor MBC

Forthcoming 2016 Open Event:

Sunday 2nd October: North Sea Winches Shield. Two man (or woman) tug teams compete for the sponsor's trophies, £1 per tug. Scale sailing also available on the day, £1.50 per boat. Event starts 1030hrs and bacon or sausage butties are available until 1230hrs. Hot and cold drinks all day and home made cakes until they're gone.

Please note the date previously supplied to this magazine (MB September issue) for the Switzer Tug Towing Shield was incorrect

as it should have been for **Sunday 18th September**, and not the 20th September as advised and printed. Sat Nav location: DN14 0ER. More information on the club's website: <http://balne-moor-model-boat-club.myfreesites.net> or please contact by email: michael.butler1949@talktalk.net

Stealth Ship - Page 56 of August MB

Ron Smith asked us to point out that he is the builder of this unique self-designed model called Grey Ghost, which has

a scale of 1:96 rather than the 1:144 as mentioned in the caption of Dave Wooley's report. Hopefully, Ron will be able to supply a more comprehensive description of his model, with some interior photos, for inclusion in Model Boats in due course, as I think readers will be interested in it.

Grand Modellers Bring & Buy Sale

Mutual Model Boat Society are holding this event on **25th September 2016** at Crimble Croft Community Centre, Aspinall Street, Heywood, Manchester, OL10 4HL.

Please go along and enjoy this famous event, either to sell or purchase your supplies.

There are always lots of bargains to be had, Opening times for sales 1000hrs and for traders 0900hrs. Food available from 0900hrs, admission £1.50 including a raffle ticket and the whole site is wheelchair friendly and full facilities are available

To reserve a Seller's Table, please contact Kevan Winward, tel: 07803 975089.

International Model Lifeboat Rally

This was last held in 2012 at the Etherow Model Boat Club. Before any thought can be given to another rally at a different

location, we need to trace and recover all the various official shields and trophies awarded at that event in 2012.

Could anyone with knowledge of the present location of those particular rally shields and trophies please contact Adrian Clutterbuck at the Lifeboat Enthusiast's Society? Tel.: 01604 846461 email: adriansfigures@gmail.com

Blackpool Model Boat Show - 2016

A reminder that this is being held on **22nd and 23rd October 2016** at the Norbreck Castle Hotel, Queens Promenade, Blackpool, FY2 9AA, UK. This event is back again for 2016, but under new management. Following the emigration of the event's previous headline sponsor, the show is now being sponsored by Component Shop and this year promises to be bigger and better than ever with the inclusion of model tanks, trucks and cars. This year sees the event return to its previous home of the Norbreck Castle Hotel, but will now use two halls at the hotel, rather than just one previously. Hundreds of models on display as well as a boat pool, truck roadway and tank range. Admission £6.00 for one day, or £9.00 for the weekend. Full details at: www.blackpoolmodelboatshow.co.uk or please tel: 01248 719353 (office hours).

Obituary Chris Jackson

Well known model yachting journalist, Chris Jackson passed away on 24th July 2016 at the Royal Berkshire Hospital in Reading after a short illness. Apart from being a lovely quiet-spoken man and a good friend, his dedication to the publicity of the model yachting sport was outstanding and quite exceptional. He liked building and sailing all classes of boat after discovering Marblehead yachts in the late 1960's.

Chris's contribution to model yachting was immense because he provided publicity for model yachting activities over three decades. Through the production of his quarterly A5 sized Model Yachting News and then Radio Yachting News he made friends all over the world, travelling to all sorts of events and publicising them positively. He was able to get contributions from a wide range of enthusiasts and the 58 issues of these independent

magazines record an exciting time in the history of the sport, always picking out the interesting, the innovative, the strange, the wacky, the controversial and the varied scene across the world.

He covered every aspect of model yachting in a way that became the model for the MYA's recent Acquaint magazine and not just MYA activity but had interests worldwide and in 1996 Traplet invited him to become editor of Marine Modelling Magazine.

Apart from his important role as publicity officer for the International Model Yacht Racing Union, he didn't just report, but generated ideas which helped to create the flourishing state of today's sport. He was an important part of the MYA's publicity effort and will be sadly missed by his friends everywhere.

Roger Stollery - August 2016

Midlands Model Engineer Exhibition

A last reminder that this is being held at the Warwickshire Exhibition Centre, Nr. Leamington Spa, on the junction of the A425/B4455 (Sat Nav CV31 1XN), from **Thursday 13th to Sunday 16th October 2016** inclusive. The theme is the bi-centenary of Robert Stirling and the 80th Anniversary of the iconic Spitfire.

This event should not be confused with the International Model Boat Show being held from 11th to 13th November inclusive at the same venue. Further information from the website: www.midlandsmodelengineering.co.uk

2016 M&S District Marblehead Interclub 3 & GAMES 7 for the Arcadia Trophy

Roger Stollery reports from Abbey Meads Lake

A great time was had here with 16 races sailed in some of the best conditions that Guildford Model Yacht Club can offer. After a rather gloomy and drizzly start, eight competitors representing three clubs had a great deal of fun over the long beat and run course that was placed parallel to the western control area. The fast planing runs were very exciting until the strongest gusts and power of the A rigs used by nearly all competitors drove the bows under and rudders into the air.

The very first race gave an indication of how the results might turn out, as Peter Stollery, who was testing a new version of the UPROAR with a B rig, managed to win despite having less power than the A rig competitors in the light airs. His father, Roger, who was also testing a variation of the same offset pivot swing rig won Race 2 and Race 6, leaving Peter to win the other six races before lunch.

BELOW: A nice day at Abbey Meads Lake, home of Guildford MYC.



ABOVE: Marblehead r/c yachts are very fast and exciting to sail, even in relatively light winds.

The most consistent skipper apart from Peter, was John Shorrock with five second places and this took him to second place on the leaderboard 7 points behind Peter and 5 points ahead of Roger.

The sun then came out and the wind continued to increase during the afternoon, but two boats managed to sail with their A rigs all day, although most were then in B rigs. Mr. Consistency, John Shorrock, sailing a QUARK managed to

Results

- 1st** Peter Stollery, Guildford, UPROAR
- 2nd** Roger Stollery, Guildford, UPROAR
- 3rd** John Shorrock, Datchet, QUARK
- 4th** Alan Viney, Guildford, PRIME NUMBER
- 5th** Les Thorn, Datchet, PARADOX
- 6th** John Townsend, Guildford, ROK
- 7th** Phil Holliday, Datchet, QUARK
- 8th** Peter Dunne, Woking, CRAZY TUBE TOO

beat both the UPROAR's to win Race 9, but then let them win all the remaining races. The wind direction gradually became more south-westerly as it increased and there were a few short breaks in the racing to pick up boats that had gear problems and had drifted into the bushes. Everyone enjoyed the incredible speeds that can be reached by these fast lightweight Marblehead r/c yachts off the wind.

The disappointing entry on this early July day we suspect was because of the following weekend's MYA National Championship at Datchet.



Carlisle Model Boat Club

This club celebrated its 25th Anniversary on the 6th August 2016 at Talkin Tarn Country Park near Brampton, Cumbria, CA8 1HN. The club has a purpose built jetty for the easy launching of model boats and regularly sail every Wednesday afternoon, weather permitting, from 1330hrs to approx. 1630hrs. The Tarn measures 65 acres and is set amongst 120 acres of beautiful farm and woodland and the facilities include ample parking, toilets, changing areas and a tearoom.

All types of models including yachts, fishing boats, tugs,

warships and fast electrics are operated, the only restriction being that internal combustion engines cannot be used on the Tarn. The club holds monthly meetings on the second Monday of each month at 1900hrs in the Education Cabin behind

the tearoom at the facility. The aim of the club is to promote all forms of boat modelling with the accent on enjoyment rather than competition and to encourage the complete novice as well as those with experience to share with other members. The club is affiliated to the Scottish Federation of Model Boat Clubs and has its own boiler testing

facilities. For further details regarding membership, please contact the secretary Derek Potter:
Tel: 01228 810916
Email: carlislembcsecretary@outlook.com.



RIGHT: Two moored ferries. One is Lord of the Isles and the other is Maid of Ashton, both being built 100% from scratch.



ABOVE: A Models by Design Cygnus trawler. These make into fine practical r/c models and come in either 1:16 or 1:12 scale versions.

USNS Sioux



**Model Boats
November 2016
issue is on
sale on the
30th September
2016**



Terrapin

Next month in **model Boats**

This 84 page issue includes in-depth construction articles for the US Navy Ship **Sioux**, as well as for **Terrapin**, a Thornycroft WW2 Amphibious Cargo Truck, and a clever Plastic Magic conversion of the Airfix 1:72 scale RAF Air Sea Rescue Launch. These are all fully-functioning radio controlled models, the first two being totally scratch-built. **USNS Sioux** to 1:48 scale is from one of our American readers and is fitted-out with the superstructure's internal cabins and lighting, together with numerous other working features.

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

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**FREE
PLAN**

Waddler

Glynn Guest presents a simple fun r/c model boat based on a two man canoe



Felling the need for something a little different, an idea that had been lurking in the back of my mind for a while was re-activated and this was to make a model based on a rowing boat. These craft do occasionally appear at the pondside and inevitably generate a lot of interest with both fellow modellers and the general public.

Michael Sheppard is one of the UK's leading proponents of such models and a quick search through back numbers of this magazine soon located details of his models (May 2008, July 2009 and July 2010). These models are impressive pieces of machinery indeed, but therein is the rub. My skills and available resources are just about average and I could not envisage myself ever being able to construct such mechanisms, so the search was on for something simpler.

There was also another potential problem, in that rowing boat models can be limited to operating in calm conditions. This was my experience when

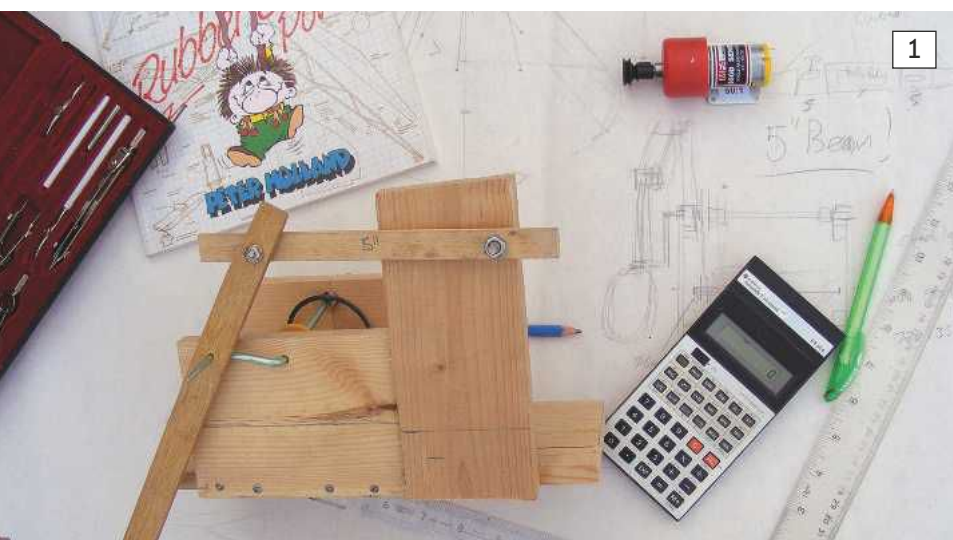
reviewing the Graupner Tina rowing boat kit many years ago. This used a single electric motor to drive a complex system of gears, levers and springs to operate the oars. A servo was used to lift one of the oars clear of the water and so steer the model. This would work, but any disturbance that caused the model to rock from side to side made steering difficult, if not impossible, to achieve. To cope with this, the oar steering mechanism was abandoned and a large (very large in fact) rudder was installed. This made the steering a shade more consistent, but it was never a model that could comfortably be sailed in anything but calm conditions. I realise that stopping one oar's motion or better still, independent operation of them could be an improvement, but such models still seem to be unsuited to the normal weather conditions experienced in the UK.

During my wanderings through the Internet (I'm too honest to try to make this sound better by calling it 'research'), some clever electronic devices were uncovered that enabled a transmitter's rudder and throttle commands to be translated into a rowing action via two servos per oar. This was ingenious and produced a very realistic motion, but my heart was set on rowing a model using more or less standard r/c items.

As with most of my problems that do not demand an immediate solution, it was pushed down into the subconscious part of my brain, which my unkind family often comment makes up most of the grey matter between my ears. There it can painlessly simmer away awaiting inspiration whilst something more productive occupies my mind and quite often the next time the problem is thought about, sometimes triggered by whatever I'm doing at the time, the solution suddenly becomes obvious.

Stirring paint

The trigger in this case came when my wife finally persuaded me to carry out some long overdue





Design

Any thoughts about building something along the lines of a traditional two person canoe were quickly dismissed. The experimental nature of the model demanded a design that would be quick and easy to make, robust enough for the inevitable changes that would occur and cheap enough to avoid any heartbreak should the whole idea fail miserably. Looking around the garage and workshop, and some pine planks, strips and plywood were soon found.

The planks were 71 x 12mm PSE (Planned Square Edge) Pine which had been picked out from a local hardware shop's stock as being straight and relatively knot free. The strips were 12 x 6mm PSE hardwood and the plywood was of the 3mm thick cheap triple lamination variety.

From these materials a design was worked-up using the pine planks to make the hull base and bulkheads. The plywood would form the sides with the stripwood acting as

reinforcement around the inside edges of the tops of the sides.

The mock-up had shown that an internal width of at least 5 inches (125mm) would be needed to accommodate the paddle drive system, this resulting in a convenient model length of around 30 inches (750mm). Four bulkheads would divide the hull into five compartments and allow the r/c gear to be fitted into the central one with the two adjacent voids containing the paddle drives.

Hull construction

The hull base was to be made from two pieces to give the desired beam. These and the bulkheads were cut from the pine plank using a jigsaw, **Photo 2**, and this time I remembered to drill holes through Bulkheads 2 and 3 for the electrical wires before building the hull.

A water resistant PVA woodworking adhesive was used for the wood to wood joints on this model and gluing the two base pieces together was done using a portable workbench, **Photo 3**. With glue applied to the edges to be joined, they were firmly squeezed together on the bench and to keep the parts flat, a few clamps were applied.

By using PSE timber, the bulkheads would fit squarely on the hull base, **Photo 4**. Before gluing them in place the vertical edges of Bulkheads 1 and 4 had to be chamfered to match the curved edge of the base and a belt sander was used for this, I being a great believer in finding good hobby uses for all my DIY power tools.

domestic decoration. Whilst stirring the large tin of white emulsion paint, I suddenly realised that the stirring tool was an old wooden spoon and 'this would make a great paddle for a model based on a canoe' was the thought that suddenly popped into my mind. This was quickly followed by remembering that there was a book written by Peter Holland on my shelves which included such a model.

This book, published in 1989 was part of a series intended to show children, and perhaps a few older people, that it was possible to make simple working models using rubber bands for the motive power. One of the plans was for a small, just over 12 inch (30cm) long, racing canoe with two paddles driven from a single crankshaft powered by a stretched elastic band. The crank's rotation combined with the linkage of the paddles to the canoeist's arms created a very efficient looking paddling motion, but clearly needed scaling-up to suit my needs.

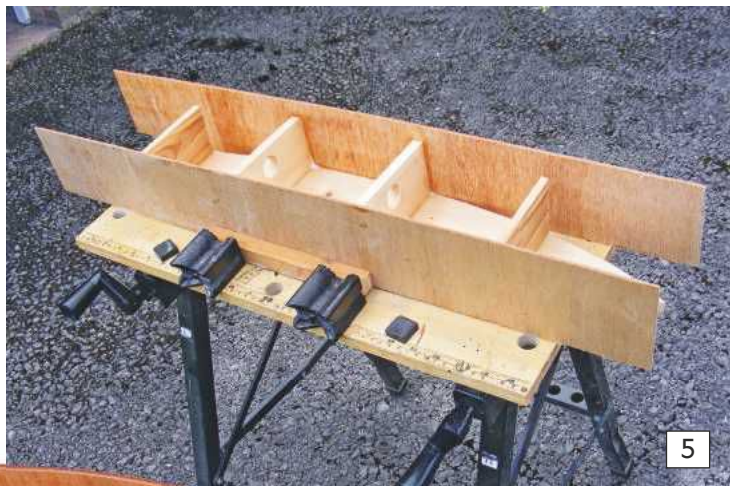
Out came the drawing board and trying to recall my technical drawing skills, the enlarged motion was drawn. It all looked very promising so a quick mock-up was made from some scrap pieces of timber, **Photo 1**. After a few adjustments, a suitable system was achieved confirming that it should work as expected. It also showed that the connections between the moving parts needed to be 'easy', that is loose enough to ensure smooth movement whilst still secure enough not to come apart during operation. Not exactly precision engineering standard, but good enough for the purpose.

The mock-up was very useful in that it allowed me to gauge just where the waterline on the model ought to be. If the model were too high in the water then the paddle would lose a significant percentage of its power and if too low, it would be even worse since the paddle would not clear the water during its return motion creating visions of the model oscillating forwards and backwards, no matter how fast the paddles were being driven.

4

Hints & Tips

Before gluing the bulkheads in place the vertical edges of bulkheads 1 and 4 had to be chamfered to match the curved edge of the base and a belt sander was used for this, I being a great believer in finding good hobby uses for all my DIY power tools.



carved to a triangular section to mate with the sides before gluing.

Shaping and painting

The strips added to the bow and stern were sanded to blend into the hull sides and the lower corners of the hull between the sides and hull base were rounded-off using a sanding disc in a domestic electric drill. Care was taken not to remove too much material and thus weaken the hull, so please see the cross-section on the plans.

The resulting hull looked very plain externally so a strip was added around the outside of the top edge of the hull's sides. A couple of thicknesses of card were used to make this strip and were fixed in place with a contact adhesive.

The hull's outer surfaces were checked for any defects, any small cracks, gaps or dents being filled and sanded flush. After this, three coats of thinned (50:50) cellulose dope were applied to the outer surfaces with a light sanding after each. This created a sound base for a coat of smooth yellow Hammerite paint. This is a thick cellulose based product intended for painting metal, but when applied over a wooden hull sealed with cellulose dope, it will create a very tough and smooth finish.

As with most things, there are many alternative ways to waterproof this hull. In fact, you could find a good use for those partly used tins of domestic primer, undercoat and gloss paint that seem to accumulate around most homes.

Motor selection

Unlike a model driven by a propeller hidden out of sight below the water's surface, the paddle action had to be at a speed that would both give acceptable performance and still look realistic to onlookers. After a little arm waving to imitate a canoeist's actions, it seemed like something around two strokes per second would be a good maximum as anything much faster might suggest that the figures in Waddler had been indulging in some illegal substances.

Two strokes per second equates to a rotational speed of 120rpm (revolutions per minute) which is a magnitude lower than the likely speed of suitable electric motors that would power the model, so this called for some sort of speed reduction between the motor and paddle drive shafts.

A complete pulley and belt reduction system was rejected since the reduction ratio required

“Unlike a model driven by a propeller hidden out of sight below the water's surface, the paddle action had to be at a speed that would both give acceptable performance and still look realistic to onlookers.”

The plywood hull sides were added in two stages. First, the sides were glued to Bulkheads 2 and 3 plus the parallel part of the hull base between them. It is important that both sides are correctly positioned so that the edges meet together when forming the bow and stern of the hull. Again, I used the DIY workbench to hold the sides firmly in place whilst the glue set, **Photo 5**.

The second stage was to pull and glue the hull sides together to form the bow and stern sections. I could have used the adjustable workbench again, but felt like hitting something with a hammer and so applied glue and tacked the sides in place with a few panel pins. The bow and stern joints between the ply sides were held together with a couple of crocodile clips.

When the glue was dry, the hull had a nice symmetrical shape, **Photo 6**. Although all the joints looked sound, a precautionary bead of glue was applied to all the internal edges of the joints. This was then digitally shaped into a fillet - okay this means I ran a fingertip along each bead of glue. This is something I instinctively try to do with all glued joints and is probably unnecessary, but a habit that is hard to break.

The hull was reinforced by gluing the wood strip around the inside of the open top. The 12 x 6mm strip sat on top of the bulkheads about 1/4 inch (6mm) below the top edge of the sides and was cut to fit, using clamps to hold it in place whilst the glue set. The bow and stern were reinforced by adding scrap pieces of wood and after gluing I used a couple of elastic luggage straps around the hull to keep them in place, **Photo 7**. The inside of these joints was also reinforced with strips of wood,



8



9

would have entailed either pulleys that would be too large to fit comfortably within the model, or lots and lots of smaller pulleys which would be a shade too messy for my liking. A single worm gear could achieve the desired speed reduction in one go, but past experience suggested that unless installed with more skill than I possess, it would be very noisy.

In the end I fell back on my experience when building the paddle tug Eccleshall featured in the Model Boats June 2014 issue. This used an MFA electric motor with an attached gearbox connected to the paddle shaft via a single pulley and belt arrangement. This proved to be reliable and quiet, with the sound of the paddle blades entering the water masking any motor and gear noises.

That tug model used a 540 motor and 50:1 gear reduction, but I felt that this would be more power than the canoe would need. After searching through technical details on the MFA website, RE 385 motors with 50:1 gear reductions looked to be the best bet. Two were ordered (Part No. 950D501) and arrived quite promptly. Testing with a six cell 7.2v battery showed a substantial output torque with speeds just a shade higher than needed. This excess speed was no problem, since the canoe was going to employ the same simple pulley and belt system to connect the gearbox and paddle drive shafts as in the Eccleshall tug model. Final adjustments in the speed of paddling could be made by selecting suitable sizes of pulleys.

Drive installation

The mock-up used to test the paddling action proved useful, since it allowed one to gauge just where the motors and drive shafts ought to be positioned within the hull. The two shafts were made from old, but straight metal knitting needles and when bending to shape, it was important to ensure that the crank lengths were identical, otherwise the paddle throws would not be equal.

Holes for the driveshafts were drilled through the hull sides just below its internal reinforcing strips. I did consider putting plastic or metal bushes into these holes to act as a bearings for the shafts, but in the end didn't, as the metal knitting needles had hard plastic coatings and rotated smoothly in the holes. If this proved later to be a mistake, the bushes could always be easily be installed when needed.

The driveshafts were secured with the pulley on the inside and a collet behind the crank, please

see the cross-section on the plans. A tight fit is not needed since there will be very little side loading on the driveshafts and the pulley drive keeps things centred.

The MFA motor and gearbox units have a substantial mounting bracket and this was to be secured with screws to a piece of wood glued to the bottom of the hull, **Photo 8**. The actual position of the motor depends upon the two pulleys and belt used to connect each of them together. The prototype employed rubber O-rings which have always proven to be more reliable than elastic bands. The key to success with these appears to be to have the belt under just sufficient tension to avoid slippage in normal use as excessive belt tension only serves to create more friction and wear in the system.

It isn't a bad idea to solder the insulated wires to the motor terminals before securing the motors into the model. Wire lengths, long enough to pass through the holes in Bulkheads 2 and 3, should keep thing tidy, **Photo 9**.

Paddle mechanism

Whilst the mock-up had given the basic dimensions, some changes were needed to allow the creation of more realistic figures, realistic being a very relative term as their final appearance can only be honestly described as vaguely humanoid.

To create sufficient rigidity, the two paddler's bodies were each built around a piece of 1/8 inch (3mm) plywood glued to the front faces of Bulkheads 2 and 4. Notches were needed to clear the internal reinforcing strips and to allow these pieces to fit up to hull sides.

To secure the arms to the body, a strip of 1/2 inch (12mm) square wood was glued across the top of the plywood. It is important that the inner end of this strip is cut to the angle shown on the plans as this will enable the rower's inner arm to move freely.

The mock-up's single straight arm was changed to more realistic looking angled arms cut from 1/8 inch plywood. Note that the spacing of the holes in the two outer arms has to be 5 inches (125mm) and the two inner arms are slightly longer.

The paddles came from a set of wooden kitchen spoons, two of them being just the right size for this model. The wooden spoon shafts were much too long as supplied, but prudence suggested not cutting these down to size until the paddle mechanism was properly working. If you have to

Hints & Tips

It isn't a bad idea to solder the insulated wires to the motor terminals before securing the motors into the model. Wire lengths, long enough to pass through the holes in Bulkheads 2 and 3, should keep thing tidy, **Photo 9**.



against the front face of the paddle blade, then slowly rotate the shaft. The cross-section ought to give you a good idea of the paddle angle to aim for, but it is vital that you check that nothing is fouled as the driveshaft rotates.

Once happy with the paddling motion, the position of the hole for the crank was marked on the blade and with the paddle removed from the model, a slightly oversize hole was carefully drilled. The depth of this hole is important in ensuring the correct movement of the rowing mechanism, so it is better to start by drilling a shallow hole, refit the paddle and check for alignment then drill a little deeper and repeat until happy with it all. I was worried that the paddle might work its way off the crank when operating at speed, but the spring at the outer arm's shoulder joint seems to prevent this from happening.

The inner arms are just for show, but the paddlers would look even weirder without them. Because the inner arm has to be secured to the paddle shaft above the outer arm, this creates a mismatch between their movement, but this effect is minimised by ensuring an 'easy fit' with the securing screws, **Photo 10**.

Having successfully created one mechanism, there was just the second one to make and with the experience already gained, this proved to be quite straightforward. It is important that both paddling actions are as closely identical as possible, otherwise the model will have a built in bias to turn either to port or starboard all the time when paddling along.

Hints & Tips

The tricky bit was next, as a suitable hole has to be drilled into each paddle blade for the crank to engage with it. My method was hold the crank against the front face of the paddle blade, then slowly rotate the shaft. The cross-section ought to give you a good idea of the paddle angle to aim for, but it is vital that you check that nothing is fouled as the driveshaft rotates.

make them, then I'd suggest cutting them from something like 1/4 inch (6mm) plywood to ensure they are robust enough for the knocks they will inevitably receive when afloat.

Assembling the bits

The plans show where the parts should go and how they are held together with bolts and screws, but it is likely to be safer if you fit the parts and make adjustments slowly, with one piece at a time. This is not precision engineering where accurately made parts can be expected to snap into place on the first attempt, as some degree of adjustment will be needed before a smooth and reliable paddling motion is achieved. Do not be surprised if some parts have to be discarded and remade, but luckily the materials involved are all cheap.

My method was to start by securing the outer arm to the 'shoulder' of a body with a suitable screw. The fit of the screw through the hole of the arm must not be tight, as the arms must have a degree of looseness to accommodate the paddling motion without undue friction.

I've used the term 'easy fit' on the plans to suggest this type of loose, but still secure joint. Be prepared to dismantle the parts so that the holes can be adjusted. A liberal use of washers helped to ensure no binding in the paddling motion. Also, note that a compression spring between the outer arm and body proved invaluable in holding the arms and paddle together.

The wooden spoon that was to become the paddle had a hole drilled through its shaft for a bolt which would connect it to the outer arm, please see cross-section on the plan. The bolt needs to be long enough to allow for washers between the arm and shaft plus a second locking nut (called by our American cousins as a jam nut). This locking nut is essential, otherwise a single nut will (because I proved it so) later work loose!

The tricky bit was next, as a suitable hole has to be drilled into each paddle blade for the crank to engage with it. My method was hold the crank

Finishing off

After both paddle mechanisms had been proven to operate smoothly without any suggestion they would dismantle themselves, the parts were separated for final finishing, remembering that the mechanisms are mirror images of each other and it would be a good idea to mark the individual parts so they cannot be mixed up on reassembly. The excess was trimmed off the wooden paddle (spoon) shafts just above where the inner arms were attached and a couple of coats of clear varnish waterproofed the now ex-spoons..

The paddler's bodies were suggested by gluing blocks of expanded polystyrene to the front and rear faces of the plywood body reinforcement pieces, **Photo 11**. Small blocks were also glued to suggest the paddler's thighs. I did not bother with fitting full legs since they might foul the paddle drive and would not be visible anyway once sailing at any distance from shore.

A couple of polystyrene balls, found in a local craft store courtesy of my wife's need for more knitting wool, made the paddler's heads. A slot was cut into these balls so that a piece of card could be inserted to suggest a baseball type of cap. No attempt was made to suggest any facial features as they already looked weird enough, but clearly were enthusiastic paddlers nevertheless.

The plywood arms looked a bit out of place, so some expanded polystyrene was glued to their outer surfaces and this 'bulked' these out for a more realistic appearance. The paddlers were given a couple of coats of domestic emulsion paint that was a sort of flesh shade before applying some enamel paint to suggest they were not otherwise naked.

To avoid an empty looking canoe, some pieces of card were cut to cover the three open hull voids. A couple of thin coats of dope and an overspray

with grey primer meant they could be just dropped into place. No glue was used to secure them, this not being the sort of model that might throw them overboard as it sprinted around the lake and future access being definitely needed for routine maintenance or adjustments.

Radio control outfit

The paddling mechanisms were reassembled with a touch of grease at the joints, this being to both aid smooth movement and prevent any corrosion that the odd water splash could cause and a quick test showed that they still thrashed about in a suitably energetic fashion.

The r/c gear was fitted into the central compartment bounded by Bulkheads 2 and 3, there being more than enough space for a six cell 7.2v Sub-C battery pack, two Mtroniks 10 Amp esc's and a receiver. A piece of soft foam was cut to fit into this compartment with appropriate cut-outs for all these items, **Photo 12.**

Waddler was to be controlled with an old 27MHz two channel outfit. Old it may be, but it works reliably and I'm not going to discard it for the sake of fashion and the transmitter was modified so that both stick movements were in the vertical plane, this giving 'tank steering' which looked to be ideal for Waddler. At centre neutral, nothing works but pushing either stick up gives forward motion for its paddler and vice-versa in reverse, so one has steering control by adjusting the speed and direction of each 'paddler'. The alternative is to use some form of electronic mixing which most new transmitters nowadays seem to incorporate as standard.

Testing

A ballast trial on the garden pond showed the need for a little weight on one side to counteract the offset battery pack. The final operating weight came out at about 5.5lbs (2.5kg), more or less what was

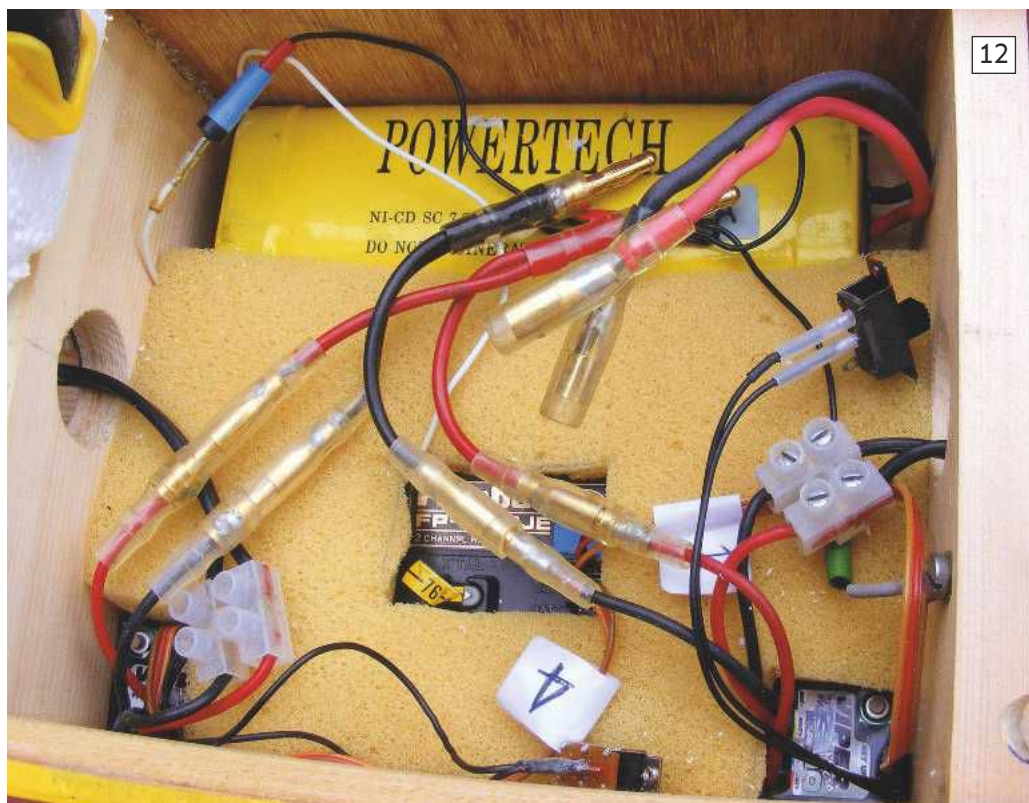


11

expected.

The paddle action was checked and found to be good. The paddles firmly dug into the water on the power stroke but were clear of the water on the return stroke and it was also encouraging that the model could be competently manoeuvred in the small area of the garden pond.

The current drain, always a useful thing to know so you can calculate the powered running duration of a model, was measured whilst in this pond. With both motors at full speed, a very modest value of between 0.5 and 0.6 Amps was measured and proved just how efficient these small brushed MFA geared motors really are.



12

A ballast trial on the garden pond showed the need for a little weight on one side to counteract the offset battery pack.



Sailing trials

The first trials were on a bright day with just enough wind to see if the canoe would be badly affected by it. To be honest it was all something of an anticlimax, as Waddler moved smoothly away under the power of Bert and Ernie's (or whatever other names you might choose) strokes, **Photos 13 and 14.**

It did not take too long to reacquire myself with tank steering and controlling the model's heading rapidly became a natural response. Likewise, any mismatch between the individual paddle speeds was easy to correct with slight adjustments via the transmitter sticks. With the sticks at about 75% of full speed position, small almost subconscious stick movements easily kept Waddler on course. The absence of a keel or rudder did not appear to cause any difficulties, so no worries about the wind (within reason) making it uncontrollable. Moving astern with the paddle movement reversed was no problem and the model behaved just as well. The tightness of any turn is governed by difference between the two paddle speeds. Slowing down the paddle on the inside of a turn would produce a gentle turn. Stopping the inner paddle tightened things up and reversing the inner paddle's action would cause the model to rotate on the spot.

So far this model has proven to be stable and seaworthy. The paddle action can set up a gentle rolling motion at times, but this has never become a

problem and in fact this motion inspired the model's name. True, I would not try to sail it when the wind and waves would have it rolling and bouncing about, but then it might be foolish to sail our scale models under such conditions anyway?

One unexpected bonus is that the paddles can ignore floating debris such as leaves and weeds that would quickly arrest a water screw driven model. This might make paddling an option for waters and/or at times of year when such debris brings your normal sailing to a halt?

Whilst it is possible to forget that you are sailing a very different type of model, you quickly realise that this difference attracts spectators. It seems impossible to sail this model in public places without gaining onlookers and their intelligent questions. I'm not sure if this will translate into more people joining this hobby, but it's good publicity nonetheless.

Further ideas?

Having got the basic model up and running, it is not too hard to see now how to improve it. Waddler's appearance could be enhanced by suggesting the model is carrying the gear that full-size canoeists might and camping equipment, provisions, fishing rods are all things that come to mind. Of course you might want to give the impression that it is two hunters out to pit their wits against nature and equip it thus? It would be quite easy to double up the number of paddlers to two on each side and go towards the expedition rather than pleasure look and with even more paddlers, you are into racing or ceremonial vessels. As for me, I'm happy to paddle Waddler along a local canal, especially if it means walking between two very nice public houses!

Final thanks

I cannot close without acknowledging that this model owes a lot to Peter Holland's original idea for an elastic powered paddler. I suppose that I should also thank my wife for making me do some decorating during which the idea of using wooden spoons for the paddles occurred to me.

Enjoy your hobby - Glynn

“Whilst it is possible to forget that you are sailing a very different type of model, you quickly realise that this difference attracts spectators.”

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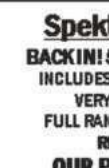
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Range Finder



Dave Wooley with his Worldwide Review of Warships and Warship Modelling

Above: HNLMS Tromp F803 visiting Liverpool in April 2016.

Welcome once again to our regular sortie into the world of fighting ships and this month we look at the Dutch warship HNLMS Tromp. We also have Part 24 of the HMS Skirmisher project and the usual brain teaser of our Mystery Picture slot, the answer being in the forthcoming November issue.

HNLMS Tromp

In late-Spring 2016, the Dutch HNLMS Tromp F803 guided missile frigate visited Liverpool for 24 hours and I hope that the pictures here will prove to be useful for general reference and model making purposes.

This warship is a powerful unit of the Dutch Navy and her class consists of four: The lead ship De Zeven Provinciën F802, Tromp F803, De Ruyter F804 and Evertsen F805. HNLMS Tromp was conceived in the early 1990's as part of a joint Dutch, German and Spanish partnership to build a future European frigate. Eventually due to service differences, Spain withdrew and Germany developed its own design.

HNLMS Tromp is known as an Air Defence and Command Frigate and was laid down on the 3rd September 1999 at the Damen Schelde Naval Shipbuilding facility in Vlissingen, Holland and entered service on the 14th March 2003.

HNLMS Tromp is classed as a frigate, but has a displacement of 6050 tons in a hull measuring 144.24m long by 18.8m beam. She is CODOG powered, having two Spey gas turbines and two Wartsila-Deutz V12 Diesel generators driving two five blade CP propellers giving a maximum speed in excess of 30 knots.

What is now accepted as essential for modern major warship is a low radar profile and HNLMS Tromp has many such features which we shall see as we proceed around the vessel. Most notable are the sloping sides and angled sections which are clearly seen in this bow view picture of the warship moored at the Liverpool Liner Terminal, **Photo 1**. Equally important is the APAR 3D phased array target designation and tracking radar housed in the tower forward and the powerful Smart-L early warning radar aft, capable of maintaining up to 200 tracks whilst providing guidance illumination for over 30 targets. The combat system on HNLMS Tromp allows 16 air targets to be engaged at any given time whilst also concentrating her resources to engage two surface and two sub-surface targets simultaneously if required.

Ship's tour

Commencing forward, what comes into view is the 127mm 54 calibre OTO Melara dual purpose naval gun.. This is actually not a new gun, but a refurbished Canadian mounting from their Tribal



Photo 1. A bow-on view that shows the sloping and angled shape of many of the warship's structures designed to give it a low radar cross section.

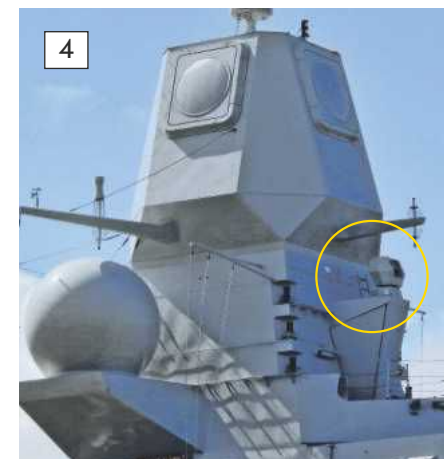


Photo 2. HNLMS Tromp is fitted with a single OTO Malarra 127mm 54 calibre, ex-Canadian, naval gun.



Photo 3. The space between the 127mm gun and the bridge is occupied in part by forty Mk. 41 VLS missile silos.

Photo 4. The foremast with its angled geometric shape for reduced radar cross section, 'RCS' for short.



Class, installed here on HNLMS Tromp and taking advantage of the latest extended range guided munitions, **Photo 2**. Not visible, but forward of the bridge is also the 40 cell Mk. 41 vertical launch system and each silo can support either one Standard missile or four Sea Sparrow missiles.

The bridge area, like the rest of the ship, has sloping surfaces and it's interesting to note how mundane but essential fittings such as navigation lights are incorporated into these types of structure. The port navigation light housing is recessed into the corner of the bridge and its side, which for ease of recognition is ringed in red, **Photo 3**. Mounted on the bridge roof is the navigation radar and Sirius IRST long range infrared surveillance tracking system.

The foremast

Immediately aft of the bridge area is what could be described as the foremast and mounted forward below the top of the tower is the Thales Nederland Mirador optical tracking and surveillance system which also provides fire control for the 127mm gun, seen here ringed in yellow, **Photo 4**. Moving to the top of this mast there are the four phased array panels of the APAR-3D target designation and tracking radar, ringed in red, **Photo 5**.

Amidships

Here are sited two sets of four launch tubes, each with a Harpoon surface to surface anti-ship missile and all screened to reduce their exposure to radar. The exhaust opening in the side of the screen can be seen here in the centre of the next picture and



Photo 5. Supported around the outside of the foremast are the fixed APAR panels for the 3D phased array target designation and tracking radar.



Photo 6. Clearly visible is the exhaust aperture for the four launching tubes for the Harpoon missiles.



Photo 7. Within the area of this picture is the RAS hoist and starboard crane for deploying the 7m RIB just visible behind the collapsible bulwark.

note the walkway adjacent to the opening, **Photo 6**. In the following picture we can clearly see the Replenishment At Sea (RAS) hoist adjacent to the Harpoon launch tube exhaust outlet and moving further aft on the starboard side is a handling crane and 7m RIB, partly concealed behind the bulwark, **Photo 7**.

Moving to the top of the funnel casings we have a



Photo 8. A dipole and the aerial spreaders.

Photo 9. The RIB crane and RAS hoist on the port side.

Photo 10. A view directly amidships.

Photo 11. Part of the satellite communication system.

Photo 12. The Smart-L early warning radar.



glimpse of an A-frame dipole and aerial spreaders leading to the two yards on the foremast. This is an older form of communications array that in some respects would have been a familiar feature on warships of WW1 and WW2, **Photo 8**.

A different view of the same location, but viewing the area from the starboard side looking forward, it's worth noting how the funnel casings are angled outwards whilst the superstructure is angled inwards, all part of the design for limiting the ship's radar cross section, **Photo 9**. Returning to the starboard side and the location of the RIB and once again more of the various structures that would be difficult to see are revealed, **Photo 10**. Slightly further aft on 02 deck are more communication domes, **Photo 11**.

Aft

Mounted on top of the hangar is the striking feature of the SMART-L early warning radar, a system similar to that fitted to the Royal Navy's Type 45 destroyers. This is a powerful tracking radar able to follow up to 1000 airborne tracks out to a range of 400km and 100 surface targets at the same time. HNLMS Tromp used this system in exercises with the US Navy to track ballistic missiles to a range of 150km, **Photo 12**.

On the same level is the 30mm Goalkeeper Close In Weapon System (CIWS) with **Photo 13** being a really clear and detailed image of this gun. Focusing on the same location, but now from port looking forward, **Photo 14** shows relating structures around the SMART-L radar and the Goalkeeper CIWS again.



Photo 13. The Goalkeeper CIWS was to have been mounted both forward of the foremast on top of the bridge as well as mounted here, aft on top of the hangar.

Photo 14. A view from the port side looking forwards towards the Goalkeeper CIWS and the Smart-L radar.

Photo 15. A view from directly aft showing the complex shape of this warship.

Photo 16. From beneath the flight deck is where the SLQ-25A Nixie towed acoustic torpedo decoy system can be deployed.

Photo 17. The NH-90 helicopter is a collaborative European venture and like the RN Lynx helicopter, it can carry anti-submarine and anti-ship weapons.



The last pictures focus on the hangar, flight deck and right aft. The flight deck is 27m x 18.8m with a DCNS Samahe helicopter landing system and according to the information available it can manage deck landings up to Sea State Six. Presently the helicopter of choice is the NH-90, a joint European venture on the part of Airbus Helicopters, Agusta Westland and Fokker Aerostructures. It is also the first production helicopter to have 'fly by wire' controls, **Photos 15, 16 and 17.**

Our final picture for this brief Photo Tour sees HNLMS Tromp, a potent modern NATO warship, leaving the River Mersey bound for the Netherlands, **Photo 18.**



Photo 18. HNLMS Tromp leaving the River Mersey in April 2016.

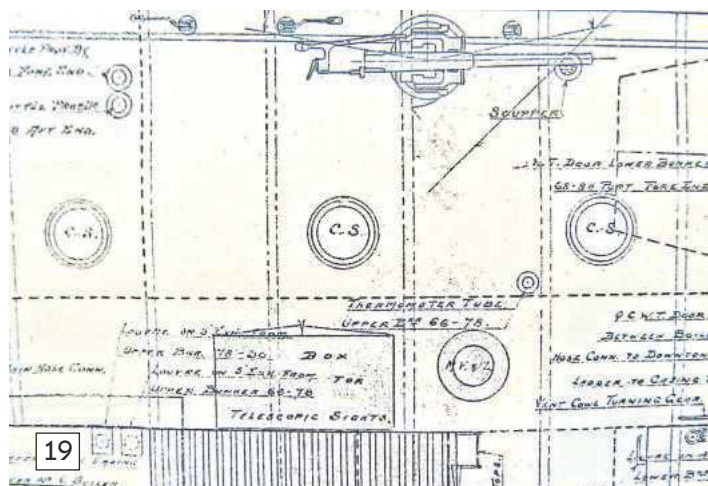


Photo 19. Coal scuttles as indicated on the plan for HMS Skirmisher.



Photo 20. The coal scuttle discs cut from Litho plate at 7mm diameter, cleaned and prepared for airbrush painting.



Photo 21. Each litho plate disc is placed on a length of masking tape and airbrushed using a paint shade called 'Aged Metal'.

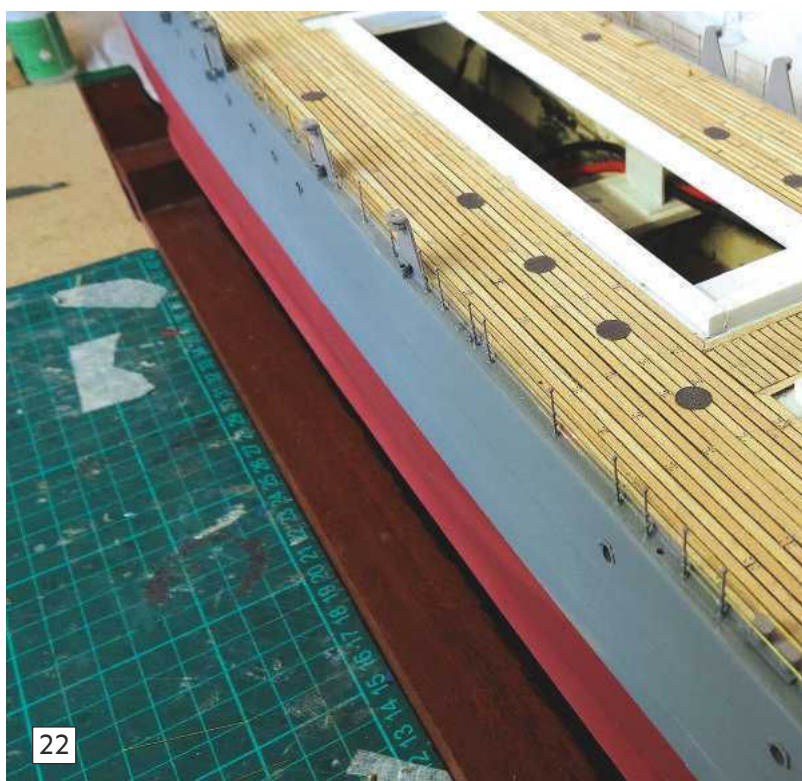


Photo 22. Referencing the drawing, the prepared coal scuttles are located to the main deck.

HMS Skirmisher

PART TWENTY FOUR

There are several items which need to be in place before rigging can commence as placing and fixing these parts later will be awkward.

Coal scuttles

HMS Skirmisher is of 1905, and her fuel was coal and inevitably scuttles, or steel circular hatches, were positioned around the main deck directly over their related bunker spaces immediately below. Transferring coal to the warship was a dirty job in which both officers and men were fully employed

when 'coaling', and cleaning the ship afterwards also required a huge effort by the crew. HMS Skirmisher had 20 coal scuttles marked on the plan view as 'C.S.', **Photo 19**. These scuttles can be easily created from Litho plate and each was marked out at 7mm diameter, but two were made in an oval shape. Once cut, each disc was cleaned free of any printing residue, **Photo 20**. (Litho plate can often be obtained for nothing as waste material from offset litho printers, but will then have unwanted printing on it).

Each scuttle was placed on a flat surface for airbrushing and given a coat of primer and once dry this was followed by a coat of 'Aged Metal' colour which looks slightly more authentic for these than a basic dark grey, **Photo 21**. Each coal scuttle was glued in place using cyanoacrylate (superglue) metal adhesive. On the full-size warship these scuttles sat flush in the wooden planked deck, but on the model the compromise is that they are the 0.5mm thickness of the Litho plate sitting above it, **Photo 22**. Cutting 7mm diameter holes accurately in the already laid planking was a challenge too far!

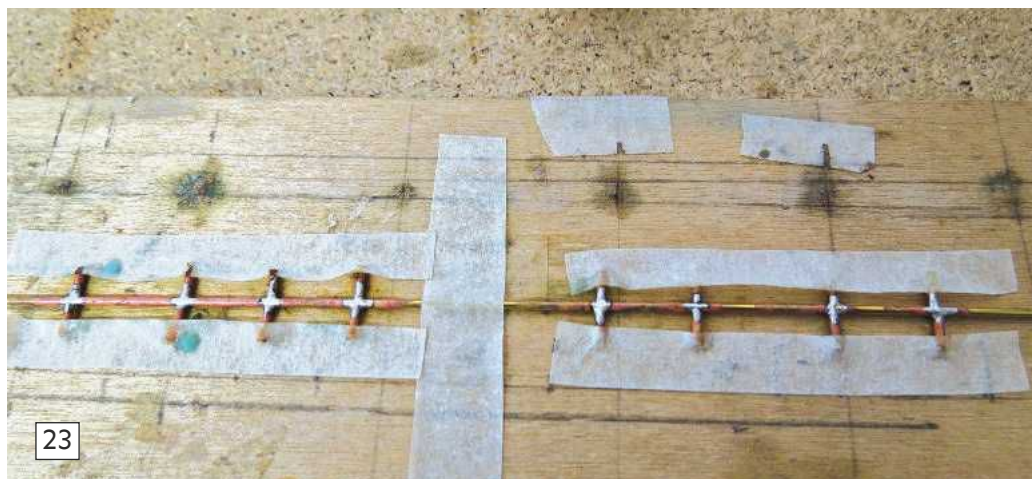
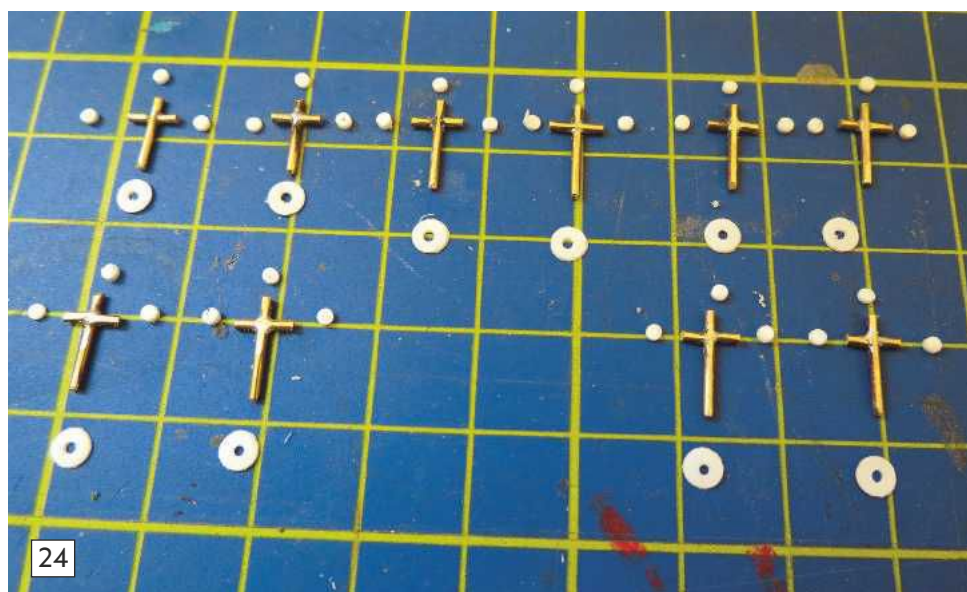


Photo 23. A simple method used for preparing and soldering a length of Staghorn bollards.

Photo 24. Each cruciform Staghorn bollard is cut from the prepared strip and styrene ends and base cut to size.



Staghorn bollards

These were used for securing the boat falls from the davits and provide a means of control when lowering a ship's boat, and are of a cruciform shape. All that is required is to select a length of brass rod, 1mm o.d., place this on a flat wooden surface and mark off the cross 'T's' ready to hold secure lengths of brass rod that will create the cruciform shape. The top and bottom lengths are butted into the horizontal brass rod and soldered into place as in **Photo 23**.

After cleaning the joints, each Staghorn bollard was cut from the continuous length with caps prepared for each end using pieces cut from 1.6mm Evergreen No. 222 styrene rod. The 3.5mm diameter bases were stamped out using a leather punch from 0.5mm styrene with a 1mm hole made in the centre of each resulting disc, **Photo 24**.

The basic cruciform shape was then trimmed to size and the ends squared off. The caps were fixed, but the circular bases left 'free' until the Staghorn bollards were fixed to the deck, **Photo 25**.

Airbrushing is the best way to paint fine items

Photo 25. The assembled Staghorn bollards.



Photo 26. Using a length of timber to secure each Staghorn bollard for airbrushing.



Photo 27. Referencing the drawing, Staghorn bollards are located close to the davits. It is always worth making a few spares, should an errant one disappear behind the workbench.

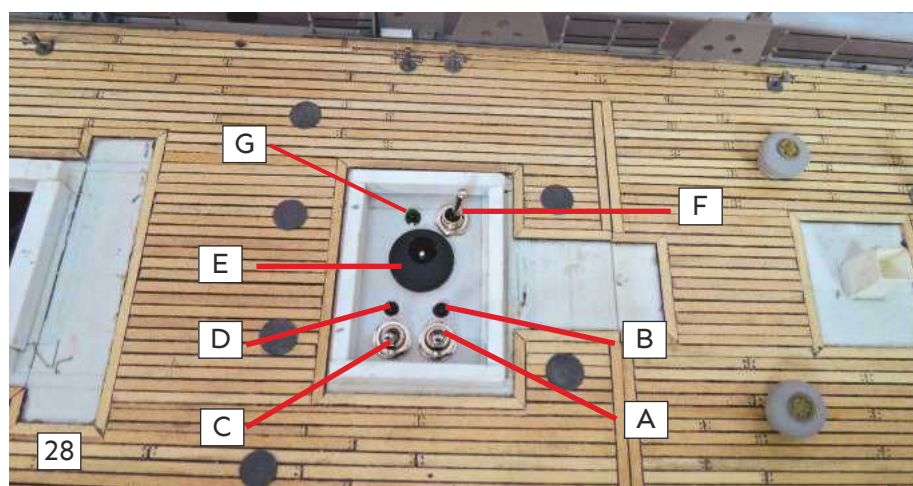


Photo 28. The power switches, charging socket and indicator lights.

Photo 29. Power is 'On' to the two esc's and receiver.

Photo 30. The switches and charging socket are concealed within the engine ventilation deck housing.



and halyards, all of which can become a problem if regular access into the hull's interior is required. The deck could be lifted clear, but this would require some standing rigging to be released. This is not a major problem, but it is better if the power for a model (any model) can be switched on and off without having to remove the deck and better still if the batteries can be safely charged in-situ.

For this to happen, some form of isolation switches need to be fitted and a charging point and their location on HMS Skirmisher is beneath the aft-engine ventilation housing and is shown in **Photo 28**. In this picture, the annotation is as follows:

- A. Switch for power to port esc and receiver,
- B. Red power On/Off indicator light.
- C. Switch for power to starboard esc.
- D. Red power On/Off indicator light.
- E. Charging socket.
- F. Charging On/Off switch.
- G. Green charging indicator light.

The lights are grain of wheat bulbs with an ACTION R/C Electronics P106 20v inline power switch beneath the deck.

The aft ventilation housing fits comfortably over these switches and indicators disguising the presence of them all and in **Photo 29** we have the system powered-up and ready to sail and **Photo 30** is of the deck housing back in place.

If charging batteries in an enclosed space it is





Photo 31. The charging plug in place with the charging switch in the 'On' position with a green indicator light.

References and acknowledgements

HNLMS Tromp ref: Combat Fleets 15th Edition, pages 492 & 493.

HMS Victorious ref: Aircraft Carriers of the World 1914 to the present by Roger Chesneau, pages 103 to 106. British Aircraft Carriers by WGB Blundell, pages 95 to 97. Directory of the World Capital ships by Paul H Silverstone, page 275.

My thanks to **The Component Shop** for their help and advice and to **Bill Clarke** for his Mystery Picture of HMS Victorious.

advisable to always have adequate ventilation. The three funnels of HMS Skirmisher are open from beneath the deck enabling air circulation in the hull. Charging is at a maximum of 500mah (usually lower), and this is timed as well, preventing heat building within the hull. Scale models do not normally need the batteries bursting at their maximum capacity for the sort of sailing we do and finally we have the charging process, **Photo 31**.

Of course, batteries can be removed from a hull (any hull) and charged separately and the arrangement outlined here is my option, but disengaging the amount of rigging on HMS Skirmisher for access would be a bit irksome, unless some was omitted.

Next month we will rig the boat falls and fit the Robinson Disengaging Gear.

Answer to the September 2016 Mystery Picture

The clue was: The only Royal Navy carrier to serve in two allied navies during WW2.

The answer was of course HMS Victorious, she having been loaned between March and August 1943 to the US Navy and operating with the USS Saratoga in the South Pacific until relieved by the new USS Essex.

At 26000 tons and 754ft overall, HMS Victorious formed part of the Illustrious class and was laid down on 4th May 1937 at Vickers Armstrong on the Tyne completing on 15th May 1941. Soon after entering service and not completely worked-up, HMS Victorious joined the Home Fleet to search for the Bismarck. It was on 26th May that a Swordfish from HMS Victorious on its second strike on KM Bismarck disabled its steering gear, sealing the fate of German battleship. On the 9th March 1942 whilst covering convoy PQ12, Swordfish torpedo bombers from HMS Victorious also engaged the German battleship Tirpitz.

Throughout the remainder of 1942, HMS Victorious was on convoy escort duty in the Mediterranean and after this prolonged period at sea a refit was necessary and this was carried out in the USA at the Norfolk Naval Shipyard in Virginia from December 1942 to February 1943. Following this refit, HMS Victorious embarked US Navy Martlet and Tarpon squadrons for service in the Pacific.

The aircraft carrier returned to home waters and the River Mersey in early 1944 for a further short refit, before sailing to join the Eastern Fleet for operations against the

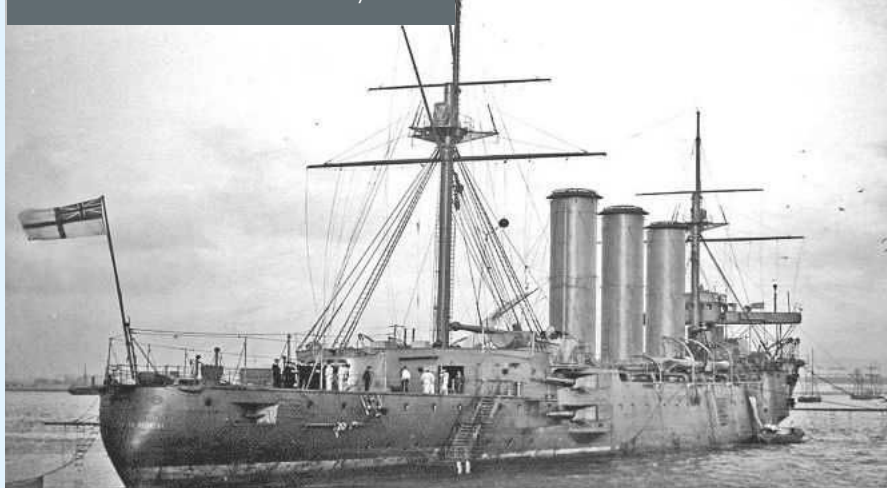
Japanese. Although sustaining damage from a kamikaze attack, HMS Victorious continued operations until sailing to Sydney in Australia for repairs before resuming active service in the Pacific. Between December 1945 and 1947, HMS Victorious was engaged in bringing back to the UK troops and POW's and served in a training role to March 1950.

HMS Victorious then underwent a major refit lasting eight years so as to operate the new generation of jet aircraft. This principally involved a new angled flight deck, steam

catapults, an enlarged hangar, new boilers and a complete new set of radar, eventually emerging as effectively a completely new ship. After spending some time in the Pacific and Indian Ocean as part of the British Eastern Fleet, she returned to the UK in 1963 for a refit. However, on 11th November 1967 whilst at Portsmouth, a fire occurred and although not disastrous, it precipitated and provided an excuse to withdraw the aircraft carrier from active service. HMS Victorious was broken up in July 1969 at Faslane in Scotland.

This month's mystery picture

Clue is: The 1st November - it's easy!



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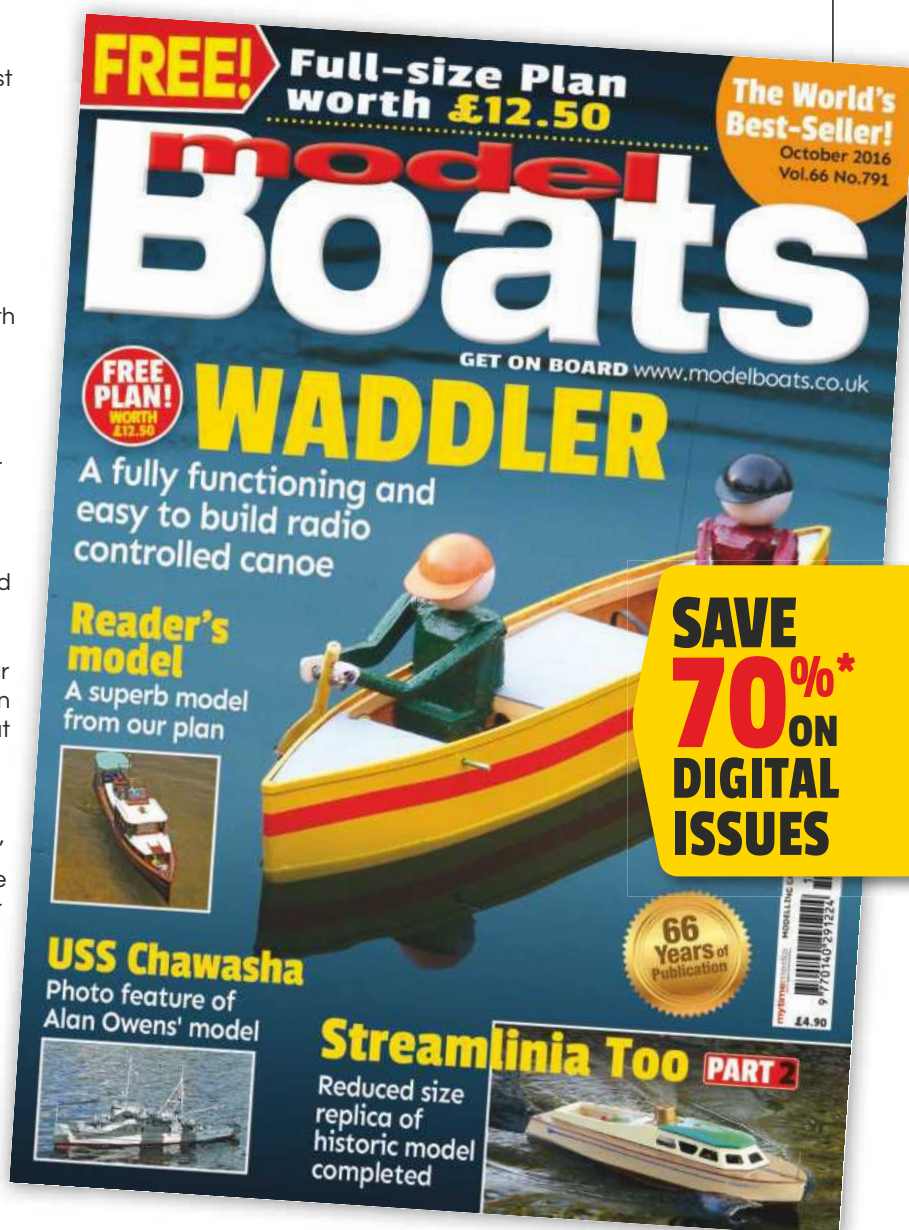
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● The magazine also has a regular Readers' Models section, because this is the part of the magazine where readers can showcase their models, and this is coupled with Around the Clubs, another popular section where clubs let the readership know what they are doing, when and where.



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RIGHT: Beautifully engineered pond yacht vane gear displayed by the Vintage Model Yacht Group.

BELOW: The rather small Clyde puffer Starlight seen on the Nottingham MBC stand.



CADMA Northern Model Boat Show - 2016



Gareth Jones reports

Modelling Association (CADMA) Northern Model Boat Show opened on a rather sombre note with a minute's silence held to remember Tom Gorman who died on 31st May 2016 at the age of 90. He was a longstanding member of the club and for many years was one of the judges for their competitions and this annual show. Tom was extremely knowledgeable, having written several books on model boating topics and he was always willing to give helpful advice and had a vast repertoire of stories from his past marine engineering and personal life. He will be sadly missed in the model boating world.

The event was organised for the fourth year by Bryan Smith and Brian Hill and held in the Doncaster Deaf Trust's Sports Hall. The lighting in the main hall seemed better this year and I managed to take all the photographs without the aid of a tripod to steady the camera. To cater for the increased demand for space, the Bring and Buy stand and one of the major trade stands were relocated in the bar area upstairs, adjacent to the restaurant. What's more, the bar was

open for the sale of alcohol, at least for part of the day on Saturday, but whether that made it more tempting for visitors to part with their money is unknown.

In past years, the organisers had suspected that there had been some abuse of the exhibitor's ticket system and new procedures were introduced to prevent this. All exhibitors were asked to wear personal tags with their exhibitor tickets on display and a number of changes had been made to improve the security of the Bring and Buy operation. These changes behind the scenes may not have been obvious to most of the visitors, but they indicate the thoroughness of the planning, organisation and work required to put on a professional show.

Models & traders

There were a wide variety of model boats on display, some large, some small, some exquisitely detailed and some clearly built just for fun. Several stands had models of other subjects, including trucks and trains to add to the interest for visitors. The winner of the award for best club stand was once again Kirklees MBC with a well laid-out display of

models, some still under construction. Centre stage was Stan Reffin's model of the US aircraft carrier Gambier Bay which also took the trophy for Best in Show. The judge for this year's competitions was Mark Hawkins who proved to be a very able successor to Tom Gorman and he subjected every entered model to a high degree of scrutiny. For the first time in several years there was an entrant in the Junior Section and the trophy was awarded to Kamran Ibrahim-Holland for his model named Minionute, adapted from the Glynn Guest Model Boats UTE plan.

There were a large number of traders attending and it was possible to purchase anything from a full kit to the smallest detailed accessory at the show.

Conclusion

A large under-cover inflatable pool was also available for model sailing adjacent to the main hall and this proved popular in the afternoon sunshine. Drinks, snacks and hot food were available from the restaurant at reasonable prices and all this helped to make the venue an excellent choice for one of our premier UK northern model boat shows.



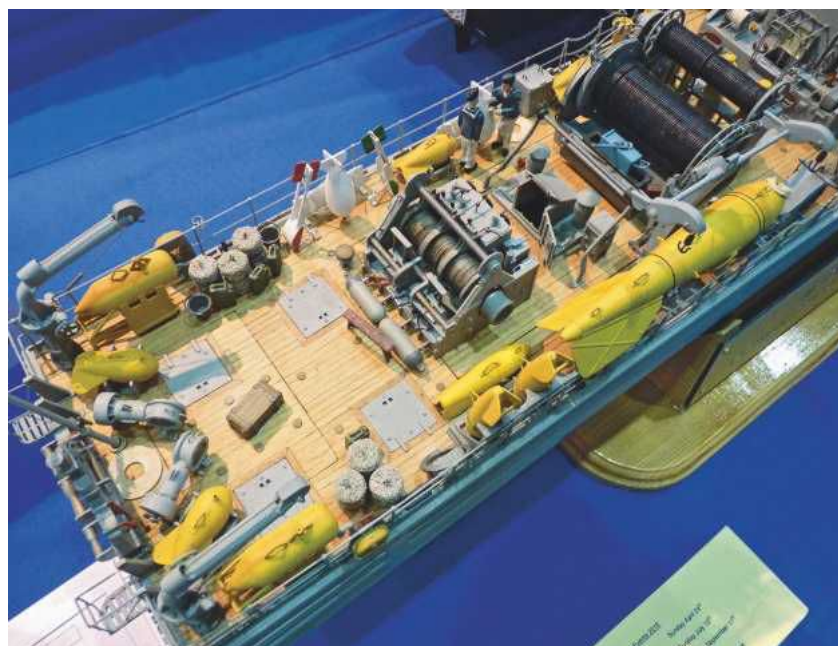
LEFT: The crane barge Rebecca M on the York MBC stand.

ABOVE: A Targa police launch built by Roy Whitton of Balne Moor MBC, from the Ron Rees MyHobbyStore plan.

BELOW: Minionute by Kamran Ibrahim-Holland of Goole MBC.



ABOVE: Sub-Sea Rover on the Roker Park MBC stand.

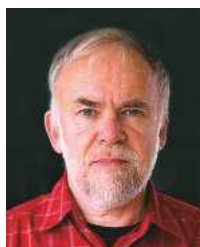


LEFT: The fantastically detailed Schutze minesweeper of Stan Reffin from the Kirklees MBC. This model started out as a basic off the shelf kit.

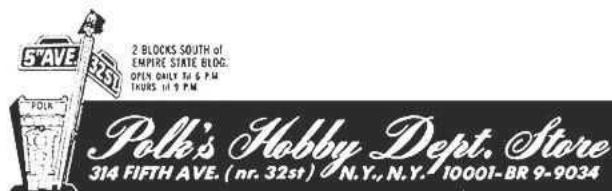
BELOW: Happy Hunter on the CADMA stand. This must be one of the most enduring kits of all time, it having been around since the 1980's.



Flotsam & Jetsam



John Parker delves into the archives
43: Polk's and Aristo-craft



ABOVE: The Polk's banner.

From 1950 to 1980, Polk's Hobby Department Store, situated 'Just 112 steps South of the Empire State Building, between 32nd and 31st Streets' at 314 Fifth Avenue, New York, USA, was a mecca for all kinds of hobbyists. Here, and probably for the first time, a hobby shop had broken out of its usual basement location to occupy all five floors of the building: Ground Floor, toys, games and lead soldiers; First Floor, plastic models and kits; Second Floor, model ships, aeroplanes and spacecraft; Third Floor, model railways; Fourth Floor, slot cars and accessories; Fifth Floor, mail order and administration.

It even appeared in the Christmas shopping scene from the 1972 film, *The Godfather*. The Polk brothers, Nathan and Irwin, founded Polk Model Craft Hobbies in New Jersey in 1933. It was the height of the aviation craze due to the exploits of Lindbergh and others, and the company did a fine trade in solid scale wooden models. A series of separate catalogues was produced for railways, ships and aircraft, showing the vast range of model kits and accessories for which the company had become distributors. My copy of the Polk's Shipyard Catalogue 1942 Edition (price 25 cents) for example, runs to some 128 pages, and lists kits for period

BELOW: 1942 edition of Polk's (model) Shipyard catalogue.



models, liners, tugs, yachts, PT boats, hydroplanes and even submarines, as well as a good range of model boat fittings, tools and engines. A retail outlet was established in 7th Avenue, New York, later moving to the aforementioned 5th Avenue address around 1941, whilst the New Jersey address was retained for manufacturing, importation and distributing. The company was by now also making plastic recognition models for the military forces and the brand name Aristo-craft was first associated with these.

Imported product lines

When World War Two was over, the hobby market was on the cusp of major expansion after many years in the doldrums and Polk's were well placed to play a major role, both as distributors to the trade, and through their retail store which began to be expanded at this time. The rebuilding of Japan's and Germany's industries saw re-establishment of old supply lines and appearance of new companies and products, which Polk's were keen to showcase and supply, but at trade shows as an incentive to local manufacturers, a fee of three hundred dollars was placed on each imported brand. This was prohibitive to a company importing the products of 50 or more companies, each requiring the payment of the fee, so to avoid this the products were re-badged and re-packaged off-shore as Polk's own hobby line, creating a single brand that made extensive use of the Aristo-craft name.

A look at a typical Polk's advertisement, the one shown is from the December 1957 American Modeler magazine, shows some of the results of the Polk brothers worldwide search for hobby products. The lead item, headed 'Exciting New Hobby Idea - Electric Race-car Speedway' will be familiar to English readers as Scalextric slot cars, but badged as Aristo-Scalextric. Polk's had their own track set up on the fourth floor of their shop and regular race



RIGHT: Typical Polk's advertisement from 1957.

LEFT: In the Christmas shopping scene from *The Godfather* movie.

BELOW: Aristo-craft outboard No. 19.



meetings were held every Thursday night. The range of outboard motors in the left-hand column were sourced from Japan, and probably came from the same factory as the K & O Outboards (Flotsam and Jetsam No. 26, MB May 2015 issue), but were not licensed to carry the name of a full-size outboard motor manufacturer. I have a good example of the largest outboard, No.19, complete in its Aristocraft Modelled Miniatures box, and it looks quite impressive.

The 'E-Z Assembly Aristo Edu Kits' were another line from Japan, which made up into tiny working electro-mechanical models; the example I have is the Electric Motor Kit and this time the logo on the box (which underwent several changes) reads Aristo-craft Distinctive Miniatures. The Mighty Midget electric motor (centre column of advertisement), with its geared output shaft again needs no introduction to English readers, being a popular experimenter's motor in the 1950's and 1960's. When it came to motors, Polk's could offer a wide range from Japan and Germany and in fact were instrumental in helping the Mabuchi company break into the America

RIGHT: Aristo-kits electric motor.



BELOW: Aristo-craft badged Japanese motors.



BELOW: Mighty Midget motor.



market in the early days.

The Aristo-badged motors are largely familiar as the once ubiquitous Kako or Mabuchi ranges of wide distribution, with the occasional difference.

The Aristo-craft No. 4, for example in the right-hand corner of the advertisement, clearly corresponds with the Kako No. 4, as the example from my collection shows. Alongside it though, is the Aristo-craft No. 4.5 De Luxe motor also featured in Polk's advertisement, which as far as I know had no equivalent in the UK Kako range. It is encased in deep red plastic, and like the Kako 5 has replaceable carbon brushes. The Cer-Mag 35 (ceramic magnet) is the equivalent of a Mabuchi 35 and the later large Mabuchi Cer-Mag, pictured as supplied with wrap-around mounting, is the familiar RS 540.

Finally, some German motors feature in the Polk's advertisement under the Aristo-rev

banner. The pictured example is better known as a Distler, a remarkable little motor that may feature in a future article. My mint boxed example is badged Aristo-rev, 'World's Most Efficient Motor'. The other example shown in the photo is an early German Marx Uniperm re-badged as an Aristo-craft No. 12 complete with Aristo-switch. Polk's went on to carry the full range of Marx motors (Flotsam and Jetsam No. 28, MB July 2015 issue) and even issued their catalogue under the Polk's Hobbies banner 'One of the strongest and most reliable products ever brought into this country', according to Nat Polk's foreword.

Throughout this period, Polk's continued to produce, often on an annual basis, themed catalogues on the most popular model subjects of model railways, model ships and fittings, r/c model aircraft and collector's model soldiers, as well as more general catalogues often with a 'Hobbies are Family Fun' theme. At its peak in the 1960's, the Aristo-craft branded products included, in addition to those already mentioned, model boat propellers, hardware and fittings, Aristo-lube lubricant, slot-car accessories, model aircraft accessories, accumulators and battery boxes, Aristo-trol radio control gear and Aristo-matic actuators.

Contraction

The traditional hobby market began to contract in the 1970's, and Polk's Hobby Department Store, by now run by Nat's son Lewis, closed its doors in 1980, no longer able to compete with the lower cost base of mail order houses. Importation continued and there was a link with Hitec for the supply of radio control equipment. Lewis took the company into the manufacture of model trains, concentrating on G Gauge, and these were successful for quite a while, causing the Aristo-craft brand name to be solely associated with model trains. Debts began to mount after the 2008 recession and the Polk family announced it would be quitting the business for good by the end of 2013. A spin-off model train company, Polk's GeneratioNext, has since resurfaced to perpetuate one of the oldest names in the business, website: www.polksgenerationnext.com

BELOW: Aristo-craft badged German motors.





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12V

Mersey River Festival 2016

Dave Wooley reports



This Festival held again from 5th to the 7th June of this year, is an event that attracts huge numbers to the Liverpool waterfront to enjoy the ambience and attractions on offer there. There is a wide range of activities that take place in and around the Albert Dock, the Waterfront and Cruise Terminal. Events include full-size power boat racing, aerobatic jet skis, fly boarding, RN and Royal Marine displays, model boats and numerous other activities with a maritime theme. Model boat clubs from around the Liverpool area had come together and were using the Liverpool quayside Cruise Terminal which is a single storey, modular building adjacent to Liverpool's iconic Liver Building. This area has views across the River Mersey, but sadly for 2016, there was no large warship or cruise liner gracing the terminal's quay.

Daniel Adamson steam tug

This restored Manchester Ship Canal steam tug, sometimes known as Danny, was open to the public and giving a wonderful opportunity to see first-hand this vessel and in particular its painstakingly restored art deco interior. It is intended that eventually the tug will be regularly operating and able to carry passengers, the Daniel Adamson Trust still working very hard on this project.

Model boat clubs and the models

The cruise terminal area is steeped in maritime history as many of the great ocean and Atlantic liners departed from here, with historic names such as Britannic, Berengaria, Mauritania, Lusitania and Saxonia to name but a few. Recently Liverpool has become part of the growing cruise holiday trade attracting some of the largest ships afloat and some voyages are now starting from here, rather than being a short daytime visit and hence this recent additional modular terminal facility. There is also another equally important regular sea trade with historic

ABOVE: An iconic view of the Merseyside Maritime Museum, Albert Dock and visiting tall ships with the Phoenix of Portsmouth in canvas.



BELOW: Wow! On the OWLS stand was this amazing working model of the River Mersey sand dredger Centaur.

links and that is the IOM ferry service which has its own terminal alongside that for the large modern cruise ships. Southport MBC has amongst its members some who are very keen on this historic sea trade and were displaying models of famous ferries such as the Mona's Isle, Mona's Queen and The Lady of Man.

Before and immediately after WW2, day-trip excursions out into the Irish Sea day were hugely popular and the 1:48 scale model of the Saint Tudno built by the late-Harry Wright, but displayed by Dave Morris, was a great reminder of those glorious days. There was actually an even older ferry service established by the Priory monks in the 12th Century at Monks Ferry close to the present Birkenhead Ferry Terminal and hence the names of the area and the pub nearby.

Over the years Max Ferry of the OWLS MBC (Ormskirk and West Lancashire MBC) has scratch built a large collection of working River Mersey Ferry models from the early days of steam through to the present, including a superb model of the current Snowdrop, before its recent dazzle-painting. Dave Pemberton of

the same club has built an extraordinary fully working model of the sand dredger Centaur as well as the buoy handling vessel Vigilant, so the theme of Liverpool vessels is very popular.

Liverpool MBC had a huge and very popular display including the hard-working Bill Richardson, who was demonstrating traditional model boat building with wood, just as he does at the Model Boat Convention in August of each year.

Conclusion

The Royal Navy brought three types of helicopter and teams including bomb disposal, diving and a Royal Marine detachment with fast RIB's, but alas no major warship which is perhaps a sign of the times. The weather is a major factor in any outdoor event and was very much on the side of the organisers for 2016. The official data is that over 200000 people visited the event during its three days and from our point of view, the input and effort from the supporting clubs can only have helped enhance the standing of our hobby.



ABOVE: The American river pusher tug Sharin seen on the Liverpool MBC stand.



BELOW: Dave Morris has a keen interest in the former Irish Sea cruise and passenger ships. In the foreground is the IOM steamer Lady of Man and in the background is St. Tudno, both to 148 scale.

RIGHT: The Vikings established themselves on the Wirral in the 9th Century and Bill Richardson of the Liverpool MBC has built a model of one of their long ships.



BELOW: Restoring the Art Deco interior below decks was a major task on Daniel Adamson, but what has been accomplished is astonishing and a credit to the craftsmen involved.



ABOVE: A super model of the IOM steam packet Mona's Isle, presented here by Kath Ward.

LEFT: Mona's Queen, a classic IOM ferry.

BELOW: The present Snowdrop before being dazzle painted for 2015.

BELOW: The buoy tender Vigilant. Although the original vessel is now long gone, her main derrick is still a central feature on the approach road to the Cruise Liner Terminal.



BOTTOM: The Birkenhead ferry Mersey as of the late-Victorian era.



model Boats GALLERY

Alan Owens' model



USS Chawasha ATF-151

A total of 69 Navajo class ATF's (Auxiliary Tug, Fleet) were built for the U.S. Navy from 1939 to 1946, the largest class of naval seagoing tugs ever commissioned. A tremendously successful design, these ships served in every theatre of the war and in virtually every major engagement. They were often in the thick of battle, and many of these tugs accumulated a combat record rivaling the most seasoned vessels in the fleet.

These were the first surface vessels in the U.S. Navy to utilize diesel-electric propulsion, and their long list of equipment included a powerful automatic towing machine, a 10 ton derrick crane and a full complement of pumps for salvage and firefighting. They were well-armed too, with a 3 inch 50 cal. mount located forward, two 20mm Oerlikons on the bridge wings and two 40mm Bofors aft. They even had anti-submarine capabilities, with depth charge tracks and the latest in sonar technology.

Three of this class were war losses and a

fourth was lost in the Korean conflict, but as a whole these tugs have endured. Although the USN retired all of them by 1980, two were actually overhauled and recommissioned in 1988 to serve for several more years. Many others were sold to foreign navies over the decades and amazingly 15 are still in active naval service at the time of this writing, all of which are now more than 70 years old.

History

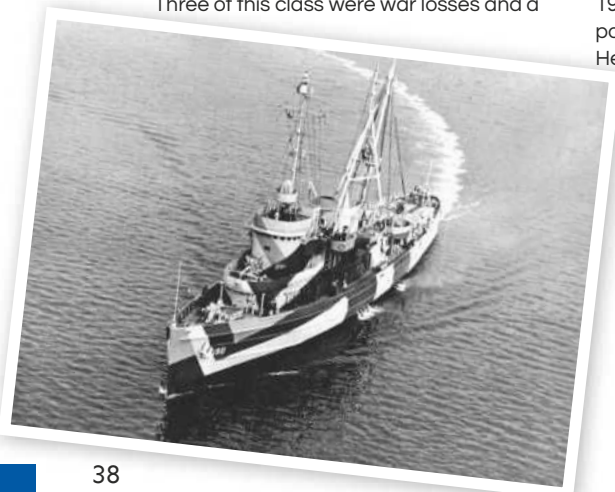
The USS Chawasha was commissioned in February 1945 and represented the final design evolution of the class. Fresh out of the shipyard, she executed one of the longest single tows in naval history, hauling two large dump scows more than 12000 nautical miles from Philadelphia all the way to the Philippines. She then supported the 3rd Fleet in its final push toward the Japanese homeland and spent most of 1946 clearing wrecked shipping from the ports of Yokosuka, Yokohama, and Kobe. Her career was comparatively short, being

decommissioned soon thereafter and held in reserve until 1978, when in a strange twist of fate she herself was towed to the Philippines and used as a gunnery target.

The model

Built using a Scale Shipyard hull, this model tops out at 51 inches at 1:48 scale. Power comes from a Graupner 720 motor driving a 76mm Radestock propeller (Now G. Sitek in the UK). A Model Sounds Inc. sound system is installed to provide extra realism, and many of the interior spaces are detailed. USS Chawasha was one of four tugs of this class painted in the rarely seen Measure 32/Ax camouflage scheme, and though it was a time-consuming endeavor to replicate, really helps this model stand out in a crowd. It's effective too as I have found it easy to lose track of speed and heading once it gets a fair distance away. Build time was roughly two years and she first took to the water in 2009.

Alan Owens - 2016



LEFT: USS Avoyel (ATF150) of the same class in the MS 32/Ax camouflage scheme, 1945.





**NEW
PLAN!**



Ron Rees with something slightly different, but still familiar

Last month had the basic hull complete and this month we will complete the model and note the driveline modifications as a result of initial experience on the water.

Deck

With its long sleek shape and the amount of equipment within the hull, it is a good idea to keep the upperworks as light as possible. Creating curved planks is quite easy, assuming you have access to band and table saws, the latter with a fine blade. The idea is to create a complete block of the planks, rather than lay each individually, which is easy when they are straight, but very hard if they have to be bent laterally, i.e. across the thickness. The solution is to first create a clamping device that has built into it the curve you want, which for our purpose is the deck's outer top edge of the hull.

Using the deck plan as a template, a piece of 4 x 2 inch (100 x 50mm) Pine was cut through to the shape of the deck edge on a bandsaw. The two resulting halves make a nice curved clamping block that can be used to hold several laminations of, in this case, 3/16 inch balsawood sheet and some chocolate brown coloured artist's card all cut to 1.25 inches (32mm) wide, six of each altogether which was slightly more than each half of the deck merited. After taping some carrier bag plastic over the wooden clamp, the card and balsa strips were coated on one side with Aliphatic resin glue and alternately put into the clamp, making a 12 layer sandwich as in **Photo 23**. In other words we are making half the deck in a single planked and

caulked lump, but 1.25 inches thick. The whole thing was clamped and left overnight to dry.

Once dry, this laminated curved sandwich was removed from the clamp and a thin slice taken off each side on the circular saw to clean-off the dried glue and square the block. When using balsawood in this way, cutting down the laminated block with the circular saw can tear the wood fibres, so a fine cut blade on the bandsaw (or table saw) with a high fence as close to the blade as possible is being used before slowly slicing the block into thin pieces. The whole block was cut in this way giving several deck pieces, choosing the best two for the deck, the small pieces at the bow and stern coming from slices from the remaining lengths, **Photo 24**. This is a very easy way to make curved decking and you are assured that both sides will be identical.

A contrasting piece of thin hardwood (Rosewood) was fitted down the deck centreline, and the deck pieces cut to butt against it. Deluxe Materials Aliphatic Resin glue was used to apply the deck pieces, it adheres well to the foam, starting with the long side pieces and filling in towards the centre using pieces cut from the leftovers. After trimming and sanding flat, several coats of finishing resin were applied with a light sanding between coats until the grain was filled. A thin mahogany edging strip was also added around the deck edge and the hull was fitted with 1/16 inch (1.5mm) plywood coaming strip that sits 1/4 inch (6mm) proud of the deck which you can see in the pictures of the completed model.

The engine

This is a scale model in its own right and I can truly say that onlookers are fascinated by it. It was a bit time consuming and at times fiddly, but was a most enjoyable exercise and when turning it over in the

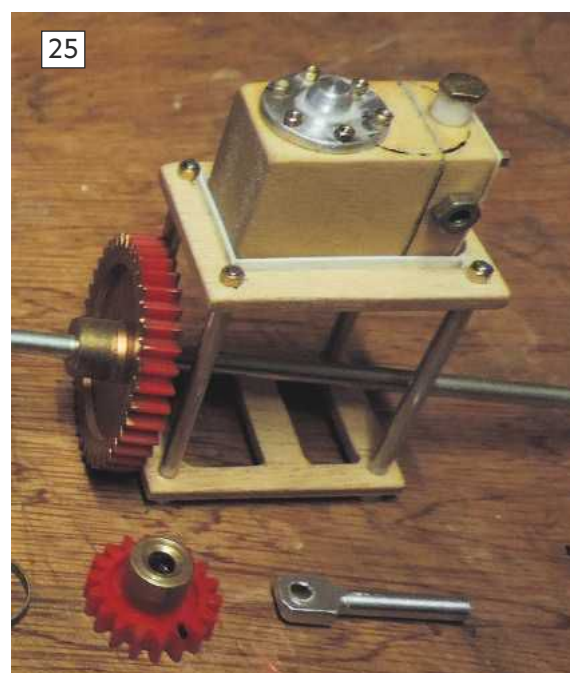
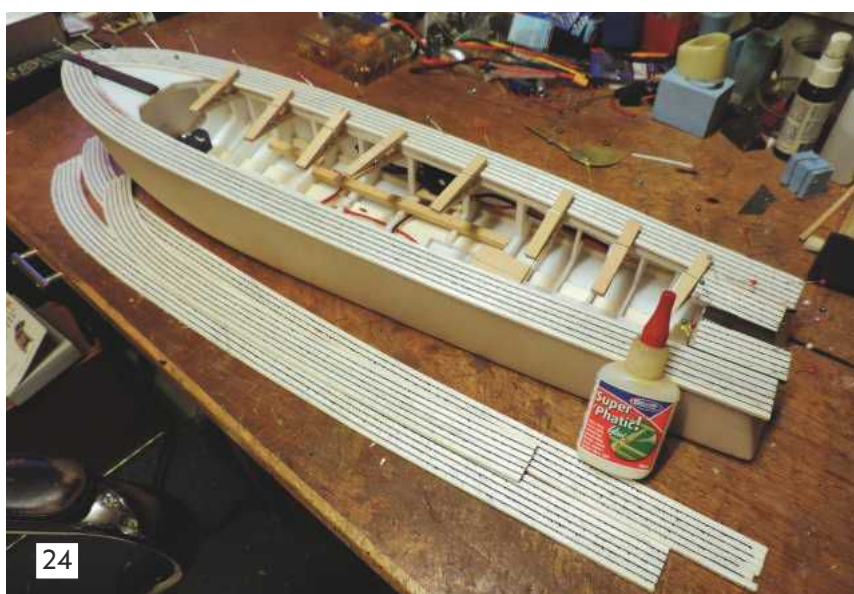


model it's very hard to tell that it's a 100% dummy. Most of it came from bits and pieces in the scrap box and while it is very nice to have a small lathe, that is by no means vital. Essential tools are a small pillar drill, a small bench vice, a hacksaw, a good selection of small files, nice sharp drills, ruler, centre punch and soft soldering equipment.

Having prepared a scale sketch, the complete cylinder head assembly as well as the top and bottom frame plates were made in wood, **Photo 25**. The cylinder was dressed with its various inlet and outlet fittings using plain nuts stuck to it; the bolted cylinder head cover was turned and eight 10BA nuts glued on, but it could equally be made from a suitable washer and dowel rod. The top and bottom plates were made initially using 3mm plywood. Cut-outs for the crankshaft and eccentric were made and mounting holes part drilled before silicone moulds made of them as these parts were to be replaced with resin castings.

Unlike a real steam engine, the tolerances for this dummy version need to be looser or it will take too much effort to spin it over causing extra drag on the driveline from the motor to propeller.

The crankshaft needs to be supported in bearing blocks, and these should be of metal. As you can see in **Photo 26**, the pins from a UK 13 Amp plug are the right shape and size, plus they seem to be of a quite hard brass and are ideal. 2mm retaining





27



28

bolt holes were marked and drilled and a 4mm hole for the crankshaft drilled the other way though the plug pin. The centreline was followed with a fine junior hacksaw to cut the blocks in half which were then bolted together and the 4mm hole re-drilled to a perfect size. Brass has a nasty tendency to grab on sharp drill bits and spin the part violently away, so always hold the piece in a vice that is itself properly mounted.

On real steam engines like this, the inlet and exhaust ports are opened and closed by a rod that is operated by an eccentric sleeve driven by the crankshaft. This does not have to move much, so in **Photo 27** you can see the rod and sleeve made by cutting a thin slice from some K&S brass tubing and soldering a 2mm brass nut and 2mm studding (from a bicycle spoke) to one edge of it. Also in this picture you can see the cam that operates it turned from aluminium with its flange to stop the eccentric sleeve falling off and the off-centre 4mm hole. This would all be fitted using Loctite to the crankshaft when the engine was finally assembled. There are alternative ways of achieving the end result, but this was convenient for me.

In **Photo 28** you can see the crankshaft, its pin and the connecting rod. The crankshaft is probably the most important part of the engine and really must be straight. This dummy engine doesn't warrant turning the whole thing from solid metal, but with care and simple jigs a nice, straight crankshaft can easily be made. Clearly my parts for this were made on the lathe, but two One Pence pieces are exactly the right size. Year's ago, you could be hung, drawn and quartered for defacing the 'Kings coinage', or if female, burned at the stake and nominally it was still a crime up until 1981 with a fine of £400. However, I am reasonably certain that nowadays the full wrath of the state will not descend on you if you use a couple of One Pence coins on your crankshaft.



29

“Why not use a miniature ‘real’ steam engine? The answer is that the main problem would be weight, plus this copy was largely built from scrap material,”

Back to the engine, the two crankshaft discs were drilled 4mm through the centre and a small countersink angle drilled each side to hold extra solder. Holding both discs firmly together with the 4mm brass main shaft through the hole, the hole for the offset crankpin was drilled. With the pin held in place with clamps and the spacing jugged up accurately, the main shaft was soldered in place.

To save having to make the big-end of the connecting rod come apart, the rod was drilled 4mm and 2mm respectively and then hand filed to shape. Being of aluminium, it won't soft solder, so the connecting rod was slid over the pin and the latter then soldered into the crankshaft. Once complete, the main shaft was cut away between the two discs with a junior hacksaw and filed flat. Rolling it on two raised and parallel pieces of flat metal (or a piece of glass) will reveal if it's straight or not.

Thin brass tubing was used for the valve and piston guides and holes were drilled into the cast resin cylinder head block into which these can be glued. The piston guide comes down almost to the crankshaft web and a cutout was filed fore and aft with a square hand file so you can see the piston guide sliding up and down. A very rudimentary piston, guide and piston rod were made, which slides up and down simulating the working action.

The four standards are small diameter aluminium tubes with 2mm pieces of threaded rod from bike spokes force-threaded into them at each end, these sliding inside larger tubes and all superglued together. The flywheel is a Meccano part with an O-ring glued to it to act as a rubber tyre engaging with the actual model propshaft beneath this dummy engine.

The parts were all painted to look like brass or painted cast iron, and the engine assembled with oil on its moving parts. The displacement lubricator is a resin casting copied from a real one. An engine will need adjusting until it spins freely, but spin freely it does and the test is to connect it (flexibly) to a low rpm electric drill to run it in.

The various nuts have to be 'Loctited' to stop them coming undone on their own as nothing can be too tight risking damage to the resin castings. **Photo 29** is the completed dummy engine awaiting its string lagged pipework. Finally on this subject, 'Why not use a miniature 'real' steam engine?' The answer is that the main problem would be weight, plus this copy was largely built from scrap material, albeit moulds and resin castings were made of some of the parts, principally so another could easily be made for another model boat in due course.

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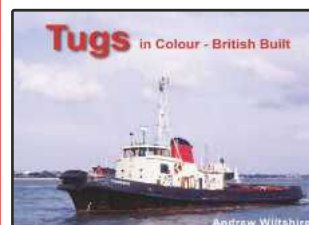
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Propshaft

I've included this as a subject on its own, as it is important for readers to understand that we all make mistakes, or struggle to get something to work, and that is what happened here.

This part of the project was to prove the trickiest as even the thinnest off-the-shelf 4mm propshaft outer tube of 6mm was too thick and left no room to make and install a rubber pulley which would drive the dummy engine. The shaft angle was as low as it would go without forcing the voltage regulator (hidden in the dummy burner of the boiler unit), to be raised ridiculously high in the hull and as it was, the propshaft would leave a gaping hole under the keel where water could enter the hull, so what was needed was a very thin shaft and outer tube.

In the end I decided to try something new and found some 4mm o.d. carbon tubing which had an inside diameter of 3mm. A length of straight 2mm stainless steel wire along with some carbon graphite bearing material was kindly supplied by Ian Folkson (Ian's Boats) and David Shaw of the Fishers Green Sailing Club demonstrated ways to make an ultra-thin propshaft as fitted to his fast electric models,

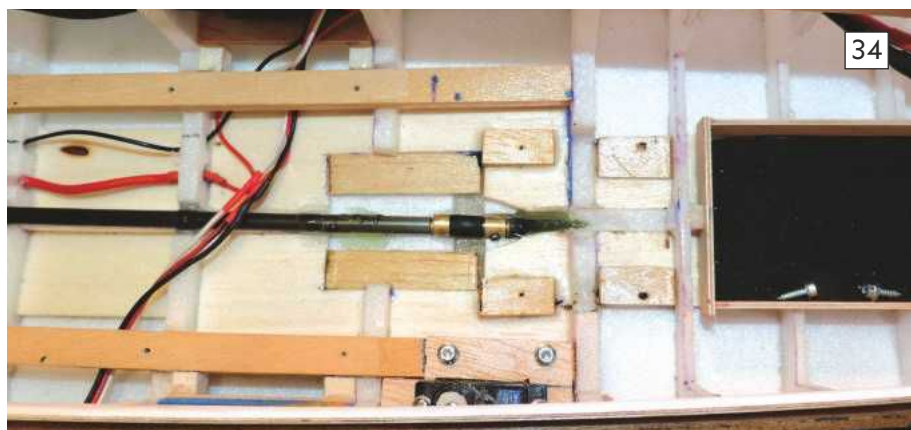
which include a floating silicone tube bearing at its inboard end, **Photo 30**. A homemade 4 to 2mm shaft to motor coupling was made on the lathe.

The silicone tube was fitted with a small bearing, a bronze piece of 3mm tube which had a 2mm i.d. and the stern bearing is the Carbon/Graphite rod. A brass 4mm threaded Hex bolt cut down and drilled through 2mm made an adapter for a standard 4mm threaded propeller, all securely held together with Loctite, which in practice has worked well.

The little 6mm diameter by 20mm long dummy engine driver, somewhat similar to a flexible coupling, is drilled 2mm and held to the propshaft with grub screws, **Photo 31**.

The rear end of this protrudes 1mm below the hull bottom, **Photo 32**. This had to be covered, so a plastic tube fairing was shaped to fit over it all sealing the gap, but not touching the driver itself. This was carefully glued in place around its exterior edges with epoxy adhesive and then covered with nylon (stocking) and finishing resin, **Photo 33**.

Looking back inside the hull now, and **Photo 34** is a vertical view showing the internal layout with the four angle mounting blocks for the engine, and the front retaining screws will have springs under them so the engine can be screwed down as necessary for the dummy flywheel with its rubber O-ring to engage the drive system on the propshaft. The black section is the aft mounted battery box with thin foam padding. So what now?



First on the water trials

No cabin as yet, but the hull and all its running gear was ready, so an on-the-water test at Fisher Green Sailing Club's Model Boat Section facility seemed like a good idea. No water entered the hull and it floated high and on the chine line, which allowed a bit extra for the cabin, fittings and painting still to be completed. The motor was run and a close-to-pondside test performed. There was some slight



knocking from the propshaft, which was assumed to be the 2mm shaft whipping inside the carbon tube, but that could be solved by inserting more bearings. The scale teardrop shaped rudder was ineffective and so would need enlarging, but the vaporiser smoke unit and dummy engine were tested and all seemed to work okay, but the 'smoke' doesn't show up well in the pictures, **Photo 35**.

It was also clear that the overall propshaft concept as installed was not that good either as it soon ran 'tight' and unusually the brushless motor was struggling, and so back to the drawing board and the workshop with the unhappy prospect of ripping-out the whole propshaft and redoing it another way.

Back in the workshop everything had to come out to get to the propshaft. The carbon fibre tube simply fell apart with the help of some pliers and it was easier than I thought to remove it, and in fact the epoxy adhesive used hadn't really stuck to it at all. The straight 2mm propshaft, coupling and the rubber motor driver went in the 'for another model' scrap box and Plan B came into play, installing the long 6mm o.d. J Perkins propshaft as originally intended, but thinking of a different way to drive the dummy engine.

Problem solved!

Easier than one would imagine, because after a few mock-ups on the workbench, a very small Mabuchi 180 sized motor running off 1.5 volts was found to work perfectly. A small plastic pulley was fitted to the motor and the rubber O-ring 'tyre' removed from the engine's flywheel. A small rubber band connected them and this ran for over an hour, totally reliably and non-stop! The motor was painted green to match and a silver label added to the side for realism. A semicircular cutout was made in one of the foam frames to house it and it looks just like an old dynamo in-situ, **Photo 36**.

One segment was 'surgically' removed from a four cell battery holder, along with its terminals and a small on/off switch stuck on the side, and this was slotted in next to the main battery box and it is covered by the drop in stern well. This system looks





the part and is not draining any power from the main drive battery. In use, the engine chugs away at the right speed and even makes scale like sounds and in the end, it is a model of steam engine that operates on the flick of an electrical switch.

Cabin

This is very basic and typical of the style of the 1930's. To keep weight to a minimum some 3mm Liteply (from Holland) was to hand, this being a sandwich of 2mm thick balsawood with two outer skins of 0.5mm hardwood veneer.

The cabin sides were cut and fitted round the coaming, held in place with tape while the other key parts were assembled to them with thick superglue. Once the basic cross members and roof supports were in place, **Photo 37**, it was removed and doublers later fitted inside the rear section. As it has to fit over the coaming at the back to support the rear well box assembly, a double layer of plywood has been used rear of the main cabin giving a lip which can be seen in **Photo 38**.

The roof is of 12mm (0.5 inch) rigid foam, sanded to the curved shape of the original and covered in nylon stocking and resin. Over where the dummy safety blow-off valve and pressure gauge are installed on the engine, two large diameter K & S brass rings cut from tubing have been used to line the drilled holes. These were pushed slowly into place using a vice, making a neat installation exactly as per the original and **Photo 39** shows the now nearly complete Streamlinia Too just awaiting paint.

It would seem that glazing was not installed on the steam powered models and it is reasonable to assume that models of the 1930's were not always fitted with windscreens as there was not a ready supply of clear material available, except perhaps real glass. There was also the need for good cooling in the hull and airflow for the working boiler to be considered. In the final analysis, Streamlinia (and Streamlinia Too) were, and are, dry-running models on the water, so glazed windows have not been fitted to this 21st Century model of a model.

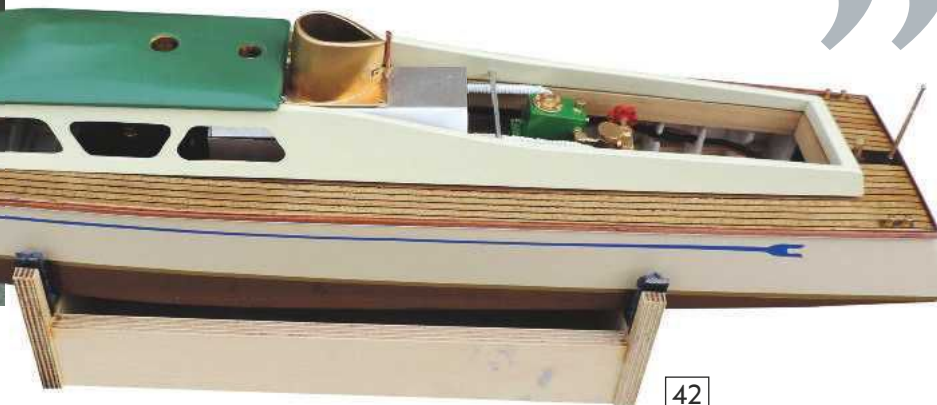
Photo 40 is a side view of Streamlinia Too, showing her superb lines and the pear drop rudder.



41



It would seem that glazing was not installed on the steam powered models and it is reasonable to assume that models of the 1930's were not always fitted with windscreens as there was not a ready supply of clear material available, except perhaps real glass.



42

Painting and finishing

The decks had been given several coats of Deluxe Materials Finishing Epoxy Resin during construction which had been smoothed with 400 grade wet and dry sandpaper until a uniform satin finish was achieved. The varnished wood areas were then masked and the hull primed with Halfords White spray primer. 400 grade sandpaper was again used, but wet, and all done twice. A coat of Halfords Grey primer was then applied which highlighted the 'high' spots, **Photo 41**. Alternating primer colours always aids visual inspection, highlighting areas of concern. The final colour scheme reflect the types of finish available back in 1935. An original model and its box art on a famous London auction house website, together with some old artistic impressions showed very basic colours with a predominance of what they would have called 'white' at that time, for the entire cabin particularly and often the hull above the waterline.

Brilliant White as we know it today had not been invented and most gloss paints were based

on Linseed Oil which discoloured over time. The illustrations in John Parker's article (March 2015 MB) show a basically white model with a milk chocolate colour below the waterline, but I did find another model for sale on an auction site which had a green cabin roof.

In the end, Car Plan Beige No. 02 was used for the hull with Valspar Nut Brown No 1120VAL below the waterline. Car Plan White No. 10, a sort of pale cream was used for the cabin and Halford's Ford Meadow Green for the roof, this choice being very similar to some of the original artwork seen and in keeping with the 1930's. The engine has been brush painted with Humbrol Gloss Green No. 2 and the metallic (Brassware) is Wickes All Purpose Gold No. 63102 which is a more polished brass colour than most metallic paints. Once the long blue arrow (printed self-adhesive decal) with the name Streamlinia had been affixed, the whole model was given a final covering of Krylon Clear Gloss as in

Photo 42.

PLAN FOR Streamlinia Too

The highly detailed full size plan No. MM 2118 is available from MyHobbyStore Ltd and is priced at **£12.50 + p/p** as of **August 2016**. MyHobbyStore plans may be purchased online at www.Myhobbystore.com.



First proper outing

With the upgrades, propshaft changes and paintwork complete, I couldn't resist a proper go at the lake, even though the rear well and its driver were not yet complete. A nice dry day was chosen and the model was revealed at the pondside, **Photo 43**, before being sent off for motor and handling tests. Steamlinia Too handled much better now the propshaft worked properly and the enlarged teardrop shaped rudder was more effective. After a few photo passes at slow speed, the throttle was opened and it was so smooth and looked quite majestic, the lovely bow shape curling

the water away efficiently and this was just at 25% of available power, **Photos 44** and **45**. Going faster and Streamlinia Too rapidly became uncontrollable, the maximum speed and power of the brushless motor being beyond the hull's capabilities, but at 25-30% of motor power, it is just about right.

Conclusion

The full size plan for Streamlinia Too is now available from MyHobbyStore. It is not the type of model I would normally build, but it was a challenge from John Parker in Australia and a prompt from our Editor, and I couldn't say No, and truth to tell, I'm glad I didn't. It has turned out to be a beautiful model that looks and runs as you would expect of such a classic design, but there is something more to her than that. Working out how to do things that are quite complicated and squeezing all that technology into a such a small space yet maintaining the 1930's look pushed my skills, and that is perhaps what our hobby is all about. Stretching ourselves with each new creation and trying something new, but also sticking to what we know works for us. Depron was used for the basic hull, but no doubt many will prefer wood and that is their choice, but weight must always be born in mind.

Happy Boating - Ron Rees.



45

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Richard Simpson's
series on model
steam plants

Boiler Room

PART Seventy: **Secondhand**



Photo 1. The boiler smoke box end cover was held in place by two screws that located in two bushes mounted in the end of the boiler. The screws broke when they were unscrewed and opened up a can of worms.

When I started the project of the secondhand steam plant, I was not to know at the time that it would actually end up being a perfect example of a unit that contained one or two surprises and proved to be just what you might expect to find with such a purchase. If you remember, I mentioned in the September issue that the end cover was held on by two screws,

fastened into bushes mounted in the end plate of the boiler, **Photo 1**. When I removed those screws, they both broke off leaving me immediately with a job to deal with, if I was to use a similar fastening arrangement for the end cover. What was a bit more of a surprise though, was what developed from that point. I thought it would be an idea to do a pressure test and see just how things were looking before I went any further and was surprised to discover that water leaked out from one of the broken screws even before pressure was applied. It was obvious that the screws were fastened into bushes that had some sort of leak through into the boiler itself, so from this point onwards the project went in a different direction. I initially tried to bore out the screw threads, but it was soon obvious that this was going to be more than a simple drilling and tapping job, **Photo 2**.

Despite recommending secondhand purchases, there will always be a degree of risk involved, but how you deal with problems such as this can mean ending up with a still reasonably priced steam plant or a very expensive pile of scrap metal.

This is where the advice of an expert will prove to be invaluable and so I had a chat with Tim Taschimowitz at Cheddar Valley Steam before sending him the boiler to enable him to cast his expert eye over it. I would always strongly recommend taking advice from someone such as Tim, who can then assist you with deciding on the



Photo 2. Trying to machine out the damaged threads quickly showed that the repair was going to be more involved than a simple drilling and re-tapping job.

PART 2 Steam

best course of action as well as keeping a close eye on the cost as work progresses, so as to enable you to decide at what point the plant does not merit any further expenditure. His details are noted at the end of this Boiler Room article.

Repairs

In the case of this boiler, it was decided that a repair to the existing bushes would be a suitable starting point so we discussed the costs and Tim had a go at repairing them. There are of course no hard and fast rules as regards things such as this, as the course of action will be as individual as the boiler. Only you can decide on how much you want to pay on top of the original cost, but having the flexibility of someone such as Tim is invaluable. As it happened, the repair did not work as a subsequent pressure test showed that a leak was still present, so the only remaining option was a complete replacement of the bushes. This in itself will always involve a degree of risk as there will always be a possibility that the heat required to silver solder the new bushes may also disturb some of the original joints and cause further problems. We decided that we would try new bushes and if this did disturb an existing joint, then the boiler would be scrapped. Thankfully the repair was a success and Tim was able to successfully pressure test the boiler and then issue it with a Pressure Test Certificate. In the case of this steam plant, if this had not had a positive outcome then the original cost of the whole system would have been effectively for only the engine, which would have been significantly less cost-effective than for the entire steam plant and this is the risk when purchasing secondhand. However there are of course precautions that can be taken when buying such items to reduce the risk of a complete failure, such as asking the right questions of the vendor and agreeing a price that ensures that in the event of any problems you are not be faced with a complete financial loss. It is also worth bearing in mind that all but the most difficult problems can be repaired and new bushes in the boiler shell, as with this example, can still be repaired and you still end up with a boiler for a fraction of the cost of a new one. Once Tim had written out the pressure test certificate, he duly sent the boiler back to me to continue the rest of the refurbishment work, at which point I could look at the superb job he had done fitting new bushes, ready to take the cover screws, **Photo 3**.

Re-assembly

Tim had given the boiler a complete 'pickling' after he finished the bush repairs, **Photo 4**, so the first job for me was to mask off the threads and spray the boiler shell with a couple of coats of a heat resistant



Photo 3. When the boiler was received back from repair, it was complete with two new tapped bushes perfectly soldered in the end cover of the boiler, ready to take the new screws.

mat black paint. The paint used was actually a motorcycle exhaust paint, which does not require a primer, together with another personal advantage, namely that there were a few cans left on the shelf from a motorcycle refurbishment project, which is another of my interests. Then it was simply a case of reassembling the boiler fittings on to the shell with new joints. The sight glass was replaced as the old one (glass) was badly stained by red dye (see September Boiler Room) as well as breaking when it was removed from the boiler. The new glass was carefully cut to length by carefully hand rotating it in a lathe and gently holding a fine Dremel cutting wheel against it until the required piece parted-off. The sharp end was then also 'dressed' with the cutting disc, **Photo 5**.

Most of the other fittings were easily replaced with their copper joints being annealed before refitting and the pressure gauge was marked on its face with the certificated working pressure from Tim's certificate. To mark the pressure gauge, an old roll of red model aircraft lining tape was to hand, a small piece of it being attached to the face of the gauge and sealed with a clear gloss acrylic varnish, **Photo 6**. The copper pipework received a bit of a clean and polish, and the steam plant's baseplate

Photo 4. A complete 'pickling' will also effectively remove all the loose paint, so a good clean-up before a new coat of heat resistant matt black was in order.





5

Photo 5. Cutting gauge glasses to an accurate length is never easy, but with a bit of care and thought you can do it safely and reliably. If you don't have a lathe, then holding the glass in a hand drill chuck will work just as well, the drill preferably held in a vice to ensure it remains secure. Don't forget to always use safety goggles and a mask when performing such an operation.



8

Photo 8. The port faces clearly show very little signs of wear, indicating the engine has seen little use. When reassembled, the compression was very good, so nothing else was done other than a good clean-up and an oiling.

6

Photo 6. The new Green Book states that a pressure gauge should be marked on the face with a red line at the working pressure, so the cover will need to be removed and a neat but clear means of marking the dial has to be devised.



7

Photo 7. The safety valve looked just as sorry on the inside as it did on the outside and almost certainly the spring rate will have reduced with age. For the price of a new one it is not worth playing around with so the unit was replaced with a new one.

was treated likewise. My personal preference is not to polish to a perfect finish with not a mark in sight, as I like a steam plant to look as though it is well used, but also properly looked after and maintained. Finally the safety valve, **Photo 7**, was dismantled and found to be looking a bit tired and rather than mess around with a spring that had almost certainly lost a lot of its original spring rate involving a lot of fiddling around to get it to seal and lift correctly, the complete valve was replaced.

The steam engine

Having sorted the boiler it was time to have a look at this, so first of all it was cleaned and degreased, before removal of both cylinders to inspect the port faces. These all looked perfect, this tending to indicate that the engine had actually seen very little use, **Photo 8**. After oiling the faces and reassembling the cylinders, turning the engine over by hand proved that there was good compression with the control valve closed and so, with the good condition of these port faces in mind, it was decided to leave the pistons well-alone. The engine therefore simply got a good clean and a bit of a polish before the displacement lubricator was replaced and the engine screwed back on to the baseplate and everything connected together, **Photo 9**.

Photo 9. With the engine mounted on the baseplate again, this allows the pipework to be refitted and the whole steam plant starts to look quite presentable.

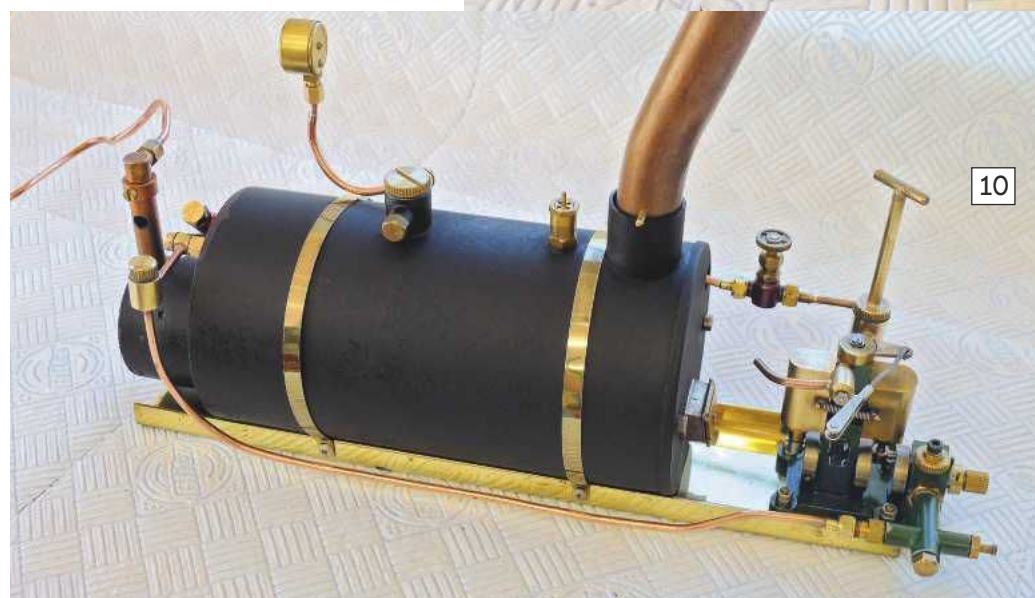


Photo 10. Careful research and questioning of the seller before purchasing, combined with a fair price, will significantly reduce the risk of ending up with a pile of expensive scrap. There is then no reason why you should not end up with a steam plant significantly cheaper than a new one would cost, and with just as many years use still in it.

Final thoughts

So in conclusion, we have seen a secondhand steam plant taken from an 'as found' condition back to a useable plant that should last for many years to come. In the case of this particular example, the boiler required more doing to it than we would normally hope, however even with that taken into consideration and bearing in mind the safety valve was replaced, as well as the gauge glass and the exhaust separator, I would estimate that for a comparable sized new steam plant, the cost has been around 20 to 25% of the cost of a brand new unit. Consequently, despite being unlucky with

the boiler needing remedial work, it has still proved to be a very cost effective means of obtaining a steam plant for a model boat. If the boiler proved to be sound it would have been an even better buy, and this does of course all come with the caveat that the buyer 'must beware', so do accept advice from those in the business who can help you and ask all the right questions and obviously, if in doubt then avoid whatever it is you might be considering. A bit of care, thought and sound advice though should get you a very sound steam plant for a fraction of the cost of a new one and which will then last you for just as long, **Photo 10**.

Information

Tim Taschimowitz
Cheddar Valley Steam
Unit 4, Castle Mills
Industrial Estate
Biddisham
Somerset, BS26 2RH.
Please telephone Tim at
Cheddar Valley Steam on
either:
01934 751285 or
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Alfold 2016

Dave Brumstead reports

This long established charity event celebrated its 20th birthday in 2016 on 4/5th June. As usual, the lake and facilities of Care Ashore at the Springbok Estate at Alfold, Surrey, (formerly known as the Merchant Seamen's War Memorial Society) were used. There was a good turnout of clubs to support this weekend, but a clash of dates with another event reduced the number of supporting traders to just two on the Saturday and only one on the Sunday.

The weekend

Despite the lack of trade support, there were a decent number of club displays with the lake being used for free sailing. The models on display didn't disappoint as they included scale sail, novelty boats, warships, working boats, tugs, submarines and indeed very much everything across the whole spectrum of the hobby. There was a Bring and Buy Sale, and food and drink available during both days, courtesy of the local Guides. On the Saturday evening there was a buffet followed by a quiz night which was popular.

Models

There were a number of notable models and not all can be highlighted here - sorry.

A refurbished model from the Hobbies of Dereham range was very nice. No owner's details, but the model is a single cylinder steam powered model thought to be from 1925, nicely restored. Ray Malone of the Southend MBC showed Iron Horse, a model of a small Canadian tug which is only 21 feet long, but powered by twin 200hp engines. Swiss Cottage MBC had a varied range of models on show including a nicely turned out Dawnlight based on the kit from Mobile Marine Models. Nigel Edmonds of The Association of Model Submariners displayed a selection of his unique models, including the Confederate States of America's H. L. Hunley, complete with its spar torpedo. The Southern Model Display Team presented a good range of their models at the show including two built by Paul Chilcott, the Tobias Maersk and USS Kitty Hawk which is being mentioned separately and Tim Colmer of the Springbok MBC has built a new Springer tug named Daniel. Although not based on an actual tug, it does include many working features and is an excellent example of the Springer concept.

USS Kitty Hawk

Paul Chilcott never disappoints, and his 1:144 scale model has numerous working features including Phalanx gun sounds, flashing

gun lights, runway chaser centreline lights, helicopter movement up and down, a tomcat aircraft towed by tug, plus numerous other working features and working lifts.

Conclusion

This is a nice relaxed weekend in Surrey, but it was a shame that another event drew away the traders. Nevertheless, a Certificate of Appreciation was awarded to Alan Colson who has organised this charity event for the last twenty years, assisted by his wife Wendy, and for 2017 it will be organised by Alan and Wendy's daughter and their son-in-law, and let's hope there is no date clash next time around!

RIGHT: The Hobbies of Dereham steam launch



BELOW: Tim Colmer's Springer tug Daniel on the Springbok MBC stand.



BELOW: Paul Chilcott's USS Kitty Hawk.



ABOVE: Ray Malone's Iron Horse Canadian tug.



ABOVE: Alan and Wendy Colson, event organisers with their Certificate of Appreciation.

BELOW: Nigel Edmond's model of the H. L. Hunley on the AMS stand.





Wings and Wheels 2016

Dave Brumstead reports from North Weald Aerodrome

This event was held on this historic WW2 airfield on 25/26th June and on the Saturday of the two day show, which this year celebrated its 30th anniversary, the weather did its best to copy the conditions at Glastonbury with a copious supply of rain. This had a knock on effect on the Sunday, with conditions in the model boat marquee and surrounding areas, including the grass car parks, becoming very muddy.

The models

The show followed its usual format of model aircraft, trucks, tanks and cars being exhibited in addition to the large model boat pool and its associated marquee. The model boat side of things was looked after by the former Leighton Buzzard MBC, now renamed Lake Bank MBC following its move to Milton Keynes. The usual clubs were in attendance including Fishers Green, Southend, Brentwood and Moorhen, although because of the conditions, support on the Sunday was a little less than the Saturday. Jeff Foddering, who has attended all the thirty shows to date, was exhibiting some of his models which included model Thames Barges and he celebrated his 80th birthday over the weekend, supplying cakes and liquid refreshments to all and sundry.

Trade

The dedicated traders for model boating were Mountfleet Models and Nautical

RIGHT: Mountfleet Model's new two man submarine on their trade stand.



BELOW: Geoff Dixon, a member of Southend MBC, had his 1912 HMS Iron Duke on the pool.



Nostalgia, but as always there were numerous other vendors selling all manner of things for the model making enthusiast, whatever their preferred discipline. This included radio gear, batteries, motors, wood, adhesives, fixings etc.

Conclusion

Although primarily a model aircraft and vehicle show, there was (and is) much of value to us model boating enthusiasts, but for this 2016 weekend, the appalling weather was unfortunate as apart from the tarmac taxiway around which the traders are always based, the surrounding grass areas became a bit of a quagmire.

ABOVE: Ron Wem's latest model, a near 1:12 scale model of the Bates Starcraft 40ft motor cruiser New Venture, all built from sketches and photos of the real boat based on the Thames.



ABOVE: The Italian coastal torpedo boat Euterpe (1883) on the Lake Bank MBC stand.



ABOVE RIGHT: Nautical Nostalgia had this Riva Aquarama for sale, 120cm long and all for £399.99.

RIGHT: Far Saltire on the Fishers Green MBC stand. The full size anchor handling tug entered service in 2002.





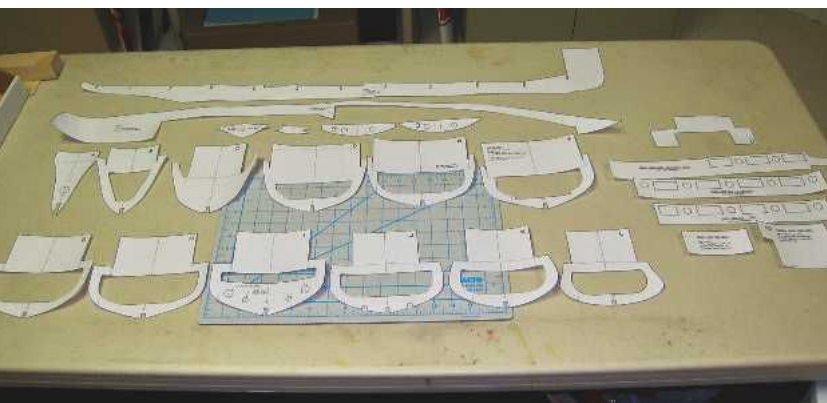
Dorothy N

David Wagner builds a commuter boat from the John Parker plan for Vamoose

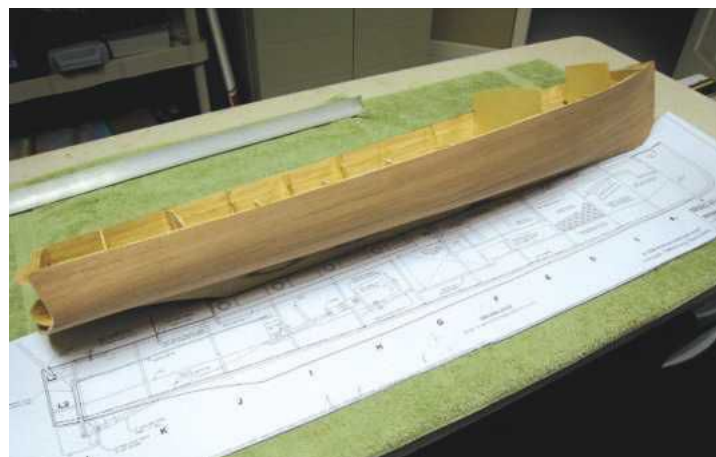
David has a number of interests, but has been building model boats since he was a youngster, as well as some constructing full-size craft and you can find out about one of them by Googling: 'Dave Wagner's Nancy's China'. He has read Model Boats from at least 1977, corresponding with the late-Vic Smeed. Now in the 21st Century, David prefers the digital edition of Model Boats as it is more convenient, at least for himself. Now aged 73, he is semi retired and very much appreciates building model boats and reading this magazine, as it is a relaxing and meaningful hobby. Dorothy N, AKA Vamoose, is his latest effort and I am sure readers will agree that it is a fine model.

Dorothy N

The John Parker CAD plans for the Vamoose commuter boat are very accurate and easy to build from (David's words), and the supporting article in the Model Boats 2011 Winter Special was vital for his project. The hull is planked with balsawood as per the plan and instructions, but then double-planked in mahogany, all protected with a resin covering. David has added some items such as toe rails, davits, working steaming and stern lights, instruments, anchor, a ship's wheel that actually steers, seats on the rear deck plus a removable awning. Many of the fittings and materials came from Model Boats magazine advertisers, such as the electronic horn, interior lights, propellers and their shafts, stanchions, etc. The 1:16 scale figures (always a problem locating the ideal types) were found on Amazon USA. The commuter boat sailed very nicely on her maiden voyage in early-June 2016 and the time to build it? Well, just ten months, the model being completed in May 2016, so quite an achievement in less than a year for such a superb model.



ABOVE: Vamoose's frame templates.



RIGHT: The balsawood planked hull prior to being double-planked with Mahogany.



ABOVE: The deck is being completed and the hull is part fitted-out.



ABOVE: The hull is now completed, before detail is added.

BELOW: The main powerboard, all the connectors clearly annotated.

BELOW: The motors and their drivelines.





ABOVE: The finished model, now named 'Dorothy N'.



ABOVE: Cockpit detail.



ABOVE: Bow detail.



ABOVE: Stern detail.

PLAN FOR

Vamoose

The detailed full-size plan No. MM2067 is available from MyHobbyStore Ltd and is priced at **£12.50 + p/p**. MyHobbyStore plans may be purchased online at **www.Myhobbystore.com**.

Melanie C - 48 inch tug

Prior to building the new model, David had built a 48 inch long tug. The original was designed by George B. Drake, Naval Architect, 17 Battery Place, New York in April 1936 for the Sabine Towing Company of Port Arthur, Texas and the full-size tug is now on display, albeit out of the water, at a museum in Texas.

This model, like the commuter boat, was built from actual builder's plans and hull offsets, but taking three years as time allowed. It is a heavy model at 33.5 pounds (15.2kg), but is also very stable on the water.

David Wagner

He and his wife were born and raised in Toronto (Canada), where David grew up sailing and racing R Class, 6 Metre, 5.5 Metre and finally an International Dragon Class yacht. They moved to Atlanta in the Georgia USA area in 2000 as a consequence of his job, and this is where they still currently live.

BELOW: David Wagner and his 48 inch tug, which weighs 33.5lbs (15.2kg).



Alvaston Pirates MBC



Phil' Button reports from their Third Annual Regatta

This took place on Sunday 12th June 2016 at the lake in Alvaston Park, Derby. Did the day dawn bright, calm, warm and sunny? Well, that is what is often written, but not this day as the weather was dull, grey and overcast with a bit of a swell on the lake and a fairly light breeze. There was also a threat of rain to come at any time, so all did not bode well for the day. However, it was not all doom and gloom for everyone as the Mad Hatter's Tearoom (next to the lake) did a roaring trade with cups of hot tea and coffee.

In addition to models from the Alvaston Pirates MBC members, we were delighted to be supported by displays of model boats from Burton & District MBC, King Lear MBC and the Bournville MY & PB Club. The displays were set up under an assortment of gazebos

with fingers crossed that they would not blow away if the light breeze should decide to strengthen.

On the water

Following a briefing for the skippers, which included the frequency discipline for anyone not on 2.4GHz, the day's sailing began at around 1000hrs and continued until interrupted by the heavens opening just before lunch. Later in the afternoon, once the heavy rain had stopped, sailing recommenced with all sorts and classes of boats on the water in timed 'slots'. The 'slot' system was used to avoid problems with dissimilar types of model clashing with each other on the lake. As an example, and for obvious reasons, scale steamers would not be on the water at the same time as fast electric boats.

Finale

Although the weather deteriorated after the commencement of the day's sailing, it did not last too long and the rain died out after lunch although we were very glad of the shelter afforded by the gazebos during the downpour. In spite of the weather, a good time was had by all, even though not too many members of the public ventured out to join the fun. In many ways though, the rain was a benefit, as it enabled us all to have meaningful discussions about our hobby whilst we were sheltering.

Club information

The club meets at the Alvaston Park lake in Derby, DE24 8QQ, on Saturdays and Sundays, and sometimes other days, when the weather permits. Visitors are always made welcome and the park has excellent facilities, including free parking, an onsite café, toilets, etc. The club's website is: www.alvastonpiratesmodelboatclub.co.uk

(All photographs were taken by Ian Richardson and are published with his kind permission)

LEFT: A general view of the boat launching area and the displays being set up under the shelter of gazebos under the trees. There were a few members of the public around in the morning, but they soon disappeared once the rain came.

BELOW: Some of the model boats on display, together with the skippers taking shelter from the rain.



LEFT: The superb Gato submarine model by John Robinson of the Alvaston Pirates MBC. This model is 6 feet long and is packed with the owner's own control electronics which incorporate a system to allow the submarine to automatically hover at a preset depth in the water.



RIGHT: The 6 foot long live steamer Queen Alexandra of Phil Button. This was first featured in November 2012 Model Boats.

RIGHT: A well-made and nice model of Sentinel by a member of the Burton MBC, but sorry as I didn't get the builder's name.

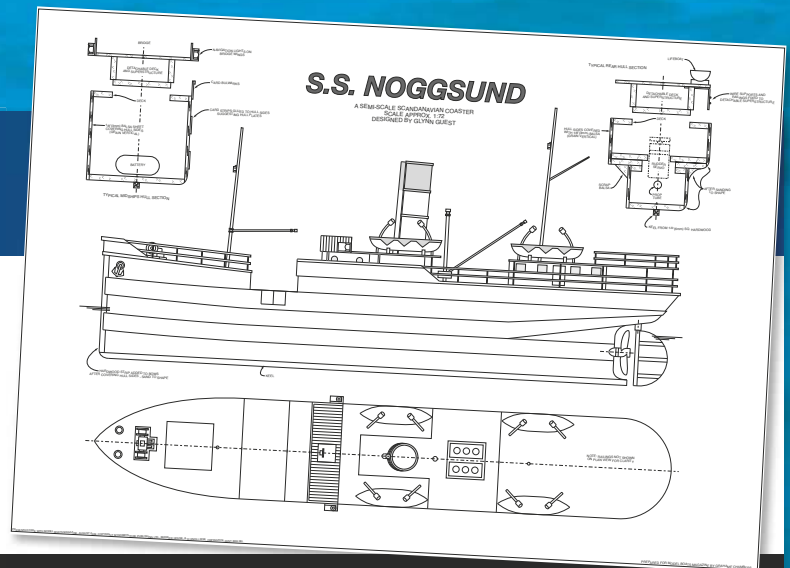


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MM2057 SS Noggsund

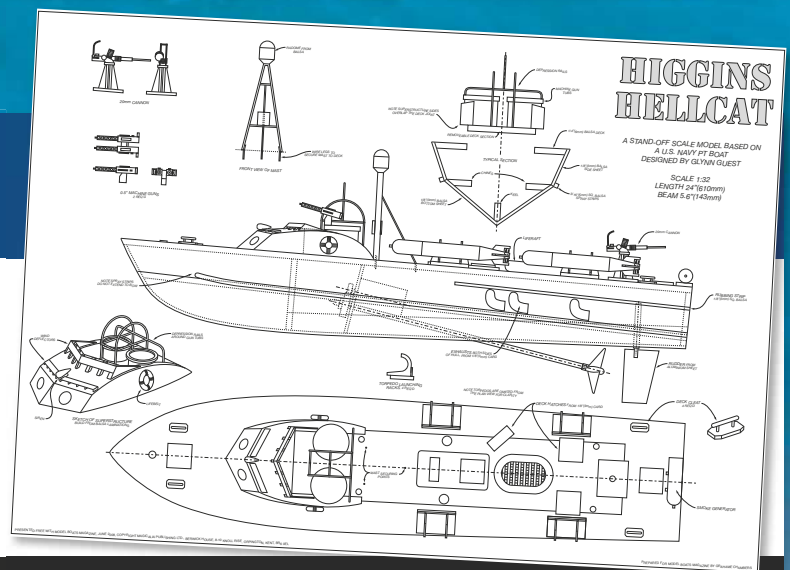
Designed by Glynn Guest and based upon the traditional steamships built to serve the coastal waters of the south western regions of Norway in the late 19th/early 20th century. Its modest build size makes it economical to build, plus convenient for storage and transport.



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MM2056 Higgins Hellcat

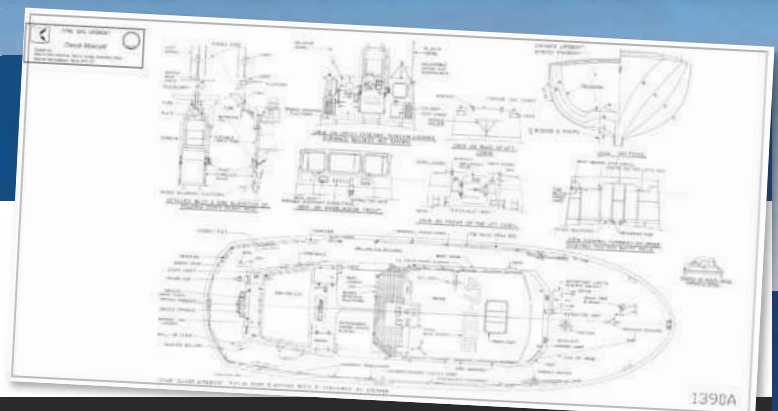
Another Glynn Guest design; this popular stand off scale model is based on the U.S Navy PT boat prototype and has a length of 24" and a 5.6" beam.



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MM1390 Life Boat

David Metcalf's version of the Tyne Life Boat is one of our most popular hulls. The finished model is 31" with a 9.75" beam.



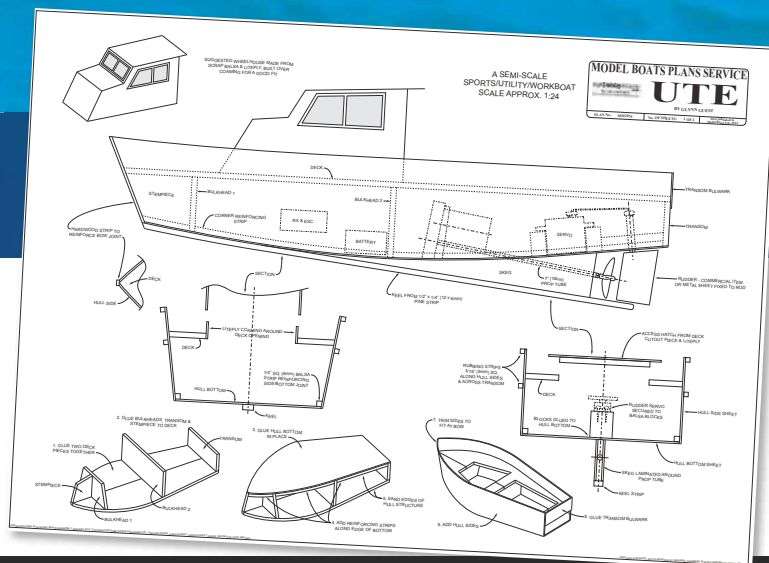
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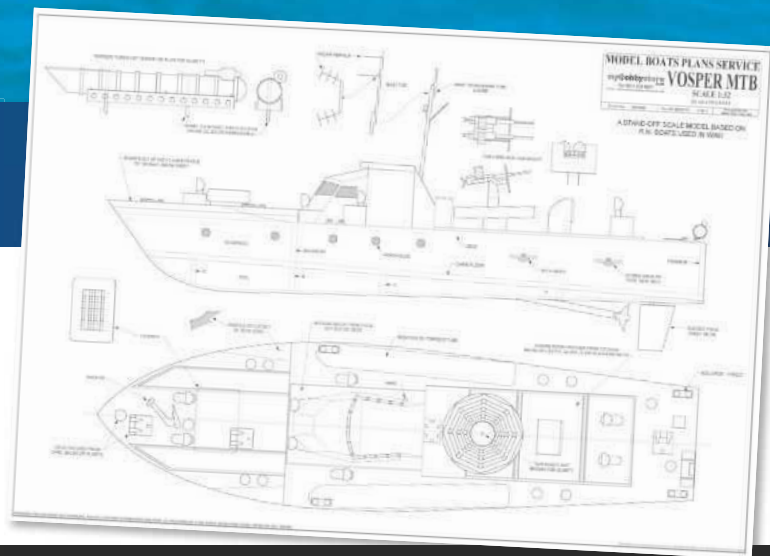
One Of Glynn Guest's latest designs; this model can be completed as a sports or utility boat and measures 24.5" with a 8" beam.



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MM2062 Vosper

This Glynn Guest design is ideal for beginners and can be made static or for radio control with a single electric drive motor. The finished model measures 26 1/4" with a 7" beam.



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Mooring Post



Glynn Guest with advice and tips for modellers



A battery needs to be tested under load, and a automotive bulb is convenient for this.

Let there be Light

When describing problems it is still quite common to hear modellers say, 'The battery must be fully charged, since it shows 6 or 7.2, or whatever the nominal voltage is supposed to be. Even more worrying is when helpful souls accept this and then proffer their imaginative solutions to the problems. One of these days I honestly expect their solutions to include human sacrifice, but that is not the subject of this note.

The nominal voltage of a battery is exactly that, a measure of the energy that potentially could be transferred to the circuit it is connected to when a current flows. Strictly speaking, this nominal voltage should be called the EMF (Electromotive Force). Testing a battery with any instrument worthy of the name Voltmeter will draw such a small current that even a battery which is almost empty of energy can still register the nominal voltage. Also, any cell in the battery that has failed by developing a high Internal Resistance, that is most if not all of the energy is used to drive current through itself, may fail to be detected by a simple voltmeter test.

What you really need to do is test the voltage supplied by a battery when it is under load. One

obvious way is to connect the battery to the circuit in the model, switch on and measure the voltage across the terminals when in operation. Therein lies the rub, because if the battery powers the drive motor(s), then you ought to have the model in the water to do this test. Having the propellers spinning around in air, which is several hundred times less dense than water, is not a fair test. For the pedantically minded, I'll have to add that this only applies to models driven by water screws as those driven by air screws such as airboats can be fairly tested out of the water.

The problem can be that it may not be convenient or even safe to carry out this test in the water. Since we only want to test the battery and not the whole model, the answer is easy. We just need to connect the battery to a suitable circuit which will allow a significant current to flow. Having played with lengths of electrical heater wires over the years and burnt quite a few holes in the process, I usually now use something much safer.

The best thing for me to use is lighting bulb. These are available in a wide range of voltages and powers, but the handiest I've found is an automotive tail and/or stop light. These are relatively cheap and rated at twelve volts, but work quite happily at lower voltages. With a six cell NiMH battery pack (7.2 Volts) a current of 0.5 or 1.5 Amps is drawn depending on which filament is connected. A modest value, but usually large enough to show in a few seconds if a battery pack is 'flat' or contains a 'duff' cell.

Connecting the bulb to the battery pack could be with a suitable bulb holder, but I found it more convenient to solder three wires to the bulb. The two filaments are connected via the metal dimples on the bottom with a common connection to the metal base of the bulb.

Other types of bulb can be used for testing at larger currents. Be warned however, they will get hot very quickly and become a perfect illustration of the fact that filament bulbs are much more efficient at creating heat rather than the light that we really want!

Wipe Down?

I do not know about you, but when recovering my models after a sailing session, I always wipe the hull down before leaving the lake. This will remove any 'crud' that might have stuck to the hull and help it dry faster, but it also makes me check the hull for any damage.

Light impacts, scrapes and such like could easily be missed when sailing. True, if the hull is of tough plastic, this may only cause superficial damage which does not threaten the model, but if it is a wooden

hull then the protective outer coatings of primer, sealant and paint, may be penetrated and the wood structure exposed to water. If undetected it is likely that continued sailing will result in some rotten wood. Also, the propellers and rudders ought to be given an immediate check after sailing. An unnoticed impact with floating debris or a shallow rock can create problems during a later sailing session.

It is one of those little habits that are worth developing and as it costs nothing, it is well worth doing since it can save you much heartache later.

Test Bench

Model Boats looks at new products

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device with a water bleed valve that fits inline between the compressor and airbrush. The compressor working pressure is between 0 and 35psi and there is an automatic On/Off switch. Noise level is 49dB (effectively virtually silent) and it has an oil-less piston air pump.

It may be obtained from The Airbrush Company Ltd,

ABOVE: What you get for £120 is a near silent operating compressor and its accessories. Package discount offers including a suitable airbrush of your choice are also available from The Airbrush Company on request.

79 Marlborough Road (East),
Lancing Business Park, Lancing,
West Sussex, BN15 8UF,
tel:+44 (0)1903 767800.
Website: www.airbrushes.com
Review by Paul Freshney

Sparmax ARISM compressor

Supplied by the Airbrush Company

This was briefly mentioned in the September 2016 issue of MB using the press release. Since then an example has arrived in the Editorial Office and it is worth further highlighting its features as delivered. One big positive is that the price has been reduced to a more attractive £120, from the £180 so-called launch price and what's in the box?

The ARISM compressor is mains powered, but can also be run from an optional battery

pack. However, it is supplied ex-factory with a UK mains transformer, instructions, airline hose, bracket for holding an airbrush and the Silver Bullet moisture trap, a rather clever



LEFT: The Silver Bullet is a neat water trap device with a bleed valve that is included with the compressor package, but is also available separately.

J/24 Model Kit

BlueJacket Shipcrafters' new static model

The J/24 class has more than 50000 people sailing 5300 full-size boats worldwide. It is established in nearly 40 countries with well over 150 active fleets and is still considered the gold standard for modern one-design keelboats around the world.

The kit

This is to 0.625 inch = 1 foot scale, resulting in a model with an overall length of 16.5 inches, height of 25.25 inches and a

beam of 6 inches. It features a solid carved wood hull, an airfoil-shaped aluminum mast, stainless steel photo-etched details, Britannia metal fittings, and laser-cut wood parts. The kit comes with complete plans, instructions, bending jigs ensuring pulpit and stern rail accuracy, and a display cradle. This J/24 class kit is meant for modellers with some previous experience of building from wood.
Kit No. K1105:
Price: 199.00 \$US

BlueJacket Shipcrafters Inc.

This is the oldest model ship and model boat company in the USA having been in

continuous operation since 1905. It specialises in the design and manufacture of wooden museum quality model kits, custom built models, antique restorations/repairs, fittings, tools, supplies and books.

Apart from static models, there are a number of r/c kits in the range including the historic 1884 wooden tug Sequin; a Muscongus Bay lobster smack; a Maine lobster boat and a Mahogany runabout.

Contact information

BlueJacket Shipcrafters, 160 E. Main Street, Searsport, MAINE 04974, USA.
Tel: 1-800- 448-5567
Website: www.bluejacketinc.com



LEFT: The completed J/24 static model.

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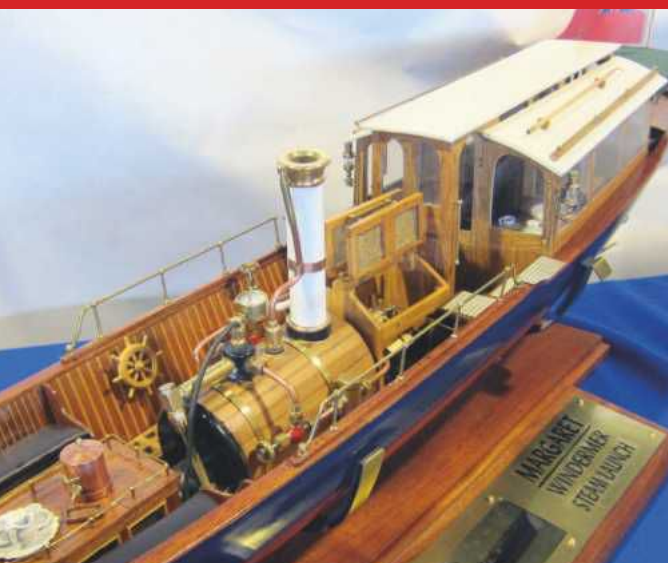


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FAIREY HUNTSMAN. 118cm long, all wood, deck individually planked, pulpit rails etc. Tornado esc, battery and Graupner turbo motor. £210, buyer collects. D.M. Searle, tel: 01258 840681 (Wimborne, Dorset).

TWO THUNDER TIGER

VICTORIA'S. One vgc and one gc (sunlight faded), 27MHz Tx/Rx. £80 each or £150 for both, in good working order. Buyer collects, Ray Smith, tel: 01284 764966 (Bury St. Edmunds, Suffolk).

CANAL BOAT KIT. Plastic, 34 inches, untouched, complete as purchased. Glues, paints, metal figures, canvas, wood, fittings & instructions. £30, buyer collects. J. Tunnicliffe, tel: 01782 395877 or 07980 010525 (Stoke on Trent, Staffordshire).

GRAUPNER 581 PADDLE-WHEEL SET. Also, two 1750 geared 6 to 12v Pile motors, adjustable. Offers? Mr. R. Hale, tel: 01732 874473 or email: ronhale@btinternet.com (West Malling, Kent).

OUR LASS II

trawler with Planet r/c, bow thruster, engine sound, working lights, £350. Also MS Vliestroom with rudder servo but no r/c, £250 ono, plus other boats available, buyer collects. P.D. Dyer, tel: 01202 690130 or 07971 808066 (Wimborne, Dorset).

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BMPRS News

Website: www.bmprs.co.uk



Craig Dickson reports from Branston Water Park - again!



The availability of available slots and calendar dates for the 2016 events, meant that there would be occasions when we would need to visit the same venue twice in succession as has happened here and indeed for the third time this year. However, as much as we may all have our personal favourites in terms of a location, the order in which we visit them is less important than the fact that as a Society we are fortunate to have host clubs working with us to enable these events to happen.

So once again, we were much indebted to Peter Dimberline and Alan from the Burton and District MBC for allocating us another Sunday slot and them both arriving very early with the rescue boat and engine for the day. These guys also spent a

good part of the day manning the rescue boat recovering our boats for us, so yes, we are very fortunate indeed to have such support.

Mark Wild (BMPRS Health and Safety Officer) managed the event from the taking of bookings and running the race on the actual day. However, unlike previously where we had a really challenging triangular course virtually requiring U-turns on the buoys, this time they had been positioned in a more forgiving rectangle as usual. Mark, who was busy booking-in the members, had not noticed how the course had been set-up and it was too late to change it to anything else by the time he gave it the once over and then asked; 'Aren't we having a triangular course'? Naturally, we all laughed at this as the previous triangular course had been quite a challenge.

Mark called us for the Driver's Meeting soon after 0930hrs, to run over the key health and safety points and emphasise the ultimate aim of us all having a safe and enjoyable day's racing. Turnout was low, perhaps due to the holiday season being upon us and unfortunately some members had dipped out due to illness, but that did not stop those that turned-up having a thoroughly enjoyable racing day, which is exactly what we aim for. So, what were the highlights of the racing as we had 25 boats entered, 13 with nitro (glow fuel) powered engines and 12 with spark ignition (petrol) engines? This meant that Mark had to split the bigger classes and merge a couple of the smaller ones, so as to even things for a good balance of racing within the timescale.

AA Class

This class, for the smallest nitro powered mono hull boats, had five entries. Garry Dickson's West 28 powered Magnet (new for 2016) delivered another

BELOW: B9: Malcolm Pratt preparing to start the engine of the only B Class boat entry.





LEFT: Three D Class boats racing towards Buoy 4. Their substantial propwash can make it quite difficult to see your own boat at times.

ABOVE: The bigger and more powerful C36 Stratos overtaking Malcolm Pratt's Apache B9.

BELOW: Two of the big T2 Cat's getting a little close to one another going round Buoy 4.



impressive win with 61 laps in total. The Magnet hull was rather lively to say the least (going like the clappers would be more appropriate), but he kept it going in both heats and avoided any collisions or stops.

Kian Searle's OPS powered Challenger comfortably gained second place with 42 laps. The boat proved to be very fast and stable, but a minor bump with another boat and a subsequent collision with a buoy caused a couple of stops. The collision with the buoy broke the shear pin of the rudder and shifted the rudder servo horn by a spline, and this left the boat off the water for some time whilst this was all rectified.

My own Magnet achieved only 17 laps in total, but surprisingly even that was sufficient for third place. The boat was running well when it kept going, but every time it was throttled down to avoid stopped boats the engine cut out, which was most frustrating. On test it performed perfectly, but in other races this season it has seemed to do this. A comprehensive range check might rule out the failsafe activating, which would explain sudden throttle cuts of this type.

Mark Beesley's Cavalier, which I believe was operating on one of the older non-2.4GHz frequencies, seemed to be picking up interference

as its rudder was moving of its own accord as though picking up the signal from another transmitter. In Heat Two when the interference was properly noticed, he promptly retired the boat to negate the risk of losing control, the 13 laps leaving the Cavalier in fourth place.

Graham Stanley's Cavalier is extremely quick when on form, considering it only has a 3.5cc engine, but on this occasion it was far from being 'on form', just ten laps leaving him in fifth place.

A Class

Only two members entered this class and their boats were evenly matched speed-wise, this leading to some exciting head to head racing and overtakes. Mike Barnes' Challenger 43 ended up with 72 laps

ABOVE LEFT: D8: Mike Durant's Phantom going flat out.



LEFT: Sally Dickson doing a great job lap counting and you can get a measure of how big this lake is in the background.



winning this class by a decent margin. There was one point though where his bright yellow boat nearly ran over the back of Kian's Crusader, but thankfully both craft kept going.

The ASP 46 engine of Kian Searle's Crusader was slow to start in the first heat, but once on the water, the boat ran very quickly. His second heat lost him a lot of laps though and we can partially blame his pit man (dad Ian) for that. He caught the prop' on the boat stand when launching the boat, requiring it to be replaced. Also, once on the water, going into a sharp turn around Buoy 3, the boat pitched onto its chine rail and flipped, needing recovery and a restart. All in all though, Kian still achieved a very respectable 54 laps in total and a well deserved second place.

B and C Classes

These two classes had only three entries between them and so Mark rightly ran them all together. In the B Class with only Malcolm Pratt entered he ran his Apache for nine laps to warm it up and blow away the cobwebs, and so got an easy first place and maximum championship points. Similarly in the C Class, Mike Gelson had an easy win as his CMB 91 powered Stratos gaining 46 laps (all in the first heat) for first place. Ian Searle had also entered his CMB 91 powered Makara, but as soon as its engine was running he noticed that the servos were jittering, indicative of vibration induced radio interference. Ian insulated a steel push rod that he suspected might be coming into contact with the tuned exhaust pipe, but that made no difference and so wisely retired the boat without it scoring even one lap. Better safe than sorry.....

Incidentally, Ian subsequently reported that closer inspection at home revealed that the receiver's 40Mhz crystal appeared to have partially worked its way out of its holder and after pushing it back properly, all has subsequently been fine.

D Class

This popular S.I. (Spark Ignition) class had eight entries and although it was perhaps debatable, Mark with the agreement of all the members decided to split the class into two separate heats of four boats each. Although eight of these very large boats racing together would be frenetic and exciting to watch, we do prefer that members get to take

ABOVE: D9: Malcolm Pratt's distinctive looking Patriot. (Photo courtesy of Judith Beesley)

RIGHT: D127: Ian Searle's very capable Phantom in the popular D Class.

BELOW: AA176: Mark Beesley's AA Class Cavalier is powered by a proper i.c. outboard motor. (Photo courtesy of Judith Beesley)



BELOW: AA128: Kian Searle's AA Class challenger on its way to gaining second place. (Photo courtesy of Judith Beesley)



them back home in one piece!

Mike Barnes' Patriot achieved 99 laps in total giving him first place. It wasn't all plain sailing though, because as the afternoon heat was about to start, the pull start of the Zenoah engine snapped, spelling potential disaster. However as the afternoon heat had not actually got under way, the other racers kindly agreed that he could run the boat in the second of the D Class heats, allowing him the chance to replace the pull start mechanism - I think a sign of great sportsmanship. Garry Dickson's imposing and well presented Saturn enjoyed pretty much a faultless run with consistency in both the morning and afternoon heats, achieving 95 laps and second place.

Mike Durant also had a very good race, his Gizmo



propwash

LEFT: The brilliant two-tone fluorescent colours of this Challenger make it very easy to see. (Photo courtesy of Judith Beesley)

LEFT: Oops! Mike Barnes's Challenger makes contact with the back of Kian's Crusader A128.

BELOW: C36: Mike Gelson's Stratos had an easy win in the C Class.



30 powered Phantom powering its way to third place with 93 laps. These larger boats draw a lot of interest from spectators as they are impressive and exciting to watch, but for their drivers, a cool head and nerves of steel are required. Graham Stanley's Phantom had a good overall run with consistent scores in both heats, and 81 laps for fourth place. At one stage, on the long back straight between Buoys 3 and 4, Mike and Graham's Phantom boats bounced off each other twice. They were that close to each other, but amazingly both kept going. However a bit later, Graham's boat slowed down to idle speed running in circles before coming to rest near the middle island and awaiting rescue. Radio control issues perhaps and what went wrong for those who came in the last three places?

Terry Lucas' fabulously presented Zenoah powered Sigma only managed a two lap total. He discovered that the Woodruff key securing the flywheel to the crankshaft of the engine had disintegrated causing the engine to stop. Although he attempted a lakeside replacement, the same thing happened when restarting the engine, so definitely one for closer inspection in the home workshop.

Ian Searle's Tiger King powered Phantom was fast and stable when running, but it had several sudden stops. Ian suspected that the engine kill switch was misbehaving and killing (stopping) the engine without the switch button being pressed. He also spotted a problem with the throttle linkage, causing it to close down too much, not helping matters much. Kevin Alcock's Patriot also had some super quick laps, but it too had several unexplained sudden stops which cost valuable time, leaving him with 44 laps and sixth place.

Catamaran T1 Class

The two regular entries of this class which features the smaller catamaran type of hull, were up against each other again. Both raced their usual ASP 46 powered X-Cat 38 hulls and the racing was very close with both boats being neck and neck for much of the time, which was exciting to watch. On this occasion though, Luke Bramwell had the edge over Mike Barnes taking first place with 66 laps. Mike, who had won the previous three races in this class, had to settle for second place with 63 laps in total. These two do both enjoy racing against each other and have some good banter in the process.



Catamaran T2 Class

Five entries in this class of the big Cat's set the scene for some very exciting racing.

The only nitro powered boat in this class was the CMB 91 powered Aeromarine raced by Malcolm Pratt. He enjoyed a faultless performance and his total of 90 laps was more than enough to comfortably give him the win, so well done Malcolm!

Graham Stanley's RCMK powered F1 tunnel hull had a mediocre first heat, but made up for that with a fantastic second one, leaving him with 81 laps and second place. This hull of Graham's has had its fair share of repairs from collisions this season, but on this occasion he kept the boat out of trouble.

Mike Barnes got third place with 75 laps in total, but the boat had a couple of stops which lost quite a few laps. As Mike tends to keep his boats going flat-out most, if not all of the time, on one occasion approaching Buoy 1 at full speed, the wind got under the hull causing it to do a full 360 degree somersault. Mind you, following rescue he was soon back on the water.

ABOVE: Graham Stanley and Peter Dimberline were kept busy in the rescue boat.

BELOW: Luke Bramwell holding one of his new handmade fibreglass boat stands now available to order.





ABOVE: Mike Barnes driving his blue Thunderbolt wide with Graham Stanley having the racing line towards the buoy.



RIGHT: Kevin Alcock's overturned Conquest catamaran awaiting rescue!



ABOVE: Mike Barnes' blue Thunderbolt catamaran seemed to be running a little nose high. (Photo courtesy of Judith Beesley)

Garry Dickson drove his MPM 31 powered Mercury somewhat less cautiously than usual, but did it pay off? Well no, as his quite respectable lap total of 72 was still only good enough for fourth place as he also over-stretched the capabilities of the boat leading to it flipping in spectacular style on the back straight whilst trying to overtake another craft. Even worse, a similar mishap occurred when going too quickly over the wake left by the rescue boat.

Kevin Alcock's Conquest ran very quickly during part of both heats, but its engine cut on several occasions requiring a rescue and restart, leaving him in fifth place with just 48 laps. With the substantial water spray created by these surface drive boats, all of them tend to take some water on board. Kevin suspected that the self-bailing devices in the Conquest were not removing the excess water quickly enough, eventually causing a build up in the bilges and sufficient to get into the air intake of the carburettor and so causing the petrol engine to stop.

End of a great day's racing

With the racing completed by about 3.30pm, it was time to clear-up the boats and associated equipment and help Peter and Alan with putting the rescue boat back on to its trailer. We all assembled in the car park for the presentation of the certificates for the winners and shared some banter on what was another excellent day's racing. Special thanks were given to Peter and Alan from the host club and for those that helped out with rescue boat duties and to Sally Dickson for lap counting.

This marked the last of the three 2016 scheduled visits to Branston Water Park for this season, and Peter Dimberline presented a special Burton Model Boat Club Trophy to the person who had achieved the highest total amount of laps in any single class, over these three events, Garry Dickson being delighted to be the worthy winner of this trophy.

Conclusion

The disappointingly low number of entries on this occasion, did not spoil the day as we all had some great fun, enjoyed some great racing and all in all made it another great day out, which is perhaps what it is all about. I look forward to updating you again soon.

Cheers for now - *Craig*

BMPRS Branston 3 Results - 26th June 2016

Position	Name	Hull	Engine	Heat 1	Heat 2	Total
AA Class						
1	Garry Dickson	Magnet	West 28	32	29	61
2	Kian Searle	Challenger 43	OPS21 geared	22	20	42
3	Craig Dickson	Magnet	West 28	13	4	17
4	Mark Beesley	Cavalier	OS 21 o/b	11	2	13
5	Graham Stanley	Cavalier	OS 21	1	9	10
A Class						
1	Mike Barnes	Challenger 43	ASP 46	33	39	72
2	Kian Searle	Crusader	ASP 46	31	23	54
B Class (Run with C Class, one heat only)						
1	Malcolm Pratt	Apache 50	CMB 67	9	0	9
C Class (Run with B Class, one heat only)						
1	Mike Gelson	Stratos	CMB 91EVO	46	0	46
2	Ian Searle	Makara	CMB 91	0	0	0
D Class						
1	Mike Barnes	Patriot	Zen 28.5	49	50	99
2	Garry Dickson	Saturn	MPM 31	48	47	95
3	Mike Durant	Phantom 145	Gizmo 30	47	46	93
4	Graham Stanley	Phantom	Zen	40	41	81
5	Malcolm Pratt	Patriot	Zen	19	34	53
6	Kevin Alcock	Patriot	Gizmo 30	24	20	44
7	Ian Searle	Phantom	Tiger King	12	24	36
8	Terry Lucas	Sigma	Zen	2	0	2
T1 Catamaran CLASS (Run with AA Class)						
1	Luke Bramwell	X-CAT 38	ASP 46	35	31	66
2	Mike Barnes	X-CAT 38	ASP 46	24	39	63
T2 Catamaran Class						
1	Malcolm Pratt	Aeromarine	CMB 91RS	46	44	90
2	Graham Stanley	F1 1320 GP	RCMK K30	35	46	81
3	Mike Barnes	Thunderbolt	Zen 26	42	33	75
4	Garry Dickson	PMC Mercury	MPM 31	33	39	72
5	Kevin Alcock	Conquest 43	RCMK K30	26	22	48

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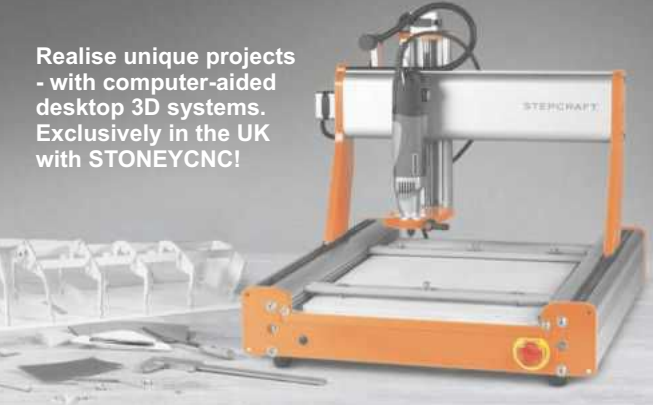
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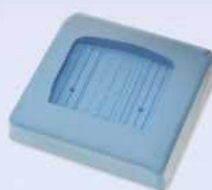
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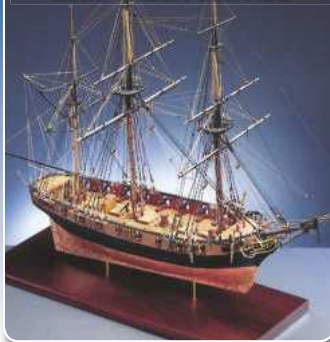
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Forwards & Reverse

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41A Ilkley Road, Otley, LS21 3LP, UK
Tel: +44(0)1943 461482 Fax: +44(0)1943 468335

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