

BUILD PROJECTS AND INSPIRATIONAL READING FOR THE MARITIME MODELLER

MARINE

modelling INTERNATIONAL

MAY 2014

JOSIE

A DUTCH BARGE BUILT USING A
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COVER STORY

JOSIE

Following a TV programme of a full size Dutch motor barge circumnavigating the British Isles, it inspired the builder to construct a model similar to the one used in the TV programme. By using a pre cut Traplet woodpack the hull was clad in plastic sheet instead of the usual thin ply, this made finishing much easier, but how do you adhere plastic to the plywood frames? This is answered in the article and could be used on other woodpacks.

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EDITORIAL CONTACT



MMI generally publishes commissioned articles, but will consider other contributions including news items and factual articles. It is important that contact is made with the editor before any material is written, as duplication of items may result in articles being rejected.

Prospective contributors can email or write for a copy of the MMI Notes for Contributors via Traplet Publications Ltd.

Any other Editorial queries can be made by telephone to 01749 347172 during normal office hours.

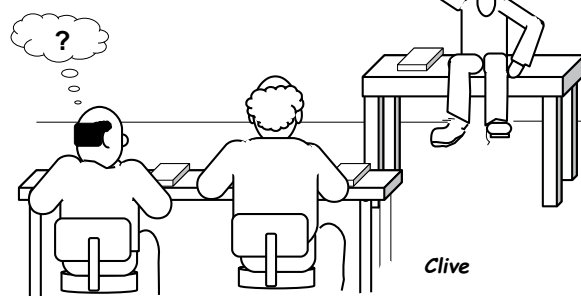
GREETINGS ALL,

With the vast interest in Internet and social media sites like Twitter and Facebook it is easy to forget that the Internet is still pretty young. I was surprised recently to hear of the 20th anniversary of the World Wide Web – how did we manage without it? Recently I was taken aback when my 3-year-old grandson came up to me with his mum's iPad and was keen on showing me how he could play a game well above my head, my grandfather used to have a horse and cart and a valve wireless – a sign of the times!

Our daily lives are now controlled by iPads, iPhones, tablets, etc. with emails now overtaking the old postal snail mail but don't forget that this modern technology does have its flaws. I had a case recently when it took 10 days for an email to travel about 1/2 mile – I'm sure snail mail would have been much quicker!

Also, with the vast number of people using email there are some people who are very keen to cause you stress by invading your email system, I had the misfortune a few weeks ago of such an experience when an unwelcome guest gained access to one of my email accounts and distributed a simulated begging letter from me in distress in a foreign country and was asking for money to be sent to be bailed out. This is quite common and known as 'phishing'; hence beware of emails from an alleged known source who you have trusted in the past as it could be a very clever email from skammers. The main learning point is to know how to change your passwords very quickly if you are unfortunate enough to be in the

An introduction to
i-pads
(For Granddads)
Your tutor today:- Oscar
(Aged 3)



Clive

same situation. I can hear the sniggers from non-Internet modellers!

This month we have another varied mixture of articles. For the high tech modeller, in Airwaves we have a thought-provoking method of controlling model craft using a smartphone, this method is being used in some model aircraft and a small number of maritime modellers have been dabbling in this process. From our friends in Chile we have the build of a wooden operational U-Boat, and for the RG65 class racing yacht skippers we have two articles on increasing performances.

We are always looking for articles on linking full sized craft to models, and this month we have a good example when we report of going to sea on a full sized Gay Class MTB and the build of the Gay Archer model.

With the constant need to promote our hobby and share skills and experiences for future model makers it is good that an organisation is addressing this issue under the banner of the 'University of the 3rd Age' and an article explains how an impressive group are being taught model making skills.

For UK TV watchers you may have seen over the past 2/3 years a series featuring a well known actor who sails around the UK in a Dutch barge, this was the inspiration for a modeller to build a model of the Dutch barge which features on the front cover.

Plus, we have all the other regular features like show reports, Diary Dates, News, Waterline models, Powerplug, Scale Scene, Plastic Kit Scene, etc.

Have a good month and if you are visiting the South West Model Show at Shepton Mallet come and have a chat, I should be on or near the Traplet stand!

Barrie Stevens
MMI

MARINE
modelling INTERNATIONAL

EDITOR

Barrie Stevens

mmi@traplet.com Tel: 01684 588604

Traplet Publications Ltd, Traplet House, Pendragon Close, Malvern, Worcestershire, WR14 1GA

ASSISTANT EDITOR

Chris Saunders

chris.saunders@traplet.com

CONTRIBUTORS

John Davies, Rick Eyrych, Steve Jackson, Alan Senior, Kelvin Holmes, Chris Jackson, Barrie Griffin, Israel Wilfredo Diaz Gómez, John Norris, Dave Wiggins, Robin Trott, Ian Williams, Kim Belcher & Alan George

MANAGING DIRECTOR

Tony Stephenson

OPERATIONS DIRECTOR

Tom Stephenson

PRODUCTION MANAGER

Nick Powell

DESIGN TEAM

James Scott

MARKETING ASSISTANT

Lara Hunter - 01684 588550

Email: marketing@traplet.com

ADVERTISING SALES

Vivienne Hill - 01684 588544

Email: advertising@traplet.com

ADVERTISING COPY CONTROL

Cindi Griffiths - 01684 588517

Email: adcopy@traplet.com

PRINTER

Warners plc

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Country Fair Drive, Suite 5

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Fax: (02) 9520 0032

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South Africa

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Email: southafrica@traplet.com

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MASTHEAD

MARITIME NEWS AND VIEWS

MILLBROOK MODEL MARINERS 2014 RIVER CHALLENGE

After many months of preparation the club are planning to embark on an endurance sail of a fleet of R/C model craft up the River Tamar from St Germans to Cremyll, Nr Mount Edgecumbe House in Cornwall. They are planning to start at 0900 and arrive at 15 - 1600 hrs on Saturday 17th May with the aim to raise funds for the Cornwall Hospice. We wish the club well on this voyage.

For further details contact Keith (Richie) Richmond, Email: orkneymund@aol.com

HMS VICTORY

For modellers who have built or are building a model of Nelson's flagship, HMS Victory it may be worth checking the correct colour. It has emerged from the restoration work being carried out at Portsmouth that after removing layers of paint the original colour appears to be black, not the present yellow and black bumblebee effect!



HMS Victory in her traditional bumblebee livery – but is this correct?

HMS BIRKENHEAD MEMORIAL

A memorial has been unveiled in Birkenhead (Wirral, Liverpool City Region, United Kingdom) dedicated to the victims of one of the worst maritime disasters of the 19th century. HMS Birkenhead, a steam frigate built by John Laird's shipbuilders in Birkenhead, sank off the coast of Gansbaai, South Africa on 26th February 1852. Out



Memorial of the HMS Birkenhead tragedy recently unveiled

of 638 people onboard, only 193 survived. Many victims were taken by sharks. The tragedy was the first occasion when troops were ordered to 'stand fast' and the protocol of 'women and children first' was used. As a result, all women and children aboard the vessel survived. The action became famous as the 'Birkenhead Drill' throughout the British Empire, capturing a spirit

of Britishness, and was used when RMS Titanic sank in 1912. The phrase was also used by Rudyard Kipling in his poem 'A Soldier An' Sailor Too', which was read at the memorial service.

The memorial was designed through a competition organised and judged by Cammell Laird shipyard, Andy Liston of New Brighton Lifeboat Station and Wirral Council. The winning design was submitted by Jemma Twigg of Birkenhead Sixth Form College. The memorial was then created by Cammell Laird's apprentices with materials donated and costs met by Cammell Laird.

Cammell Laird chief executive, John Syvret CBE said the company is immensely proud to build the memorial.

NATIONAL MARITIME MUSEUM CORNWALL EVENTS FOR MAY

The Friendly Invasion, 24th May – 5th October.

A commemorative 70th anniversary exhibition looking back at the social impact on local residents during the preparations for the D-Day landings.

Fal River Festival, 23rd May – 1st June.

The festival embraces the places, people, history, culture and industry connected to this very Cornish river. With its diverse mix of events taking place at dozens of locations around the water, the festival gives a real chance to engage with life on the river and discover some of its fascinating history. For full details visit the

www.falriverfestival.co.uk

NMMC contact details: Tel: 01326 214558 or visit

www.nmmc.co.uk

SOUTH WEST MODEL AND HOBBY SHOW, 3RD AND 4TH MAY

With over 60 traders and exhibitors booked into this multi discipline show so far it should again prove to be very popular. Held at the Royal Bath & West Showground near Shepton Mallet in Somerset most major specialities are located in individual halls with a large area allocated on the north side of the showground for operational model aircraft.

For further details visit www.swmwww.co.uk or Tel: 01179 070099



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For modellers who can remember the popular 1989 UK TV programme TUGS about novelty model tugs primarily designed for children but became popular with most modellers who are young at heart, a new

company has been set up called the Star Tugs Company. The company has purchased the 18 models used in the series and has recently opened a permanent display at the Midland Railway Centre. TUGS was produced by the same team that did the production on the first two series of Thomas the Tank Engine & Friends, Clearwater Features, who were founded by former employees of Gerry Anderson, producer of Thunderbirds, Captain Scarlet etc. A must see display for the maritime modeller.

For further details visit www.thestartugs.co.uk/

CONGRATULATIONS!

To Mr Trathen from Cornwall, who was the correct entry drawn for the Word Search competition held in the March edition of MMI. The prize was for one of the new Sprinter Tug kits supplied by the manufacturers, S.H.G. Marine. The correct answer of the number of unused letters after all the words had been crossed off on the bottom line was 8.

SAD LOSS

It is with great regret we announce the passing away of much-respected modeller, Malcolm Wilson on 15th March. Malcolm was a very active and fine builder of model warships and was a member of the Surface Warship Association. Our condolences go to his family.

ANOTHER SAD LOSS

Long-term MMI contributor, Mark Steele from New Zealand sadly passed away on 27th March at the North Shore Hospital near Auckland. Mark was a very enthusiastic and passionate modeller with his traditional sailing craft and was known throughout the world. His last article we published in MMI was the 'Kiwi Yawl Joanna' in the March 2014 edition. Our sincere condolences are extended to his family at this very sad time. **MMI**

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You need to know the motor's max. continuous current but that depends on the prop size and pitch and on the voltage you intend to run on. If possible, get hold of an ammeter put the boat in the water and measure the current with the motor running straight off the battery.

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Please note. We are happy to give advice by the old fashioned telephone but can only answer the simplest queries by email. Invariably we need more information about your model and what your preferences are. All too often there isn't a simple answer and a discussion is needed to arrive at the best solution for your case.

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DIARY DATES

EVENT DATES FOR YOUR DIARY

Event Dates for your Diary

If you know of any confirmed Maritime related events and you would like us to include them please let us know either by Email mmi@traplet.com or post to MMI Editor, Traplet Publications Ltd, Traplet House, Pendragon Close, Malvern, Worcestershire, WR14 1GA. We need the Date, Venue, Organiser/who to contact and crucially an Email/Website address and/or a telephone number, a post code would be useful for Sat Nav's. A full listing of events for the year can be found on www.marinemodelmagazine.com We do need at least 8 weeks' notice to include in the printed magazine.

MAY 2014

MMI DIARY DATES

MAY 3/4

South West Model Engineering, Model Making & Hobbies Exhibition

Royal Bath and West Showground, Shepton Mallet, Somerset, BA4 6QN. Sat 10 am to 6 pm, Sun 10 am to 5 pm. Contacts: Model Clubs etc. Email: nigel@swmee.co.uk Traders Tel: 0117 9071000 and speak to Martin. Website: www.swmee.co.uk

MAY 4

Model Boat Show, Appledore, Devon

It is being held at the RNLI Appledore Life Boat House, Appledore. 10 am to 4 pm. Further details from Richard, Tel: 01237 478187

MAY 4

Glasgow Richmond MBC, Start of Season Show

11 am – 4.30 pm at Richmond Park, Glasgow (opposite Shawfield Stadium). Dozens of boats on display, Hands-on boats, for the kids, Harbour system to navigate, bring and buy etc. Come along, join in the fun. All enquiries to the club secretary: Sandy Mercer through the club email: glasgow.richmond@gmail.com Directions on the club website www.glasgow.richmondmbc.co.uk We are only 1 mile from junction 1A of the M74, www.glasgowrichmondmbc.co.uk/Where.html

MAY 11

Mini Ship (1/1200-1250 scale) Show

Explosion Museum, Gosport, Hampshire PO12 4LE – 10.30 am – 4 pm. Call Waterline Ship Enthusiasts (Dave) on 02392 352383 or Email: dreadnought9@hotmail.co.uk

MAY 11

Edinburgh Model Boat Club

Scale start of season/fast electric. Inverleith Pond. All are welcome, start time 12 pm. Contact david.jack5@btopenworld.com

MAY 11

Chantry Model Boat Club

AMBO championship. Lake 7, Bluewater Shopping Centre, Greenhithe, Kent, DA9 9SE (on Town Square Crescent). All models sailed except I/C. Good parking nearby. Clubhouse. Toilets. All shopping centre facilities nearby. Contact Club Secretary, Martin Oliver, Email: martin.999@hotmail.co.uk

MAY 17

Mobile Marine Models

Manufacturer's Bonanza, Manufacturer's Market Day. The Boat Shed, Highcliffe Park, Ingham Cliff, Lincoln, LN1 2YQ. Start 10.30 am. Factory-On-View, many trade stands and club exhibitions. Burger van. Free entry, free parking. For more information Tel: 01522 730731 or 689209

MAY 18

Stevenage MBC's Model Boat Regatta

Fairlands Valley Park & Sailing Centre, Six Hills Way, Stevenage, SG2 0BL. We would like to invite as many model boat clubs/enthusiasts/owners and public to this event. Small I/C and steam are also welcome. You can offload near the water with parking nearby. 9 am to 11 am FE and I/C. From 11 am onwards scale, electric, steam, submarines and yachts of all classes. Please contact Jeff Holmes on 01767 220529 or Roland Duffett on 01438 362012, Mobile 07889 312508

MAY 18

Dolphin Model Boat Club

All meetings are at Orpington Pond just off of Kent Road by the A224 Cray Avenue BR5 4. 10 am start. There will be a £2 charge per boat for any non-club members. Sorry no I/C or petrol boats. There is off road parking on club days but no food or toilet facilities. Web: www.dolphinmodelboatclub.com/ Email: dolphinmodelboatclub@live.co.uk or Margaret, Tel: 01689 834896

MAY 18

Kirklees Model Boat Club – Club 500 Racing Event

This is our first attempt at this and this is aimed at being a fun day. We are hoping to have other clubs involved and would like the event to run between 10 am and 3 pm at Wilton Park, Bradford Road, Birstall, Batley, WF13 8JH. Free car park. Contact Stan on 0113 2675790 for more information

MAY 18

Tug Towing & Scale Competitions also Leisure Sailing

Balne Moor MBC, Kingfisher Pond. Start 10.30 am. Refreshments available. Contact Peter Newton (Sec.), Tel: 01977 791825

MAY 24/25

Mayhem at Wicksteed 7th annual show

Wicksteed Park in Kettering, Northamptonshire, NN15 6NJ. All types of model boat are welcome to display and sail. Entrance to Wicksteed Park grounds and facilities is £6 per car. The park has a wide variety of attractions. There is a camp site situated close to the lakeside and contact Wicksteed Park on 01536 20512475 or www.wicksteedpark.co.uk For further details please visit www.modelboatmayhem.co.uk or contact Brian via boat.forum@ntlworld.com

MAY 25

Chantry Model Boat Club

Grey Navy Day. Lake 7, Bluewater Shopping Centre, Greenhithe, Kent, DA9 9SE (on Town Square Crescent). All models sailed except I/C. Good parking nearby. Clubhouse. Toilets. All shopping centre facilities nearby. Contact Club Secretary, Martin Oliver, Email: martin.999@hotmail.co.uk

MAY 31/JUNE 1

Annual 'Springbok Model Boat Show'

Springbok Estate, Alfold, Cranleigh, Surrey, GU6 8EX. This will be the 18th Show, which attracts model boat clubs and modellers from far and wide and is held to raise funds for 'Care Ashore' a charity that runs the retirement home for seamen at Springbok Estate. Further information may be obtained from www.careashore.org or phone 01403 752555

JUNE 2014

MMI DIARY DATES

JUNE 1

Warship/Navy Day also Leisure Sailing

Balne Moor MBC, Kingfisher Pond. Start 10.30 am. Refreshments available. Contact John Pollitt, Tel: 01977 645696 **MMI**

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POWERPLUG

RICK OVERVEWS CHOOSING A BOAT CARRIER FOR THOSE TIMES WHEN YOU MIGHT HAVE A LONG TREK TO YOUR POND'S SHORELINE

AUTHOR: RICK EYRICH reyrich99@gmail.com



When attending any big/sanctioned I/C boat race event, you can usually pick up at least a handful of new ideas, tricks, etc. that you can add to your nitro/petrol marine craft, including ways to move the boat around the parking and pit zones

During my recent visit to this year's Orlando Culvert Dodgers Winter Nationals event your MMI scribe became very aware that the majority of the I/C boat races I've attended lately have all been run on what I call, 'retention ponds'. Basically a man-made hole used for drainage control for a park, roadway, shopping area or housing development; these bodies of water can make excellent model boat racing sites. Normally not extremely deep the retention ponds usually are weed-free and afford easy access for boat launching, so, most any style of I/C vessel can be delivered, launched and recovered without any fear of suffering a weed blocked prop shaft or the soaking of your pants or shoes.

At the 2014 edition of the Winter Nationals, the pond itself had these same basic amenities; however, to reach the site's main boat launch/driver's stand area the majority of the attending nitro/petrol competitors had to walk a pretty fair distance from their vehicles to reach the action. Narrow dirt paths ran along the pond's raised banks, and if you had to tote a large hull, plus all of your required gear to the area several times a day you'd be pretty tired when the race programme was completed.

So, to help overcome the wear and tear of your body while moving your marine craft around this type of race event, we'll be devoting this entire Powerplug space to determining what style of boat cart or wagon would best fit your situation. Besides being



If you have multiple race boats and a large pit area to cross to reach the driver's stand having a simple wheeled cart or wagon at your disposal will cut down your travel time and reduce the ache in your back



Like most race ponds this event's pit space has a narrow path going to the launching/driver's stand locations, so, if you have to park/set up at the far end of the site having a hull carrier will help to ensure you always make your heat race start time



This heavy-duty steel yard cart features large tyres, hinged sides and a separate PVC plumbing pipe hull cradle. The unit also has ample gear storage for such things as starters, fuel cans/pumps and toolboxes



A regular yard cart is a good hull carrier as it comes with a pull handle that also steers the front wheels as you walk your boat to the staging area

physically large enough to support your and/or a buddy's hull, the idea of having enough extra cart space for your transmitter, fuel, starter, etc. must also be considered when you're choosing a boat carrier.

Other options include determining what materials you'll build your custom cart from, what kind of wheels you'll need for it and whether or not the cart will have to be broken down for placement in your vehicle. As for those who aren't skilled at building their own hull/gear transporter we'll also discuss the idea of using an existing garden, camping or beach wagon as your power craft toter as well. Besides having the space and capacity to haul your boat at the lake, these folding units are usually designed to easily collapse to a compact size and can be very important if you're trying to fit a lot of gear inside a relatively small car boot.

SINGLE OR DOUBLE

When choosing your boat pit cart, one of the options to consider is whether you'll have to transport a single hull or pull a pair of boats around your pond. With the high cost of vehicle petrol and/or the sometimes long distances between race sites, many I/C boat enthusiasts now 'carpool' to races to help save money so having a two vessel carrying capable wagon may be needed for your situation. Of course with the addition of another power craft on your cart some extra space will also be needed for that hull's starter, Tx, fuel, toolbox which could mean adding a second level to the pit transporter as well. At the Winter Nationals event I saw several two-boat wagons being used and they were made up from



Metal hooks screwed into this wagon's wooden chassis top helps to retain the cradled hulls on the carrier and note how the pull handle has been bent to make it easier to move the cart from place to place



A lot of PVC pipe went into the construction of this cart's stand that doubles as a hot-pit 'workbench' and all four of the cart's wheel hubs are ball raced and turn pneumatic rubber tyres to smooth out the transporter's ride

everything from a standard garden wagon to a custom home made unit that we'll discuss a bit further along in this column.

PRE-MADE VS. HAND-CRAFTED

Your next likely boat transporter decision will be whether you'll want to try building yourself a hull wagon or buy/convert a pre-made cart that was originally manufactured for other duties. Any number of building materials can be used to fashion your own hull cart including such things as thick wall plastic plumbing pipe, thin wall metal tubing, marine grade plywood and any number of wood leftovers you might have out in your shed. Once you've chosen your transporter's main construction material your choice of wheels will have to be considered, plus the axles for them to turn on. Most I/C boat pit wagons rely on extra large diameter wheels riding on solid steel axles thus giving your carrier plenty of strength and ample ground clearance once the cart's loaded with your boat and all of its required gear. Both solid rubber and pneumatic wheels can be used on your wagon and the wider tyre treads will provide a more stable ride over any bumpy or sandy terrain around your pond. If your hobby budget will allow it, using wheel/hubs assemblies with sealed ball races and tubed tyres off a small yard wagon, wheelbarrow or handcart are the high-end 'rollers' for this kind of home made hull transporter.

NOTE: if possible, avoid using any small caster wheels on your cart, as they will tend to dig in or sink into any non-tarmac surface you might encounter and the result might be watching your boat go rolling down a hill!



Lightweight metal tubing like you'd find on a work or shopping cart was used to fashion this two-stack hull hauler; yet its small caster wheels will make it harder to move the loaded carrier in soft sand

Another side benefit from building your own I/C boat cart is that you can design it to breakdown to whatever size will best fit inside your vehicle. Using any number of screws, pins and even Velcro hook-and-loop material are options for holding your cart pieces together. On PVC plastic tube stands, their various connecting elbows, tees, etc., can be held in place with small screws instead of actually cementing them to their lengths of plastic tube thus making the whole cart structure easier to take apart at the end of the day. I'm sure I've overlooked some other common securing methods; however, you'll generally be able to join the components of your custom hull cart from pieces found at your local DIY/hardware stores.



For those with stiff knees or bad backs working on your I/C boat from a cradle sitting on the ground can be rough on your body; but having a small beach or garden cart to raise your hull stand upward will ease your aches and pains

TRICK OF THE MONTH

Following a trend towards knowing exactly how well your boat's single or double power plant layout is properly receiving cooling water your writer saw several race craft that had their water outlets positioned in an alternative location. Mostly seen on the larger hydroplane/catamaran hulls a pair of outlet fittings was mounted vertically on the tip of the hull's left-hand sponson. Done this way the boat's out going cooling water was clearly visible if the driver ran only slightly closer to the driver's stand. Now if you're running a counter-clockwise oval course the water outlets would need to be affixed to the hull's right-hand sponson; but, the basic idea of knowing for sure that there's plenty of cooling water passing through your boat's engine/pipe coupler is your main goal with this set up.



Water spray from this gas hydro's sponson tip indicates that both of its onboard water-cooling circuits are working correctly and the boat's driver can clearly tell from the driver's stand

PRE-MADE CARTS

Moving now to the idea of purchasing a cart/wagon that's already suited to toting one or two marine craft and/or whatever control/running gear you'll need once you're at the lake. Available from outlets that sell beach and garden supplies, there are many metal tubed, folding style carriers that can be converted to R/C boat usage. One very good point for going with this type of pre-made unit is that they were made to fold up into a very compact size; so, if you're dealing with any kind of space problem in your car's small boot section, this kind of hull carrier can be your best bet. At the Winter Nationals race, your MMI scribe came across your



With plenty of lightening holes in its wood make-up this custom hauler was designed with a short wheelbase, which might have been required to fit it in the modeller's car boot



Sold as a large beach cart this metal tube, nylon fabric wagon has extra wide wheels that can be helpful going through sandy terrain to reach your lake's shoreline area

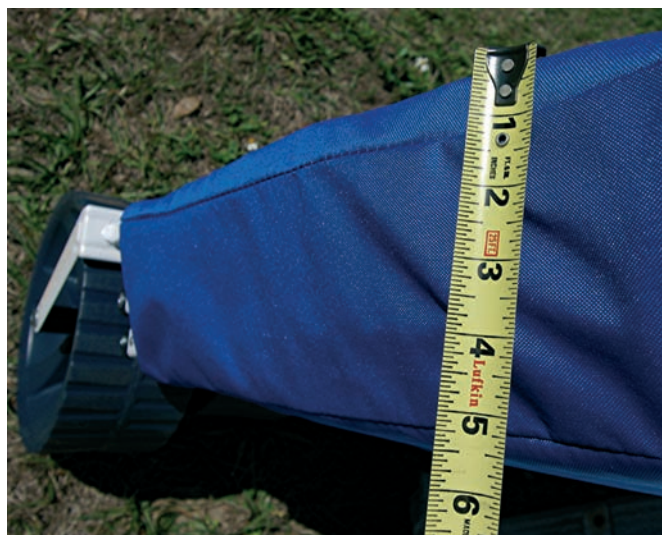
basic removable side fence wagon (steel chassis, wood floor) that allowed the racer to both carry his/her boat and gear as well as a completely flat garden cart (steel frame) that could easily transport two big boats due to its heavy-duty design. These types of wagons will normally be equipped with equally stout wheel and axles, but their total overall weight and size may limit them to use for those modellers/racers with larger vehicles and/or trailers.

Also seen at the Florida I/C event were the before mentioned beach carts and they are generally laid out with a fabric inner liner to hold your gear and have a folding pull handle that also steers the front wheels as well. These lightweight beach carriers normally have good ground clearance and feature larger diameter wheels to navigate sand better; so, they're equally well suited for moving around the average boat pond. After asking several competitors about these beach carts, I was able to find that they're even lighter than I first imagined. Impressed with the beach cart's toting abilities and simple folding storage size, I began to look for such a wagon for use with my boats. My typical run lake has a mixture of thin grass and loose sand, so my goal was to choose a cart that had fairly wide wheels and a good sized nylon fabric enclosure to suit either a nitro or petrol boat's stand and gear. In the end, a Beachcomber beach wagon found its way to my front door and since I got the unit I've found it to be an excellent vessel transporter. The cart's solid plastic wheels are a bit unforgiving; but they look like the ones used on the Mars Rovers and can easily handle my lake's sandy shoreline. Plus, the whole wagon folds into a small flat package that stores in its own nylon fabric bag. My only problem with the beach cart-now-boat cart is that 'She Who Must Be Obeyed' has expressed an interest in using it for the beach (imagine that), so I'm going to have to actually carry (gasp!) my boat on some weekends.

CLOSING THOUGHTS

In using my wagon, I've found that applying a good coat of a household stain blocking spray will help keep the nylon 'bag' material cleaner under I/C boat stains and I regularly wash down the metal frame carrier if it gets a bit muddy at the pond. Beyond that, only a regular oiling of the wheel axles has been needed and I'm quite pleased with the wagon. I'm sure that most any type of R/C boat could be transported with this kind of folding cart (with some kind of support stand between it and the hull) and would be a great idea for any modeller who must move his/her vessel and gear over a long distance.

In next month's column the subject will be how you can make your power craft run faster while looking slower out on the water. Sound interesting? Talk to you next time. **MMI**



Folded into its full stored form the beach wagon will go into a small car boot and leave enough space for your hull and gear

TIP OF THE MONTH

As a long time user/fan of JB Weld epoxy, I recently ran across their new WaterWeld epoxy putty at my local DIY store and this adhesive is a stick putty epoxy designed to be used in both dry and underwater repair conditions. Usable on fibreglass, plastic and several different metals, the WaterWeld is also resistant to most chemicals and fuels and its cure time is only one hour. Packaged in a simple sealable plastic tube the thick putty stick has two distinct colours, so you just cut off equal amounts of the putty compounds, knead/blend them together and apply the epoxy to the damaged area. With a set time of 25 minutes the WaterWeld can be used for race day I/C boat repairs or any workbench jobs that favour a thick adhesive over a thinner glue. So far I've used it to act as a simple fillet along a fibreglass hull/bulkhead seam and in a couple of areas where using the putty in a vertical condition prevented a run in the epoxy. Like all JB Weld epoxies, the new putty stick, once fully hardened can be sanded, filed and tapped for fasteners, then painted with most any rattle-can spray finish.



Instead of using a liquid two-part epoxy you can rely on this JB Weld epoxy putty as it sets up quickly and can handle any marine repair on your fibreglass boat and/or its onboard metal hardware

VINTAGE CHATTER! PART 9

RADIO CONTROL RECEIVER

AUTHOR: DAVID WIGGINS  GREAT BRITAIN

TRANSITROL – A HUGE LEAP FORWARD IN MODEL RADIO

Hi there. From last month's review of the E.D. model diesel range, I now move on to a radio control receiver that was truly a giant leap forwards for model control equipment design in this country. It was Great Britain's first equipment to include a first generation 'transistor' semiconductor device – the 1957 E.D. 'Transitrol' receiver designed by George Honnest-Redlich.

Following the discovery of the 'semiconductor' characteristics possessed by materials such as germanium and (later), silicon in wartime USA, the first few devices were introduced to Europe by thermionic radio valve makers like Mullard, GEC and Phillips during the mid-fifties. The first transistors suffered from a whole range of limitations and problems way outside the scope of this feature, the principle of which was that they were suited only to low frequency applications like audio amplification and switching. But it was a start as the valve era began to be left behind. In his design for the Transitrol Mr Redlich used one of these early germanium junction devices as a current/noise amplifier retaining just one valve as a 27 MHz detector while the transistor boosted the current to give a decent 'current swing' to the relay coil. This made adjusting the E.D. 'Bleep' relay contacts very much easier and improved reliability to some extent.

It is important to realise that this, then new, 'hybrid' (part valve, part transistor), receiver, despite the early adoption of a then ultra-high technology device, was still a very simple piece of radio design. There was still, for example, the same old wide bandwidth, carrier wave operated, super regenerative valve detector just as in the single and two valvers it was replacing. It was not until more complex designs replaced it over the decade of development



A close-up of the two tuning adjustments. The resistor is a 'sensitivity' control while the tuneable inductor is the RF tuning control

that followed, (and certainly not until the first experimental RF transistors came on stream one after another, eliminating the need for glass valves altogether), that commercially made R/C receivers progressed from super-regen' to crystal controlled superhet' and from c.w. to 'tone' (am), becoming – at last – (a) dramatically smaller and lighter and (b) truly 'fit and forget' as reliability improved to the point that it had reached by (say) 1965-70. In 1957 a long hard road still lay ahead both for radio research engineers and for semiconductor designers and manufacturers. All that said, George Redlich's Transitrol was a pioneering product.

CLIMBING INSIDE A 1957 R/C RECEIVER!

Taking a Transitrol apart (so to speak), the R.F. detector circuit (you could still operate just one model at a time, transistor or not, back in '57), is unchanged from those of a decade earlier and employs the then well-known XFG1 thyratron (gas filled), triode valve. These micro miniature glass 'bottles' (as we techs called radio valves back then), were made by Hivac Ltd mainly for use in the very first electronic deaf aids, as well as for radio control devices, and were filled with an inert gas which glowed blue, purple or red during operation and tuning. Service life was rated at just 50 hours. A similar device was manufactured by Raytheon in the USA – RK62 I think it was numbered. Pretty much all of the first few circuits (schematics Stateside), for first generation, carrier wave operated single valve receivers used one or other of these early valves (radio tubes in the USA).

In his 'blurb', for the exciting new Transitrol, the designer acknowledges that punters might find his choice of valve a bit old-fashioned by 1957. He justifies his choice by saying that he is operating it at a very much lower (a tenth), of the 1.5 mA maximum anode current than 'normal' in order to extend its limited life span, and in that, he was probably correct though frequent valve changes would still have



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A period advert for this groundbreaking British receiver from 1957

been both necessary and expensive, (a new XFG-1 valve cost seventeen shillings and sixpence – a whole week's pocket money – when I started buying these devices in 1962). The glass valve is surrounded by the usual tuning coil, fixed resistors and ceramic capacitors then necessary in a simple valve detector circuit, and I'm sorry to say, it's a bit of an untidy jumble inside that small (for 1957), Bakelite case.

Tuning up, by lake or flying field, was carried out by adjusting a variable inductor and a preset resistance going back and forth from one to the other by turns – the resistance being the 'sensitivity' adjustment common to all 'carrier wave' receivers, and the inductor the principle RF tuning coil. Both would have required frequent re-adjustment during every session.

Redlich's transistor was employed solely to enable the Bleep relay, (E.D. Ltd designed and made their own miniature electromagnetic relays in house – a quite demanding task often performed by ladies as it involved winding copper wire of human hair thinness onto a 'bobbin'), to operate from a decent rise in current rather than the tiny dips then common. This might not sound like a massive benefit but I can assure you anyone who has toiled to get 50 yards or so in range out of an early 'gas' valve receiver will tell you differently! To power up a Transitrol requires 45 Volts (usually made up by two tiny 22.5 V deaf aid batteries wired in series), for high tension and 1.5 Volts for low tension (the valve's anode and heater supply respectively), plus a 4.5 Volt battery for the escapement and transistor part of the circuit, so four batteries in all.

Next month I'm sharing with readers an early British glow plug engine from my collection so, until then, I'll bid you farewell. **MMI**

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PLASTIC KIT SCENE

DETAILS ON SOME NEW PLASTIC KIT RELEASES

AUTHOR: ROBIN TROTT  GREAT BRITAIN robin.trott@yahoo.co.uk

REVELL

I will begin this month with the latest offerings from Revell.



**DGzRS 9.5 m Class
Rescue Boat Verena**
Model No.: 05214
Scale: 1/72
Length: 12.3 cm
Parts: 48



(Images courtesy Revell)

This is a model of the German 9.5 metre class rescue boat Verena; this class of lifeboat is very seaworthy due to their Delta hull design. The Verena is the daughter boat of the much larger Hermann Marwede maritime rescue vessel, and is also available from Revell in 1/200 scale with a small Verena lifeboat as well (model no. 05812) which was released last year.

The images I received from Revell show that this latest kit will build into a very detailed model that will enhance any collection of model lifeboats.

D-Day Set (US Navy LCM3 Landing Craft & 4X4 Off Road Vehicle)

Limited Edition Model

Model No.: 03000

Scale: 1/35

Length: 43.5 cm

Parts: 291



*The Revell D-Day Set in 1/35 scale
(courtesy Revell)*

The LCM3 Landing Crafts were used in many theatres of war during WW2. This set has been released for the 70th anniversary of the D-Day landings on the 6th June 1944.

This set is a re-release; it comes complete with a jeep and trailer together with crew figures and soldiers, the detail of the finished model is superb. I built this model several years ago and converted it to R/C; I finished it as a British landing craft with a tank onboard in place of the jeep and trailer.

It's great to see this kit available again, Revell has marked it as a limited edition so it may not be available for too long – so get one while you can!

My next Revell kit is of a German World War 2 seaplane, which I thought would interest some marine modellers.

Blohm & Voss. BV222 Flying Boat

Model No.: 04383

Scale: 1/72

Length: 50.3 cm

Wingspan: 63.4 cm

Parts: 282



*The Revell Blohm & Voss flying boat is a large model
(courtesy Revell)*

The Blohm & Voss BV222 was the largest flying boat built during WW2. Originally designed as a commercial passenger seaplane, its size was soon noticed by the military and used by them from 1941. It could carry 92 troops and had a crew of 11 to 14. It is thought that 13 of these seaplanes were built. They were powered by six powerful engines and carried a defensive armament of three 20 mm cannons and five 13 mm machine guns. An unusual feature of these flying boats was that they had retractable wing floats that fitted into the wings like the undercarriage on normal aircraft.

The model is very well detailed, its armament is fully reproduced, as is the engine detail and the retractable wing floats, I think models of flying boats do not look out of place alongside model boats – after all they still go on water.

Revell has also revamped their website, which is well worth a look; it is very well presented, showing all products that are produced by them which includes paints, tools and R/C models and much more. UK readers can now order through their online site which is then routed through their nearest stockist. There is also an online magazine, which is very interesting giving details of kits built by many modellers. Also many modelling techniques, such as weathering, diorama building and painting, can be found to help modellers whether you're a beginner or experienced; we can all learn from others!

Revell model kits are available from all good toy and model retailers. For details visit www.revell.de/en, [@RevellGermany](https://www.facebook.com/Revell) or [Facebook.com/Revell](https://www.facebook.com/Revell)

ITALERI

This company has also just released a model of a landing craft to coincide with the 70th anniversary of the D-Day landings.



Italeri LCM 3 landing craft (courtesy Italeri)

US Navy LCM 3 50ft Landing Craft

Model No.: 6436
Scale: 1/35
Length: 43.5 cm
Parts: +160 plus 9 figures

This kit comes with six soldiers and three crew figures but no jeep and trailer like the Revell kit. The detail is good as well so there will be a choice

for modellers as to which model to purchase.

More information can be found at www.italeri.com

LINDBERG

I now have details of three kits from this company sent to me by the UK importer, Amerang.

Shrimp Boat

Model No.: 77223
Scale: 1/60
Length: 31.4 cm
Parts: 87



This is a detailed model of a Shrimp Boat from Lindberg

This is a lovely model of a shrimp boat. Its detail is good but there is some flash and pin marks that will need removing. It comes complete with four crew figures, decals and thread. This is a model that has sufficient room inside the hull to allow it to be converted to R/C, using a small motor and micro components.



Tuna Clipper

Model No.: 77220
Scale: 1/60
Length: 35.1 cm
Parts: 94

LEFT: The Tuna Clipper hull and deck sections



Lindberg Tuna Clipper

This is a model of the tuna clippers that work in all seas and weather, fishing for tuna in some very hostile environments. Its hull is in two parts with a two-part deck, decals and rigging thread are also included. Again this is a model that could be easily converted to R/C.

Nantucket Light Ship

Model No.: 70860
Scale: 1/95
Length: 43.8 cm
Parts: 177



The Nantucket Light Ship has a lot of detail



The hull and deck of the light ship, there is room for R/C to be installed

The Nantucket LV-112 Light Ship was launched in 1936 and was taken out of service in 1975. There have been eleven light ships bearing this name; each had a different recognition number but the same name.

The name is the area of the Nantucket Shoals, a very hazardous location 40 miles SE

of Nantucket Island – it is the furthest light ship location in North America. A light ship has been stationed at this location since 1854 to mark these dangerous shoals. The LV-112's predecessor, LV-117, was rammed and sunk by the ocean liner RMS Olympic, sister ship of the Titanic, in May 1934 – LV-112 was paid for by the British Government as compensation for the loss in which many of the crew were lost. She stayed on this location for 39 years, the longest for any American light ship.

Today the area of the shoals is marked by a location buoy, the Nantucket LV-112 was declared a National Historic Landmark in 1989 and is now been renovated and permanently moored as a museum ship in Boston harbour.

A great model this is, I'm glad it is available once again as I have always wanted to build it and convert to R/C. It comes with many parts; as with the other kits it has a two-part hull but the deck is in one piece, rigging thread and decals are also included. The review model supplied by Amerang I will be converting to R/C as I like the idea of a model red light ship moving on the water, I know light ships are normally stationary but this will be the exception to the rule. I will have a full build review and details of its conversion in a future issue of MMI when it is completed.

These three Lindberg kits have been available on and off for many years. Their moulds, I believe from memory, were originally produced in the 1960s and '70s, so they do show their age. The detail is not as good as modern mouldings, but the types of models they produce are not available elsewhere so it is good that they can still be found once again.

Thanks to Amerang for supplying the review models, these models are available from any good model retailers. Further details can be found by visiting www.amerang.co.uk and www.lindberg-models.com **MMI**

WATERLINES

ELLERMAN LINES – ONE OF GREAT BRITAIN'S LARGEST SHIPPING COMPANIES

AUTHOR: KELVIN HOLMES  GREAT BRITAIN
khwaterlines@btinternet.com

Living near Christchurch in Dorset (or Hampshire if you prefer), the author was delighted many years ago to receive, as a gift, CM's 1/1250 model of Ellerman's City of Christchurch. More likely the ship was named after the city in New Zealand but that did not matter and the model was one of the earliest merchant ships in the collection – with its grey hull and distinctive buff, white and black funnel a most attractive ship. The Ellerman Line was established in 1902 and finally sold in 1983 although there was a brief management buy-back before the company was acquired by Trafalgar House in 1987 becoming Cunard-Ellerman, operating container ships. In 1988 this was restyled as Ellerman Harrison, finally in 1991 becoming part of the Andrew Weir Shipping Group, today a successful management company. Ocean Fleets of 1998 (14th edition) lists Andrew Weir as owning three container ships with 'City of' names (London, Salerno and Tunis) operating as Ellerman Line Ltd. alongside ten Bank Line vessels. By 2009 (15th edition) the Ellerman name no longer featured.

In 1892 John Reeves Ellerman in partnership with Christopher Furness bought the fleet of the Leyland Line eventually selling the company to the American conglomerate International Mercantile Marine (IMM) in 1901. As part of the deal Ellerman retained 20 ships and agreed not to compete with IMM on the Atlantic routes. At the same time Ellerman acquired the Liverpool based Papayanni & Co. with their eight vessels. Setting up the London, Liverpool and Ocean Shipping Co. Ltd., the City Line (Glasgow) and Hall Line (Liverpool) were bought and in 1902 all were brought together as the newly

established Ellerman Lines. Even then the fleet of Westcott and Laurance was acquired followed in 1908 by the Bucknall Steamship Lines, although the latter retained their own funnel colours. The group continued to expand in this way and in 1916 bought Thomas Wilson, Sons and Co. Ltd. (Hull) whose 68 ships made them one of the world's largest privately owned shipping companies.

Two ships were lost to enemy action in 1914, followed by four each in 1915 and 1916, a shocking 35 in 1917 and nine in 1918. A further ten succumbed to 'maritime hazards'. These severe losses were partly offset by the acquisition post-war of ex-German tonnage such as the aforementioned City of Christchurch plus new vessels built by William Gray & Co. Ltd, a business bought in 1920. JR Ellerman died in 1933 and six years later we were plunged into WW2 with tragic shipping losses once again. 1935 saw the completion of the City of Benares, renowned as Ellerman's only two funnelled ship even if the aft was a dummy. From a fleet strength in 1939 of 203 (plus those of the Ellerman-Wilson Line), 58 were lost including in 1940 the City of Benares, plus 25 of Ellerman-Wilson's. As of 1948 the fleet numbered 95 with a further 22 under construction. Amongst the latter was the cargo/passenger liner City of Elizabeth destined with her three sister-ships for the South African route although at the same time all passenger services to India ceased. All four were laid up in 1971, two being converted to cruise ships for their new Greek owners.

The period following WW2 saw a gradual decline in Britain's merchant fleets and by 1973, when JR Ellerman (2nd, son of the founder) died, the fleet numbered less than 40. Container ships came into widespread use at the end of the 1960s and as already recounted the last three 'Cities' were of this type. The City of Durban (see below) was launched in 1977 for the Ellerman Harrison Container Line; she was chartered by P&O (as part of OCL) in 1983 as the Portland Bay reverting to her original name in 1984. Two years later she was transferred to ACT as ACT 8. More on these various container lines may be found in Waterlines Revisited 10.pdf on the Traplet website. Duncan Haws' Ellerman Lines records that by 1983 when the company was sold a total of 624 ships had been owned from seven particularly important companies that came into the fold.

Ship	Built	Depicted	Model (* illustrated)	Notes
City of Milan	1907	1921	RG-10a	ex Plauen
City of Boston	1912	1922	CM-212	ex Dusseldorf
City of Christchurch	1915	1929	CM-211*	ex Aschenburg/Lorenzo
City of Winchester	1917	1917	Colonia 28*	7 sister ships
City of Canterbury	1922	1922	LJ-M20	
City of Nagpur	1922	1922	AL-61a*	2nd of the name
City of Paris	1922	1922	AL-61	3rd of the name
City of Benares	1936	1936	AL-66*, HM-210	5th of the name
City of Bombay	1938	1938	AL-205*	Sister ship City of Karachi

Pre-War Ellerman Ships in 1/1200-1250



Here she is – City of Christchurch



Albatros model of City of Benares



City of Nagpur, typical of an early 20th century tramp steamer



Colonia City of Winchester

Ship	Built	Depicted	Model (* illustrated)	Notes
City of Durham	1945	1945	LJ-K9 (AH)	Wartime transport
City of Poona	1945	1946	LJ-M11 (AH)	'Fast Empire' Type
City of Oxford	1948	1948	LJ-M94 (AH)	4 sister ships
City of Port Elizabeth	1952	1952	CM-KR-58*, LJ-L41 (AH)	3 sister ships
City of Melbourne	1957	1957	LJ-M37* (AH)	Sister ship City of Capetown
City of Exeter	1974	1975	LJ-M114 (AH)	SD14 type ex P&O
City of Plymouth	1978	1978	LJ-M85 (AH)	4 sister ships
City of Durban	1978	1978	Triang P623*	
City of Liverpool	1981	1981	Skytrex TM1	Bulk carrier

Post-War and 'Modern' Ellerman Ships in 1/1200-1250

Including 'new', Triang's container ship City of Durban there have been 18 relevant 1/1200-1250 models released so far, an eminently achievable collecting target. All are listed in the table. Other manufacturers are RG, CM/CM-KR, Colonia, Albatros (AL), HM and Skytrex (now trading as Triton 1250) Ltd. Of these RG, Colonia and HM (aka Degen) are no longer in production although such models can, with luck, be found at the Theale meetings or online at dealers specialising in second-hand models such as www.mikemodelle.de and www.ships-and-more.de both of whose sites have an English language option and take PayPal. The seven Len Jordan (LJ) mastered models annotated (AH) are currently available from AH Models (24 Broadland Road, Great Sutton, Ellesmere Port, CH66 2JS). As with HM's rare City of Benares these are in resin. City of Liverpool has the honour of the penultimate entry in Merchant Fleets 15.



Resin casting of City of Melbourne in the LJ range



City of Bombay is another Albatros model



City of Port Elizabeth; this is the CM-KR version

REFERENCES AND FURTHER READING

'Merchant Fleets 15: Ellerman Lines' by Duncan Haws (published 1989) and 'Ships in Focus: Ellerman Lines' by John Clarkson and Roy Fenton (1993), 'Ellermans – A Wealth of Shipping' by James Taylor (1976) and 'Ellerman Lines: Remembering a Great British Shipping Company' by Ian Collard (Jan 2014). **MMI**



Postcard of City of Hull; completed in 1947 she came under Ellerman's management in 1950 (author's collection)



City of Johannesburg was completed in 1947 and finally sold in 1970 and scrapped in 1973 (author's collection)



The real City of Port Elizabeth to compare with the model (author's collection)



Triang City of Durban is really a generic containership model but very affordable

SCALE SCENE

IAN CLEARS UP SOME LOOSE ENDS FROM PREVIOUS MONTHS

AUTHOR: IAN WILLIAMS  GREAT BRITAIN
electro-marine@talktalk.net

PLASTIC PRIMER

In last month's Scale Scene I revisited my previous piece on adhesives and included tests of some of Starloc Adhesives' products. At the end of that article I mentioned that there was one product of theirs that I didn't have but would love to test. This was the plastic primer from the Universal Bond Pack. Well I've got some now and have given it a pretty stiff test!



Starloc Adhesives' Plastic Primer



Demonstration piece as per the text. These are very old and very used pieces of PTFE tube

The idea of the plastic primer is that it allows you to glue together various plastic materials that normally can't be glued, such as Polypropylene, silicone, Nylon, PTFE etc. All you need to do is apply a little of the primer to each of the surfaces to be glued and let it dry for a few minutes, then apply a good cyano adhesive and join together. I used Starlocs' Instatite medium cyano. Starloc are at pains to point out that whilst the adhesive's setting time remains the same, full chemical bond can take around 24 hours. Wanting to give the product an extreme test, I cut an old piece of PTFE tube from an FE boat flex shaft in half and glued this together using the Plastic Primer and Instatite. As you can see from the photo, it worked as promised. You just try to stick PTFE together normally. The contact area was very small yet the joint was strong enough to support my car keys. Very impressive!

ORCS AGAIN

Following on from my article on the French pilot boats and my comments on the unavailability of plans, Jerry Cavill who lives in Toulouse contacted me with a wealth of information about the ORC boats. There are plans available for the lifeboat version, which is very similar. Jerry said he thought that the GA drawing on the shipyard's website was nothing like the actual ORC 155 pilot boat. Certainly their GA drawing does not correspond to the pictures of the pilot boats labelled as 155, as there is no aft deck on the plan. There is a thumbnail of the correct GA drawing available elsewhere, but I think it's too small to be useful. However, the pilot boats closely resemble the lifeboats (model V1 NG I think) with the exception of the all-round bumper, and the rear superstructure, which on the lifeboats covers a dock for the RIB.



14 metre ORC French Lifeboat SNS 140 (courtesy Bernard)



Nice bow shot of SNS 140 (courtesy Bernard)



Full size ORC bow under construction (courtesy Bernard)

The French lifeboat service (SNSM) sell a modeller's plan at 1/20 which includes a CD of photo details of La Teigneuse SNS142 for 45 euros, available from head office or all permanent lifeboat stations if you happen to be visiting France. The Head Office address is: Les Sauveteurs en Mer, 31 Cit d'Antin, 75009 PARIS, France.

A reduced version of the plan at 1/60 is available in a special edition of Le Modele Reduit de Bateau (Hors Serie No.6) published several years ago, which is still in some newsagents and can be ordered from the publishers, Rigel Editions. Here is the link to the page on the Rigel website: <http://librairie-hussard.com/catalog/modele-reduit-bateau-magazines-anciens-numeros-hors-serie-vedettes-sns-sm-p-51080.html>

The plans in the magazine have been successfully enlarged by several modellers, up to at least 1/15 (one metre length), but as you can imagine from the complicated shape, that is a lot of work. Jerry says that the plans sold by the SNSM are worth the price (donation). They were drawn by a modeller for the SNSM, so not directly by the boat builder, Bernard.

Here is a link to one build thread, I've checked it out and it is well illustrated so you don't need to understand French:

<http://modelismenavalradioc.nouvellestarg6.com/t4300-sns-142-la-teigneuse> Also, just Google 'SNS 142 plan' to see more model pictures.

In addition to the model built in the above photos. Just have a look at this incredible German model on: <http://modelismenavalradioc.nouvellestarg6.com/t9019-sns142-la-teigneuse-1-15-echelle> – this is well worth looking at just to see the incredible workmanship and level of detail. It shows what a fascinating and complex shape these boats are and Jerry agrees with me that a model of one the pilot boats would make an unusual and interesting variant.

I have some video links for you here from the LeHavre Pilots' site: www.pilhavre.fr/ The second video (French TV news channel TF3) shows quite a bit of detail. Most of the lifeboats shown are ORC 140 14.8 m x 4.6 m (but also quoted as 14 m).

SNS148 at Antibes is a similar boat, but ORC 160, 16.85 m x 4.0 m. And finally some video links from the Bernard shipyard site. Here is a slideshow of the pilot boat in action from the air:

www.nauticexpo.fr/prod/bernard-shipyard/bateaux-service-bateaux-pilotes-30801-333618.html#video also the lifeboat: www.nauticexpo.fr/prod/bernard-shipyard/bateaux-recherche-sauvetage-sar-30801-333646.html#video and the smaller pilot ORC150 interior: www.nauticexpo.fr/prod/bernard-shipyard/bateaux-service-bateaux-pilotes-30801-333614.html#video

It is always nice to get feedback from a reader, even more so when you get information as useful as this! Thanks Jerry. **MMI**

www.mobilemarinemodels.com

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LIVEWIRES

IAN BUILDS A MONO 1 FE RACING BOAT

AUTHOR: IAN WILLIAMS  GREAT BRITAIN
electro-marine@talktalk.net

In the last Livewires I showed you a new hull I'd bought and promised to detail the build of the boat. So I will, but first, keeping in mind there may be new readers who don't know what Mono 1 is, a brief explanation is in order I think.

Mono 1 has been around as a class for several years now and is currently the second smallest of the International (European) surface drive oval racing mono classes. Second because there is a smaller mono class (Mini Mono) raced for a number of years now in the UK and elsewhere, but was not recognised by NAVIGA as a legitimate class until after the NAVIGA world champs in 2013 where it was raced as a demonstration event. It was ratified as an international class after these championships. As far as I can see, it will be run to the current UK class specifications.

MONO 1 SPECIFICATIONS

OK, back to Mono 1. The class specifications are as follows:

1. Any surface drive mono-hull/any motor
2. Lithium polymer powered 2S1P, 2S2P, 3S1P, 3S2P hard case allowed with maximum weight of 280 grams or 6 cells 3S2P A123 cells (type 26650) or 7 Sub-C

3. Race time 6 minutes plus 10 second mill time

Again for newcomers, some clarification is needed I think.

Point one. There are no limitations to hull or motor sizes. To a large extent these will be self-limiting. If a boat is too large it probably will not be fast enough given the amount of power available (see point 2). If it is too small it probably will be unstable given the amount of power available. If the motor is too powerful you may have an unstable boat or one which will not run the time with the battery capacity available (points one and two).

Point two. Most people run Lithium Polymer cells and of these I don't know anyone who runs packs in parallel due to the weight penalty. So I will just concentrate on 2S1P and 3S1P LiPos and the differences. A 2S1P battery will give you a nominal 7.4 volts and 3S1P will give you 11.4 volts. But because of the weight restriction, a 2S1P battery will probably come out at around 5800 mAh and a 3S1P probably around 4000 (ish) mAh. These weights are estimates only and will depend on the manufacturer and how much weight you can legally get rid of (don't forget more capacity usually means more weight). So you can see you have a lot less capacity to play around with on 3S1P, bearing in mind the time you have to run will stay the same (point 3) whether you choose 2S or 3S. Now 7.4 volts vs. 11.1 volts, seems a bit of a mismatch but either can be competitive and here's how you do it.

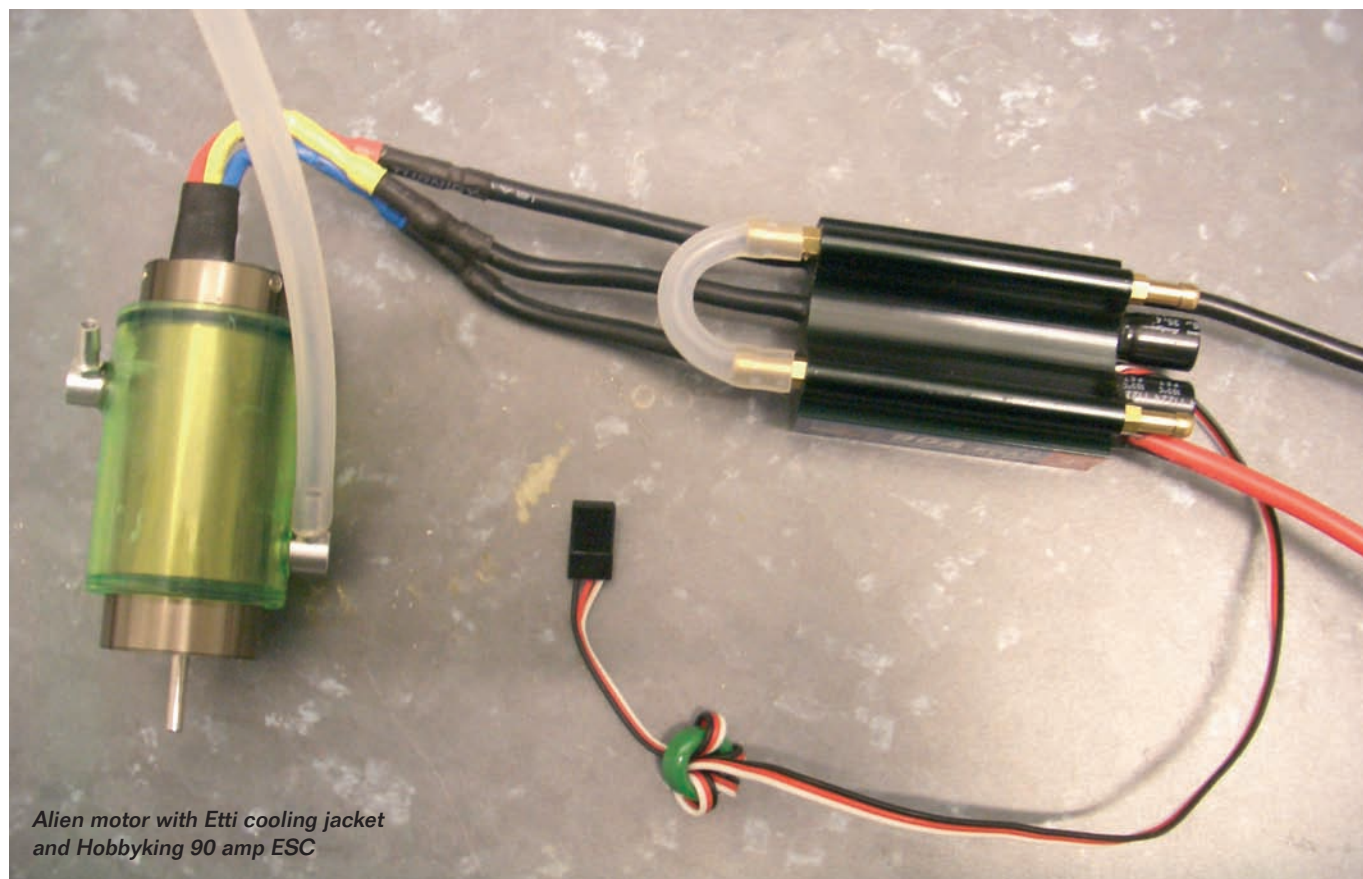
Now as I'm trying to simplify this I won't go into the theory too far. So basically, on 2S you need a high kV motor, something around 4200 to 4500 kV perhaps. This would probably draw quite a high current, but you do have a pretty decent battery capacity available. With 3S you would need a lower kV motor (as you are getting more voltage) possibly somewhere around 3400 kV to 3700 kV. The revs will probably still be higher than with the 2S set up, but you may have to use a smaller prop to bring down the current (remember less capacity available).

I do know that the winner of Mono 1 at the 2013 NAVIGA worlds used a Scorpion IS series motor. It was a 2840-3500 kV inrunner brushless with a 15 V 110 amp ESC. I'm not sure but I suspect a 3S1P battery, but I don't know the prop size.

Point three. Run time required is around 7 minutes. Six minutes race time, plus 10 seconds mill time, plus, depending where you are after the race time is up, you may have to do an extra lap. Six and a half minutes would be ideal, but to my mind that is cutting it a bit fine. Don't forget that everything you do to extend the run time will reduce your speed and vice versa.

FIRST THINGS FIRST – BITS AND PIECES

Here's where we start getting all the bits together to build the boat. A word of advice here, it is much better to have everything



Alien motor with Etti cooling jacket
and Hobbyking 90 amp ESC

to hand before you start construction. You need everything ready, as you will have to plan out where everything is going, especially as space can suddenly seem very limited if you get the placing of components wrong. It is much easier to physically try the bits in the hull as you can usually avoid problems that way (not always, but usually!). It's often the little things that get forgotten and hold you up if they have to be ordered. Things like tube for the rudder pushrod to exit the hull through, rubber boot for the pushrod, water-cooling tube etc. Right, having got all that out of the way I can move on to putting it all together.

ASSEMBLY BEGINS

As with any GRP hull the first thing to do is check it over for any twists or imperfections. Minor imperfections can be dealt with, but any twists or warps in the hull and you send it back to where you purchased it. As mentioned last month, my hull was purchased from Alien Power System for the princely sum of £39, a bargain if I ever saw one! The hull looked fine and as can be seen from the photo, arrived with flood chamber fitted and the flood holes in the deck all nicely pre-cut. Nothing else came with the hull other than a rather agricultural looking wooden mount for the rudder servo and a slightly odd little wooden support, obviously intended to be used with the solid shaft. I was going to throw them out. I'm glad I didn't! The motor I used came from Alien as well, again on special at £35. It is a 2970 3820 kV inrunner, oodles of power!



The Mono 1 hull, note the neatly cut flood chamber inlets



The Hobbyking 70 mm stinger (see text)



Back of the boat showing drive offset as described in text

Right, so now on to the next stage. Once again, as with all GRP hulls, you should de-grease the hull thoroughly inside and out. This is to remove any traces of release agent, which could have an effect on the way glues and paints would adhere to the surface. A couple of washes in warm soapy water followed by a good rinse often does the trick.

Having made sure the hull is clean you can start the assembly. I decided not to purchase the hardware set that is available for this hull as it included a solid straight prop shaft. I'm not too keen on straight shafts, solid or wire type, because if you get the angle of the shaft wrong during construction, you create all sorts of problems. I have always used flex shafts with a drive strut mounted on a bracket. This gives you the ability to change the drive angle and to raise the prop relative to the bottom of the hull. This latter can be quite important, especially to stepped mono hulls as if the back of the boat is being raised too high by the lift of the prop the boat can be unstable. This can lead to the hull being sensitive in turns, perhaps even spinning out or bouncing and rolling. Raising the prop height allows the back of the boat to sit lower in the water and 'grip' better in turns.

Having been told that this hull was probably a little short, I decided to move the prop further out from the back of the boat. I must admit the measurement I chose (70 mm) was purely a 'guesstimate'. Whilst this kind of spacing doesn't preclude the use of a conventional drive strut system, it does mean that the bracket has to be quite substantial to prevent flexing. It can also cause problems with the run of the flex shaft between the back of the hull and the strut. So eventually I decided to fit a stinger (see photo). This doesn't give you the prop height adjustment facility, but does allow you to adjust the shaft angle.

For reasons stated above, I wanted the shaft raised up a little, so I drilled the exit hole 5 mm above the point of the V at the transom and 4 mm to the right as you look at the back of the boat (see photo). This offset of the shaft should help to reduce the tendency of surface drive boats to curve to the right due to the paddle wheel effect from the prop.

FITTING THE DRIVE SYSTEM

Once the exit position of the shaft was established, it was time to line up and temporarily fit the shaft and motor in its mount to the hull. These had to be in place so the stinger could be lined up on the transom and the mounting holes marked and drilled. I used my usual method of lining the internal parts up and just tacking them in place with a drop of Cyano. This is usually just strong enough to hold things in place whilst being handled, but gives you the option of easily breaking things loose if adjustment is needed. I utilised the supplied wooden bracket as a temporary support intending to remove it later and fit an aluminium support bracket. However, I



Original fitting of shaft showing unsupported flexi as explained in text

used Starloc Adhesives' Flexycyano, which was a mistake in this case, as this is so strong that I just couldn't remove the bracket. I suppose with a bit more force I could have broken the bond, as literally I had only used one drop. But the hull bottom was showing signs of starting to flex, so I just left the thing where it was and eventually epoxied it permanently in place along with the motor mount and shaft outer tube.

During the construction of this boat all adhesives used were from Starloc Adhesives. As you may already know I have been testing and using adhesives from this company over the past few months and have been very impressed. As they make adhesives for almost every conceivable modelling use and all the ones I've used so far have done exactly what they said they would do, I can't see me ever using anything else.

OK, eulogy over! Apart from the Flexycano, I used Starapox 3175 to fix the shaft outer and motor mount, this is a toughened two-part epoxy adhesive, which is slightly thicker than the normal 5-minute type. It still fills all the nooks and crannies, but sort of oozes into place rather than running all over, making it more controllable. When that had gone off I reinforced the shaft and motor mount with Structatex. This is also a two part toughened Epoxy, but with the added advantage of being non-drip. It stays where you put it and is ideal for strengthening joints. No matter what adhesive you use, don't forget to abrade the surfaces to be stuck together to give the adhesive something to grip. Especially when fixing items to the GRP surface.

MORE HOLES IN THE HULL

If you are new to this you will, by now, realise there are quite a lot of holes you have to drill in your nice new hull, eleven in the transom alone! Once the drive train was sorted out it was time to line up and fit the rudder bracket and finally the turn fin bracket. All the brackets were bolted to the transom using stainless Allen bolts with Nyloc type nuts and plain washers to spread the load on the plywood doubler on the inside of the hull. Once everything was tightened, I warmed some 5-minute epoxy slightly to make it runnier, then mixed it and let it flow all over the inside of the transom to seal the wood and the nuts.

The final two holes in the transom are for the water-cooling and the rudder pushrod. I had some oddments of brass tube lying around in the scrap box and two short lengths of a suitable size to fit the rubber boot for the pushrod and the water-cooling tube (see photo). These were fixed using Starapox. As you can see the rudder has a built-in water pick up and the cooling tube enters the hull just above the stinger mount, making a nice neat installation. I prefer this type of water pick up in the rudder, as finding the right place for a pickup on the bottom of the hull can be a little problematic with a stepped mono hull.



The inside of the transom with strut brackets, rudder a shaft outer tube fitted



The back of the boat almost complete, just needs turn fin



Rudder servo and wooden mount (see text)



Safety loop fitted through hull side and flood chamber

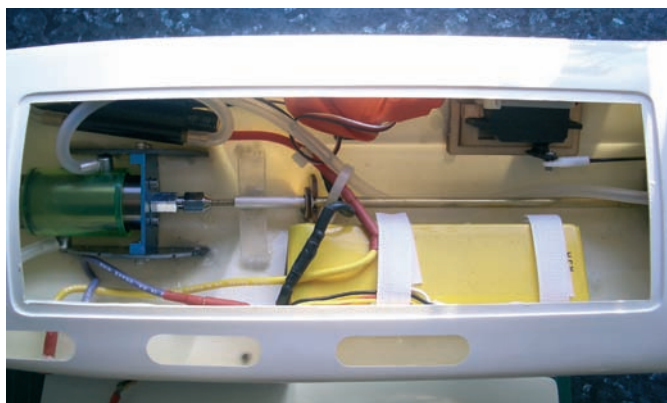
Only three more holes to go now; two for the safety loop and one for the water outlet. This latter was an Etti outlet, which is threaded and comes with a nut and washer. It is fitted at the front of the boat on the left hand side just above the motor (see photo). All that is needed is the correct sized hole, a small drop of glue on the inside flange of the outlet, drop it in the hole and tighten the nut from the inside of the hull. There is a good reason for the positioning of the water outlet; firstly it means you only need a short piece of tube connected to the motor cooling jacket. But mainly because in this position you can see water coming from it more easily than near the back of the boat where it sometimes gets hidden by the rooster tail from the prop. I like to be able to see my cooling is working!



Close-up of motor assembly with water-cooling jacket. Also shows wire from safety loop sockets coming through the flood chamber



Battery straps as described in the text



Inside the boat as completed. Not as neat as I'd intended but not too bad. Note the finished mod to the drive shaft

The final two holes are for the required safety loop and this hull gave me a bit of a problem in that regard. Because of the three large holes in the deck it made it hard to install the 4 mm sockets for the safety loop actually on the deck area itself. I didn't want to risk cracking the GRP between the flood holes. Eventually I chose to fit the safety loop more or less where it is on my Etti mini mono. That is in the hull side (what there is of it) just forward of the step. The job went easily enough but I used a lot of adhesive making sure the holes were sealed properly!

Well that just about completes the build apart from some cosmetic work and the wiring which is straightforward stuff, just fitting plugs and sockets and plugging it together. There are just a couple of little points to mention and one huge mistake.

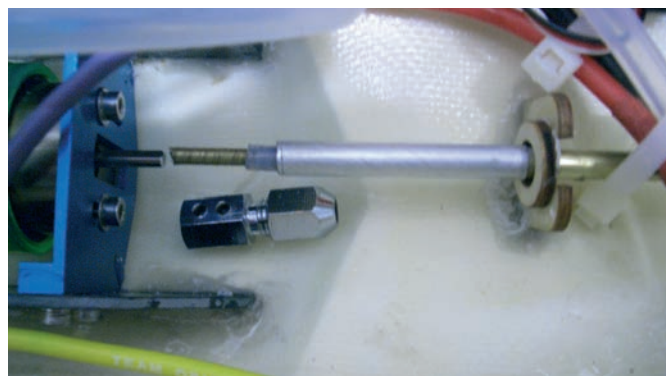
You remember the 'agricultural looking' wooden servo mount I nearly threw away. Well I had a nice anodised aluminium servo mount ready to fit, but I just couldn't get it to fit where I wanted it. So in desperation I tried the wooden mount, which fitted perfectly, holding the servo in exactly the right place. So if you do buy one of these hulls, use the mount that comes with it. The mount is epoxied to the hull and the servo is held in place with strong double-sided tape and a cable tie and is rock solid (see photo).

One of the photos shows some battery straps cut from industrial strength Velcro. These were applied to the hull using some strips of gauze bandage which had been thoroughly soaked with epoxy resin, an extra coat of epoxy being applied when the soaked bandages cured. The straps hold the battery really well, but when the correct C of G is found for the boat, I will be fitting some small aluminium brackets to prevent fore and aft movement of the battery.

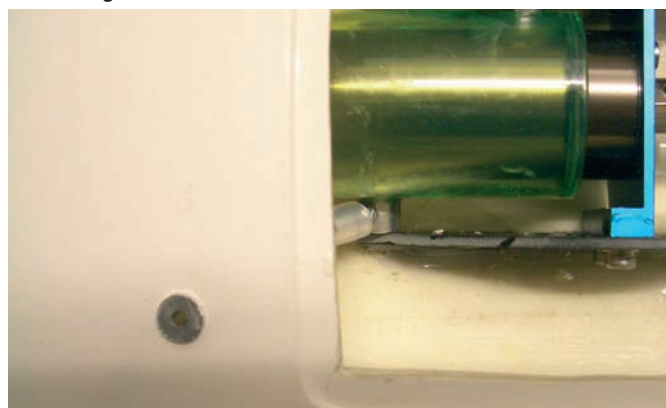
NOW THE BIG MISTAKE

If you look at the photo that includes the glue bottle you will see that there is a length of unsupported flex shaft between the inboard end of the brass outer tube and the flex hex coupling. It doesn't look like much on the photo, but was about 45 mm and caused the flexi to distort between these points the first time the motor was run. This was obviously no good, so a solution had to be found, as it would be almost impossible to remove the outer shaft to replace it. The answer turned out to be a piece of aluminium tube, which was a tight fit on the inboard end of the brass outer tube. This aluminium had a piece of brass tube the same as the shaft outer fitted inside to support the PTFE liner and the whole thing epoxied together with a support to the hull (see photo showing test fitting). This bit of bodging seems to have worked OK.

Finally, I had hoped to show you at least one photo of the boat on the water and to describe how it goes. Unfortunately, at the moment the boat is on the bench, having been in the water for about 2 minutes and gone through three ESCs and the motor. I am currently waiting for replacements and will have to update you in the next Livewires. I think possibly the motor was faulty leading to the broken ESCs, we will see. A poor ending to the article I know, but that's life I guess. **MMI**



Trial fitting of shaft tube extension as covered in the text



Etti water-cooling outlet



The Reverend Penny Dobbin blesses Mynydd watched by the huge crowd

CURRACH MYNYDD

THE BUILD OF A FULL SIZE TRADITIONAL BOAT IN SIX DAYS!

AUTHOR: **BARRIE STEVENS**

BACKGROUND

After authors John and Ann Gilman published a book called 'Crossways' about the spread of Christianity from Ireland to South Wales and Somerset a plan was made to try to recreate this voyage by Saints using a traditional Irish boat called a Currach in the 4th Century.

A Currach is a craft built on very similar construction principles as a coracle which is a one-man, small, circular boat made out of hazel twigs and animal skins but the Currach is much bigger and can carry many people. The Currach is long and narrow with a transom and is a similar shape to a modern conventional rowing boat. Some were reputedly built up to 60' long and were sailed across the Atlantic Ocean. Even today full size Currach racing is popular in Ireland and YouTube clips can be found of these races, hence there are still some people who have the skills and knowledge on the construction of these traditional Celtic craft.

After negotiations with many organisations in the Minehead area which was the area where the early Saints landed on the Somerset coast, a plan was made to finance and build a new Currach with the help of two Irish traditional boat builders, Pdraig O Duinnin and Dave Nolan from Cork, using locally sourced materials.



One of the blade-less oars with the easy to read visitor information

with assistance in building from local long term unemployed people with suitable skills. A small marquee was erected opposite the railway station and building commenced. Hindered many times with local press and people showing an interest in the project the two Irish skilled builders, Pdraig and Dave always made time to discuss and explain the building principles. It was very useful that a completed model of a Currach was on hand to explain the building process.

THE BUILD

The aim was to build a new 27' long Currach to carry seven crew, in six days starting on Monday 24th March and to be launched at 17:30 on Sunday 30th March – it would be difficult to build a model in this time!

The project was coordinated by the Minehead Development Trust vision manager, Stephen Hooper



Professional traditional boat builder, Dave Nolan with a model of a Currach



Work starts on the gunnels in the temporary marquee



The hazel ribs being fitted



The local hazel saplings selected for the correct size



The other professional traditional boat builder, Padraig O Dunnin shapes the ends of the hazel ribs



Longitudinal strips of wood stapled onto the ribs



View of progress underneath the hull

The build process was to build the gunnels out of about 4" square wood with shaped hazel twigs bent between holes in the side of the gunnels. Then strips of thin wood laid longitudinally the length of the hull were fitted to the hazel twigs with copper staples. The oars were blade-less as instead of conventional rowlocks where an oar can be feathered the oars fitted into metal rods fitted in the top of the gunnels. A wooden bracket was fitted to the oar with a tapered hole in and this was placed over the rod in the gunnel. Blade-less oars proved to be very effective and not prone to being affected by the wind.

When all the woodwork was completed the bottom of the hull was skinned with a ballistic nylon waterproof fabric sewn locally by The Leather Workshop in Withycombe and then stapled to the gunnels. The old conventional Currachs used animal skins with the joints made waterproof with a tar like substance.



The completed Currach being towed in procession to the slipway



Mynydd awaiting the formalities with her mast in position

THE LAUNCH

Despite earlier concerns that the build may overrun this was unfounded and the completed boat was placed on a trailer and towed by a tractor in procession with the builders and supporters of the project to Minehead harbour slipway. There was a very large gathering of people waiting for the launch, which proceeded after being ceremoniously blessed by the Reverend Penny Dobbin and the customary bottle of bubbly sprayed across Mynydd.

The launch was greeted with cheers from the crowd and even without looking for any leaks (the first thing you normally do with a maritime model!) the first seven-man crew boarded and they



The crew boards for the first sea trial



The carved nameplate is a permanent fixture in the boat

rowed around the harbour without any incident. Then followed a further four trips around the harbour with people who were associated with the project.

The next part of the project is to recreate the voyage across the Bristol Channel by St Carantoc. When details of this voyage are known we will let readers know.

To watch a video clip of the launch and sea trials visit YouTube and search 'Currach Building in Minehead'. **MMI**



Orders to begin to row given with a man on a surfboard standing by with a bird's eye view!



The 27' Mynydd does not look dwarfed by the fishing boats

AIRWAVES

USING THE UBIQUITOUS MOBILE PHONE IN MARINE MODELS

AUTHOR: ALAN SENIOR

🇬🇧 GREAT BRITAIN

airwaves@anola.net

Looking back at the May 2013 Airwaves article reminded me of reader Doug Hickman's idea regarding the use of a mobile phone within a model to control servos etc. Since that time I have investigated the idea of using the ubiquitous mobile phone in marine models, hence it is the main topic this month!

As noted in May last year, modern 'smart' phones typically have three radio transmitter/receiver sets inside, one for the cell phone signals (3G for example), one for Bluetooth and one for WiFi signals. Potentially any of these radio signals could be employed in a model. A particularly attractive feature of these smartphones is that they are fitted with a high quality, colour, touch sensitive display; this means that not only can they be used to show information such as the speed of a model, but the touch sensitive screen can also be used to control a model too via a virtual joystick.

Most smartphones nowadays have built-in accelerometers (effectively tilt sensors), these are typically used in games and by the phone's operating system to automatically change the orientation of the display as it is rotated, the tilt sensors can also be used to control an R/C model's speed and direction. Further many phones have a built-in GPS.

WIFI APPLICATIONS

WiFi is a very commonly used wireless system that is used to connect computers and phones to the Internet. The data rates are high, which means that high-resolution video images can be sent over the link in 'real time'. In principle this means that a WiFi link can be used to control a model, however, there is a potential problem that is not readily apparent in most situations. The problem is 'lag', the technical term being 'latency'. This means that there is a significant delay between the information being first dispatched and it actually arriving at the destination, and this in turn means it is difficult to control a fast model over WiFi. Taking an example, let's say our model is about to collide with another one, immediate evasive action is needed, so we quickly push the stick over hard to port, however, the command does not get to the model for maybe 0.2 seconds, so by the time the model starts to change course it is likely to be too late! In practice the R/C systems we all know and use exhibit a small amount of latency too, but this is less than 1/40th of a second so it is hardly noticeable.

WiFi works well for video transmission because once the data starts flowing through the link it can keep up with the video frame rate. As an analogy it is like water through a hose, connect it to a tap, switch on the tap and it will take quite a while for the water to reach the other end of the hose (the time lag) but thereafter it can flow uninterrupted.

Despite the lag it is possible to control slower models effectively, and there are products on the market that look and behave almost like a standard R/C receiver. Some have a few more features, such as a facility for a live video camera feed from the model to the phone. The WiFi receivers can also be controlled from an Apple iPad or Android tablet as an alternative to a smartphone.

DENSION WiRC

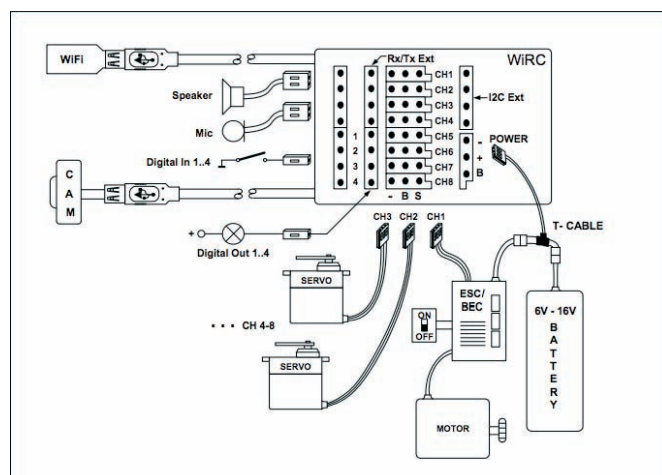
The first product that caught my eye was the Dension WiFi RC receiver (wirc.dension.com/wirc), the features being:

- 8 output channels for servo or ESC control
- 4 digital outputs (on/off)
- 4 digital inputs (on/off)
- 1 analogue input

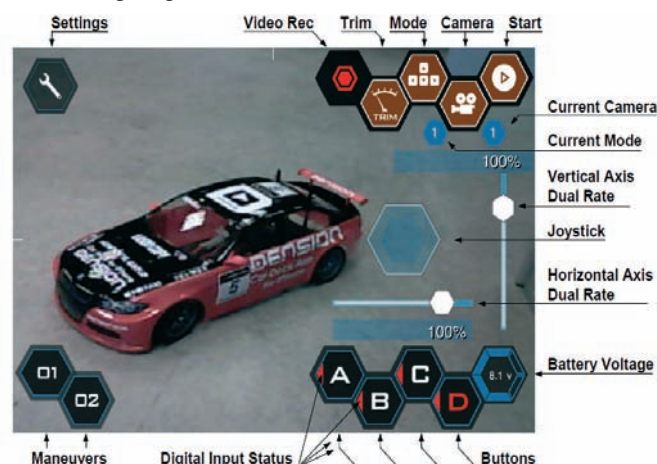
- Fail-safe function
- Battery voltage monitoring
- Up to 2 digital USB cameras
- Microphone input
- Speaker output
- Video recording

The receiver looks very much like a standard R/C receiver, so a battery is plugged in and standard servos and ESC's can be connected up, so it would be easy to retrofit one of these in an existing model. The difference is that it has two additional leads, the first one connects to a USB dongle which contains the actual WiFi signal circuitry, and the second connects to one camera (or more

Dension WiRC receiver



WiRC wiring diagram



WiRC control screen

via a USB hub). In use the phone or pad runs an App that provides simple joystick style touch slider controls and various buttons. The App is free once the WiRC has been bought, a demonstration App can also be downloaded before purchase to see the features offered and is available for both Apple and Android phones/tablets. The User Manual is also available for download for free from the Dension website, so this is the place to start to learn about the system and features before purchase.

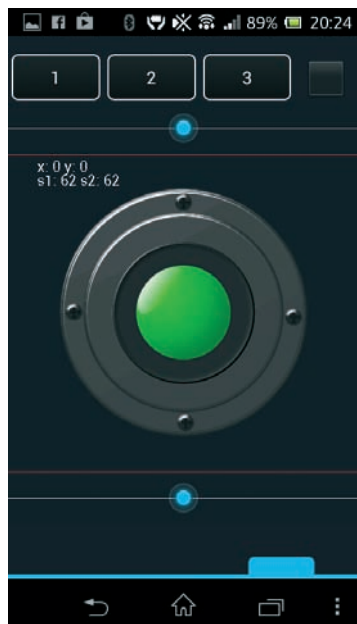
The cost of the system initially appears quite high at 129.99 Euro (£108), but it does include the WiFi dongle, the camera and free global delivery via DHL. Since the phone/tablet connects directly to the receiver's USB dongle (rather than through a router) the lag mentioned previously may well be quite low and comparable to the normal R/C systems we are used to, but as I have not used one myself it is difficult to say for sure. The video feed from the model is a nice feature, however, the resolution of 325x288 and frame rate of 15 pictures per second looks low to me, so do not expect high quality video images.



Hobbyking WiFi receiver

servos and/or ESCs from an Apple IOS or Android device. As with the Dension WiRC it operates like a standard receiver, just install to your model in place of the more traditional receiver, connect the power source and control the model via WiFi. The quoted signal range is 60~70 metres when installed in a model boat. As is common on standard receivers it features a programmable fail-safe function that will default to user selected servo/ESC pre-sets in the case of a lost signal. I have not been able to find a copy of the App that needs to be loaded on the phone/tablet but the Hobbyking website states that instructions for downloading the App are provided with the purchased item.

If any readers have experience of using these WiFi R/C products, then do email me with your experiences and recommendations.



BlueBots Bluetooth Control App screenshot

HOBBYKING WIFI RECEIVER

The Hobbyking WiFi receiver (www.hobbyking.com) is a more basic 4-channel unit; this is reflected in the much lower cost of \$28.73 (£18) plus postage. It is a compact WiFi receiver weighing just 11 g, and can operate the

BLUETOOTH R/C

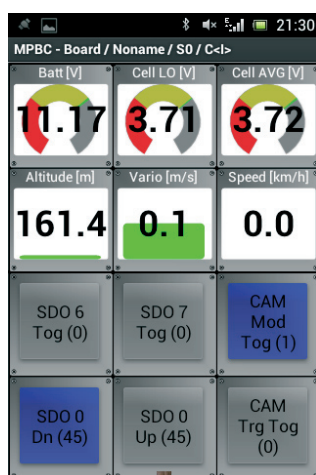
Bluetooth is commonly used to connect phones wirelessly to headsets and speakers, however, like WiFi it can also be used to control a model. As far as I am aware there is no commercially available Bluetooth equivalent of an R/C receiver, however, being an electronics designer I decided to build one! Clearly this is not a task many would take on due to the technical complexity, but it proved to be a rather successful experiment that highlighted one not so obvious disadvantage of trying to use a smartphone to control a model.

I used an Android only App called BlueBots, this App is really designed to control

robot models via Bluetooth but it has a nice virtual joystick, two further virtual sliders and some control buttons. The Bluetooth R/C receiver controlled two servos and two propulsion motors in my model with channel mixing on the motors to provide steering and turning on the spot.

I found that controlling the model's movement accurately using the touch screen virtual joystick (or tilting the phone) is not as easy as it sounds because there is a lack of tactile feedback of the various control positions, in particular where the neutral position is. This really highlights how good the design of the traditional mechanical joystick, that we take for granted, really is for precision model control. Thus my findings are, yes, a smartphone or tablet can be used to control a model but the lack of precision control, tactile feedback and potential lag means it is really only a good control method for particularly well-behaved and slower models.

If there are readers who would like to experiment with Bluetooth control then I can supply kits given sufficient interest, the anticipated cost is likely to be between £40 and £50 for a plug together kit (no soldering needed).



ModelPort Board Computer telemetry App screen

MODELPORT BOARD COMPUTER

The ModelPort Board Computer (MPBC) App (www.modelport.cz/mpbc/) allows you to use one Android mobile phone (for example an older generation one) as an onboard computer within a marine model and a second Android device as a remote console displaying telemetry data and enabling a degree of remote control. All the available interfaces of mobile phone (GPS, accelerometers) are used for telemetry and the phone's camera can even be remotely controlled to take still pictures while the model is sailing. These pictures, however, are not

relayed back to the remote console and there is a significant lag (around half a second) due to the telemetry and control information being routed via the mobile phone network and Internet.

The 'Show Model on Map' feature uses the onboard phone's GPS position to plot the model on a map. Perhaps this is not so useful for a marine model but in an aircraft this would permit a lost model to be found providing the phone has a network signal. An external module can be used for battery measurements (cell voltages), servo control and other functionality. Telemetry data can also be stored periodically for later analysis using a PC.

The signal connection between the two phones is via the cell-net signal and Internet so there will be mobile phone charges, but these are likely to be very small on most tariffs due to the low data volume exchanged. There is also a low monthly subscription to pay to ModelPort but you can try the features of the App to see if it suits you because the subscription for the first 60 days is free.

I have used the App over its free subscription period and it works very well, I particularly liked the ability to see and log the speed of a model live without the need for any other sensors other than the GPS in the onboard phone. Even though a subscription is involved it is potentially a lower cost option to buying, for example, the Eagle Tree data logger hardware.

CONTACTING THE AUTHOR

If you have useful advice that I can pass on to other modellers through this Airwaves column or any questions then I am always pleased to hear them and I will try to help. My email address is airwaves@anola.net **MMI**

Dutch Barge Josie



JOSIE

USING A TRAPLET WOODPACK TO BUILD A DUTCH BARGE

AUTHOR: STEVE JACKSON

BACKGROUND

In the UK recently there was a TV programme featuring the well-known actor Timothy Spall and his wife who circumnavigated the British Isles in their Dutch Barge, Princes Matilda. The programme was called, I think, 'All at Sea' and I instantly thought how nice it would be to build a model of the Princes Matilda. I mentioned this to Barrie (a member of our local club and Ed of MMI) asking if he knew of any plans that were available for this type of craft. He suggested that a good start would be the Traplet woodpack of a Thames Lighter (WP3552), which was reviewed in the October 2012 edition of MMI, and building a superstructure to fit with motor and rudder added.

This seemed a good plan so I began researching details of the full size Princes Matilda to make some sketches of the superstructure. Barrie mentioned it may be a good idea to clad the hull in a plasticard material as this may make painting and finishing easier. I know it was not very scientific but I took the basic measurements of the superstructure by freeze framing one of the original recorded TV programmes with a side view of Princes Matilda, measuring from the screen and scaling up!

BUILDING THE HULL

The woodpack arrived and after checking the parts with the plan the assembly started by giving a light sanding over the laser cut balsa sections. As with all Traplet woodpacks strip and sheet material is not included and for the lighter hull various lengths of 6 mm square balsa strip is required. Fortunately after all the bulkheads had been removed there was sufficient parts of the 6 mm thick balsa to cut into strips to make the stringers. Cyno adhesive was used to fit the bulkheads to the main keel and PVA adhesive was used to fit the stringers in place. Using balsa makes holding the stringers in place with model making pins easy. For the cladding of the hull I had in my workshop several surplus sheets



The author building the woodpack of the Lighter used as the hull for Josie



The hull is clad in Forex plastic sheet



A building adhesive called Stixall was used to adhere the Forex cladding to the wooden hull frame



Twin prop shafts now fitted with tubes for the rudder control lines



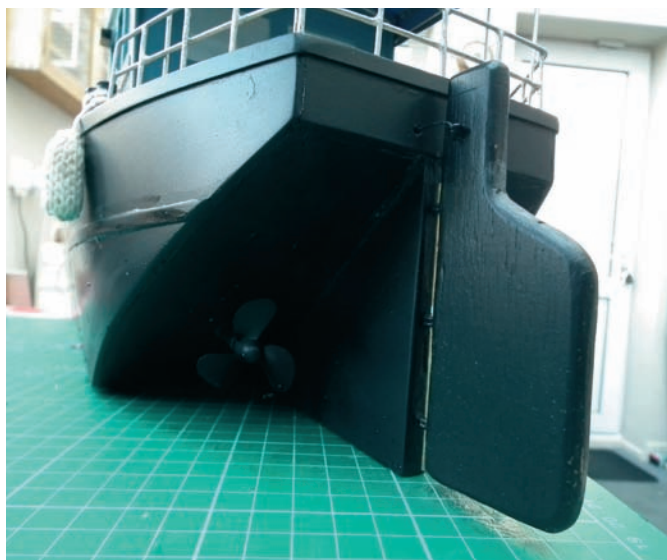
Plenty of pegs and clamps required to hold the cladding in place while the adhesive sets



The props are the same handed and contrary to tradition this has little effect on the performance

of Forex material used in the building trade for sign making. This is very similar to plasticard but is slightly softer and bends well. 2 mm thickness was used for the sides and 3 mm for the bottom, sub deck and superstructure sides.

The adhesive I used for fitting the Forex to the balsa hull frame work was a building adhesive called Stixall which is slow setting (minimum overnight). It is seawater proof and when set any surplus adhesive can be cut easily away with a knife as it has a slightly rubbery finish. When fitting the sides the usual mega amounts of pegs or clamps are required to hold in position.



Completed stern and rudder

RUNNING GEAR

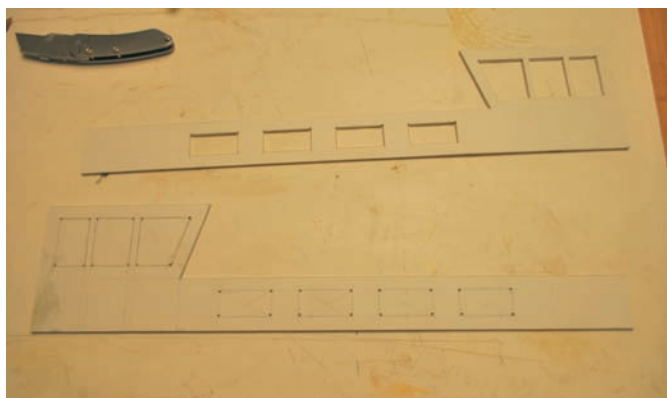
Before the deck was fitted the two prop shafts were fitted in position and the plastic tubes for the line connecting the servo to the rudder were installed. The rudder was constructed from a single piece of hardwood and held in position using small screw in brass eyes fitted to the hull stempost and the rudder with a brass rod pin used to connect them.

DECK

After the main hull has been completed the sub deck was fitted using 3 mm ply sheet, a bow dodger was constructed out of Forex and fitted to the foredeck. The hull was then planked using redundant slats from a wooden blind, which just happened to be 3 mm thick – PVA adhesive was used for this. When dry and sanded down a coat of woodworking oil was rubbed in.



Ply sub deck now being fitted



Cabin sides cut from Forex (or plasticard could be used)

SUPERSTRUCTURE

As mentioned earlier the main measurements for the cabin and superstructure were taken from the TV screen and constructed from Forex. The window frames were cut from 0.5 mm plasticard and clear plastic was used for the windows (remembering NOT to use cyano to fit them in position as it can damage the plastic! I used PVA). The handrail posts around the accommodation roof were made out of split pins with brass rod threaded through the eyes. A commercial pair of brass portholes found in the scrap box was fitted to the superstructure, further items like radar and navigation lights were made out of scrap bits and bobs!

BALLAST TESTS

Before the radio was fitted a ballast test was made in the home fish pond/test tank to find out how much should be added to bring the hull down to a realistic level. A total amount of 7 lb of lead was required and this was fitted between the bulkheads at the bottom of the hull. After this was fitted in position a ply tray was screwed above the ballast to house the two 385 motors, speed controller, rudder servo and batteries.



The garden fishpond comes in handy to test the floatation



Motors, steering servo and receiver battery fitted

INTERNAL ACCOMMODATION AND DECK FITTINGS

To make the inside realistic a lift off section was built which includes the galley, bedroom and heads. The bed linen, etc. was supplied by Mrs J. Press studs were used for the cooker burners. The bollards were made from 6 mm plasticard tube with brass rods for support and fitting to the deck. The rear awning was constructed from soldered 1/16" brass rod and covered in some waterproof material.



Assembly of the accommodation and bridge



Deck now planked and lead sheet ballast installed



A model is not complete until the rooms are. Galley, bedroom and heads are installed



The framework of the rear awning is constructed from soldered brass wire



Bollards constructed from plastic tube, plasticard and brass rod

PAINTING

The hull was given a coat of car aerosol primer and then black car spray with the superstructure hand painted using Humbrol paint.

SEA TRIALS

Due to the rather what I thought excessive ballast my hopes of a responsive model were not very high but on the first trials I was quite surprised as the turning circle was adequate in our quite small club lake. Also the twin props are turning the same way i.e. not contra rotating and I assumed turning would be difficult one way but despite all the theories this was not the case. The extra ballast does make a very realistic looking model on the water with a scale speed unlike some lighter models which can look a bit bobby! There were no adjustments to be made to the rudder throw and I am very pleased with the project. It was thought-provoking in places but by using the woodpack for the hull it made into an accurate, robust and economical model to build. The name Josie was used, as it is the name of our granddaughter! **MMI**

*Deck fittings of
lifebelts, radar,
swabbing brush etc.*



READERS' LETTERS

A DELVE INTO THE EDITOR'S POSTBAG

Dear Barrie,

We were very interested to see the article published in the April edition of MMI on the Ford GPA. Having attended many model and vintage vehicle shows over the past few years we have been fascinated by the restored Ford GPA's and thought it would make a very nice modelling project. The detailed history of these vehicles are well published on the Internet but as a brief summary we have compiled a few further facts and pictures that readers may be interested in which will compliment the excellent article and model built by Theo Alberdienst:

RIGHT:
Rear/stern
view showing
tow hook



Front-end or bow view?



Side view with fenders and side
windscreen canvas water deflector

- The Ford GPA sea going Jeep was commonly called a Seep.
- Due to the low free-board the Seep was only practical on sheltered waters.
- The extra weight of the propeller and gearbox used for amphibious work made them heavier than a normal Jeep when working on the land.
- Towards the end of WW2 and up to 1955 the Russian manufacturer GAZ (Gorkovskiy Avtomobilny Zavod) produced many of these Seeps.

Today many of these Seeps and Jeeps have been restored and are displayed at military shows up and down the country, most of the pictures shown here were taken at the Laughton Country Show.

Phil & Carol Sadd



The original Jeep prior to conversion to a Seep.
Seen at the Gartell Railway Steam and Vintage Show



Folded down windscreen with
ship's high tech whistle/air
horn



Driving position with minimal
instrumentation



Bow dodger and bonnet/deck
winch



Enclosed prop and rudder

CHANDLERY

SOME NEW MARITIME HARDWARE AND A TO BE RELEASED BOOK

BEIER USM-RC-2 SOUND AND LIGHT SYSTEM

The Beier USM-RC-2 is probably the most flexible and configurable sound and light unit that there is and is used worldwide for ships, trucks, tanks, farm vehicles, construction vehicles and more. The unit has two onboard 20 watt amplifiers but you do need to supply the speakers. It is impossible in this small space to show how good and how flexible this little unit is...

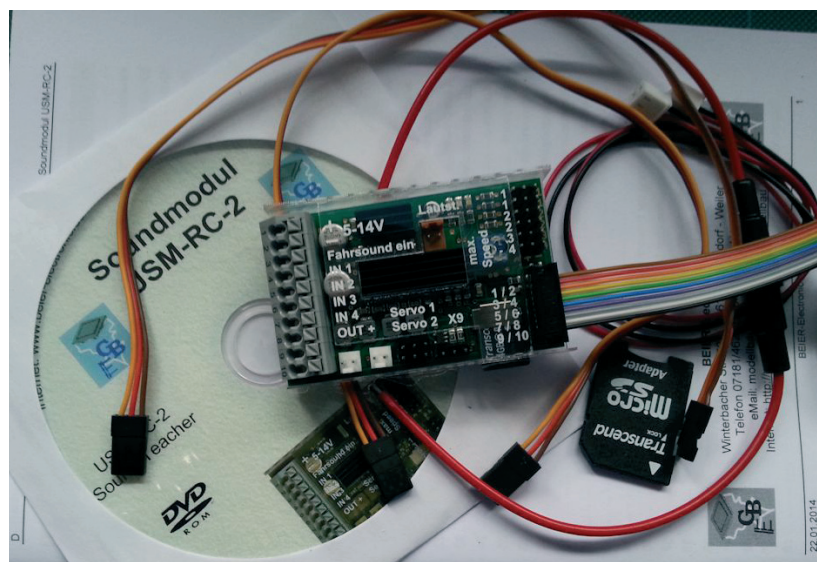
The sound module USM-RC-2 is the successor of the proven USM-RC module and has been specially developed for R/C models to give faithful, speed-dependent engine sounds. Additional starting, idling, acceleration, running, brake and reversing sounds can also be played back. The unit will also provide perfect background noise in addition to the driving sound with up to 30 additional sounds and a further eight randomly triggered sounds.

The speed of the model is taken from either 1 or 2 motors (Analog and Mixed mode), OR from the velocity information proportional channels 1 and 2 of the receiver (digital mode). This provides sound outputs for either 1 or 2 engines in up to 255 steps. It also has a player facility and can play a further 30 full tracks in WAV format.

The unit is connected to the receiver by up to four servo patch cables that allow access to its functions but they can also be accessed from a single channel (not recommended) or by use of Nautic mode with Robbe or Graupner Nautic switch modules in their transmitters.

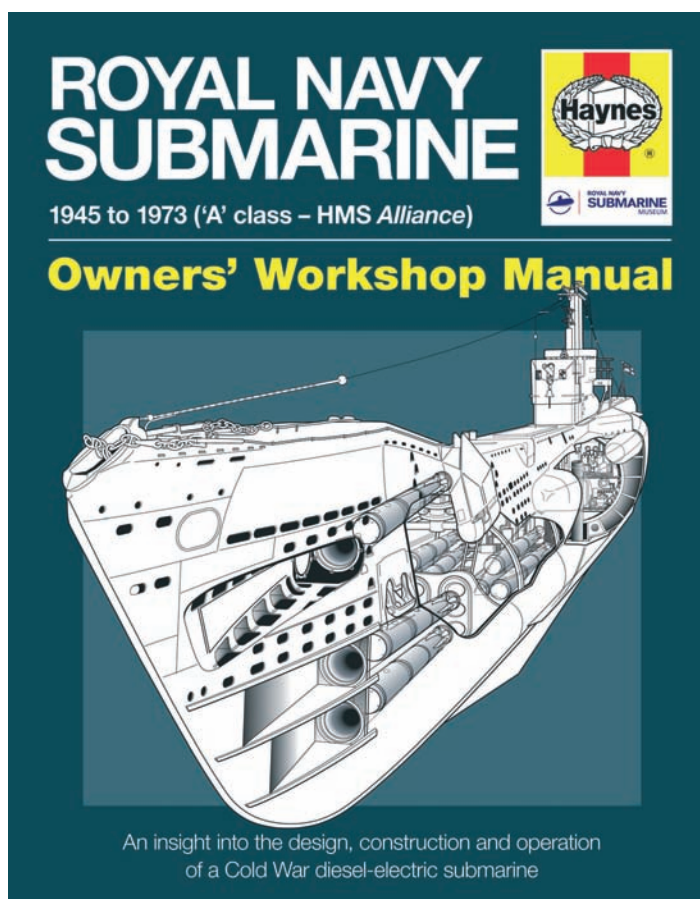
The USM-RC-2 can support up to four parallel sounds playing, i.e. in addition to the engine sound you may play another three sounds at the same time without loss.

Further details from fast electric race boat specialists Astec Models, visit <https://astecmodels.co.uk> or see them on Facebook at www.facebook.com/AstecModels



ROYAL NAVY SUBMARINE MANUAL 1945 TO 1973 ('A' CLASS – HMS ALLIANCE) BY PETER GOODWIN

Launched in 1945 and commissioned two years later, submarine HMS Alliance was built for service with the Royal Navy in the Far East. Alliance had a long and distinguished career of more than 28 years that took her all over the world. Today, Alliance is the centrepiece at the Royal Navy Submarine Museum, Gosport, where the submarine experience is brought to life by tours around the boat. Former submariner and historian, Peter Goodwin gives Alliance the



Haynes Manual treatment, examining in detail her construction and restoration, and describing what it was like to live, work and go to war in a submarine.

KEY CONTENT:

The first submarine to receive the Haynes Manual treatment.

Unique insights into the design, construction and operation of a Cold War diesel-electric submarine.

Includes detailed onboard and exterior photography, and original technical drawings of the boat's construction.

HMS Alliance is the centrepiece at the Royal Navy Submarine Museum at Gosport.

Published in association with the Royal Navy Submarine Museum.

Cover Image, specifications and price are provisional and may be subject to change (13/02/2014). **MMI**

Author: Peter Goodwin

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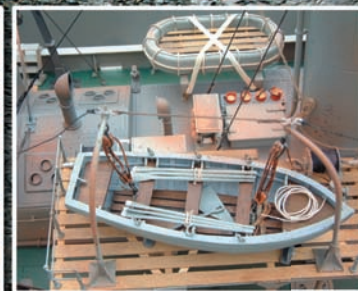
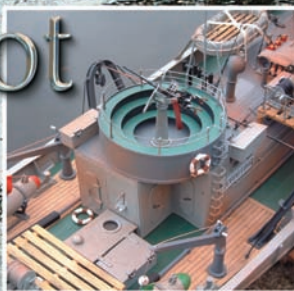
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Sir Lancelot

Near Scale Round Table Class Minesweeper circa 1943

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Beam: 10" (255 mm)
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One of a class of eight ships, Sir Lancelot and her sister ship were the two of the class equipped for moored mine clearance, the other six being influence sweepers.

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HMS GAY ARCHER

THIS DOUBLE ARTICLE BEGINS WITH JOHN NORRIS DESCRIBING A VERY PROPITIOUS VISIT TO WATCHET TO SEE PAUL CHILDS' RESTORED GAY ARCHER AND ENDS WITH BARRIE GRIFFIN EXPLAINING HOW HE MADE A MODEL OF AN ARCHER CLASS GUNBOAT BASED UPON THE TRAPLET PLAN (MAR2610)

AUTHOR: JOHN NORRIS AND BARRIE GRIFFIN

THE VISIT TO WATCHET

As an island nation, Britain has a rich tradition of maritime history stretching back many centuries. Some of this history is more obvious such as the Historic Dockyards at Chatham in Kent with HMS Cavalier, HMS Trincomalee from 1817 in Hartlepool and the Ramsgate Maritime Museum in Kent where some of the 'little ships' from the Dunkirk evacuation are in care. There is much to discover if one cares to look, such as the tiny former fishing port of Watchet on the north-west Somerset coast close to Minehead. The marina there is full of sailing boats and tucked away among them is a last of its kind in the shape of P1041 HMS Gay Archer, a post-war patrol boat armed with torpedo tubes.

The existence of this boat is known to naval enthusiasts but it is not as famous as HMS Belfast on the Thames in London. We had heard about it and decided to pay a visit to Watchet to see the boat for ourselves, thinking it would make an interesting feature for the readers of MMI. Equipped with cameras we drove to the spot prepared to take our chances and were ready to accept it might not even be there. Strolling along the front we quickly spotted the Gay Archer, which stood out from the other boats in the harbour due to its grey paintwork. Another giveaway was the fact it was the only boat armed with a 40 mm Bofors gun on

the bow and a 20 mm Oerlikon cannon mounted aft and torpedo tubes on either side. It looked just like a huge model lying there in its mooring.

GOING ABOARD GAY ARCHER

We began to snap away and moved onto a cobbled slipway for a better view when a figure onboard turned to look at us. He then climbed down the gangway and walked up to the security gate leading onto the pontoon. He introduced himself as Paul Childs, the owner of the Gay Archer who happened to be onboard doing some restoration work. We explained the purpose of our visit and he invited us onboard to have a closer look and go below deck. It was a chance encounter and we just happened to be in the right place at the right time. Paul began by explaining something about the boat that makes it a unique vessel and the last of her kind from twelve similar vessels built in the early 1950s in the 'Gay Class' of Motor Torpedo Boats.

The Gay Archer was built by Vosper in Portsmouth and launched in August 1952. She had a distinguished career and even took part in a couple of films including 'The Ship That Died of Shame' starring Richard Attenborough. Paul explained that he acquired the boat under extraordinary circumstances and is now engaged in a

The Gay Archer in Watchet Harbour showing her overall length and armament that is formidable for her size



one-man full restoration programme. Paul has completed most of the work himself including the installation of two new engines to replace the original three Packard engines, which would have powered the boat to speeds up to 43 knots. He has replaced the original radios but he has yet to sort out the toilet (heads in naval parlance). He has entertained a number of veteran Royal Navy ratings and taken them out on the Gay Archer.

Built of teak wood from Honduras the Gay Archer measures 75 feet 2 inches in length with a beam (width) of 20 feet 1 inch. She was manned by a crew of 12 when in operational service and weighed 50 tons. In addition to the main armament, a pair of anti-aircraft rocket launchers were also fitted, one either side, giving it an incredible amount of firepower considering its relatively compact size. Added to this on some operations she would have also carried depth charges for submarines.



The replaced starboard torpedo tube and anti-aircraft rocket launcher



The 20 mm Oerlikon cannon on its mount



The construction of the hull of the Gay Archer is made of teak from South America



The toilet for the crew when at sea



The original wash-hand basin for the crew of 12 men



One of the original bulkhead doors



The original radio has been replaced

The engines have been replaced by the owner and they deliver enormous power



AN AMAZING SEA TRIP

After being shown around and having taken our photographs, Paul then enquired if we would be around later in the day as he was going to take the boat out to sea for a test run. Thinking it would be a good opportunity to get some action photographs from the harbour walls we said we would. He then stunned us by inviting us to join him for the trip. A couple of hours later, having visited the local museum, we reported back to the Gay Archer where we were joined by a couple of other people. Paul said that we had to work for our trip by acting as 'running fender' as the boat moved out of the small harbour. What this meant was that

we had to hold large rubber buffers to protect the side of the boat from scraping the stone wall of the harbour and walk the length as we moved out.

The engines burst into life and we manoeuvred our way slowly out of the harbour until about several hundred yards out when the throttle was opened and the pair of powerful turbo-charged engines thrust the boat easily through the water. The sea state was calm and the Gay Archer was steady as she banked and turned. We could only imagine what it would have been like in rough weather. Paul then spoke to one of our companions and the elderly chap climbed up to the wheelhouse and took the helm.



The author preparing for his job onboard as 'running fender' as the Gay Archer made its way out of the harbour



Stern of the Gay Archer showing 20 mm Oerlikon cannon and the owner Paul Childs on deck



The author standing by the 20 mm Oerlikon cannon



The 20 mm Oerlikon gun that is not an original feature on the boat



The Bofors 40 mm on its mount with iron anti-aircraft sights



Looking forward along the Bofors 40 mm gun during our time at sea

Paul then explained that the boat was now being steered by Able Seaman Bill Bolton, a war veteran, who had served on Motor Torpedo Boats during the war. It transpired that Bill had served on MTBs that operated between Scotland and Norway ferrying secret agents and later he served for two years in the Mediterranean and was present on Operation Husky, the invasion of Sicily in 1943. Bill showed us some great photographs of himself and his crew mates from the war and told how he had come under air attack when he sailed from England to Gibraltar. With such stories and the powerful engines driving us through the water it was easy to imagine being part of the action and it was an unforgettable experience. The Gay Archer is a post war design but is of the type of boat used during the war. The experience was living history and we were fortunate to be onboard as part of it hearing all the noise and feeling the power of the engines.

The Gay Archer saw extensive service during her time including operations to Denmark where she was nearly lost when P1023 was



Paul Childs, the owner of the Gay Archer

destroyed alongside her in an accidental explosion in May 1953. Later on, and equipped with submarine detection systems, she operated out of Malta for a time and was sold off in July 1963. Originally the Gay Archer was armed with two 21" torpedo tubes and twin 20 mm Oerlikon cannons that were later replaced by a single 40 mm Bofors gun. The torpedo tubes today are authentic-looking replacement replicas and the stern-mounted Oerlikon, whilst not original, shows what type of armament this small but powerful craft carried to allow it to hit targets.

We were out for over an hour and given the size of the engines and the speed the amount of fuel used must have been enormous as we cut through the water with ease and grace with each turn. Paul explained that during the war these boats would have been floating fuel tanks and loaded with ammunition for the guns. If one exploded, being made of wood, there was not a great deal left. The Gay Archer is a unique vessel and one deserving of our support, so if anyone would like to help they can find out more on the Internet through one of the Websites by typing in 'Gay Archer' or 'P1041' as key search words. We returned to the harbour and once again were 'running fender' and we moored up. Our short trip was like being in a Formula One racing car, but at sea. Things do not come much better than that and for that we at MMI extend our sincere gratitude to Paul Childs for the experience and wish him all the best of possible luck in completing his restoration of Gay Archer. Long may they sail.

Since the visit and trip on Gay Archer in Watchet all the Military Boats fleet have moved or are in the process of moving to the Inner Harbour in Torquay. For further details visit www.militaryboats.org

BARRIE GRIFFIN'S MODEL OF GAY ARCHER

Some years ago, looking for a new project, I came across Marine Modelling's plan MAR2610, Gay Archer. This looked interesting, so I bought and studied it. Since most of these craft were MTBs I decided to make mine a motor gunboat, just to be different. I was also aware that sometime in her career Gay Archer had been a Gun Boat. There is now a good picture of her in this mode on the Internet. The hull was pretty straightforward, these hard chine hulls are not difficult even for beginners, but for those who want an easier life you could buy the woodpack hull of MTB 379 from Marine Modelling magazine and use that. MTB 379 was shorter than Gay Archer, but that should not really matter. Assuming you buy this woodpack, which I can recommend having built it myself,



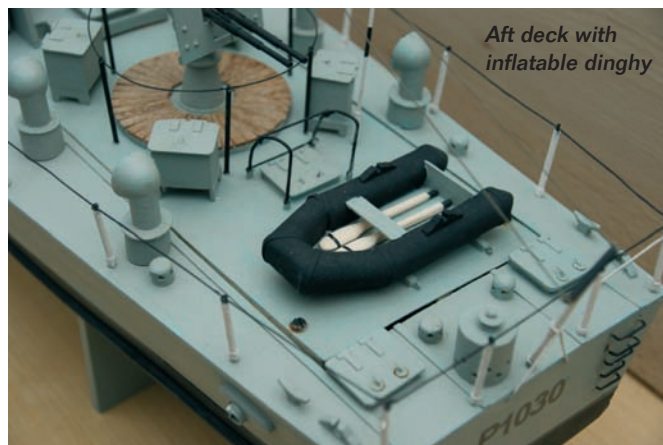
General view forward



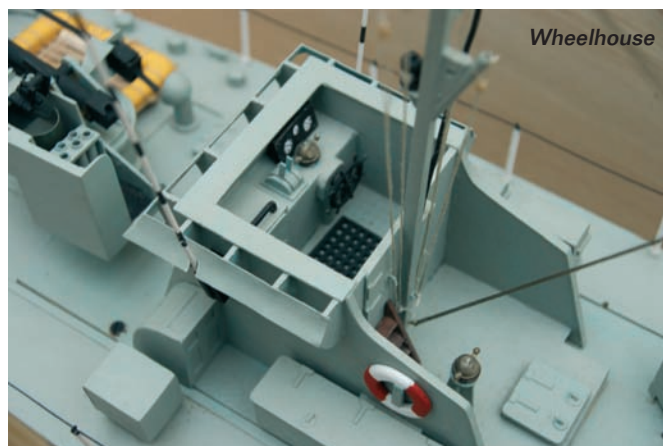
Close-up forward



Centre deck



Aft deck with inflatable dinghy

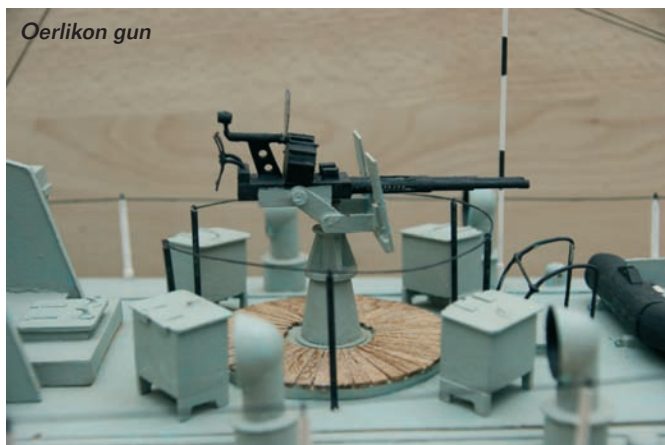


Wheelhouse

you then need to consider your choice of fit out. The plan, if you buy it, shows the ship in MTB form but you can, of course, choose the MGB form.

My boat is shown with the 4.5" gun for'ard and a twin Oerlikon aft. More correct would be a 40 mm Bofors aft, and these days there are several kits of this weapon available. They are quite complicated weapons so a kit is a good idea if you value your sanity!

It is worth dwelling on the 4.5" cannon, since a gun of this calibre was a very unusual size for a small ship. The weapon was developed in the latter part of the Second World War, but not fitted to patrol boats until after the war, since the builders had trouble with the mounting. This was the least of their troubles. The gun fired a 15 lb shell and it was found that the recoil was damaging the foredeck to a considerable degree. They therefore reduced the amount of propellant in the shell. This had the result of reducing the range and probably its effectiveness. There are good drawings of this weapon in John Lambert's book of patrol boats, if you can beg, borrow or steal one. Your local library might help. There are various drawings around of Oerlikons and actually the guns are the only things that might exercise your mind too much. The other items



Oerlikon gun

are mostly boxes, mushroom vents (two sizes of wooden rod), fairleads, bollards, cowl vents – all of which can be bought – and a couple of dinghies, cut from balsa. The stanchions round both the deck and the gun are cut from alloy tube, with brass 'screw eyes' glued into the top. The railings are 0.5 mm brass soft wire – soft because you can stretch it to straighten it.

I fitted two 540 motors with an Mtronics 25 Amp marine ESC and a Futaba 2.4 GHz receiver. The boat goes well on the water and with an 8.4 V 3300 mAh battery is almost over powered.

PAINTING

I have painted the boat in an all-over grey scheme, with black below the waterline. However, light grey for the topsides and superstructure with a dark grey for the decks would be suitable, as would red for the undersides. My choice these days for hull and deck painting is Tamiya Acrylics, which I apply with a brush. Tamiya XF19 Sky Grey would be suitable.

RESEARCH

MMI plan MAR2610 – Gay Archer

J.Lambert's 'Allied Coastal Forces of World War Two – Vol 1'

MMI



Afloat 3/4 view



Afloat close-up

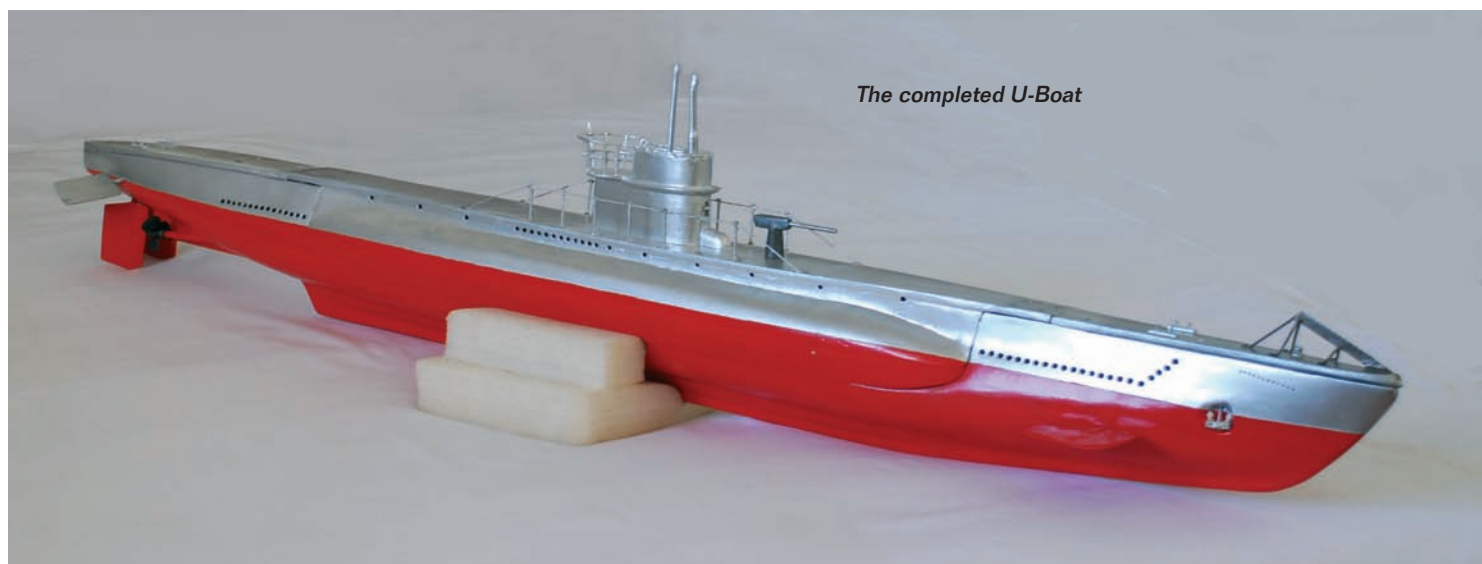


Afloat starboard side

MY WOODEN U-BOAT

THE STORY BEHIND THE BUILDING OF A WORKING MODEL OF A U-BOAT WITH THE LIMITED RESOURCES AVAILABLE TO MODELLERS IN CUBA

AUTHOR: ISRAEL WILFREDO DÍAZ GÓMEZ 'WILDY' idiarz@enet.cu



The completed U-Boat

When I was a child, to tell the truth, I never dreamt of having an operational submarine or anything like it to build. However, after making the model of the yacht Pilar and building the CS-13 sub-chaser, the history of the U-Boats near the coasts of Cuba during WWII became more interesting to me. Also the submarines seen in the movies, model magazines and on the web guided my thinking towards building one in a future project.

At the beginning of 2010 I took the first steps in realising my idea of building a handmade wooden submarine for radio control. Unfortunately, I only had a drawing of the model I was interested in and it was only a cross section view of the original German U-Boat borrowed from friend and model maker, Jesus Rodríguez. I also had a drawing of the frames from another source.



Plan that in fact was the cross section view of the original German U-Boat



The proud owner with the boat ready to sail



Checking the buoyancy



Plan and wood for keel

SCRATCH-BUILT

My U-Boat model had to be scratch-built as, here in Cuba, there aren't any hobby shops selling model kits or accessories. Resin is also difficult to obtain so wood was the material chosen to build my model. I started my task from nothing but the idea of making everything with my hands and the pleasure of producing something as special as a complete U-Boat.

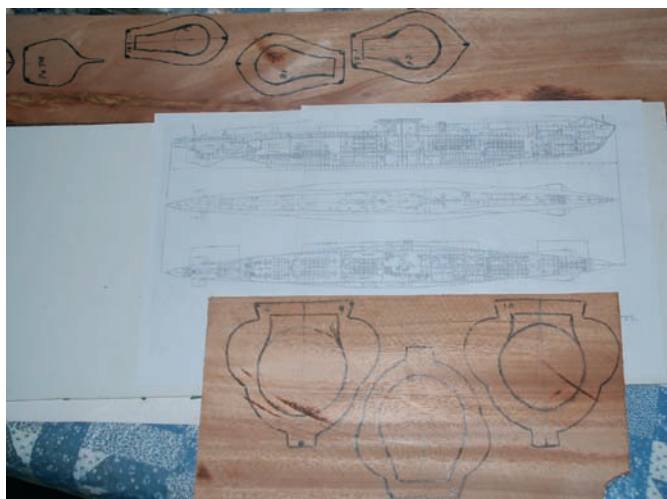
I started the job by forming, in wood, the conning tower and the



Conning tower



Keel over the plan



Some frames drawn over the wood

keel. To make the latter I had to join several sections of wood together as the pieces were not long enough to give me the total length of 1.34 m needed for a 1:60 scale model. All the pieces forming the keel were cut using my friend Carlos Anido's saw. The drawings for the frames were rescaled and printed taking into account the height that I'd already got from the scale cross section view, and their location at the keel were fixed by studying the U-Boat contour line, because the cross section view didn't specify their position. The turret's curved shape was obtained by joining several wooden strip pieces together.

From the basis of the drawing I had made, my friend Juan Pupo cut all the frames and also helped me by giving wood for the strakes and the deck. Thanks to my English friends Alan Pearce, Alan Murray-Rust and Chris West, I sourced two Graupner speed 400 motors, two couplings and a speed control. My friend Cathryn Griffith also helped me by sending two Robbe 35 mm propellers (3 blades), one right and another left-handed respectively.

I again requested Carlos Anido's cooperation to make the pieces for mounting the hydroplanes and rudders; Jesús Rodríguez also offered to help. Bicycle wheel rods were to be used as pushrods, and the tubes they would move in arrived from Argentina thanks to Norberto Valente (he makes aeroplanes) who also helped me with the servos.



The U-Boat hull begins to take shape



Strake by strake the hull was taking form. Stern detail



Turret with handrails, again bicycle spokes secured with epoxy

GOOD REFERENCES

I had found enough information on the web about radio control submarine models. Besides I had read diverse works on the topic at the CAMNE site (Argentinean Club of Scale Naval Modelling), with explanations and graphics on each immersion system and pictures of diverse types of models. I even had exchanged emails with Roberto Villaverde, one of its members, who kindly offered to collaborate.

But the article about Hal Harrison's HMS Unseen, a dynamic immersion model published in the MMI Submarine Special, (sent to me courtesy of Barrie Stevens), was what really became my great guide in order to get my project developed. That article included this model's drawing for radio control and many detailed explanations. These items reinforced my confidence and enabled me to reach my aim. I have read these articles many times, and although I have made some changes to the watertight compartment, and adapted the design to use two motors and two rudders, as it is a different craft, I think the essence of the model is still the same.

When the planking of my U-Boat wooden hull was finished, I had to cut the detachable part to carry out its adjustment. While I was preparing the watertight compartment, located inside the model, I had to go back to the hull to rough-hew the inner sides of the frames so that the watertight compartment could be positioned in the central part of the submarine. The watertight compartment is a critical component, because the receiver, servos, speed controller, battery and motor are positioned inside it, and they must stay dry, while the rest of the model is flooded with water when sailing.



The hull with the detachable section during the construction process



The construction of the detachable section is clearly visible

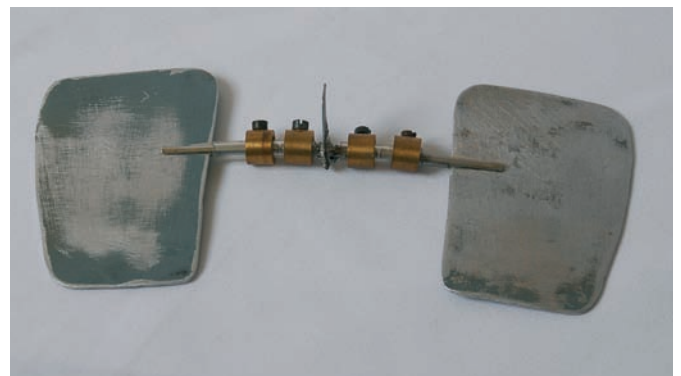


Some adjustment to the cover is still necessary to get it to fit well

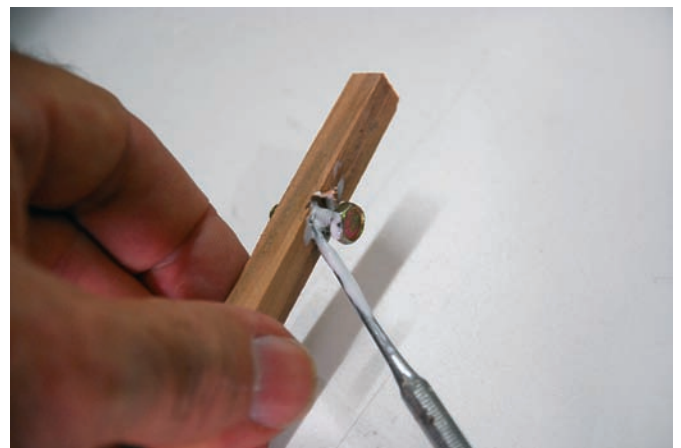
FROM AN OLD RUSSIAN WASHING MACHINE COVER

In order to build the axles of the propeller, rudders and hydroplanes I used some bars of nickel steel of 4 mm diameter. The metallic parts for the rudders and hydroplanes were made from an old Russian washing machine cover, from which I cut a piece according to the size I needed. Then I shaved the axis to reduce its middle centre section, and also reduce the material in the position where I wanted to make the connection and later apply epoxy resin to fix it.

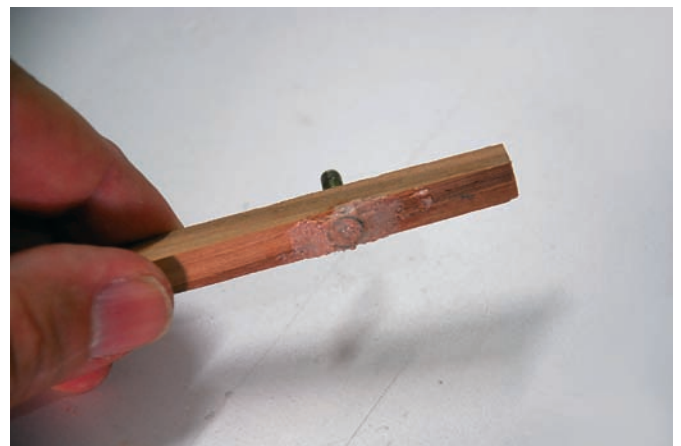
Lazarito Falcon's father, who I supported in the construction of his first R/C model the Bons Tems, sourced steel nickel tube that was good enough for the prop shafts. Another contribution came from Jesus Rodriguez who built for me the collars and the brass lever arm to move the rudders. As I had mentioned before, the push rods were made of bicycle wheel rods. For mounting the two motors I prepared one piece from metallic window angle located over a wooden base, and between them I put rubber refrigerator insulation in order to reduce vibration.



Bow hydroplanes



Gluing the bolt head into the bearer



The bolt must fit accurately to maintain the seal



Ready for the acrylic cover to be fitted

The acrylic cover for the watertight compartment was held down using nuts threaded onto upside down screws firmly held in place by the wooden bearers glued to the hull side. To prevent the screws from turning, the heads were countersunk into the bottom of the bearer and a mixture of sawdust and white carpenter glue held them in place. A width of 8 to 10 mm was enough for these pieces but the work had to be made accurately. The



Rudders and linkage on top of a sealed 6 V 4.0 Ah lead/acid battery

pictures show how I achieved this.

After finishing and painting, I checked the watertight compartment's staunchness by submerging it in water at my home's laundry for one hour. This test showed no problems at all. However, the real test for water tightness would be when this submarine was sailing immersed. The placement of tubes for the propeller axles must be precise and careful, but it is necessary to have more care about the rudders because of the much-reduced space for working.

MORE FRIENDS HELP ME

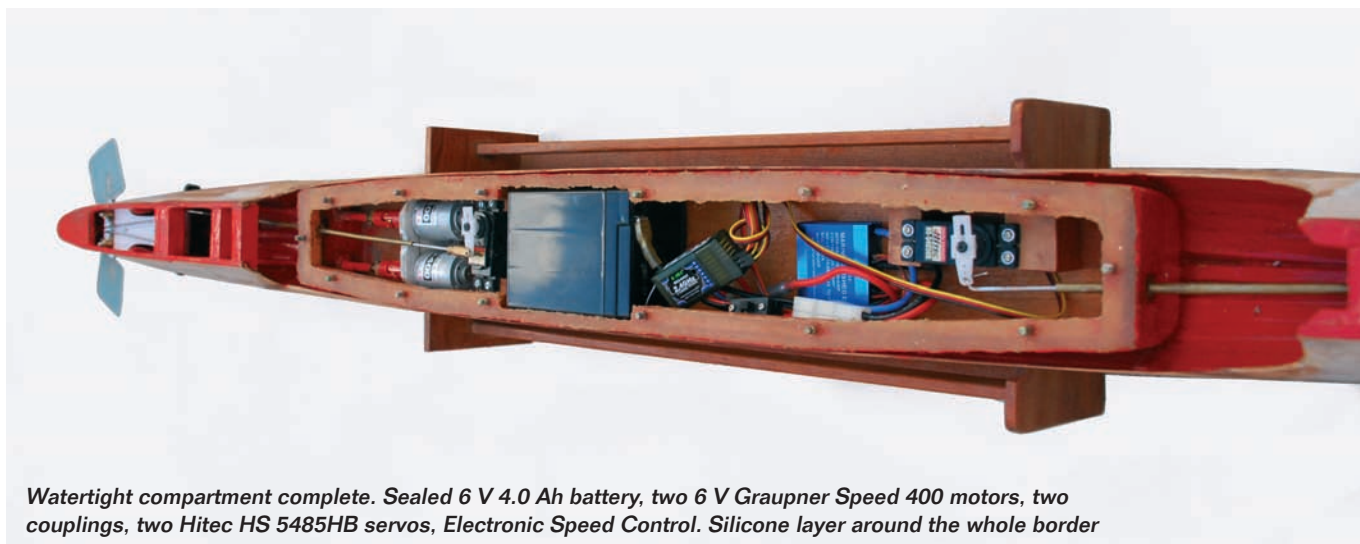
I received collaboration from other friends, such as: Guillermo Caraballosa who worked in welding the collars for hydroplane mounting, Alexis Espinosa in painting the metallic colour on the hull, Leandro Bueno helped with the connectors, and Roberto Perez, who also welded some detail pieces that were added later to the deck. As we have seen, although it was a personal effort at the beginning, I could count on many people's help.

One of the bigger difficulties was the curved wooden shapes, especially in the detachable parts as these required a great deal of adjustment. To achieve the appropriate fit I had to do a great deal of sanding which seemed endless to me. For the first time in my life I used plastic automotive putty; this improved the finished work by hiding imperfections. It allowed me to achieve a better finish than using a mixture of industrial talc with carpenter's glue.

I read and studied Hal Harrison's article, all the photos, outlines and illustrations of the full size submarines, and a small U-Boat plastic kit that some friends had sent me. All of them came to me as reference material and guided my work throughout the construction of my wooden U-Boat. However, I haven't included excessive hull details, since Hal pointed out that they could be a problem for the immersion. I am sure that, after my model was painted, nobody who looks at it will notice that it is made of wood.



Prop shaft in its place, hole for rudder with metal tube inside



Watertight compartment complete. Sealed 6 V 4.0 Ah battery, two 6 V Graupner Speed 400 motors, two couplings, two Hitec HS 5485HB servos, Electronic Speed Control. Silicone layer around the whole border

THE FIRST TEST

The radio used was a 72 MHz 4-channel set, for which I have to thank Orestes Perdomo. I had read that the most appropriate frequencies for submerging in water are 27 MHz and 75 MHz, but 72 MHz can also be used. I have a transmitter of 27 MHz but it only has 2 channels. My model needs 3 channels; motors, rudders and front hydroplanes. I would not be keen to use the other function, but it will be used in another model in the future.

The preparation for sailing had taken several days. First, the rudder, propeller and hydroplane axels were notched so that the retaining screws held them firmly in position. A very big problem was the small space inside the submarine that didn't allow enough room, in some cases, to allow fingers to hold the screws; so that a simple task became complicated and it was necessary to be aided by pincers. Thick grease was introduced into all the tubes for the propeller shafts, rudder tubes and hydroplane tubes in order to avoid the entrance of water. I had to check all of these. I also ensured that the batteries were fully charged, both those of the transmitter and in the receiver, and prepared an additional set of batteries for replacement if needed.



Stern, propeller, rudders and static hydroplane (but it is possible to change the angle)



Completed U-Boat preparing to dive



Beginning to open holes below the removable deck which is attached with eight screws



Testing the hull on 12th March 2013

I also prepared all the tools and accessories that could be necessary, such as pincers, screwdrivers, kitchen knives, different types of glue, a tube with enough thick grease, foam pieces, weight as ballast, towels to dry off, cloths to clean the hands, etc.

Once at the site of testing, the routine would be: first turn on the radio transmitter, and then the model's circuit located inside the watertight compartment, which I then closed with the acrylic cover. I had previously prepared this cover by spreading it with a layer of thick grease over the whole contact surface, then closed it using 14 lock nuts and making visually sure that they would not allow any gaps for water to pass into the compartment. Then the deck cover was held with eight wood screws.

Before the U-Boat model could be placed on the water, I checked that everything was working well. Then the expected moment of sailing the submarine had come at last. So many questions turned around my mind: Would it need ballast? Would water enter through any place? Would it sail correctly?

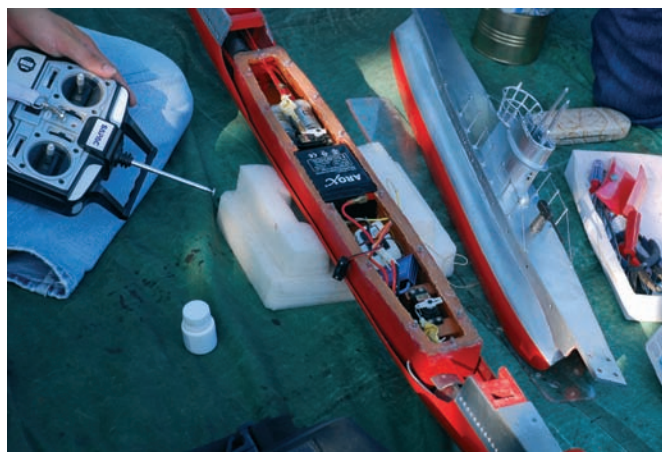
The first thing was to completely submerge the model in the water in order to flood the whole interior of the submarine, except the watertight compartment. I observed a tendency to heel toward port side, and thus the necessity of adding ballast. The best place for ballast was at the centre, just beside the keel, but it was now impossible to move the watertight compartment. So I had to place the weight at its ends. To do this, I removed the cover, in order to place ballast, made of linotype lead bars. When I removed the acrylic cover I observed that a little water had entered through the back part of the watertight compartment. It wasn't a critical quantity so as to put the model in danger, but it was indeed a reason of concern. I couldn't find the precise point where water had entered, so we added a bigger quantity of thick grease along the whole contact border of the acrylic cover for a better staunchness. We closed the upper part of the deck and again placed the model on the water. It was a remarkable improvement. That was the second test! But more ballast was still needed, so it was added in order to do the third test. In consequence, the third immersion was much better than the previous ones.



Checking the watertight seal

The sailing test was satisfactory and at one time the immersion almost reached one metre deep in quite clean water, but it happened only for a brief instant. The test site, a well-known place called 'The Hershey's Gardens' is a small stream with some current, a wall to dam it, and a wide navigable area. The action of immersion needed some speed to do it, but I couldn't take the risk of sailing the model far away doing a submerged sail as I couldn't see the stream bottom and so there was a risk of it colliding against the dam wall, the stream bottom or some of its banks.

When the last sailing test was finished and the deck cover was removed, we realised that the cover had water condensed inside (this was obviously caused by the heat generated by the motors and speed controller forming a vapour which condensed when it contacted the cover cooled by the external water). In spite of that, neither the motors nor speed controller had been heated too much. Some water had entered again – less this time – to the same place in the watertight compartment. I could deduce that it was coming through the propeller's axles. This problem was solved, or improved, by means of a hoop made from Teflon sheet and a



Checking the equipment before sailing on 18th May 2013

spring, which were fitted at the inner outlet of each axle. I could see the mount of the motors had served as bulkheads limiting the water access to other parts of the compartment.

TOAST WITH MY FRIENDS

It was the time for opening a bottle of cider to toast with English friends, among them Alan Pearce and Alan Murray-Rust who had offered me their material support for this model and were visiting Cuba at that moment. Thus, they could share this special occasion with me and our Cuban friends, Alberto and Olga.

In the following weeks, I fitted the two Teflon hoops (and a metallic one) with spring to the axles, rubber hoop between propeller shafts. I also added the canon and the saw blade details at the model's prow. The next sailing sessions demonstrated the effectiveness of the improvements. During the last one there wasn't a drop of water in the watertight compartment – it was completely dry. I am proud of having conquered a new challenge, 'My Wooden U-Boat' and I am very grateful of my many friends who have helped me to successfully reach my aim. **MMI**



A lot of friends came to help



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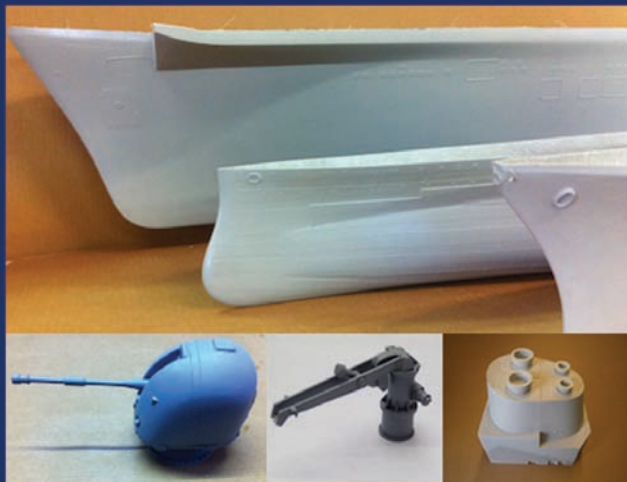
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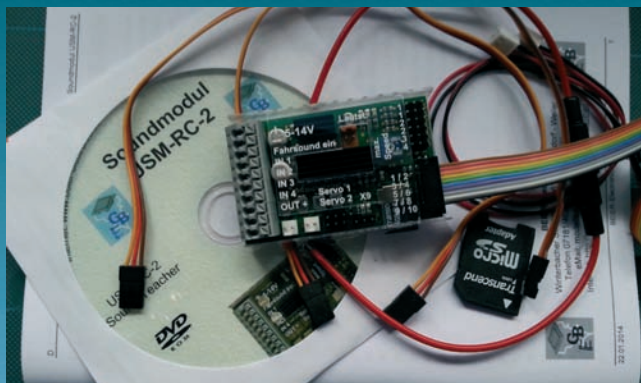
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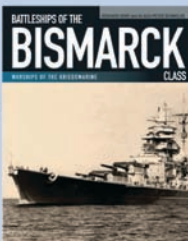
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MEETING POINT

REPORTS ON EVENTS HELD OVER THE LAST FEW MONTHS

For technical reasons the following two reports have been delayed. Thanks to Roger Bannister for helping.

BYRN BACH PARK MODEL BOAT CLUB OPEN SAILING DAY, 7TH SEPTEMBER 2013, BY CHRIS SAUNDERS

Due to other commitments, I was rather late arriving at Bryn Bach Park and with me came the rain. Thus some time was spent sheltering in the car eating an early lunch. However, once the showers cleared the bright, sunny conditions were excellent for both motor and yacht sailing. The public were kept amused by the high-speed antics of a Joysway Super Mono X, a very small but very fast deep 'V' boat powered by LiPo's and a brushless motor. Seemingly indestructible and unsinkable this craft would even right itself after turning over. The sight of two similar boats racing kept everyone spellbound. Unfortunately they proved too fast for me as all my photo's either missed them or were out of focus!



The Cwmbran Modelling Society tent and display



Model of the Switzer Mallaig tug, the full size ship is based in Greenock, Scotland

The display tents and tables were situated near the restaurant and were easily accessible by the public. There were representatives from Cardiff Marine Modellers, Cwmbran Modelling Society and of course the home club, Bryn Bach Park MBC. All the displays supported a good variety of craft from meticulously scratch-built scale models to RTR boats and yachts. Clearly all the clubs have an inclusive policy and encourage every aspect of the model boating hobby.

In the Bryn Bach tent the beautifully prepared model of the tug Switzer Mallaig was well worth close inspection. Built by Robert Skarratts and adapted from the Time Models Hull the whole superstructure had been scratch-built from plans and photos of the original craft. It was powered by two brushless motors and a 14.4 V NiMH battery pack (two 7.2 V packs in series) and used



Emmyanne fishing boat built by Mark Jennings



Fantastic detail including the captain's breakfast

two Graupner Schottel drive units. Another attractive boat on the same display was Mark Jennings' Emmyanne fishing boat. This was built from a locally produced kit by Bosons Model Boats and had a very realistic live catch onboard together with the captain's fried breakfast. The model was driven by a 900 motor and a 12 V sealed lead acid battery powering a single propeller.

A tent that caught my eye was the one shared by Alan Harwood and Roger Bannister of Cardiff Marine Modellers. They had a display of two 'J' class yachts and a Huntsman 28. The yachts had both been built by Alan and were based upon a Canterbury 'J' class he had brought back to the UK from a visit to New Zealand. The Huntsman was scratch-built and powered by two 800 motors and a 12 V sealed lead acid battery.

Despite the slightly disappointing weather this was a good day out for the modellers and generated interest from the public. Well done to all the organisers. This year's Open Sailing Days take place on Saturday 17th May and Saturday 13th September.



Scratch-built Huntsman 28 by Alan Harwood



A pair of 'J' class yachts with their owners, Roger Bannister and Alan Harwood



Activity on the smaller lake with the club displays behind

CWMBRAN MODEL BOAT CLUB OPEN SAILING DAY, 8TH SEPTEMBER 2013, BY CHRIS SAUNDERS

Cwmbrian Model Boating Lake is an ideal area for a model boating event with a choice of sailing areas and café/toilet facilities immediately to hand. No wonder there was a good turnout of modellers to their Open Sailing Day. Unfortunately, the weather was not particularly kind with sharp showers curtailing sailing after lunch.

As in previous years the RNLI was well represented together with an impressive display of lifeboat models. The model of the Fowey Lifeboat, a Trent Class Lifeboat, by Owen Gomersall was particularly impressive on the water. Based upon a Model Slipway Kit and powered by two Johnson 600 motors driving the props through a 2:1 reduction gearbox it had an impressive turn of speed. Also on the main lake was a very pretty sailing boat built by Colin Bateman of the Cosmeston Club. The model is an adaptation of a plan for a New Zealand Scow and was sailing well in the rain even though the cloth sails were getting rather wet.

The display tents were grouped around the smaller pond and the following clubs were represented; Bryn Bach Park MBC, Cwmbrian Model Society, Cardiff Marine Modellers, Cosmeston MBC, and visitors from the Sedgemoor Display Team. All had varied and interesting displays with the Sedgemoor team keeping the visitors happy with the antics of their green dragon.

Len Cotterill always has an interesting tale to tell of his models. This time he had on display a model of Kakariki, a cargo ship built in Selby in 1932. She sank in 1938 after a collision with the steamship Carendale near Port Moresby, Papua New Guinea. The model is



Fowey Trent Class Lifeboat by Owen Gomersall



Clearly not everything was going according to plan



New Zealand scow with scratch-built hull and built by Colin Bateman

scratch-built with impressive detail and is driven by a 540 motor and a lead acid battery.

Clearly all participants had thoroughly enjoyed the pleasant sailing conditions during the morning. Unfortunately the very showery afternoon meant an early pack-up for many. As usual this event was very well organised and the Cwmbrian Model Society should be rightfully proud of their efforts. This year the Open Sailing Day is Sunday 7th September.



Kakariki by Len Cotterill



The local branch of the RNLI are always well represented at this event

BRIGHTON MODELWORLD, 21ST – 23RD FEBRUARY 2014, BY STEVE DEAN

Once again Brighton Modelworld drew very large crowds to the Brighton Centre which is located on the seafront between the main pier and the remains of the old West Pier. For anyone who attends this show for the first time it comes as quite a shock to see the extent and variety of models on display and to discover that a large proportion of them are operational.

Brighton Modelworld pulls in a predominantly family oriented audience unlike some shows at which the visitors are mainly drawn from the modelling community. This means that the sections of the show where action and demonstrations take place are always packed with people. One such area is the main auditorium, which has the Tamiya Trucking Arena at one end and the boat pool at the other. Not only can visitors watch all the activity from the aisles, they can also sit in the comfortable banked seating to be entertained.



Twice daily lifeboats took to the water to be admired by thousands of show visitors



Members of the Moorhen Model Boat Club continue to maintain their high standard of presentation



Built by the late Wilf Burrows of Falmouth this stunning model of the QE II was displayed by Mick French



The Warship Squadron Model Club members stand to attention ready for the show to open

The boat pool was surrounded by 15 stands occupied by clubs and individual exhibitors, plus two stands dedicated to the RNLI, one of which featured a full size D Class inshore lifeboat. This year is the 190th anniversary of the RNLI and, therefore, it was no surprise to see many model lifeboats on display. The twice-daily demonstrations with up to ten models on the water and informative commentary by Kim Belcher always drew an appreciative crowd.

This year saw the return of 'Bertie' the talking swan with his mate 'Gertie' the mute goose. No words can convey the atmosphere around the pool once Bertie starts talking to the children (and even the adults). It produced some truly magic moments that you have to witness with your own eyes and ears to believe. However, Bertie didn't have it all his own way, as this year your author gave the first public demonstration of 'AFOR' (A for Alien) in his floating rocket complete with appropriate onboard sound effects and lots of flashing lights. The audience were completely stunned when he engaged in conversation in a suitably Alien voice and fired green plasma at them. Even the adults couldn't work out how the voice was produced and the younger visitors were totally transfixed. Some of them were so spooked by the Alien that they hid behind their parents!

Other set piece displays included Chris Scott with his model of the James Bond 'Q' boat which is constructed from plasticard and the fastest model demonstrated on the pool. There was palpable excitement when it made high-speed turns throwing water in every direction to the accompaniment of the James Bond theme tune. Chris had travelled over from France to present a wonderful display of models based on the worlds of Gerry Anderson and James Bond. He was kept very busy throughout all three days explaining his construction techniques.

Mix into this the now traditional display by Richard Slater with his very large model of the Titanic including the iceberg collision, music and historic commentary and it is easy to understand why there are large crowds at poolside throughout the show. Some superb submarine demonstrations also enthralled young and not so young



Richard Slater with his huge model of the Titanic which performed multiple times each day to huge crowds

alike and the youngsters also had the opportunity to try out the 'Have-a-go' boats.

Making a first appearance this year was Mick French from Cornwall with two large and stunning models of the Queen Mary and Queen Elizabeth II. These were built by the late Wilf Burrows of Falmouth, Cornwall and used Renault car heater motors for propulsion. Both utilised the plank on frame construction method.

All round it was a fantastic show, therefore if you're thinking of going to Brighton Modelworld in 2015 then the dates are 20th – 22nd February.



Mike Collins and Craig Weatherley prepare to entertain the youngsters with Bertie the talking swan and his feathered friend Gertie the mute goose



An example of the 1 metre yachts that Hove Lagoon Model Yacht Club sail on Sundays



Chris Scott travelled from France to present his superb models and to wow the poolside audience with demonstrations of the James Bond 'Q' boat



The Lifeboat Enthusiasts Society scrubs up well when there's an opportunity for free publicity!

LISKEARD MODEL SOCIETY SHOW, 1ST AND 2ND MARCH 2014, BY CHRIS SAUNDERS

The Saturday dawned bright and sunny so after a leisurely breakfast my wife and I set out for the Upper School at Liskeard Community College. There was plenty of room to park and nice clear directions to the exhibition area. We were greeted at the door and given an enthusiastic welcome. It was explained that the exhibition extended over the main hall and two adjacent classrooms. We visited the latter two rooms first and viewed the model railway displays.

On entering the main hall it was apparent that a great number of people were engaged in displaying their hobbies. The room was full of models of almost every kind from flash steam units, through hot air engines to model dolls houses and a model blacksmith's forge. It was, however, the model boats that were in greatest abundance.



Robin Burnham of Liskeard Model Society with his display of clinker built craft including a 1:16 scale 32 ft Cutter and a Royal Navy Whaler



David Wellington (City of Truro Mariners) with his fully functioning Police Boat



Leslie Trathen (Hayle Model Boat Club) with his 1:12 scale model of the 'netter and potter' called Pioneer



1:12 scale model of the Appledore lifeboat, Louisa Ann Hawker. Built by Richard Bowden of Torridge Model Boat Club, who also told me the story of how this boat tried to save the crew of the Green Ranger in 112 mph gusts off Hartland Point

It was pleasing to see that every club's stand had a banner or notice clearly identifying who they were, usually with detailed information about every model. This was particularly impressive where the information sheets were of a common format with the club logo at the top.

Club members were all keen to give details about their exhibits and so it took most of the two days for us to visit each of the model boat club stands. The general standard of exhibits was very high and so it is impossible to give a fair review of everything. Thus I have selected a few exhibits that were particularly interesting for this report.



General harbour tug 'Wheel Do-it' scratch-built on a hull purchased at an auction, by Clive Liddell of Camborne Pond Hoppers Model Boat Club



Eileen, a Looe Lugger with a locally made GRP hull constructed by Joe Bussell (Looe Model Boat Club) who used to sail the full sized craft when he was younger

The Liskeard Model Society, who organise the show, had a very varied display showing the whole range of model building hobbies encompassed by the club. Among the boats were the beautiful clinker hull models by Robin Burnham and the HMS Avenger and HMS Defender by Alex Gallop.

Overall I counted ten model boat club stands all of which were a credit to the hobby. This was an excellent display and the organisers should be congratulated on a very well organised exhibition. **MMI**



Dynamic diving T1 submarine of bread and butter construction by John Greenwood of Exeter Model Boat Club



Landing Craft Tank Mk.5 scratch-built with plywood frame by Bob Shaw of the City of Plymouth Model Boat Club

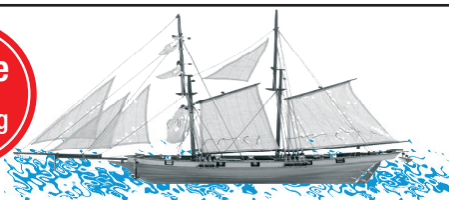


A MS Dolphin Mk.II purchased on eBay and now almost fully renovated, by Aron Moore of Millbrook Model Mariners

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RACING YOUR DRAGONFORCE

CHRIS JACKSON CONSIDERS THE 'HOP-UP' OPTIONS AVAILABLE AND THEIR COST-EFFECTIVENESS

AUTHOR: CHRIS JACKSON

The exciting new Dragonforce RTR from Joysway featured on the front cover of the November 2013 issue of MMI and was the subject of a standard kit review in the same issue. Sales have been very good to both individual customers and in existing model boat clubs where the chance to buy a modern well equipped and quite compact boat as a club 'one-design' has proved a great attraction. At a national level the boat has its own dedicated website and a set of class rules and there is already a list of open regattas planned and listed in the MYA handbook. It seems like a good time to look at the changes which can be made (within the class rules) to the boat and look at the benefits of any such modifications as they relate in cost to local and national competition.

FACTORY SUPPLIED OPTIONS

The boat comes with a single set of sails on a mast that is deliberately designed to be slightly shorter than the maximum set by the open RG65 class rules. This allows the single set of sails to operate well over quite a wide range of wind speeds and for many skippers and lakes this is ideal. The optional extra of a short keel,



The original test Dragonforce shows the very striking sail decoration which is such a strong brand image

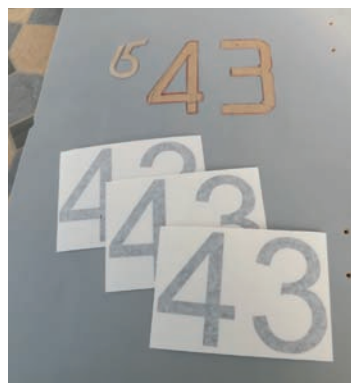
which is NOT included in the initial package, does also allow sailing on shallow ponds, but if one boat changes then all others need to do so to maintain parity. The long keel measures 326 mm, which gives a total depth of 387 mm, and the short option is 175 mm and gives an overall depth of 235 mm.

SAILS OPTIONS

The Dragonforce class rules do NOT allow you to modify the masts, goosenecks and fittings but do allow you to use sails made by other suppliers and also to have three different sizes on hand so you can change rigs to suit the weather. All three suits have the same foot length so that the identical spars and fittings work on all of them, and there are different top mast tubes to suit

the height of each rig. The original equipment sails are really quite good quality and have a spectacular dragon motif on them but this can be a distraction at longer distances. For a club sailing on a small lake the original sailplan will work well with a single sail number on each mainsail but at a distance the dragon print makes it more difficult to see which boat is yours! Opaque or white sails with individual sail numbers become required, as the racing gets more serious!

The cost of three full rigs is quite high compared to the initial investment and as a first step just changing the



Sail numbers will be needed and can either be home made using ply templates or purchased from outlets such as Signs 4 U, (Tel: 01903 247842) correctly spaced and backed by peel off low tack paper



All correct sail markings, logo on both sides, sail numbers with starboard side uppermost, and full international letters, on Graphite Creative sails

kit sails for ones made by a top sail maker would cost far less and allow the skipper to test them on a moderate outlay. If you intend travelling to major regattas then all three sets will be needed.



This inexpensive charger from Component-shop (www.component-shop.co.uk) is all that is needed to slow charge the onboard 4-cell AAA pack

4-cell AAA pack (min weight 46 g), which can be fixed with Velcro to the side of the fin box. A short extension lead may be required from the switch harness but this can be handy as it allows for easy removal via the small right-hand deck hatch. This in turn avoids regular removal of the larger deck hatch during a long sailing day.

MINOR MODS

Quite a few people have strengthened the mounting points for the deckeyes, which, as supplied, are simply screwed into the plastic hull material. To combat heavier stresses it is possible to flow some adhesive, something like Devcon/Zap/Araldite, into the indentations around the deckeyes and allow it to set. Be careful not to use fast setting cyanolate adhesives as these are exothermic and the heat will melt the hull material!

I found the black thread supplied to be very difficult to see so I changed all the standing and running rigging cord to white and colour coded the sheet lines close to their attachment point at the existing wire clip so I can remove the right item. The rigs can then be changed quite quickly. The trick is to alter one foredeck deck eye to a hook and then loop the jib swivel cord round this. Tension can be introduced by adjusting the foresail luff cord, which holds this in place



The moulded gooseneck is very efficient, even if the bottle screw adjustment is quite coarse

R/C AND ONBOARD ELECTRICS

The transmitter and receiver supplied are really very good and I have found to have good range on their 2.4 GHz waveband. The Tx is very light and ideal for younger skippers. In my case I decided to use these units with my Micro Magic so that my young grandchildren could start their sailing career, and swapped them with my Planet T5 gear. This can be done very simply and I now have a standard size Tx with optional Transmitter cover for wet weather sailing, essential if you need to sail during rain.

The boat comes with all the onboard electrics installed and wired up, with a four-cell battery box that needs four AA cells. The class rules allow this to be exchanged for a rechargeable



The foresail swivel attachment cord is led back to a second deckeye modified to be a hook. This allows quick removal of one rig and replacement by another



A purpose-built sail box will offer great protection to sails and rigs in transit and also at the lakeside



A plastic sail bag, this one from Catsails, is very cost-effective and will store and protect all three sail rigs and avoid them getting tangled and dirty

whilst sailing. The backstay cord needs an extra 'S' hook so it can be detached from the supplied wire loop on the stem.

SAIL BAGS AND BOXES

If you are going to lavish time and money on upgrading your boat then it is worth considering how to protect your investment whilst travelling and at the lakeside. Plastic sail bags are pretty standard issue and will help store the three sets of sails and keep the lines from tangling too much. Be aware that if you put sails away when damp or wet after sailing they should be removed in the workshop so both sail and inside the sail bag can dry out. Timber sailboxes provide stronger protection if you travel with young children or lots of other boats. There is also the plastic case sourced by RC Yachts, which takes a complete DF and can be loaded as hold luggage in flights abroad.

VALUE FOR MONEY?

To complete the conversion from basic DF into a fully race ready competition model suited to open regattas is likely to double your initial outlay and this needs to be considered. If you are sailing in a local group then a change of sails and perhaps only top, or top and middle rig, would be an option. The cost of changing to onboard rechargeable cells will be negligible for most modellers and make operation much easier. Don't forget that you must replace any broken items, including sailwinch and servos, with Joyswave approved items. Whilst the basic boat is widely available from model shops the additional items mentioned will have to be sourced from specialist outlets and we listed contact details for many of these in last month's Sail Free column. **MMI**

RG65 MODEL SAILING CLASS PERFORMANCE ENHANCEMENTS

ALAN DESCRIBES HIS EXPERIMENTS TO GET THE BEST PERFORMANCE FROM HIS RG65 YACHT

AUTHOR: ALAN GEORGE

The RG65 class is a development class for 65 cm long, radio controlled yachts which means that anything not mentioned in the rules is allowed. The simple rules are designed to encourage people to try new ideas at a modest cost. Over the last 30 years my yachting interests have been in 36R, IOM, Mini 40 (1 m) catamaran, Fiesta and now RG65. The RG65 class has taken over from the Fiesta class and offers a lot of scope for the developmental builder. I chose the Blue Splash RG65 hull to make my move into the new class. This hull was the winner of the 2011 US Nationals and is also a conventional looking hull with a target weight of 1 kg. New to the class and finding my feet, I may have gone in novel directions in terms of construction, which may be of interest to some of the more mainstream competitors in this class. I would like to share my thoughts on the latest changes, additions and improvements I have recently been working on. I reserve judgement on some of them from a performance angle until further trials prove their worth.

HEAVY WINGED BULB

The current keel on my RG65 is 534 g in weight and 300 mm long measured from the waterline, making it great in light winds but somewhat lacking in high winds or even moderate winds with the top suit on.



*RG65 standard bulb
and in the foreground the
Development bulb*

So, I needed a heavier keel to complement the top suit and to allow me to develop a wing sail for the RG. A heavier weight would fulfil the requirement but I wanted to experiment with a winged bulb gaining the advantage from the shape rather than having to go for maximum moment arm or maximum weight. The winged bulb should provide the advantages of a deep keel without the disadvantages. In theory with a winged bulb the down force and anti-heel increases with wind speed, due to the corresponding increase in side slip and slight nose down attitude of the hull which produces an angle of attack on the bulb and more down force due to its winged shape. The position of the wing section is aft of the C of G and therefore also resists and counteracts the nose down attitude as well.

A longer keel can produce the same result, also with less weight, as a longer moment arm produces the same effect. But I believe the disadvantage of going to a longer keel is that it produces more drag as the boat is pushed hard and if the boat adopts a nose down attitude then the drag increases all the more. The winged bulb when pushed hard turns a slight nose down attitude into a stabilising and correction advantage. It works for me, and I believe there is a move away from longer keels. My keel has been likened to the bill of a Duckbill Platypus so maybe I should call it a platypus bulb?

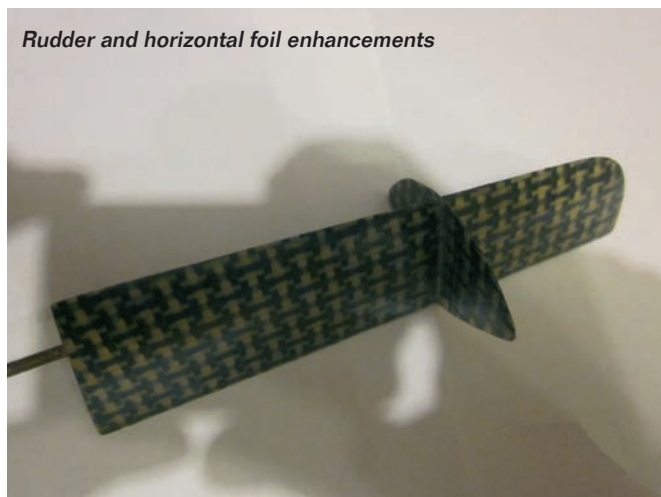


RG65 rear view of rudder foil

RUDDER WITH HORIZONTAL FOIL

My Blue Splash and I imagine other RG65's have a tendency for nose-diving when pushed hard, so adding a horizontal stabilising foil to the rudder seems to be the obvious solution. However, to comply with the class rules it cannot extend behind the boat transom. Complying with this rule is easily achieved by making the aft face of the foil forward swept and therefore parallel with the transom when fully turned in either direction. With the top suit on the boat and a

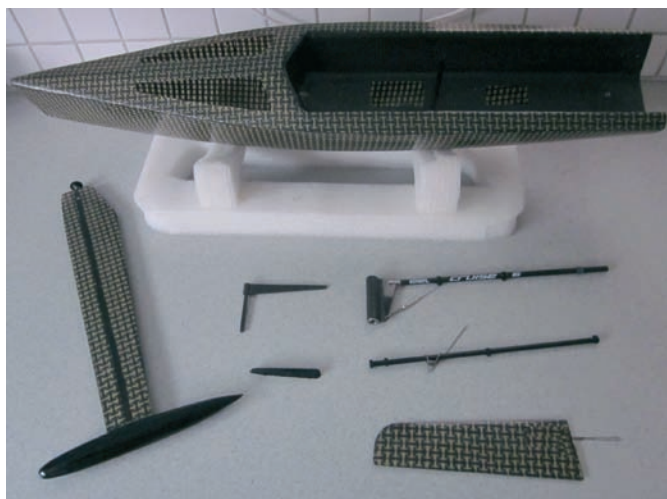
stiff wind the foil was very effective. Add the heavy keel and it gets even better.



Rudder and horizontal foil enhancements



Carbon Kevlar as a hull moulding material



Carbon and carbon Kevlar components on my Splash RG65

CARBON KEVLAR AS A HULL MOULDING MATERIAL

If you want the strength and lightness of a carbon layup with the toughness of a bullet proof vest, just in case you get rammed by another boat, then look no further than carbon Kevlar. It also makes a pretty good-looking boat. Having said that it is not an easy material to work, as its toughness means you cannot cut it very easily and sanding near the cloth produces fluff in your finish.



RG65 Blue Splash with prototype wing sail

WING SAIL

The underlying desire to use wing sails in competitive full size racing lies in their ability to achieve much higher lift coefficients than conventional sails. So I want to move model yachting into this interesting area of sailing boat development and I believe with modern materials it can be a viable option in a development class such as the RG65 class. **MMI**



ALISON M – PART 2

IN PART TWO OF THIS THREE-PART ARTICLE ON BUILDING THE 1/12TH SCALE MODEL OF BRISTOL CHANNEL PILOT CUTTER ALISON M, JOHN DESCRIBES HOW HE COMPLETED THE HULL WITH DECK, SUPERSTRUCTURE AND FITTINGS, AND ALSO BEGINS PLANNING THE RIGGING

AUTHOR: JOHN DAVIES

With everything installed, checked for correct operation, and wiring runs taped down firmly so as not to interfere with sheet leads, the interior of the hull looked the most dreadful rat's nest. However, it was all much more logical than it looked. It all worked. I even poured in a glassful of water, to make sure the bilge pump would pump it out. The time to check this sort of thing is when the works are still accessible.

FIRST PROBLEMS

With three pounds of trimming ballast, a second float test showed she was trimmed perfectly fore-and aft, but already 4 mm below her marks. Since the lead was by now built in, it would be difficult to do much about it. After considering taking a plane to the bottom of the keel and slicing a bit off (sharp woodworking tools will work lead),

it was decided to leave things as they were, and build lightly and cleanly in the decks, bulwarks and rig.

A compelling reason to limit weight gain in the later stages of construction would keep the weight where it did most good, low down. If the final weight came out slightly over-scale, it would still be acceptable. All real sailing boats gain weight. There's an endless temptation to add bits and pieces that 'might come in useful'. Over the years, a timber hull gets damp, adding more weight. Pilots paid close attention to weight, especially in the ends of the boat, but even so, it creeps up. As long as she didn't finish too far below her marks, it would be quite acceptable.

A long scupper was cut each side, just above the rubbing strip. It is about a quarter of an inch deep, so any water that comes on deck will go straight back where it came from.

Alison M in full sail



It was decided to fit a long central hatch wide enough to get a hand into, for maintenance, with an opening companionway to switch things on and off and give access to the battery lead for charging. The long hatch could be screwed down on a bed of Vaseline for water-tightness. This meant two long carlins each side of it had to match the curve of the sheer. These were laminated, setting the curve into them firmly. With short beams to the shelves each side, and matching laminates under the hatch, a strong, tidy, structure resulted.

THE CHAINPLATES

Chainplates came from Waverley Models' wonderful Aladdin's cave of fittings, which contains everything from very traditional bits to the latest products of laser cutting and 3-D printing. Supplied as etched brass blanks, the top ends had to be formed and soldered. Holes for bolts securing them to the hull were opened out slightly, to allow a larger fastening. Chainplates anchor the shrouds to the hull, preventing the mast from falling over sideways. They help to transmit the driving force of the rig, a sailing vessel's power plant. Strong fixing is therefore important.



Fixing the chainplates

They are never joggled to go around the rubbing strip. Joggling them would weaken them. In a big full sized cutter, loads in the rig can amount to tons. Even if a joggled chainplate did not break, it would tend to straighten out under load, slackening the rig and imperilling the mast. So the model hull's moulded rubbing strip has to be filed down in the way of the chainplates. These are through-bolted using M3 stainless steel bolts fastened through wooden reinforcing pads epoxied to the inside of the hull. You could probably lift the model by them. The forward pair are abeam the mast. The other two pairs are set quite well aft, affording the mast good support. In the model, they are, at deck level, two-and-a-half inches and five inches aft of the mast respectively, or a scale two-foot-six and five feet.

DECKS, BULWARKS, FITTING OUT

Once chainplates were in, a false deck was cut from 1.5 mm ply, and fastened down to the deck beams using Deluxe Materials one-hour epoxy. The amount of hardener was slightly reduced to extend the setting time, allowing time for applying the epoxy to every part of the various deck beams. It was held in place with weights and clothes pegs. The deck happily supported a considerable weight, an unintentional, reassuring, strength test.

The deck was planked in 1 mm Tangynika. Each plank was slightly spaced from its neighbour, using a thin piece of metal as a gauge. The deck was covered in a thin skim of dark filler then rubbed down, leaving filler in the narrow gaps between the planks.

Bitts, bulwarks, stanchions, etc., were made from timber. The Model Dockyard's service is excellent. It is reassuring to know if I have forgotten something important, it will reliably arrive in tomorrow's post. Bulwarks were sheathed in 1 mm lime, capped



Fixing ply false deck



Completed deck



Companionway with leads

with mahogany, sawn from the sheet into roughly one foot lengths, scarphed together, so the line of the grain follows the line of the bulwark. Two of the most important tools at this stage were a yellow duster and a small battery-powered vacuum cleaner. Workshop mess is inevitable, but don't let it accumulate on the model.

All unpainted timber was finished with Colron Antique Oil. This gives a lovely sheen, adjustable from eggshell to gloss according to how many coats you apply. Stanchions are painted white on their fore and aft edges, but clean and oiled on their inboard edges, very



The punt



Finished deck

characteristic of pilot cutters. Mahogany looks rather opulent for a working vessel. Malcolm Darch used satin walnut in his superb display model of *Marguerite* (see his excellent 'Modelling Maritime History'). But among working craft, pilot cutters were aristocrats. Perhaps mahogany isn't out of character.

The punt is one of Waverley's vac-formed hulls, fitted out with bare oiled timber in thwarts, knees, gunwales and floorboards, to disguise its origins as a light plastic moulding. It scales out to ten feet. Twelve feet was a more usual size. However, punts were sometimes lost or damaged, and had to be replaced quickly, because without them the cutter, or 'skiff' as she was also known, was unable to put a pilot aboard a ship. It was much more important to have a working punt onboard than to have one absolutely the standard size.

This was an enjoyable stage. The deck layout is clean and open, a great sweep of planking. There is a small, deep, cockpit aft, a companionway, some circular deadlights in the deck so the accommodation is not dark, stowage for the punt and for long sweeps, a winch amidships, heavy bitts forward at the heel of the bowsprit, and that's about it. This is a working boat's layout, without clutter.

A HARD LIFE

The skiffs were designed to 'go seeking downalong', to go looking for homeward bound ships they could put pilots aboard. This meant getting to windward down the Bristol Channel against the prevailing westerlies in all weathers, doing it fast, because whoever got there first got the fee. They were usually sailed short-handed. There would be a pilot, who owned the boat. A 'man in the boat', also known as a 'western-going-man' or 'westernman', sailed her. There would be an apprentice, who might be the owner's son. Apprentice and crew lived in the fo'c'sle, which they shared with the cooking range. There might be a second pilot onboard. The pilots would live in the saloon, in the 'pilot berths' their profession has given the name to, (enclosed berths above and outboard of the saloon settees), until the time came for them to board the cutter's punt

and make the perilous transfer to a ship, rowed by the apprentice, who then had to row back and haul the punt on deck. Once they had got the pilot onboard a homeward bound ship, apprentice and westernman would sail home as fast as they could. Or perhaps the ship might tow them, considerably faster than the skiff's hull-speed, with solid water on deck as far aft as the mast, a dangerous and cordially hated procedure.

Gaff rig can be kindlier and easier to handle than modern Bermudan rig. But I have spent enough time at sea under gaff rig to know for certain the whole idea of bashing to windward in the weather the Bristol Channel can kick up in winter, sailing a big heavy cutter short-handed, holds no appeal at all. As for messing about in a little dinghy miles offshore in all weathers, that is certainly nothing I ever want to have anything to do with. It was a very hard life indeed. The classic reference is Peter Stuckey's 'Sailing Pilots of the Bristol Channel', recently reprinted.

Conditions in the old pilot service were often hair-raising, one retired seaman recounted, in the most matter-of-fact fashion, how they found a ship in winter on a nasty night with squalls of snow. The ship hove to, the skiff hove to, he launched the punt to take the pilot to the ship. On the way back, a thick flurry of snow came down. He lost sight of the skiff, which, as was usual, had hove to at some distance, to reduce the danger of the ship drifting down on her. It was only by great good luck he found his way back. He said he "Thought he might be in for a bad time", but no more than that; no heroics.

Just pause for a moment and imagine that was you, lost in a small open boat in a thick winter snowstorm with a lumpy sea running, miles from shore. We live in a very soft, very protected world. When we extol the beauty, power and grace of the pilot cutters, we may have little idea what working aboard them was like. Pay was better than either working ashore or on merchant ships, but not enormously so. If you go to sea aboard a pilot cutter now, it will be for a holiday under a skipper who takes care and only enjoyable things happen. That is very different from working in the old pilotage. Working seamen had to go to sea, in all weathers, regardless of comfort or even safety, to make their living.

GAFF RIG; SPARS

For rigging, useful references are John Leather's 'Gaff Rig', and Tom Cunliffe's 'Hand Reef and Steer'. Readable used copies can be picked up cheaply. Both are concerned with full sized rather than modelling practice, and none the worse for that. At 1/12th scale, you can accurately represent most of the rig, and build a miniature rather than a model.

Some modellers' references about gaff rig are eccentric. I have seen the gaff, at the top of the mainsail; repeatedly referred to as the 'yardarm'. A yardarm is not a spar at all. It is the end of a spar. Yards were not found in gaff cutters, but in square-rigged vessels. Or there was the 'mainsail top boom yoke'. After a lot of puzzling, comprehension dawned; the gaff jaws, which fit around the mast, enabling the gaff to slide up and down and swing from side to side.

This is not a good idea. People will have difficulty understanding you. It shows disrespect for a living tradition. You look silly if you brandish your ignorance for all to see.

Almost all traditional working gaff-rigged boats had wooden masts. Most were solid. Hollow spars were lighter, stronger, and more expensive, usually found in racing yachts. The bottom end of a mast is the heel, and the top end the truck. Some way down from the truck are the hounds, which allow the attachment of the standing rigging. The piece of the lower mast between the hounds and the truck is called the masthead, usually a height equivalent to one quarter to one third of the length of the luff, or leading edge, of the mainsail. In a traditional craft, each piece of standing rigging has a loop formed at its upper end, which goes round the mast. If nothing obstructed them, they'd slide all the way down to the deck. The hounds form the necessary obstruction. They consist of two wooden cheeks, one each side of the mast, with a curved bolster above them, so standing rigging is not led over a hard edge. The

heel of the mast fits into a step. In most traditional craft, this is just above the keel. The mast passes through the deck. But in some, it is stepped on deck. The usual reason was if the vessel was in a trade that made it necessary to pass under bridges, necessitating the lowering of the mast. Thames Barges and Norfolk Wherries are well-known examples.

A gaff sail can be set on the mast described. Most craft also set a topsail above it. This necessitates a topmast. Immediately above the hounds, and below the bolster, a yoke is inserted. This is a short plank, pierced with two holes, one that fits around the lower mast, and one that allows the topmast to pass through it. At the truck of the lower mast, there is a similar fitting, which can take the form of another wooden yoke, or be an iron fitting in the form of the number 8. This was usual in pilot cutters, as it meant less weight and windage aloft. They were competitive, high-tech, innovative vessels, out to use every advantage.

The topmast passes through both, and is prevented from dropping clear through by a fid, a stout peg, passing through the heel of the topmast just above the yoke. To give a wide span to the topmast shrouds, spreaders are sometimes fitted. Their function, as their name implies, is to spread the rigging. Don't call them crosstrees. Those are something else entirely, found in the rigging of large sailing ships. The advantages of this arrangement are that the topmast can be lowered, or 'housed', in bad weather, reducing weight and windage aloft, improving the behaviour of the vessel. A longer topmast can be shipped in summer, a shorter one in winter. It reduces the overall length of each spar, so you don't need to find a very long straight tree to make them. Working craft had to be built at the best price possible. The disadvantages are complexity and windage. In some craft, the mast and topmast might be combined into a single length, known as a pole mast. This arrangement suits pleasure craft that are unlikely to put to sea if bad weather is expected, whose owners can afford a single long piece of timber, and where windage is reduced to gain maximum efficiency. It is more characteristic of yachts than working craft. However, some pilot cutters used it.

GAFF RIG; STANDING RIGGING

The bare mast would stand in calm water without sails, but once the motion of the vessel, and the weight of wind in the sails, applied loads, it would break. The purpose of standing rigging is to ensure the mast stands. Shrouds prevent the mast from falling over sideways. Either a single shroud has a loop spliced in its upper end, or two shrouds are formed out of a single length of wire, turned back on itself at its mid-point, the two parts being seized together to form the loop. Lower shrouds are placed over the hounds in a set order; first the forward shroud on the port side, then the forward shroud on the starboard side, then the next shroud to port, and so on. At deck level they are either tensioned by lanyards and deadeyes, or by rigging screws, attached to the chain plates, which are bolted through the hull's strongest frames, to transfer the loads imposed by the rig to the hull. Topmast shrouds are led from the topmast head, through the ends of the spreaders, to the deck, where they are tensioned with tackles if the topmast is the traditional housing kind, or given a more permanent fastening if a pole mast is shipped.

Forestays prevent the mast from falling over backwards, and are led down forward of the mast. But how to prevent the mast from falling forward, when the powerful drive of the rig pushes it? How to ensure this force drives the boat, instead of causing a catastrophe? In a modern Bermudan-rigged yacht, a strong fixed backstay runs from the masthead to the stern. But a gaff mainsail's boom is normally too long for such a standing backstay to come down outside it. Running backstays may be used, on each side, leading to the quarters. So as not to interfere with the boom, the backstay on the leeward side, where the boom swings out, has to be slacked off, and the one on the weather side, where the load of the wind comes from, tightened, set up. Each time the vessel tacks or gybes, one backstay has to be set up, and the other slacked.



Hounds and spreaders (ignore the chain)



Hounds Yoke Bolster Spreaders etc.

If the helmsman gybes inadvertently, the boom can slam over into the backstay, which is set up, putting an unfair strain on everything, possibly causing major gear failure. Working sailors tended not to ship running backstays, but to rely on a heavy solid mast, with the aftermost pair of lower shrouds led to a position well aft of the mast, but not nearly as far aft as running backstays would go.

This somewhat restricts how far the boom can swing out, but that is only really a consideration on a run, with the wind from dead astern. Most sailors avoid this point of sailing if possible. It is slow and uncomfortable. Even on a dead run, you don't want to let the boom all the way out. This can lead to a condition called 'rhythmic rolling', where out-of-balance forces in the rig set up a nasty swaying in time with the natural pendulum period of the vessel. The cure is to get the boom in a bit. So having the after pair of shrouds five feet aft of the mast is no problem. The boom shouldn't go out any further. Running backstays are more characteristic of yacht rig.

The usual material for standing rigging in gaff-rigged craft is galvanised plough steel. It's grey, and can be represented by the braided steel wire sold in fishing tackle shops as traces.

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Easy Build

Designed by Gary Holmes

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LENGTH: 1070mm

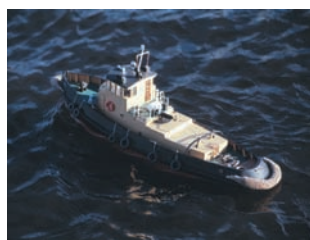
Featured in MMI Dec 1985 and Jan 1986

Ref: MAR2050

RRP: £12.00/US\$ 14.50 + p&p/s&h

Difficulty Rating ● ○ ○ ○

GIRL CLASS TUG



Scale Tug

Designed by Jim Pottinger

Scale Tug for electric drive and two function R/C. The model size makes it a convenient size for scale steering.

BEAM: 165mm

LENGTH: 590mm

Ref: MAR2660

RRP: £17.50/US\$23.00

+ p&p/s&h

Difficulty Rating ● ● ● ●

SHU 'AI DHOW

Scale Working Boats

Designed by Keith Edgar

An Arabian Gulf Dhow to 1:24th scale model. Plans are well detailed on 2 sheets. Both original and model are intended for electric motor and not sail power.



BEAM 150mm

LENGTH 770mm

Featured in MMI April/May 1987

Ref: MAR2097

RRP: £15.00/US\$20.00 + p&p/s&h

Difficulty Rating ● ● ○ ○

SYDNEY EXPRESS

Scale Working Ships

Designed by Jim Pottinger

Two sheet plans for the Blohm and Voss container ship, built in 1971. At 1:300th scale this model is for the experienced builders. No model construction data is included. Originally presented in two halves as a free plan.



BEAM: 210mm

LENGTH: 1515mm

Featured in MMI July/Sept 2000

Ref: MAR2811

RRP: £17.50.00/US\$23.00 + p&p/s&h

Difficulty Rating ● ● ● ●

TURTLE DOVE



Suitable for Steam

Designed by Richard Ellis

A simple Mini-Steam design offering either open or cabin launch on the same hull. Model conforms to Mini-Steam class rules.

BEAM: 110mm

LENGTH: 500mm

Featured in MMI July 1998

Ref: MAR2661

RRP: £15.00/US\$20.00 + p&p/s&h

Difficulty Rating ● ○ ○ ○

GAY CLASS FAST PATROL BOAT



Designed by Les Brown

Two sheet plans for a working model of a Royal Navy patrol boat. At 1:32nd scale the models is presented with full size side & deck elevation frames and deck details.

BEAM: 195mm

LENGTH: 715mm

Featured in MMI March 1997

Ref: MAR2554

RRP: £17.50/US\$23.50 + p&p/s&h

Difficulty Rating ● ● ○ ○

PRIDE O' FIFE



Scale Fishing Boats

Designed by Findlay Drynan

Scale model steam trawler for electric power. Plans are on two sheets, one of which gives all hull lines.

BEAM: 178mm

LENGTH: 880mm

Featured in MMI Feb 1993

Ref: MAR2396

RRP: £17.50.00/US\$23.00 + p&p/s&h

Difficulty Rating ● ● ○ ○



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● ● ○ ○ **Two** ratings mean that some previous experience with kit or plans is desirable, or if you are a novice, some advice from an experienced modeller will be required.

● ● ● ○ **Three** ratings mean that the plan involves methods that require a lot of knowledge and several previous models should have been completed before tackling this one.

● ● ● ● **Four** ratings mean that the plans are for the most experienced modellers only and that advanced techniques will be required to complete the model.

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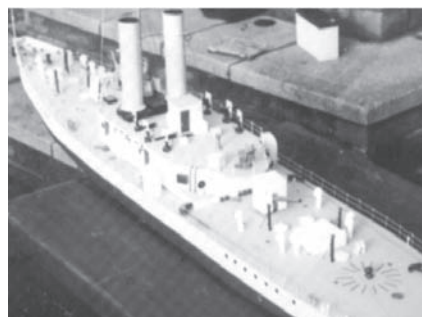
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HMS GNAT

Insect Class Gunboat

Designed by Phil Thomas



Drawn at 1:48th scale. Performs well in model form and attracts lots of interest. Shallow draught and props in underwater tunnels featured. Includes one large sheet, with full working model drawings. BEAM: 230mm LENGTH: 1530mm Featured in MMI Nov/Dec 1991

Ref: MAR2300

RRP: £12.00/US\$16.50 + p&p/s&h

Difficulty Rating ●●●○

HMCS TRINITY

Patrol Craft

Designed by Les Brown



One of two patrol craft built for Trinidad and Tobago by Vosper Ltd. Plan on one sheet at 1:48th scale model size with no model construction detail. BEAM: 130mm LENGTH: 660mm

REF: MAR2240

RRP: £10.00/US\$14.00 + p&p/s&h

Difficulty Rating ●●●○

HMS AVENGER

Type 21 Amazon Class ship

Designed by Bill Dickinson



Built at Yarrow in 1978. Two sheet plans at 1:96th scale, with no model construction data. BEAM: 135mm LENGTH: 1250mm REF: MAR2692 RRP: £17.50/US\$23.00 + p&p/s&h Difficulty Rating ●●●●

HMS BRILLIANT

Type 22 batch 1 Frigate.

Designed by Bill Dickinson



Built at Yarrow in 1981. Two sheet plans at 1:96th scale with no model construction data. BEAM: 155mm LENGTH: 1360mm REF: MAR2693

RRP: £17.50/US\$23.00 + p&p/s&h

Difficulty Rating ●●●●

HMS EXETER

Sheffield Class Destroyer

Designed by Bill Dickinson



Ship built in 1980 at Swan Hunter. Two sheet plans at 1:96th with no model construction data. BEAM: 150mm LENGTH: 1320mm REF: MAR2694

RRP: £17.50/US\$23.00 + p&p/s&h

Difficulty Rating ●●●●

BYMS MINESWEEPER

Designed by David Dibbs

A 1:48th scale plan of the wartime BYMS ship with both hull frames and data plus a wealth of scale detail. This model will make a superb scale project.

BEAM: 150mm

LENGTH: 890mm

REF: MAR2384

RRP: £12.00/US\$16.50 + p&p/s&h

Difficulty Rating ●●●○



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UNIVERSITY OF THE THIRD AGE

KIM EXPLAINS THE BUILD AND DEVELOPMENT OF HIS U3A CANTERBURY 'K' CLASS!

AUTHOR: KIM BELCHER

INTRODUCTION

Firstly, further apologies to those model sub-mariners who thought this was about a, so far, unknown U-Boat type. Likewise to those America's Cup aficionados who just thought there might have been life beyond the wonderful Canterbury 'J' Class yachts! No, this is all about the University of the Third Age (U3A) an organisation set up in the UK based on a 'model' used in northern France, where basically the over 60's (age group) – or at least those who have retired from work – can have a chance to take up further interests, requiring no actual qualifications to join and when they leave the same applies, no certificates or degrees are awarded, but they will have had the chance to share and exchange knowledge and views on a variety of chosen subjects, whilst at the same time having had a great social engagement and learnt new skills.

How did this all come about for me? Well, in 2005 I took early retirement from my job – that of working in the Metropolitan Police Service as both a fingerprint expert, crime scene examiner and instructor for almost 30 years. My wife wanted a move, so we settled on the Cathedral City of Canterbury in Kent. Part of the deal was that I got a dedicated workshop for my model boat hobby – I had already started building both a 1/12th scale Arun Class and a 1/12th scale Trent Class model lifeboat. The move happened and the garage (attached to the house) was converted into a bespoke

workshop – the garage door went and was replaced by a wall, a double window and door, then electrics for lights and power points were fitted and finally work benches built. This was promptly followed by all manner of tools, a mini-lathe, a mini-milling machine, scroll saw and Proxxon tools a plenty!

In the meantime my wife and I had signed up to the Canterbury & District branch of the U3A with some 800 members at that time. My wife then noticed that they were asking for some volunteers to offer and run a few more practical courses – why not a model boat building course, she said? There was an insinuation that I now owned more tools than God intended any one man to have! So the U3A Model Boat Building Course started to germinate.

I put the idea forward to the Committee, a very nice lady (Janet Daws) who was the Co-ordinator for Creative and Personal Skills came round to have a look at the workshop, machinery and overall scope of the premises. A syllabus was then written against a proposed time schedule and the idea put forward to the U3A HQ in Bromley for insurance approval. This happened and I then scheduled into the 2010 summer list of activities two Open Days (one in May and one in July) at my house to give prospective course members an idea of what they would get, but it also gave me feedback on what they might want!

However, my astute wife said that if I just showed my lifeboats it

There – on the water and looking good. Mrs 'Dean' provided champagne, glass flutes and homemade shortbread for the launch and maiden voyage at MBA Dover's Kearsney Abbey pond!





One end of my lounge where a plastic kit, dive boat with sound module, computer running Phil Locke's 1/12th scale Severn lifeboat on the water, some vacuum formed models and books and magazines



Meanwhile in the conservatory a display showing how to research a model (here the local Ramsgate Trent Class lifeboat) alongside a brushless motor set up and related P100 Noisy Thing sound module

would put people off, not that they were wonderful, just intricate and very detailed. She suggested that as the 'blurb' stated '... anything from an Airfix kit to a 10-channel radio controlled model boat...' would be covered on the course, better I had one on display. So a 1/72nd scale Severn Class lifeboat was purchased and started! This, plus sound modules, magazines, plans and other kits were put out to whet the appetite.

Two gents turned up, Dick and Allan, who seemed to enjoy what they saw and said they would join. There were spaces for five members, who with me would make six, enough to safely work in the workshop on practical boat building items. Just these two gents re-appeared on the second Open Day, but Allan had purchased an MTB model and had half finished it already! The course was to start in September! Keen or what?

Well start it did, Dick and Allan were joined by Ken, Dean and Lesley – who enrolled as 'Leslie' just to make sure she did not get thrown off a boys' course'!

THE PARTS

There were two things I dreaded when the first day of the course approached. One was that we did not get a 'big head – know it all' member in the group. There was only room for one of those and he was me! Secondly, I did not want someone who did not know why they had come or what they wanted to build! I should not have worried. As the weeks, and even the first two years, passed by I

could not have hand picked a better five to start with. They all got on with each other, gave inputs, had great senses of humour and self-deprecation in equal amounts and seemed to think that the course was great! None had ever built a boat before, however, they were all very practical people. Why they joined now follows.

Allan (as our most senior member) just wanted a different social group to interact with, whilst his love of sailing dinghies and woodwork was no longer totally practical. He had been a development engineer in a previous life so thought a radio controlled model kit would keep him busy.

Ken had been a chemist and lecturer, built his own racing car, but wanted to build a Sterling hot air engine and also an Aqua Riva type motor boat; he saw this as the perfect opportunity and environment to do both.

Dick wanted to scratch-build a 1947 Elder Dempster cargo vessel MV Shonga and radio control it. He used to be in the insurance business and had also spent many years as a locally retained fireman. It turned out he is also a very accomplished marine artist!

Dean had been in the legal profession, loved choral singing and golf, but had been given a Graupner Glasgow paddle steamer tug kit as a present, opened the box, got 'frightened' by the amount of potential work inside, closed the lid and put it on top of the proverbial wardrobe!

Lesley had had a varied life, was now working for a large builder's company, but as she had visited Maldon in Essex and now lived in Faversham, Kent had a love of Thames barges. Hers was to be a Billings 'beginners' static kit of Will Everard, the famous and much built model of a Thames barge – however, 'beginner's' it turned out NOT to be! This was my Canterbury 'K' class.



The road end of my workshop. On the right an 'in build' Rother, Mersey, Solent Class and Arun Class lifeboats and on the left the main open area for model assembly



The other end of the workshop full of machinery and tools!

THE STRUCTURE

We would meet over 24 weeks from September through to April the next year, at my house; I would host, lead and tutor the course. This was on a Monday morning from 10 am through to 12.30 pm.

We started with tea, coffee and biscuits, which immediately led into an open forum where members would say what had happened (model wise) during the last week – or not if they had been on holiday or were required to decorate the bathroom! They told what had gone well, what had not gone so well and invariably asked for advice, where each member got involved and solutions were usually forthcoming. Then we would retire to the other end of the lounge where I would have set up a theory input with normally some sort of demonstration. Then, as and when warranted, we would go out into the workshop to consolidate theory with some sort of practical exercise, be it working on the lathe, milling machine, soldering wires, joints or plugs, or simply forming and gluing parts together. Basic, but it seemed to work for us, but on occasions we modified it to suit the following week's input. Leading from this I sometimes did some 'extra curricula' one to one work with individual members. This would be on a Thursday to sort problems or allow use of the machinery in the workshop.

THE BUILD

Space precludes, but I will list some of the main areas we covered during the first 24 weeks, usually with handouts being prepared by me to back up the theory inputs. They were: researching and resourcing a model; resourcing tools, materials and equipment; workstation types; getting started – knives, files and rulers; build



Allan 'beams' as he proudly takes his Perkasa MTB towards the Victoria Park pond in Herne Bay, the Heron MBC's home water for its maiden voyage!



Allan and Dick attending the July Open Day at my home with Allan's Perkasa MTB kit well under way!



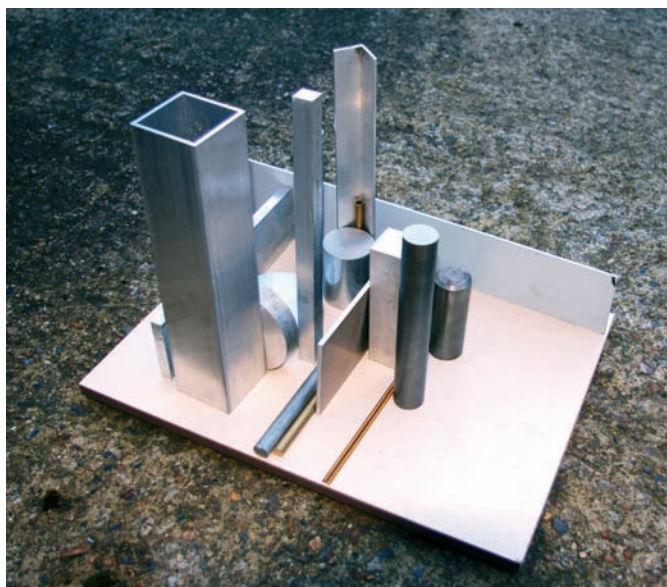
Ken explains to Dean, Dick and Lesley the intricacies of frames, stringers and the sheet building of an Aqua Riva style boat



A Monday morning a few months into the course with Dick talking us through his plank on frame build of MV Shonga's hull, with Ken and Dean on the left and Allan and Lesley on the right

types and plank on frame (a talk by Alan Poole from MBA-Dover); plans; soldering; glues; cutting threads; painting; electrics – motors, batteries, chargers, servos and speed controllers; lubrication in the workshop and on the model; websites; clubs and shows; museums and finally magazines (MMI and Model Boats).

I have mentioned one speaker above, but Alan Poole has since been back to give talks on 'moulding resin parts', 'plans, ghosts and how to use them', 'working on and building a model of Loyal Mediator – a Fleet Tender'. Then there has been Ian Gerrard from the Cygnets MBC on 'building a computer controlled R/C flash boiler powered boat', Chris Scott on 'building with styrene' when he was a member of Black Park MBC, Elwyn Baker another Cygnets member on 'why and how I built my favourite five boats' and Phil Locke (Ex-Black Park MBC and now Broomfield MBC) on using 'gizmos and servos to make things work' as well as a demonstration on LED usage. These fellow model builders have



The basic materials for Ken's hot air Stirling engine build



Some of the Stirling engine parts that have been fabricated by Ken on his lathe and milling machine, taken from the plans of Roy Darlington's famous book

been most enthusiastic and supportive – adding illustrated talks to the course content, some of which I have had no experience of at all. It has also meant a 'week off' for me and a change of voice and face for the course members!

THE DEVELOPMENT

The original 'Famous Five' continued into their second year with me (September 2011 to April 2012), but the Summer of 2011 led us into going to various member's homes each month and having guest speakers, sharing experiences and planning attendances to model boat and engineering shows and regattas. Peter joined us for the second year, he had inherited a 1950s pond yacht and wanted to strip the paintwork and then either refurbish or convert to radio control. He has a scientific background and runs a course for our Canterbury U3A, as well as being the Course Allocation Officer – a very demanding and time-consuming activity for our local U3A, which now has some 1,200 members with 219 different courses and activity groups running during the Autumn/Winter prospectus period!

Lesley left after two years with us and had almost completed her Billings model of a Thames barge – Will Everard. This has now been achieved and looks a wonderful little masterpiece – much thought and effort was expended on this build and her patience tested on many occasions, it provided the rest of us with discussion points and a few laughs!

In 2012 Jim joined us, having heard of 'my course' at the Boats on the Mote Regatta that year. He had a very large tug that he had acquired and sailed, but now wanted to build one of his own. He has a Mobile Marine Models Tug and is slowly, but surely, coming to terms with all the various aspects of build, electrics and painting. His background was in large machines and he now enjoys wood-turning and angling.



Ken demonstrates for the first time in my workshop his Sterling hot air engine, while Peter and Dick look on and Allan shields himself behind me!



Ken's twin boat project, of boat and engine, starting to look very good indeed!



Allan sits by his newly acquired Victoria yacht, while Ken looks on thinking of a Kyosho Fairwind purchase! Dean, Lesley and Dick look content with their single builds!

By this time Allan had purchased a Victoria yacht, and having heeded advice looked at the Victoria forum on the Internet. This enabled him to proactively add other builders' suggestions to further improve this very much-liked yacht. He will be finishing with us after three years, as I write this, but Reg (already a U3A member) has seen us heralded in the Prospectus for Autumn and Winter 2012/2013, so has been off and bought a Metcalf Mouldings' Lady Laura tug (to be named Lady Sylvia – best to keep in with one's wife!) and already shafts are in the hull, rudders built and sprayed, motors, ESCs, battery and charger purchased and thoughts of how to access the interior through a better deck layout considered – seems we have a replacement in the group for Allan!

ON THE WATER

Not only have many traders benefitted financially through my small course (many hundreds of pounds sterling have been spent on the models and their required additional components worldwide, to say nothing of Halford's spray paints, allowing them to declare another annual dividend!), but clubs have had new members join too. Allan, Ken and Jim now belong to the Heron MBC in Herne Bay, with Jim recently joining Tug R Us too. Dick and Dean have joined the Model Boat Association – Dover and regularly attend their meetings and regattas. All of these men enjoy the fun of sailing their models and talking to fellow club members and members of the public at large. A great advert for our hobby.

Those that have not quite got their own models on the water often get the opportunity to either sail my 1/22nd scale America's Cup

yacht Alinghi (a converted Kyosho SeaWind yacht) or my 1/8th scale diver's boat Diving Belle at local ponds, lakes and regattas. Between them they have also put on a great display at the U3A's Canterbury and District AGM for the last three years, where other members (mainly ladies!) have taken a keen interest in the models in build and those completed.

CONCLUSION

Well, there you have what a few of us have been doing in the south east of England for the past few years, through the auspices of the University of the Third Age, in Kim's 'K' Class. But it's not just us. I saw an article in the Saga Magazine a few years ago where a group of people from the U3A Fairford branch have a Model and Boat Building group; then Jack Snary (him of the famous Spithead Review surface model fleet exhibition) recently told me he too runs a similar U3A course to mine, but in Cheshunt, covering all aspects of model building and another very good friend (Black Park MBC, St. Albans Model Engineering Society and fellow Lifeboat Enthusiasts' Society member) Jeff Carter is Chairman of the Rickmansworth and District U3A. All of us do this work voluntarily – we can claim expenses, but most of us don't. For my group I do not charge for tea (Kenyan Broken Orange Pekoe leaf of course!) and freshly ground Peruvian coffee (we know how to live down here in Kent!), but I do put out an RNLI collecting box and in the last three years my generous group have donated over £110 to this worthy marine charity – Saving Lives at Sea.

Starting this September (2013) I have called it a 'Model Boat



Lesley uses a pin-vise drill to prepare holes for Will Everard's – a Thames barge – plank on frame hull



Peter's inherited 1950s pond yacht. In much need of some 'tender loving care' – but beware the lead based paint – always use a good facemask and surgical gloves!



As Dick uses my mini-lathe for the first time, Ken keeps a watchful eye on his technique! Was he a 'shop steward' in a former life?



During a summer meeting in 2013 Jim shows Dean and Dick, in his large workshop, how he has started to wire his new Mobile Marine Models tug



With plans on the floor, guest speaker Elwyn Baker talks Lesley, Peter and Dick through the build of his WWII Harbour Defence Vessel. In the background awaits his Metcalf Mouldings Rother Class lifeboat



With plans, William Mowll's SS Great Britain build book and one of his own hulls, Alan Poole demonstrates a plank on frame build to Peter, Jim and Dean



Our stand at the 2011 AGM Creative Skills Display. One lady looks at Allan's Perkasa MTB, while Allan, Dean and Dick talk to another about Ken's Aqua Riva. Other boats are in their early stages of build

Building Projects Group', as most have now learnt and understood the basics of what is required and a lot more. We shall meet fortnightly to share our successes and failures (red to red and black to black when attaching battery leads to ESCs!).

All in all we have had a great time, socialising, building boats, sharing experiences, learning new skills and visiting new places. Could you be doing the same in your area through the U3A? Give their website a visit on www.u3a.org.uk to find out more about the U3A, what they do or how you too could get involved and share some learning experiences. See what else we do in Canterbury at www.u3acanterbury.org.uk and if you want any other help or advice contact me through the Editor. Happy and enjoyable modelling to you all. **MMI**



June 2013 and Dick shares stories with Alan Poole, both having served on Loyal Mediator type vessels. Allan, Dean and new member Reg look on. Dick hosted the meeting and yes his wife does the gardening!



Lesley's Thames barge at the 2012 AGM, near to completion and awaiting rigging! U3A is all about learning new skills!



Dean's Glasgow paddle steamer tug, also at the 2012 AGM, well on its way to being finished and nowhere near the wardrobe top!



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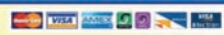
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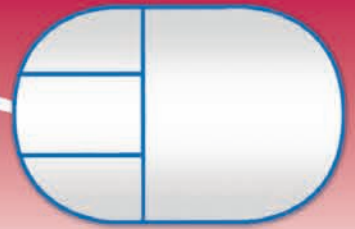
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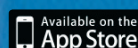
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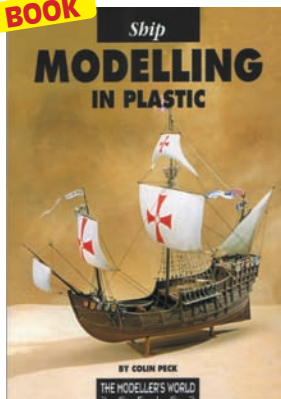
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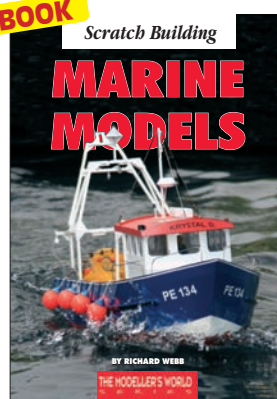


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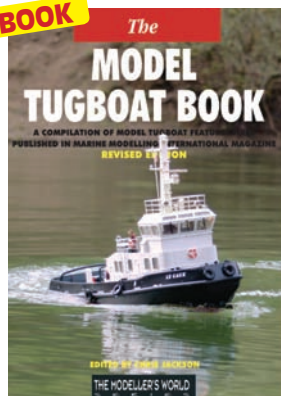


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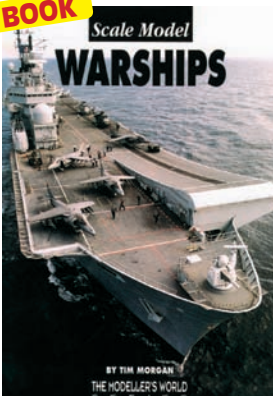


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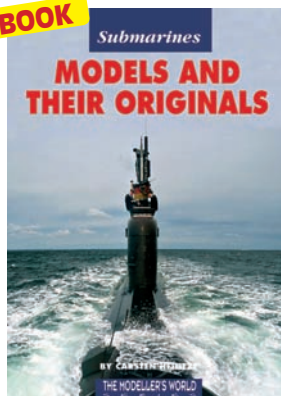


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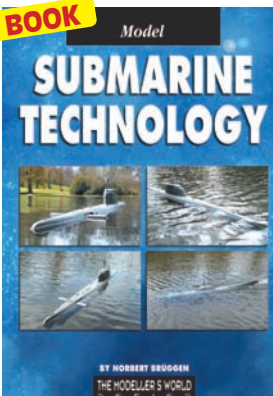


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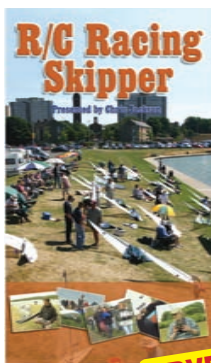
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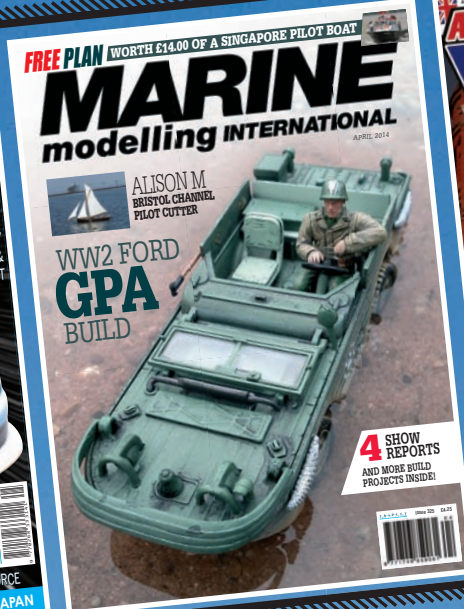
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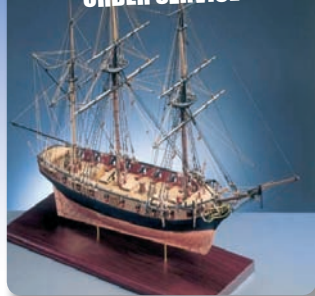
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