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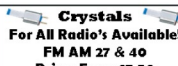


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COVER STORY FREE PLAN



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HSU FU

There are many reasons why modellers want to build a model, be it seeing a full size vessel or viewing images but the inspiration to build this bamboo raft came from a book. The model designer and builder read the book 'The China Voyage' which was about a team who built a full size bamboo raft in 1993 to prove if early man could sail across the Pacific Ocean to America. Not unlike the full size version the model has travelled a fair distance for this article – it was built near Blackpool, transported to the North Somerset Coast for the front cover image then transported back to Blackpool via Warwick and York, a distance of some 700 miles, a scale distance of 16,800 miles (at 1/24 scale)! Thanks are extended to the team who helped with this land voyage.

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MESSAGE FROM THE BRIDGE

GREETINGS ALL!

A happy new year to all readers and I hope you all had what you wanted for Christmas! It was good to meet so many readers at the Model Boat Show in Warwick back in November and it was very encouraging to hear of the many new model building projects being built. Hopefully we will be able to share with readers some of these new and different models in later editions of MMI.

With the constant doom and gloom in the media of worldwide finances, Eurozones etc., most I must confess I don't fully understand, as long as we can obtain some surplus materials and afford some glue we can still participate in our hobby of making maritime models. Most of the skills in building are acquired over many years of learning from your mistakes, we try in MMI to share and explain some hints and tips in modelmaking to newcomers but the main way of learning is from your own experiences. The club scene especially in the UK appears in some areas to be growing but in other areas there are reports of declining numbers. One of the main worries if a club has declining numbers is sadly, and I have had reports of ponds used for model boating, being filled in by the local councils! Hence please support your local club and remember that this is a hobby not a political organisation and life is too short to participate in arguments and fall outs!

Editor's Choice Picture of the Month – taken at the Round Pond MYA Centenary event by Alistair Roach, but who is the mystery character with shades and a camera?



MARINE modelling INTERNATIONAL

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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.

Barrie Stevens

As regular readers are aware we try to offer readers different methods and materials of building maritime models, last month we had the card/paper trawler, this month as our Free Plan we have a bamboo boat and it looks very impressive. A reader at a show asked me when he saw the bamboo boat on the MMI stand, "Yes the bamboo boat looks good but where do you buy your bamboo as our local model shop does not sell it!" A garden centre is a good start or given time, you could grow it!

Have a good month and if you are visiting the London Model Engineering Exhibition come and have a chat with me on the Traplet stand.

Barrie Stevens

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MASTHEAD

MARITIME NEWS AND VIEWS

WINNER

Congratulations to Mr L.D. Hancox from New Holland, North Lincolnshire who won the package of maritime goodies. His form was the first drawn from the draw held on the Triplet stand at the Model Boat Show at the Warwickshire Exhibition Center over the weekend 11th – 13th November.

DIGITAL DOWNLOADABLE VERSION OF MMI AVAILABLE SOON

For readers who wish to receive your latest version of MMI as a download to your PC, Apple iPad/iPhone or smartphone this facility will be available early in 2012. Full details will be released in a future MMI.

THE MOORHEN MBC

Following the AGM held on 2nd November the new committee are: Chairman Keith Henley, Tel: 01702 528469; Club Secretary Alan Argent, Tel: 01279 812418; Treasurer Karina Brookes, Tel: 01279 862011; Events Secretary Allan Storrar and Social Secretary Michael Willis.

The club is always looking for new members so please do not hesitate to contact any of the above committee members if more details are required or visit the club website

<http://mmbc.webplus.net>



CONISBROUGH AND DISTRICT MODELLING ASSOCIATION (CADMA)

At the recent AGM Bryan Lindley was appointed as the new secretary of the above club. Contact details as follows, email: lindleybryan7@gmail.com or Tel: 01226 755845.

LONDON MODEL ENGINEERING EXHIBITION

To be held at the Great Hall, Alexandra Palace, London from Friday 20th to Sunday 22nd January 2012. Now in its 16th year, with lots of exhibits to interest the maritime modeller, don't forget to visit the Triplet stand for the latest in publications and woodpicks. With around 140 stands covering all aspects of modelling this is the first major modelling exhibition of the year. New for 2012 will be the Great Model Engineering Exhibition.

For further details visit www.londonmodelengineering.co.uk or call 01926 614101.

LONDON INTERNATIONAL BOAT SHOW – 6TH TO 15TH JANUARY 2012



Clubs & Associations £12 Ticket Offer, valid any day including the Preview Day on Friday 6th January.

Website Bookings: www.Londonboatshow.com

Telephone Bookings: 0871 230 7140

Booking Reference Code: Clubs 12

IMPORTANT NOTES

Tickets can be ordered up to midnight on Thursday 14th January. They can be printed at home, delivered by post, or collected at the Show.*

A single transaction fee of £1.75 applies whether ordering one or any greater number of tickets.

Youngsters 15 years or under go free (up to two per accompanying adult) provided tickets for them are requested when ordering adult tickets.

The above phone number and website are for orders of less than 10 tickets. Group orders for 10 or more tickets (still at the same price) can only be made by telephoning National Boat Show's ticketing agency, on 0871 231 0828.

*Because tickets ordered via postal delivery could take up to 7

days to arrive, those purchased shortly before the show can be collected on arrival from the advance ticket box office at the main entrance. The most expedient option, for those ordering tickets over the Internet, is to use the website's 'Print at Home' facility.

THE MARITIME TRUST AND HERITAGE AFLOAT MERGE

After much discussion the Heritage Afloat organisation has agreed to merge with the Maritime Trust to form a new organisation called The Maritime Heritage Trust. The aims of the new trust is to represent and promote the interests and operators of historic vessels at all levels of government and also to increase public interests and support for maritime heritage. Maritime Heritage Trust will be part of the European Maritime Heritage and will also have a voice in influencing European policies. The website for the new organisation is www.maritimeheritage.org.uk/

STOLEN R/C EQUIPMENT

It is always sad to report on the theft of model boats but on the 26th October while a car was being offloaded and briefly left unattended two model boats and two transmitters were stolen from the back of the car in the Boston (UK) area. The two models are pictured here, if any reader sees these models and/or transmitters advertised for sale please contact Nigel Baker on 01205 356067.



OOPS!

In the December edition of MMI we covered the anniversary of the attack on Pearl Harbor during WWII, due to an attack of unseen gremlins we mentioned that it was the 60th anniversary, this should of course have read 70th anniversary, apologies for the error.

WEE NIPS

Following the update in Sail Free in the December issue of the yacht Wee Nip, Eddie Hague has been in contact to say that there is a very good website covering the Wee Nip activities in Australia showing various build methods – <http://weenipsbayside.yolasite.com/> As Eddie says the main difference between UK Wee Nip sailors and Australian Wee Nip sailors is that they get more sunshine!

SAD LOSS OF BRIAN SHORE

The Droith Spa Model Boat Club secretary Brian Shore sadly passed away on 16th October after a long illness. Brian still carried on his role of club secretary and attended at the poolside, he also helped out at the club BBQ. Deepest sympathy is extended to his wife Chris and his son and daughter at this sad time.

SAD LOSS OF LEN JORDAN

It is with deep regret that I have to record the passing away of Len Jordan in November 2011 at the age of 81. Len was well known to the entire 1/1200-1250 waterline collecting community as both model maker extraordinaire and a really nice chap. Since his retirement Len carefully researched and built an astonishing number of superbly crafted waterline models which featured regularly in the Waterlines column. In the 1990s Len was also a prime mover in organising Waterline Collectors Swapmeets where he was always to be found with new models and a friendly word. Despite problems with his sight Len attended the meeting in October 2011 and was in top form – that is how we shall always remember him. Our condolences go to his family. Kelvin Holmes **MMI**

DIARY DATES

WHAT'S ON, WHERE AND WHEN?

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 The MMI Editor, PO Box 4239, Shepton Mallet, BA4 9AQ. We need the Date, Venue, Organiser/who to contact and crucially an Email/Website address and/or a telephone number, a postcode would be useful for Sat Nav's. A full listing of events for the year can be found on www.marinemodelmagazine.com/diarydates

JANUARY 2012

MMI DIARY DATES

JANUARY 6 to 15

London International Boat Show

Now in its 57th year attracting 155,000 visitors a year held at the ExCel Exhibition Center, One Western Gateway, Royal Victoria Dock, London EX16 1XL or visit the website: www.londonboatshow.com

JANUARY 20 to 22

London Model Engineering Exhibition

16th Great Year – Alexandra Palace – A Capital Day Out. The South's Largest Model Engineering & Modelling Exhibition. Contact Meridienne Exhibitions, Leamington Spa, Tel: 01926 614101. Website: www.meridienneexhibitions.co.uk

FEBRUARY 2012

MMI DIARY DATES

FEBRUARY 11

Model Show and BMFA Flying Display

Fleet Air Arm Museum Yeovilton Somerset. For further details Tel: 01935 842638

FEBRUARY 12

The 3rd Old Warden Swapmeet 2012

180 table swapmeet to be held in the Russell Hall complex of the Agricultural College. Aircraft, Boats, Cars, Vintage and Modern Engines, Kits, Radios and accessories. Times, 8.30 am for table holders and 10 am for the public. Venue of the world famous Shuttleworth Collection. Contact Richard Dalby, 020 7607 6820 Email: owswapmeet2012@hotmail.co.uk or Peter Dirs: pd.eng@yahoo.co.uk

FEBRUARY 19

Huddersfield 2012 – The North's Premier Model Show

Yorkshire's foremost model exhibition being held at the Huddersfield Sports Centre close to the Kingsgate Shopping Centre, hosted by the Wakefield branch of the IPMS. There will be over 2000 models including model ships, aircraft, cars, military vehicles, Sci-fi etc. Opens 10 am to 5 pm. Contact Colin Bebbington (Club Secretary) Tel: 01924 520596, Email: c.bebbington@ntlworld.com

FEBRUARY 24 to 26

Brighton Model World

Brighton Exhibition Centre, Kings Road, Brighton, Sussex BN1 2GR. General model show with wide variety of modelmaking and toys, wargames and other attractions. Contact Tel: 01273 290131. Websites: www.brightonmodelworld.com or www.brightoncentre.co.uk

MARCH 2012

MMI DIARY DATES

MARCH 2 to 4

Northern Modelling Exhibition – New Show, New Venue

EventCity, Phoenix Way, Manchester M41 7TB. The exhibition

will incorporate railways and engineering, model railways, marine modelling, aeromodelling, R/C cars, trucks and tanks as well as military and plastic modelling. There will be a selection of the leading specialist suppliers in each of these elements as well as the national and regional clubs. Full directions can be found at www.eventcity.co.uk/getting-here or www.meridienneexhibitions.co.uk

MARCH 3

North Somerset Model Show

North Somerset Modellers' Society (IPMS North Somerset) presents the 17th annual show. Locking Castle Campus, Weston-super-Mare BS24 7DX. 10 am to 4.30 pm. Club displays, traders etc. Contact Fred Tooke, Tel: 01934 416798 Email: freetooke@freenetname.co.uk <<mailto:freetooke@freenetname.co.uk>> Website: www.finetooth-systems.com/IPMSNorthSomerset/

MARCH 3/4

Ellesmere Port Modellers Show

National Waterways Boat Museum, South Pier Rd, Ellesmere Port, Merseyside CH65 4FW just off junction 9 of the M53. There will be traders and model boat clubs in attendance. Opening times 10 am to 5 pm on Saturday and 10 am to 3 pm on Sunday. Contact Malcolm Watts, Tel: 01352 754480 or Email: malcolm@deeweb.co.uk

MARCH 3/4

Liskeard Model Society's 32nd Annual Model Exhibition 2011

Liskeard Community College, Callington Rd, Liskeard, Cornwall PL14 3EA. 10.00 – 5.00 Saturday, 10.00 – 4.00 Sunday. For more information contact David Brown, Tel: 01579 343096

MARCH 9 and MARCH 16

The Kingfishers Model Boat Club

During National Science & Engineering Week 2012 we are holding two static exhibitions of our models in Long Sutton Library, Trafalgar Sq, Long Sutton, Lincs. PE12 9HB. Show opens 1030 to 1600. Contact our secretary on 01406 350968 or our website www.clubbz.com/club/2018/spalding/the-kingfishers-model-boat-club

MARCH 24/25

North East Model Boat Show

In its 4th year, don't miss the new bigger show. 10 am to 5 pm Saturday, 10 am to 4 pm Sunday. Temple Park Centre, John Reid Road, South Shields. Tyne & Wear NE34 8QN. Contact for further details 01606 891999

MARCH 25

Mutual Model Boats Club's Bring & Buy Sale

Crimble Croft Community Centre, Aspinall Street, Heywood, Lancashire OL10 4HL. The site is accessible to all and full facilities are available. Doors open 9.30 am Contact the events secretary Kevan Winward, Tel: 01706 868616, Mobile: 07803975089

MARCH 31 to APRIL 1

South West Model Engineering, Model Making & Hobbies Exhibition

Royal Bath and West Showground, Shepton Mallet, Somerset. Contact Nationwide Exhibitions, Tel: 0117 9071000. Website: www.nationwideexhibitions.co.uk

MARCH 31 to APRIL 1

Yorkshire Model Marine Expo 2012

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STEAM SCENE

CHRIS EXPLAINS FUEL MIXES, BUILDS THE VRIA SINGLE CYLINDER STEAM ENGINE AND INCLUDES A PICTURE GALLERY!

AUTHOR: CHRIS SAUNDERS chris.saunders08@gmail.com  GREAT BRITAIN

THE FUEL SYSTEM

I have mentioned in previous articles that my Sealight Clyde Puffer raises steam by burning a mixture of propane and butane gases.

This fuel mix gives the hottest flame using a ceramic burner. The fuel is stored in a pressure vessel fitted with a filler valve through which liquid and gas can be injected from a standard gas refill, purchased from a DIY shop like B&Q. The outlet from the tank is fitted with a control valve and this is linked to the burner by an appropriate length of 1/8" copper tube. Both ends of this tube are fitted with ferrules and nuts for easy gastight connections.

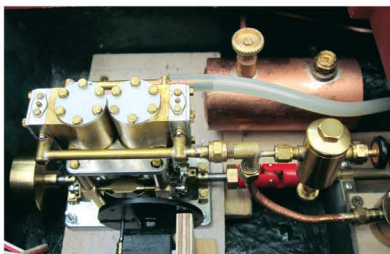
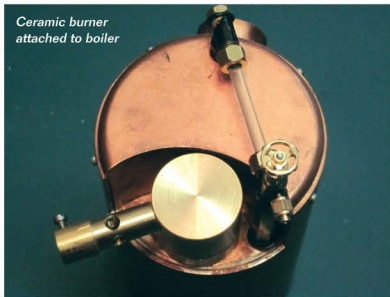
It is a good idea to get the pipe constructed by the gas tank vendor as this ensures gastight silver soldering. It also eliminates the need to purchase 1/8" ferrules and nuts. Thus it is important to decide on the location of the gas tank before ordering the tank and fuel line.

I am very aware of the dangers posed by gas mixtures in full size boats, so I initially decided to put the tank in a sealable compartment near the bow of the puffer. Thus I ordered quite a long fuel pipe

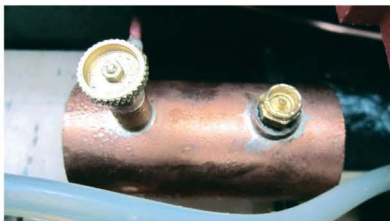
Fuel tank, ceramic burner and 1/8" pipe and fittings



Ceramic burner attached to boiler



Repositioned fuel tank nearer the boiler



Condensation on tank after a few minutes of running

to go with a medium sized gas tank. I had only just completed the installation when it was pointed out to me that I was going to have real problems with the tank freezing. The advice was to move the tank much nearer the boiler so that any heat lost from the boiler could help reduce the freezing effect. Other advice included insulating the tank, which was completely the wrong thing to do, as I will explain.

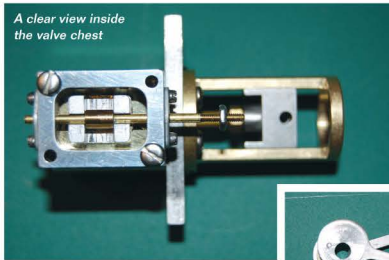
I need to introduce a bit of science here in order to explain the freezing effect of drawing fuel from the fuel tank. Firstly, it is important to realise that temperature is a measure of the movement energy of the particles (atoms and molecules) in any material. The higher the temperature, the more movement energy the particles have. Once the temperature is high enough particles in a liquid have sufficient energy to break free from neighbouring particles and become a gas.

I hope this concept is clear so far. The problem is that at any given temperature it is the average particle energy that is indicated. What I mean is that most particles will be about the correct movement energy for the temperature, however some will be a lot less energetic while others will have a lot more energy. In a liquid like our propane/butane mixture at room temperature there will be some low energy particles and some with enough energy to break free and become a gas.

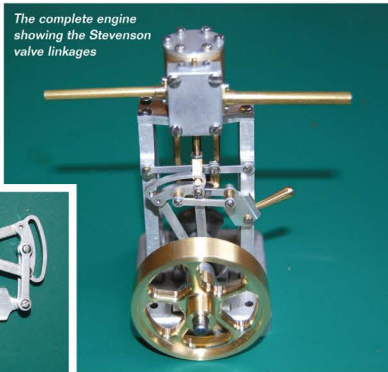
In a sealed tank these latter high-energy particles build up a vapour above the liquid. Eventually a balance is struck where high-energy particles are leaving the liquid as vapour while the particles in the vapour lose energy by colliding with each other or the walls of the container and return to the liquid. We call this a vapour liquid equilibrium.

As soon as the gas tank is opened to allow fuel to the burner this equilibrium is destroyed. Only high-energy particles are able to escape as vapour so the liquid left in the tank has reduced average movement energy, so the temperature drops. The result of this is that there are now proportionally less high-energy particles to form the vapour and so less fuel goes to the burner. Eventually the gas tank gets so cold that too few particles form a vapour to keep the burner alight and the boat stops.

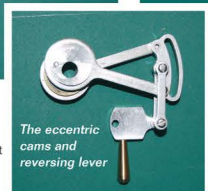
A clear view inside the valve chest



The complete engine showing the Stevenson valve linkages



The eccentric cams and reversing lever



A practical demonstration of this cooling effect is when my wife decides to clean off her nail varnish using the appropriate remover. The propanone (acetone) is very near its boiling point and so a large proportion of the particles have sufficient energy to form a vapour. As soon as the cleaner is applied I complain about the smell (vapour released) and she complains about her nails getting too cold – it is all the same process.

As can be seen from this, the freezing is an internal process to the fuel and so insulating the tank will not stop it happening. In fact it will make the fuel freeze as heat from the surroundings will not be able to restore some of the energy lost. What is needed is some extra energy (heat) to keep up the temperature of the tank. However, like in the Goldilocks story the tank must not be too cold or too hot, but just right. The problem with too much heat is that the proportion of vapour particles increases quickly and this gives rise to an increased pressure. It is fairly easy to get the liquid to boil and exceed the design parameters of the tank.

Getting the 'just right' meant that the gas tank had to be moved from the bow of my Sealight to a warm spot near the boiler. As I was still concerned about getting the fuel mixture into the bilges of the boat I made the tank removable for filling. This required quite a bit of remodelling between the boiler and the engine. As always, the best position for the tank would be the worst place for ease of removal, thus compromises had to be made and, if I am honest, the tank ended up too far from the boiler to get sufficient heat to completely do away with the freezing effect. Thus I have undertaken some research into alternative ways of maintaining the tank temperature, which I hope to talk about in a future article.

Of course, now the tank has been moved much closer to the boiler, the 1/8" fuel tube was too long. The simple solution was to coil up the excess; however, this disrupted the smoothness of the burn due to liquid build up in the coils. There was nothing for it but to shorten the tube. Luckily I had a spare 1/8" ferrule and plenty of silver solder and so thought the task would be quick and easy. This proved not to be the case as when I tried to unwind the coils I found that the copper had worked hardened and was extremely resistant to being straightened.

Chatting to the model engineers at the Model Engineering Exhibition in Alexandra Palace provided the solution. The copper was to be heated until red hot and then allowed to cool slowly. I carried this out and to my surprise the tube unwound very easily and could be straightened by simply pulling it (not too hard or it began to thin). The shortened fuel pipe was then completed in almost no time.

This heating technique is very useful if you have to bend copper pipe sharply or need to manipulate it in a restricted space. It will, however, work harden quite quickly while being manipulated so there are limits to this flexibility.

THE VR1A SINGLE CYLINDER STEAM ENGINE

I was very pleased to have the opportunity to build a VR1A steam engine. Having already built a number of TVR1A engines I could not

help being struck by the similarity in construction of this engine. Like the bigger brother twin cylinder engines, the single cylinder comes ready to assemble with a very clear instruction booklet. Again only basic tools like screwdrivers, pliers, and a file are all that are needed to achieve a fully working engine.

This engine is of the slide valve type and so the cylinder is held rigidly to the mounting base. The piston is sealed by an 'O' ring which must be well lubricated before inserting into the cylinder. Other smaller 'O' rings are used to seal the piston rod and valve slider and these require great care when passing them over the threaded ends on the moving parts. A little lubrication helps and here I would advise using the thinnest oil available (e.g. sewing machine oil).

One of the most interesting components is the Stevenson valve gear and its complex asymmetric cam system, which is fitted to the crankshaft and operates the valve slider. Some care is needed while assembling these components as it is very easy to get the cams the wrong way around.

The reason for the complex geometry is that this engine is reversible by simply moving the reverse lever through about 45 degrees. I found it was difficult to tighten the reversing handle sufficiently without using pliers and hence damaging the finish. As a result the lever vibrated loose when the engine was run and was very difficult to locate after flying off. I would strongly recommend the use of a thread adhesive like Loctite on this joint.

Some lapping is needed to make perfectly gas-tight seals. The kit contains the necessary Wetordy abrasive and this should be securely attached to a hard flat surface like a kitchen worktop. The instruction booklet clearly explains how to do an initial polishing with the abrasive and finish the shine by using an abrasive like 'Brasso' on a lint free cloth firmly held down to the worktop.

Despite having built a number of engines requiring the lapping of components, I still get a great deal of satisfaction out of this process. Being able to see your own reflection in the metal surface after only a few minutes is very rewarding!

I can report that I had no problems with this build. The completed engine ran first time and if it were not for the loss of the reversing lever, described earlier, I would conclude that this kit has been prepared to a very high standard. The important thing to remember is that this engine is not self-starting. It is a double acting design but this still leaves dead spots where the engine is unable to run without an initial 'flick'. As with the Unit engine described in the November Steam Scene, a servo could be adapted to give the necessary 'flick' under radio control. This is something I hope to research for a future article.

This engine is manufactured by Graham Industries in the USA and is imported into Britain by Miskin Models.

STEAM BOAT GALLERY

A number of readers have written to me with advice or general information about steam boats. I hope to include these submissions whenever they are relevant to the topic. I was particularly pleased to get an email from Robert Chilot in Belgium who sent me photographs of his collection of steam boats. He is a member of the Liege Marine Club (Steam) and has sent photographs and details of three craft as detailed below.



French Gun Boat 1870 Type Farcy named 'Liberte' (built to defend Paris). Scratch-built from a plan and photograph to 1/25 scale (approx) with all wood construction. Boiler and engine home-made. Length 52 cm, beam 20 cm. Fuelled by a gas burner, which gives a run time of about 18 minutes.



Imperial Russian Navy Torpedo Boat used in the Black Sea called 'Nakhimov'. Again built from plan with a picture to 1/25 scale. All wood construction with length 85 cm, beam 14 cm. Boiler and engine from France (Anton). Gas powered with a run time of 20 minutes (10 minutes at high speed).



Imperial German Navy Seaplane Tender named 'Greif (Griffon)'. Built from drawings and a picture of the ship in Zeebrugge Harbour (Belgium) 1917. Again the boiler and engine have been home-made. Length 1 m, beam 26 cm. Powered by a gas burner it has a run time of 45 minutes at low speed. **MIMI**

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SAIL FREE

CHRIS JACKSON WITH NEWS
FROM VARIOUS QUARTERS OF
THE RADIO SAILING SCENE

AUTHOR: CHRIS JACKSON  GREAT BRITAIN
chris.jackson43@btinternet.com

During the summer the MYA has put together a series of events to celebrate its centenary and this has required a great deal of work for all members of the Council and other key people in the organisation. We have already covered the IOM Worlds at West Kirby and the A class week at Fleetwood and in this issue we will cover two events which have taken place a little further south. Before that we have some feedback on the Surmount RTR boat, which we mentioned in the October issue, and some other items of interest to report.



SURMOUNT FEEDBACK

Thanks to several readers who responded to my request and who reported their experience with this very well priced import (available from Howes of Oxford). They all seem to agree it is a neat package and well worth the money.

LEFT: Clockwork Orange, which was very controversial in her day, with wing sail and rounded out deck 'edge' and fin and bulb keel

RIGHT: The new pulley blocks and swing rig mast block now available from SAILS etc and listed online at www.sailsetc.com

BELOW: A general view of the MYA Grand Festival exhibition at the Round Pond, Kensington



with only slight upgrades to rigging by changing cord to wire for the shrouds and so on as beneficial. The only snag appears to be a lack of stability in stronger winds and both John Edge in the Wirral and Richard Butler in Dover are experimenting with additional weights.

The original ballast weight is around 860 g which is quite light so Richard has built this up to around 1.2 kg using strapped on weights. John Edge is also using car wheel balance weights stuck to the lower keel to see what can be achieved. Both intend a more permanent and lower drag solution once they have seen how much can be achieved.

MORE FROM SAILS ETC

We have had some more new items from deepest Essex, and they include a swing rig mast/boom block, which is superbly light and designed to take 8 mm carbon mast and 6 mm boom tubes. Aimed at the RG65 class and as an accessory for the Argon hull, but also of great interest to Footy builders! SAILS etc have also sent us samples of two new pulley blocks, which will be manufactured in house. One has the usual bolts for mounting directly to deck of other fitting, and the other is intended to be fitted with a cord. All are shown in the photo in this column. For more information contact www.sailsetc.com

VARIATIONS ON A THEME OF FE-FE2

Charles Detriche has put together a further catalogue of plans, this time collating all the designs he has had published across many sizes and classes which are based on the classic hull pattern identified by the flat side panels and rounded bottom section, which is most famously known for the Star keelboat used at the Olympics and accepted among top dinghy and keelboat sailors as one of the great challenges of sailing.



The Fe-Fe2 one metre became incredibly popular during the first ten years of the class rules and was built as a moulded GRP hull and also in timber by many home builders. Charles has used this form to develop a complete family of designs across the board. The new catalogue should be available from SAILS etc by the time you read this, alongside his earlier catalogues, all very well worth browsing for home builders or skippers with an interest in design and development.

MYA GRAND FESTIVAL OF SAIL

This was a two day gathering at the oldest established MYA club in the country, MYSA at the Round Pond, Kensington, in central London, where there was an event for vane steered Tenraters on the Saturday followed by a major display of boats from all eras of the hobby on the Sunday.



Roger Stollery continues to enjoy development of new ideas, as in his latest Footy design



Square One, the 36R class design by Fred Sheppard, has three ply panels, but quite different lines to the Wee Nip featured last month



Brandysnap, Roger Stollery's early Marblehead design, which was beautifully planked in diagonal timber veneer

The regatta went well, although a couple of the visiting skippers and mates were heard to ask how we used to cope with the sloping edges of the pond during the heyday of vane steering.

On the Sunday there was a really good turnout of boats and people for the mainly static display, with a few boats taking to the water to enjoy the sunshine and light winds. The authorities had been persuaded to allow the erection of several gazebos, which allowed the display of small items such as collection of vane steering units, some small pond yachts and the Footy fleet. Larger boats were displayed on the grass in lines linking them within ten year periods, and there were very clear notices placed on most of the boats to give bystanders and the general public a good idea of the boat type and history.

Alistair Roach covered the event in Meeting Point and added a number of photos of the oldest boats on display whilst my attention was drawn to the designs which led the hobby at the time I first became involved actively with model yachting. One design on display was the original Fred Sheppard design Square One, a chine flat bottom 36r with a triangular form lead ballast which was very successful in its day, and was, and still is, a plan in the Model Boats plans range.

Also on display was Brandysnap, a vane Marblehead from Roger Stollery which was built in diagonal veneer planking left with a clear varnish finish. Worthy of note is the timber garboard, which at the time of this design had to be of a minimum radius (25 mm I think?) so that the slim section keel had to fair into the hull. This rule was dropped a few years later, allowing the development of the simple profile fins and finboxes now the norm in the class.

Another of the boats on display was Clockwork Orange, the very original vane A class design by Roger Stollery which caused a great deal of discussion at the time, and which has been kept in original condition.

MARBLEHEADS IN THE NETHERLANDS

The Dutch National Championships were held at Reeuwijk over the weekend of 23rd/26th September and attracted a number of visitors from other countries, including Petr Nehera and Ladislav Dares from the Czech Republic, Laurent Gerbebaud, Bernard Merlaud and Nicolas Willefert from France, Heinz Bohn from Germany, Andrew Crosbie from Ireland and Hugh McAdoo from Great Britain.

Entry was down this year because of clashes with other events in Germany and the UK, but even so 22 boats was a good number for the Marblehead class. The event was won by Gerbebaud, with Dutch skipper Joop de Jong second and Willefert third.

The Dutch Open for 2012 will be held at Gouda over the three days of 28th/30th September and it has been unofficially named the 'pre-Worlds' as it will be two weeks before the World Championships for the Marblehead class, scheduled to be run near Vannes, France.

MYA TRADE SHOW AT WYBOSTON

As a final contribution to the year of celebration the MYA Council organised a Trade Show and Centenary Celebration on Saturday 22nd October at Wyboston Lakes in Bedfordshire. Wyboston Lakes is a purpose built leisure and conference centre of the highest standard situated at Wyboston Lakes Leisure Village, Waterfront Centre, Great North Road, Wyboston, Bedfordshire, MK44 3AL.

The Waterfront Bar was at the MYA's disposal for coffee, refreshments and drinks. This fronts onto a terrace and the lake where racing can be organised. The MYA Trade Show (which has been held at the AGM in November for some years) was switched to the new venue and some light fun racing was organised right outside the venue using the RC Yachts fleet of Micro Magic yachts.

The traders present included BG Sails and Design (Brad Gibson), CM Yachts (Mike Clifton), RC Yachts Swanley (Mike Weston), Housemartin Sails (Martin Roberts), PJ Sails (Leslie and Peter Wiles), Graham Reeves and Dave Stewart, all staunch supporters of the MYA's initiatives and trade events in the past. After lunch for something like 80 people and good conversation the day ended at

around 4.30 pm with a toast in celebration of the MYA's 100 years.

MYA AGM

As a direct consequence of the specialist traders being asked to support the Wyboston event the MYA Council cancelled the usual trade show which precedes the AGM. This meeting, on Saturday 26th November, has been switched to the Premier Inn at Hockley Heath, Solihull, quite close to the usual site of the combined Trade Show and AGM which has proved so very popular.

There is only one Motion on the agenda, a modest increase in subscription fee for all Affiliated Members for the following year to 11 pounds per annum, with junior and overseas members fees remaining the same, so the meeting should be relatively quiet. Members are promised that, subject to traders' willingness, the MYA Council intends to reinstate the combined trade show and AGM event in 2012.

2011 BOTTLE BOAT CHAMPIONSHIP

A very warm day with sunshine was enjoyed by 17 entries including 4 juniors and 16 races were sailed in difficult conditions. These provided a fine spectacle not just for family supporters, but also for the public and the club's new members attending the club's lunchtime barbecue in a fabulous setting on the river Deben in front of the Waldringfield Sailing Club.

From an inauspicious start with heavy rain overnight the weather turned out very warm, but a little cloudy. There was a light westerly breeze, but it was blowing across the river leaving the area in front of the club in the calm, blanketed by the clubhouse and the surrounding trees. However, in the lightest wind there was just enough to complete several, 2 lap sausage courses, albeit sometimes with these simple one-design boats, made from recycled materials only just being able to make against the tide. The variable conditions allowed 8 sailors to win a race!



Ice, the new Mark Dicks RG65 design, as sailed in the recent open event in Switzerland by Liz Tushingham

Three races were sailed on the last of the flood tide in front of the clubhouse but as the ebb strengthened the course was moved downriver in front of the dinghy park where there was more wind filtering through the dinghy masts.

The first race was to set the pattern of results for the top three with ex-champion, Rob Vice winning with Tim Norris second, racing a radio boat for the first time and 12-year-old CJ Vice third. The top two places were repeated in Race 2, with the only lady sailor, Sarah Stollery in third. Local Laser and Lark sailor, Stephen Videlo won Race 3 with another Laser sailor, Robert Norris second after a very long race against the ebb tide, which needed lots of concentration and patience. Several boats were given places on the water when the time limit ran out.

PRO Roger Stollery then changed the course again to where there was a bit more wind and less tide. This gave the opportunity for ex-champion, young Paul Morgan, to show some of last year's form to win Race 4 and come second in Race 5, which was won in fine form by Dehler 36 sailor, John Fish. On crossing the line he was so delighted to win that he leaped in the air with great glee and a huge grin from ear to ear!

After everyone had enjoyed the barbecue lunch shared with the 'new members', the wind appeared to be coming more from the south-west and the course was re-laid in front of the clubhouse. Another ex-champion, Bernard Kufuk won Race 6 from Rob Vice, who then went on to win Race 7 with Tim Norris second. The latter was second in Race 8 as well, which was won by OK sailor, Jonathan Fish. Rob was handling the pressure of crowded starts and buoy roundings well and won the next two races. After several podium positions Robert Norris was delighted to win Race 11, beating his brother Tim into second place.

Ace Wayfarer sailor, Mike Pert had some technical difficulties early in the event, but made good to win Race 12 from John Fish and Rob, who also finished third in Race 13 behind Tim and Jonathan. He then



Richard Butler's Surmount with evidence of additional temporary ballast on the keel



The fleet at the Dutch Marblehead nationals



Hugh McAdoo (16) leads Heinz Bohn (14) and Petr Nehera (34) as they near the windward mark

dominated the last three races, finishing ahead of his eldest son, CJ in Race 14, who had been improving during the event and had overtaken Paul Morgan, who was his nearest junior rival. 8-year-old Gabriel Vice started several races really well, but had trouble with the 'traffic'.

At the prize giving, WSC Commodore Howard Ryan, thanked Roger and his team for running another good event that was much enjoyed by both sailors and spectators alike. Roger in turn thanked Peter, Linda, Emily for their work on the start/finish line, John Smith and Robert Lake on the water and the Kine family from Vancouver inputting 272 individual scores on the computer.



The complete fleet approaches the windward mark in the tidal stream, a real test of boat design and control, at the BOTTLE Boat Championships at Waldringfield

It was very encouraging to have junior competitors making up a quarter of the fleet as well as the few competitors that had done little radio racing before. There were some very good and experienced dinghy sailors taking part and they discovered again that there is more in this sport than meets the eye!

Results:

- 1st Rob Vice 23
- 2nd Tim Norris 41
- 3rd CJ Vice (J) 66
- 4th Stephen Videlo 68
- 5th Alan Viney 69
- 6th Bernard Kuflik 75
- 7th Robert Norris 80
- 8th Paul Morgan (J) 87
- 9th Jonathan Fish 96
- 10th John Fish 111
- 11th Gary Sanderson 119
- 12th Sarah Stollery 122
- 13th Mike Pert 127
- 14th Howard Ryan 138
- 15th Matthew Lake 142
- 16th John Kine/Lockie Vice (J) 174
- 17th Gabriel Vice 177 (J)

Junior Champion – CJ Vice



Alan Morgan took some excellent photos of the BOTTLE boats at Waldringham, here are some in close up

The BOTTLE boats skippers have to sprint along the shoreline to keep up with their boats, photo Alan Morgan



It is important that Divisional Members, now called Delegated National Members recognise that they are the only ones entitled to endorse skippers' entry applications and apply to host international events. National Class Associations must apply through their Delegated National Member bearing in mind the correct time scale and written application. The Technical Committee have been very busy, especially in the IOM Class, reference rudders and moulded



IRSA, the International Radio Sailing Association, successor to ISAF-RSD, has a striking new logo

IRSA – PRESS RELEASE

You will note from the image included in this article with the text of this press release we have a new logo; it is colourful, simple and enables us to promote ourselves as IRSA (International Radio Sailing Association).

This year we have held an IOM World Championship, which was successfully run by the UK with more than 60 skippers attending from many countries, this highlights the continuing success of the IOM Class. We have granted permission for France to host a Marblehead World Championship in 2012

from the 14th to the 21st October at Ploermel. This Championship is being held on the back of the newly created European Grand Prix, with Marblehead Regattas being hosted in the UK, France, Netherlands and Germany.

IOIMCA are proposing a European Championship in Malaga in 2012, however we are concerned over the closeness of the two events and as yet have not received their official application. Bernard Merlaud the European officer informs us that the RG65 Class is growing rapidly and is hoping to promote a Regatta for this exciting and possible new International Class.

The Permanent Committee has been working on a new Constitution that it will be submitting to ISAF. The PC will be considering where possible the development of mutual Class activity with NAVIGA in the less active Classes in an attempt to stimulate frequent competitions, which in turn should stimulate growth in these lesser-frequented classes.

The PC has held a general assembly meeting and voted on administrative issues that will enable our continual development and control over all aspects of radio sailing. The 15th of March during even numbered years has been set for these meetings. Discussions concerning a conflict of interest policy, the possible training of judges and umpires for specific radio control sailing are to be investigated and long term planning for international events are some of the major points under consideration by the Committees.

sails, both quite exciting developments that highlight exactly how our sport is on the forefront of technology's cutting edge. There have been rulings on sail configuration for Marblehead (double luff sails) and the A Class.

The Rules Committee have been very busy recently working with the ISAF Racing Rules Working Party and then within an ISAF/IRSA sub-committee on the proposed amendments to Appendix E for the 2013/2016 Rule Book. This is a splendid opportunity for you through your Delegated National Member and IRSA to have an input specifically on our future Rules of Sailing. The ISAF/IRSA sub-committee still has some work to do to reach agreement on an interim Appendix E. Once that stage has been reached it will be possible to obtain feedback and possible further refinements rather than wholesale changes.

Addendum Q, HMS 2007 and SYRPH were formally recognised and were updated for use in the Association Championship Rules for the 2010 IOM European Championships. For the future this Committee is looking at the official recognition of other racing systems and protest hearing procedures that will enable a wider range of practical choices appropriate to the level of an event.

It feels like yesterday when we were getting the new Permanent Committee together but it will soon be our third year and when considering the possibilities for our sport it looks like an exciting one. Please keep feeding back information to your Delegated National Members who in turn feed IRSA, this way we will all benefit and help develop the super sport of radio sailing worldwide. Tight sheets and full sails to you all.

Robert Hobbs, Publicity Officer IRSA, Dateline September 6th 2011.

CONCLUSIONS

Looking back at the year as far as the MYA's fully justified celebrations go, it would seem a good moment to congratulate the MYA Council officers and other members who did a great deal of work behind the scenes to ensure all the events they put on, went off very much as planned and smoothly.

The visit of the Duke of Edinburgh to the IOM Worlds was of course a real bonus and most welcome but involved a great deal of work for people covering the security and programme aspects of what was a brief slot within the full programme of the Worlds event. Likewise getting together a very good range of boats and providing excellent written documents giving names and history for most of them is a considerable task. With the Marblehead Worlds in France and the IOM Euros in Spain this should give many of this same group a chance to enjoy some good racing with a bit less pressure! **MMI**

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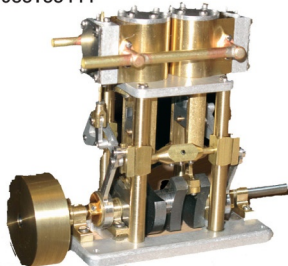
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POWERPLUG

PRO BOAT SANIBEL 36 SAILBOAT UPGRADES

AUTHOR: RICK EYRICH ricric99@tampabay.rr.com



Now out of its dark space in a garage the project Pro Boat sailboat's mast and sails were a bit wobbly; so my lovely wife Karen had to steady the Sanibel 36 for this picture



Due to a couple of problems, the '36 had become a 'garage queen' and after a couple of years in storage its cobweb/dead spider ratio was high enough that the RTR hull would demand a complete cleaning and tear down to remove all of the debris on/in the boat

Sitting forlorn in a dark corner of a garage the cobweb and dead spider-covered sailboat was a sad sight. Put aside a few years ago due to some glitches in its makeup, the Pro Boat Sanibel 36 was now being 'cut' from a friend's ever-growing fleet of R/C yachts; so, following some negotiations during one of the group's regular sail days, the '36 was brought out into the sunlight and transported to my house.

This fibreglassed hull RTR sail craft was one of the first sailboats I ever reviewed in this fine publication and since that report I've tinkered on several Sanibels to improve their sailing actions. One of the most interesting aspects of model yachts is their relative ease of adaptability in that the boater can modify their makeup with minimal effort and money and the Sanibel, as you'll now see, easily lends itself to a host of simple upgrades that could also be applied to any RTR or kit-based yacht.

STEP ONE

After assuring 'She Who Must Be Obeyed' that my latest marine acquisition would be upgraded, tested and then quickly put up for sale, the Sanibel was completely disassembled, cleaned and inspected for any repair/modification points. With the radio components out and on my workbench and the hull/keel and sail set drying the first tweak to the vessel was to make sure its control

the lower keel fin slot the previous owner had applied a large quantity of bath caulking silicone and although I was able to safely remove the chunky sealant blobs from the painted hull bottom the keel fin/bulb assembly would, due to the caulking still residing within the joint, forever be a single unit.

Over time the Sanibel's deck area had gained some minor glue stains; however, a friend's tip on the removal of these kinds of blemishes had the outer hull/keel surfaces looking as pristine as when the sail craft was new. Using nothing more than some denatured alcohol on a cotton swab the stains came away after only a few minutes of rubbing and this trick worked on both the caulking and the other adhesives present on the painted hull's exterior.



Along with the hull cleaning the removal of the entire onboard control system was done after which all of these components were cleaned and bench-tested to insure that the rudder/sail servos were still working correctly

system was still healthy enough to manage the '36's rudder and sail movement duties.

Powered-up, the JR-based transmitter and receiver were working in conjunction with one another and the rudder servo and the Hitec sail winch unit; so, all of the radio gear was cleaned-up and ready for reinstalling in their respective hull locations.

In an attempt to prevent water from entering the yacht around



Following a failure of the jib sail's deck pivot point the Sanibel's owner had simply clipped the boom to the nearby deck railing and this likely loosened the metal railing/deck holes enough to let water into the hull

previous owner had indicated that the hull had a tendency to take on some water whenever he sailed it some sealing tweaks would now also be done on the marine craft.



Covered in dust, the boat's JR-based stick-style transmitter still worked; but it would receive some internal tweaking to prevent doing any damage to the sail craft's deck-mounted sheet cords



After cleaning, each of the multiple deck railing mounting points was given a sealing mixture of 30-minute epoxy and micro-balloons to create a smooth/sealing coating that would stop water from getting into the hull while in a heeled-over position

there was a bit of flex in the wood rudder servo mounts and their inner position some of the same epoxy mixture was added to only the outside portions of the mount/hull junctions. The reason for the limiting of the adhesive is that with the minimal gap present between the mounts and the servo's outer case adding any epoxy to the inner area would make it impossible to reattach the rudder servo.

STEP THREE

As I wanted the series of epoxy applications to cure properly the Sanibel would now receive its biggest modification in the form of an updated rudder blade. On an earlier '36 I'd been asked to tweak on, its owner had asked if its rudder area could be increased; so, I ended-up laminating a slightly-larger 'sandwich' of thin Plasticard over the stock rudder unit.

Now clean and bare to the bone, the Sanibel's various hull fittings were checked by simply giving them a good yank and seeing if they moved too much for my liking. There's no better time to perform this function as it gives the modeller the ability to cure any problems without having to worry about damaging any mounted pieces on the vessel.

The bow jib pivot point was damaged; but, a pair of slightly-larger screws cured the problem; plus, as the

STEP TWO

With several Sanibel reworkings under my belt the likely leak locations on the hull are around its rudderpost mounting point and the multiple rail-mounting holes on its deck edges. Your choices for sealing these kinds of joints will include epoxy, cyano or silicone-based adhesives and on this '36 I used a combination of a good two-part 30-minute epoxy with some micro-balloons mixed to thicken the mixture.

A long bamboo kebab stick was the application tool and to ensure that each 'seam' of epoxy/balloons cured correctly I broke up the job into several smaller stages over the course of two evenings. This was especially helpful on the many metal railing/deck joints as their close proximity to one another as your goal will be to create a smooth, even fillet of epoxy around each railing mount before the adhesive begins its curing process.

Finally, since I noticed that



Notice how the T-nut of the upper eyebolt has had its 'ears' removed and this trick will allow you to drill a single small hole in the deck and epoxy the eyebolt/nut in whatever position you need to create a sheet guide point for your yacht's sail control set-up



To increase the project hull's manoeuvring levels, its stock rudder was encased by two plastic card outlines and then cyano'ed in place thus making a larger blade without the need to makeup a new post to join the rudder to the hull

blade was given two thin coats of a sandable grey primer.

Once happy with the rudder's outer surface two additional coats of a gloss white appliance/epoxy paint was sprayed on the rudder and allowed to dry for a couple of days. I've used this same rattle-can epoxy paint on lead keel bulbs and it creates a tough, glossy finish plus, you can also use it as a hard undercoating on the bulbs and then over-coat any colour paint to suit your sail craft's appearance levels.

STEP FOUR

Having now accomplished the bulk of the larger modifications to the RTR sailboat a series of smaller fix ups were scheduled to improve the hull's control and sail set reliability factors. The vessel's original owner had complained that it was very difficult to access the radio power switch and/or Rx batteries via the rubber-banded secured hatch cover; so, a pair of strong neo magnets would replace the lid's elastic-holding system.

Mounted via small homemade plastic tabs cyanoed to the inner sides of the radio box, the neo magnets don't cause any interference with the radio receiver or servos and with only a pair of small steel washers epoxied to the underside of the hatch the 'box cover now stays firmly locked to the hull deck opening.

Before remounting the Hitec sail winch in the updated radio box you can create a receiver antenna wire opening by one of the mast side stay mounting points and then route the wire up and out of the hull to improve the system's signal strength. Now the winch and rudder servos were affixed to the boat and the stock rudder linkage were joined to the servo horn and the updated blade.

Using my FEFE OM hull's blade as a template two .020 inch sheet outlines were made and sanded to match each other and once happy with their shape their forward edge was sealed together with low-tack masking tape. A plastic-type cyano was then dripped-down the inside edge of the twin outlines and after positioning the outlines so that the adhesive wouldn't puddle in the bottom of the structure the cyano was allowed to cure without any accelerator added to the glue.

Once the forward edge had cured, the rear edges of the outlines were taped and cyanoed like the first ones down the full length of the gap. Since the thin plastic card is flexible you can simply insert the Sanibel's stock rudder into your larger sandwich, align to your liking and then seal the same type cyano around the inner gaps to bond the old/new rudders to each other.

To finish the rudder work, the outer edges were sanded smooth and a few pinholes and low spots in the card outlines were covered-over with auto body filler after which the new



Instead of using the stock hook/rubber band arrangement to retain the radio box hatch these glued on steel washers on the inner cover now lock the hatch to their matching neo magnets held to the inner radio enclosure via homemade plastic tabs



Limiting the transmitter's sail control stick movement was accomplished by gluing small plastic blocks to either end of the stick's movement arc inside the control pot and this was also done to the stick's separate trim pot as well



Using the same epoxy/balloon mixture applied on the deck railings a thick bead of the compound was spread around the rudderpost to both strengthen the post/hull joint and to provide a permanent seal around the area as well



The completely refurbished radio box now had tested components, clean-routed wires, a magnet-held cover and a simpler control sheet arrangement and all of these tweaks were done without any big expenditure of time or money

STEP FIVE

Unlike the stock yacht's full-deck length sail control cord layout the modified Sanibel would feature a shortened sail sheet combination made up of alternative materials from my spare's box. Instead of the thin, stranded-steel wire running from the winch servo some new braided fishing line was called-upon for both the sheet control duties as well as for the majority of the mast/sail support lines on the revamped hull.

Ultra-thin in diameter and as non-stretch as steel wire the braided fishing line used was of a 65-pound test and this was size-compatible with the OEM sheet wire and mast cord found on the stock boat. Only run from the winch's rotary drum to the aft deck pulley block the sheet cord then got an elastic tensioner that would eventually connect the winch movement to the sails.

STEP SIX

The reason the word 'eventually' was injected in that last sentence centres on the one real gripe I've always had with the '36 sail craft. For whatever reason, the boat's included transmitter has too much available movement and trim range on its left hand control stick and this could cause enough servo overrun to sometimes dislodge the deck sheet wire.

To avoid this on the project hull the controller's case was separated and after taking some basic 'eyeball' measurements the sail stick's movement were cut down 1/8 of an inch on either end by cyano'ing small blocks of plastic to the pot assembly. Situated at the points where the stick contacts the pot housing these limiters were also added to the nearby trim knob arm and the total effect now gave the winch the maximum movement without any fear of snapping a sheet cord on the pulley or the outside of the radio box area.

If you attempt this on your hull's transmitter be extremely careful applying the thick cyano adhesive to the limiters plus, under no

circumstances should any spray cyano accelerator be used to cure the glue as it could allow the cyano to creep into the pot's pivot point and lockup the stick!



Held in place by a fishing swivel and a length of the braided fishing line the jib pivot and the rest of the '36's sail set was redone with the non-stretch cord which will demand double knot ends and a drop of cyano to lock the mast/sail lines in place

sheet lines to control the jib sail, a deck-mounted guide comprised of a 2-56 eyebolt was needed and to help join it to the hull deck I modified a 2-56 metal T-nut for the job. By simply snipping-off the nut's wood gripping 'ears' with a pair of side-cutters the eyebolt was then threaded backward on the T-nut. Assembled this way, the eyebolt guide was affixed to the deck between the rear sheet guide and the jib pivot via a small hole in the deck and some 30-minute epoxy. The flat edge of the T-nut will grip the adhesive without the need for an inner support block and only a single guide of this type was required on the project yacht.



Coated with an epoxy appliance spray paint, the updated rudder looks right at home on the project hull and this rattle-can finish can also be used on lead keel weights as either a topcoat or as an undercoat for your colour finish

STEP SEVEN

Mounting the sail set was now done with the 65-pound test braided fishing cord being used for the multiple side shrouds and the front/back stays as the line's outer diameter was close to the stock line and it fit the original bowsies quite well. Double end knots and a locking drop of cyano is necessary to keep the stretch-free line from loosening; but, the finished cords kept the mast firmly secured to the deck. A short piece of coated SS fishing leader was also inserted on the front/back stays and a small ball bearing swivel allowed the jib boom to swing in even the lightest breeze out on the pond.

As I'd eliminated the forward

STEP EIGHT

Since I was planning to sell the vessel once it was rebuilt the '36 was set-up so that the sails and mast could still be easily detached (as a unit) for those modellers with limited car boot space. New metal fishing snaps were added to the mast/sail lines, plus the radio Rx antenna wire could be quickly freed from the side stay by small sections of plastic tubing.

Using the existing cleats found on the jib/main sail booms the sheets were undone with only a quick unwinding and you could have the entire sail set on/off in a few minutes. In all possible situations your scribe did his best to make the '36 as bulletproof and user-friendly in its new form; so everything got some glue, sealant or whatever else was needed to make it a true ready-to-sail marine craft.

STEP NINE

Powered-up with fresh AA alkaline cells in both the transmitter and the onboard 4-cell holder the finished yacht was ready for a shake-down test run. As the Sanibel was labelled as a leaker, I made frequent trips back to the shoreline to check or moisture; however, I was happy to find no H₂O was present inside the updated vessel.

My other major concern was that my high-tech fishing line rigging job would slip under a sudden gust of wind; but all of the new cords were still tight after a good 45-minute sail in moderate winds. With its new rudder the '36 was capable of quick turns even when heeled-over with the wind and it didn't put any undue stress on the stock rudder servo unit.

Finally, I was able to move and trim the Tx's sail stick knowing that the sheet cord/elastic joint would never bind-up on either of the deck stops even with the trim knob in the sheet's highest tension setting.

STEP TEN

Now fully happy with the upgraded Sanibel 36 I totalled-up the time spent to turn the garage queen into a turnkey sailboat. Excluding the time needed to let the epoxy and cyano to cure properly the hull's workbench time was around 20 hours; so, it doesn't take months to tweak your pre-built yacht to work to your liking. At the last minute the stained and worn cotton cradle webbing was replaced with some heavier nylon strap; but that was the last change made to the boat before it was ready for sale.



Fully refitted and water tested the finished Sanibel 36 is now a reliable, day-to-day sailing machine that any novice could use to learn the basics of R/C sailing with nothing more than a regular changing of its 12 AA batteries

Quite joyful that the once sad-looking sailboat was now marketable, 'She Who Must Be Obeyed' was equally impressed in how little time it took to refurbish the '36 and hopefully by the time you're reading this article a modeller will be piloting the Sanibel on his/her local pond.

Most second-hand RTR yachts can benefit from some of these same upgrades with the same goal in mind – having more fun sailing your boat with no fear of any gremlins cropping-up on your 'new' sail craft! **MMI**



Like most pre-built sail craft, the Sanibel 36 easily lends itself to any number of simple, low-cost tweaks to its makeup and that's one of the really nice features of model sailboats if you're a 'tinkerer' like myself

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FR15HVR DIY PARTS KIT

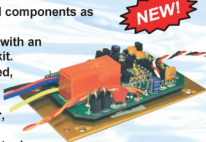
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- * Replaces the discontinued 43HVR with an up to date microprocessor based kit.

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- * Size: 73 mm (ex. mounting) x 51 mm x 22 mm.

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8V,	Power 110W,	max. prop. 35 mm 'P'

Motor Type 653-16 (Fast patrol etc.)

High Power Medium Speed, 6 to 12V £17.95

6V,	Power 30W,	max. prop. 65 mm 'P'
12V,	Power 70W,	max. prop. 40 mm 'P'

Motor Type 543-24 (Modern scale)

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Medium speed, 6 to 12V £14.75

6 V,	Power 15W,	max. prop. 40 mm 'P'
12 V,	Power 35W,	max. prop. 30 mm 'P'

Motor Type 543-12 (Traditional scale)

Very low drain, 6 to 12V £17.45

6 V,	Power 7W,	max. prop. 65 mm 'P'
12 V,	Power 18W,	max. prop. 40 mm 'P'

Motor Type 365-14 (Small scale)

Very low drain, 6 to 12V £5.15

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WATERLINES

ICEBREAKERS – KELVIN BREAKS THE NEW YEAR ICE WITH THIS STORY

AUTHOR: KELVIN HOLMES  GREAT BRITAIN

In researching potential Russian floating drydock models a picture came to light of an Arktika class icebreaker in dock PD-81. So out came my old Helvetia model to which was fitted a Plasticard lower hull. The ongoing project (which is illustrated) led to this article looking at the icebreakers themselves, which provide an unusual and colourful subject for waterline collectors. There have been plenty of models particularly for the ships of the USA and USSR/Russia. Back on the subject of floating drydocks there should be available soon for free download a pdf describing in much more detail the Southampton dock/AFD XI.



Albatros model of the icebreaker/research ship Polarstern



Discontinued Trident Alpha mode of USCG Polar Star



Hansa model of the Finnish icebreaker Sisu



An interesting combination from Hansa with Dan Mover transporting the full hull Oden



PD-81 (under construction with cranes the big challenge) hosts Helvetica's Arktika



Albatros model of the current HMS Endurance; the actual ship is laid up in Portsmouth awaiting her fate

The Russians are renowned for their nuclear powered icebreakers, the first of which the Lenin was completed in 1959. She was de-commissioned in 1989 and is currently a museum ship near Murmansk. Lenin was followed by five Arktika class (23-25,000 tons) built to an evolving design over a prolonged period (1975 Arktika, 1977 Sibir, 1985 Rossiya, 1990 Sovetskiy Soyuz, 1993 Yamal) at the Admiralty Shipyard in St Petersburg, plus a sixth – 50 Lyet Polyedy – which was delivered as the Ural in 1994 but not commissioned until 2007 to a substantially modified design with her new name which translates as '50 Years of Victory'. Two Taymyr class river icebreakers (20,000 tons) were built in Finland by Wärtsilä in 1989/90 but with the nuclear reactors installed in Russia.



The Japanese icebreaker Shirase is the second to bear the name



A dramatic shot of USCG Healy and Louis S.St.Laurent

Ship	Launched	Nationality	1/1200-1/1250 waterline models/notes
General San Martin	1954	Argentina	Albatros (AL) 191
Almirante Irizar	1978	Argentina	Hansa (S) 354/never released
Pierre Radisson	1978	Canada	Sextant (Sx) 119
Sisu	1976	Finland	S309
Uhro	1976	Finland	Sx 180, OL-SX-1
Fennica	1993	Finland	Navalis Moguntia -44
Nordica	1994	Finland	Navalis Moguntia -45
Hanse	1966	German	Atlantic 8
Polarstern	1982	German	AL K36
Fuji (5001)	1965	Japan	Hai 150
Shirase (5002)	1982	Japan	Hai 190/first Shirase
Oden	1989	Sweden	S410/a/'a' is a full hulled version
HMS Endurance	1994	UK	AL95a
Lenin	1959	Russia	S37
Moskva	1960	Russia	Sx120/OL Sx 11
Arktika	1974	Russia	Helvetia 31
Yermak	1974	Russia	RG3
Ivan Susanin	1974	Russia	Delphin157 Trident Alpha 209/Russian Navy
Wind Class	1945	USA	WM, RH156 USS Eastwind
Northwind	1945/1988	USA	Argos (AS) -93
Polar Star	1976	USA	Trident Alpha 311
Polar Sea	1978/2009	USA	AS-94
Healy	2000	USA	AS-91

Icebreakers – list and models

The Arktika was the first surface ship to reach the North Pole in August 1977, a feat repeated by Sibir in 1987 and Yamal in 1994. That same year USCG Polar Sea in company with the Canadian CG Louis S. St. Laurent became the first American surface ship at the Pole. Conventionally powered vessels, all built by Wärtsilä, include five Moskva class (15,360 tons) completed between 1960 and 1969, three Yermak class (20,241 tons, 1974-76), four Kapitän Sorokin class (14,655 tons, 1977-81) and three smaller Mudyug class (6,210 – 7,775 tons, 1982-83).



Almirante Irizar in 1977 (Plessey Radar)

For many years the US icebreaker fleet was just the 1944-45 era Wind class (6,515 tons) with two built for the USN and five for the Coastguard, three of the latter being lent to the USSR from 1945 to 1951. By 1966 all were assigned to the USCG. Westwind and Northwind were re-engined in the 1970s, and can be distinguished by their new taller funnels, with the last of the other five going out of service in 1978. New build USS Glacier (8,775 tons) joined in 1955 being transferred to the USCG in 1966. The eventual replacements for these three were the much larger (13,623 ton full load) Polar Star and Polar Sea, which entered service in 1976 and 1978 respectively. In 1985 Polar Sea became the first ship to circumnavigate the North American continent. Commissioned in 2000 was the most recent vessel, the USCG Healy, a 17,170 tonner.

OTHER COUNTRIES

Canada's larger icebreakers include three of the Pierre Radisson class (7,721 tons full load) completed 1978-82 plus an improved version Henry Larsen which entered service in 1988. Rather larger at 13,800 tons full load is the Louis S. St. Laurent which entered service in 1969 but has since been modernised. Countries which



Russian icebreaker Yamal in the ice

operate icebreakers commercially include Sweden, Finland and Germany (with examples in the table) plus various navies. The Finnish built Almirante Irizar was delivered to the Argentine Navy in 1978. This ship, which is still operational, has her own unofficial website (www.irizar.org) although one suspects the Plessey radar fitted on delivery (when the author worked for Plessey) may be unserviceable. The Japanese Maritime Defence Force (JMSDF) has always been keen on icebreakers with Fuji commissioned in 1965 followed by Shirase in 1982 and a replacement of the same name in 2010. Apart from HMS Endurance (ex Polar Circle, 1990) the RN has never operated a true icebreaker, but rather patrol ships, which were ice-strengthened (e.g. HMS Endurance, ex Anita Dan, 1957). Tenders were sought for an icebreaker during the mid 1960s (tentatively named HMS Terra Nova) but the project was cancelled (see Warship 2010). Both Endurances have been produced in 1/1250 (ALK 95a and for the earlier ship ALK 79, T924 and Skytrex). The latest vessel, which resurrects the name HMS Protector, should be available as an Albatros 1/1250 model by now.

The table lists various 1/1250 models of ocean going icebreakers from several manufacturers of which those by Albatros, Hai and Argos are in current production. Also available from Rhenania Junior are three small river icebreakers, all depicted circa 2009, namely Kapitän Yevdokimov, Kapitän Chudinov and Kapitän Demidov all of the same design but with different colour schemes. If anyone can shed any light on the maker Navalis Moguntia I'd be grateful. **MMI**

PLASTIC KIT SCENE

ROBIN HAS A LOOK AT SOME NEW YEAR KIT RELEASES

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

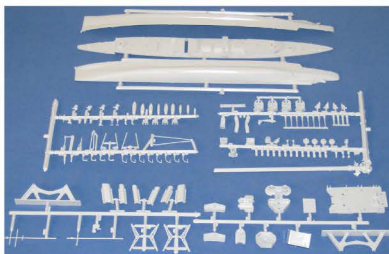
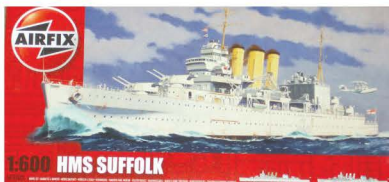
Well this is the start of yet another year so happy New Year to all readers. Last year saw the release of many new models and the re-release of some old favourites so I hope this year will be the same.

BUILDING THE SUFFOLK

During the course of last year Airfix released some of their old models again, many of these I remember from my childhood. So I will start the year off with a build review of one of these; HMS Suffolk (Model No. A03203).

I first built this model when it was around in the 1960s or '70s, I can't remember exactly when. But in those days it was a case of build it as fast as you can and forget about painting the model and the blobs of glue everywhere, just to show your friends the finished model. Not this time though – it will be done correctly. I gave details of HMS Suffolk on its release in a previous issue last year so I will

The completed model of the Airfix HMS Suffolk



All the parts for the Suffolk



Removing part of the Aztec style steps



One of the many sub-assemblies



Many of the assemblies added and deck painted



Etched railings added



View of the Walrus seaplane

not give them here.

The model is still from the old tooling so there is some cleaning up of the parts before building such as moulding lines, a small amount of flash and ejector pin marks but this was no problem. The instructions for the assembly are in eleven steps and are easy to follow, but I deviate from them slightly to make it easier to paint certain parts before they are fixed in place especially where the deck sections are concerned. Parts of the decks cannot be painted if other sections are added covering certain areas of the deck. This is something you learn over the years when making models.

The two hull sections and deck are the first parts to be assembled, the instruction guide shows that the main gun turrets are moveable and they have to be held in place with pieces from under the deck before the deck is attached to the hull sides, as I was not bothered about being able to move the turrets I left the fixing of them until later.

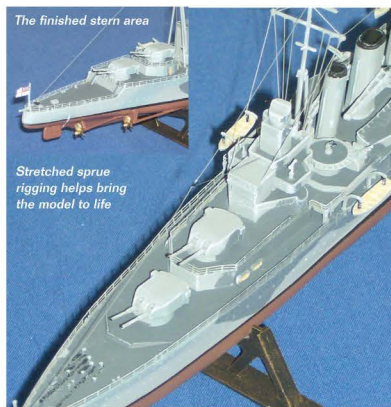
Before I painted the deck section I removed the plastic from beneath the dreaded 'Aztec' type steps so it leaves a space under the steps. This type of moulding you will find on many models. To accomplish this I first drilled small holes through the plastic and then removed the unwanted pieces with the point of a scalpel blade until I was happy that they looked more like steps and not a wedge of plastic. Once this was finished it was painted and fixed to the hull, I then started to add the other deck superstructure and fittings. The majority of the parts were painted while still attached to their sprues so only a small touch up of the parts were required once they were fixed in place. For a model whose moulds date back many years the moulding is still good although not as detailed as the new models that are produced nowadays.

To add a little extra detail I added etched railings around the deck and parts of the superstructure; I always have a supply of etched railings of various scales in my spares box for models like this. These were cut to size and attached using superglue; this certainly enhanced the look of the model. All the parts of the kit went together well with very few fitting problems.

The kit came complete with a full colour-painting guide, now this was something that was not in the model I made the first time all those years ago. The guide shows the ship colours for 1939 when she was all over battleship grey and had yellow funnels and the 1941 camouflage pattern; I chose the 1941 version. Once the painting was completed I very lightly dry brushed the complete model with white paint to highlight the moulded detail and give it a weathered appearance.

The rigging I made from very finely stretched sprue, the position for the rigging I took from the picture on the model's box. To finally finish the Suffolk there is a small model of a Walrus seaplane to go on the ship's deck catapult. I added extra detail to the seaplane by making propeller blades and an engine to go between the wings and some struts to brace the wings – these parts were made from scrap pieces of plastic cut to size.

The model took approximately a week to build over several evenings and I think the finished model looks great, especially for a model priced well under £10. I know many modellers just regard Airfix kits as models for children and first time modellers. Their



The finished stern area

Stretched sprue rigging helps bring the model to life

newer models have improved now to the point where the moulding is excellent on their latest releases.

I believe I have shown here a reasonably detailed model can be produced from these older re-released kits without the need to spend lots of money and I now have a model of HMS Suffolk. It may not be completely accurate for some expert modellers but how often do you get an expert on naval design come and check your models? After all, it's your model and if it looks OK to you then that's all that matters!

AIRFIX

A brand new model has now been released by Airfix to commemorate the 100th Anniversary of the sinking of the Titanic.



RMS Titanic Gift Set

The 100th Anniversary 1912-2012

Model No.: A50416

Scale: 1/400

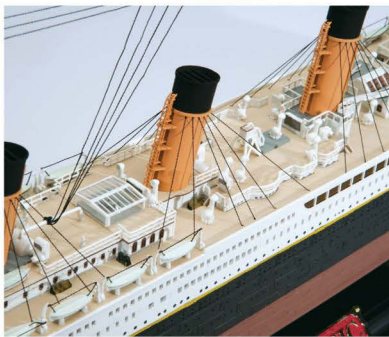
Length: 67.0 cm

Parts: 381

I don't think I need to go into detail about the Titanic, as most people will have heard the story before. This year is one hundred years since this magnificent ship struck an iceberg on the night of the 14th April 1912 and within a few hours she sank beneath the waves of the North Atlantic in the early hours of the 15th April. The ship was on its maiden voyage from Southampton to New York, she was said to be unsinkable but only 710 of the 2224 passengers and crew survived, the rest perished in the icy waters.

This is a completely new model and comes complete with twenty acrylic paints, three brushes and adhesive. Here are some of the model's details: highly detailed deck, well-defined parts, hull plating well reproduced, display stand and name plate, easy to follow assembly instructions and a detailed painting guide.

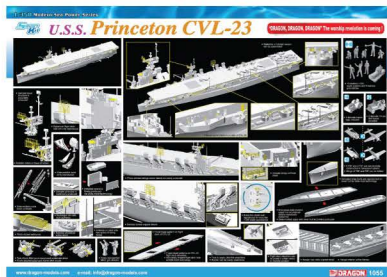
Many thanks to Airfix for supplying the review model, details of all Airfix models can be found at: www.airfix.com



Close-up detail image of the Airfix Titanic (courtesy Airfix)

DRAGON MODELS

Following on from their release of the American WWII aircraft carrier USS Independence they have now introduced another one from that class of aircraft carrier.



USS Princeton CVL-23

Model No.: 1055

Scale: 1/350

Length: Approx 54 cm

The USS Princeton entered service in February 1943 and was one of several Independence class carriers. As one of the fast carriers she had a top speed of 31 knots and carried a crew of over 1500 officers and men, together with a complement of forty-five aircraft. She was sent straight to the Pacific to be involved in many actions against the Japanese forces. Her aircraft were credited with numerous enemy aircraft kills, in many of her engagements. Her end came on the 24th October 1944 during the Battle of Leyte Gulf when she was attacked by a lone Japanese dive-bomber who dropped a single bomb which struck the flight deck and crashed through into the hangar area and exploded. The explosion caused a fire resulting in more explosions, spreading the fire very quickly until they were out of control. She was abandoned and the burning hulk was sunk by torpedoes from other US Navy warships. Over a hundred of her crew were killed but far more were injured and killed on the ships sent to her aid caused by several massive explosions as they were alongside her.

As usual with Dragon models the moulding and detail is excellent, here are a few of the details of the model: waterline or full hull options, many photo-etched parts, accurately shaped and detailed flight deck, well-reproduced anti-aircraft guns complete with etched parts, detailed hangar interior, finely produced etched radars, 18 aircrew and deck crew figures, six deck vehicles and twelve detailed aircraft.

Judging by the images of this model this will be a definite hit with modellers. Further details of this model and others can be found at: www.dragon-models.com/

MT MINIATURES

HMS Oberon Royal Navy 'O' Class Submarine

Model No.: MTM019

Scale: 1/700

Length: 12.8 cm

HMS Oberon is classed as an attack/patrol submarine armed with eight torpedo tubes, six mounted forward and two in the stern. This class of submarine entered service in 1956 and carried on until 1988 when it was replaced with the next generation of submarine. They have been used by several navies around the world including Australia, Canada and Chile.

The kit contains a white metal hull and conning tower, included are decals for all 13 of the Royal Navy 'O' Class submarines plus an assembly guide and colour picture of the finished model. This is the first submarine produced by MT Miniatures and it will look very good displayed alongside the other Royal Navy warships in the MT range. I expect there will be more models to follow over the coming year as MT Miniatures increase their range of kits.

Images of this model and the full MT Miniatures range can be found at: www.mtminiatures.com

REVELL

Revell have informed me that they have released two more models this month and have another five lined up to be released in the first quarter of this year (2012). These include something for everyone from submarines to sailing ships, all in various scales; I will give full details of these models as each one is released.

Here are the details of the January releases...

Spanish Galleon

Model No.: 05620

Scale: 1/96

Length: 72.4 cm

Height: 63.5 cm

Parts: 478

This is a model of a 16th Century galleon from the time of the Spanish Armada, and it is a massive colourful kit that comes complete with full painting instructions, decals and flags. There are also crew figures to give the model atmosphere. The kit is a re-release so if you missed getting one during its last appearance get one now, but don't forget it is a big model and needs space to be displayed.



Jeanne D'arc - French Helicopter Cruiser

Model No.: 05896

Scale: 1/1200

Length: Approx 15 cm

Parts: Not known

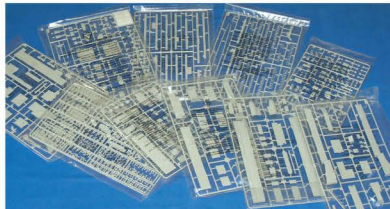


Jeanne D'arc was built for the French navy and launched in 1961, and was used in the peacetime role as a training ship but for emergency and combat deployment she was a fully capable helicopter cruiser carrying eight helicopter and combat troops. She was also armed with six Exocet missiles and two 100 mm turreted guns. She remained in service for nearly fifty years and was only decommissioned in September 2010, at the moment she is still waiting to be broken up for scrap.

This is a nice small-scale model of an unusual warship.



Box for the USS Iwo Jima is huge – the 1428 parts only just fit inside



Just a few of the 27 grey plastic sprues

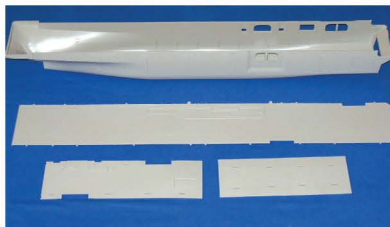
This month I have also included some images of the Revell kit USS Iwo Jima (Model No. 05109) that was released late last year. This will give you some idea of the detail and amount of parts for this model, I will be giving a review of the build in a future issue later this year as you can see from the amount of parts it will be a challenge to build and will need time to produce the finished model.

Thanks to Revell for supplying the images and the review model of the Iwo Jima. Revell models are available at all good toy and model retailers, full details of all their products can be found at:

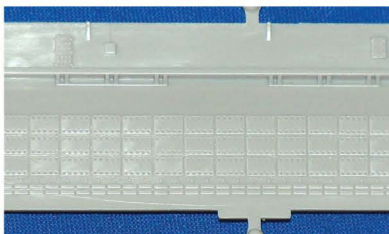
www.revell.de/en



This box holds another 25 transparent sprues



The one-piece hull and flight deck sections



The moulding detail is fantastic



Gunthwaite Miniatures' 1/72 scale naval figures

GUNTHWAITE MINIATURES

Modellers are always looking for figures to crew their models and this company has recently released their latest additions to their range of naval figures.

Sailors In Duffle Coats On Watch

Model No.: GM72-015

Sailors In Duffle Coats And Steel Helmets

Model No.: GM72-016

Sailors In Oilskin Coats

Model No.: GM72-017

Each pack contains three 1/72 scale figures cast in white metal. These figures are really well animated and it's not very often you will be able to find figures like this in true naval clothing. For anyone with 1/72 scale models like the Revell HMS Snowberry these are the ones to have. The Gunthwaite website gives details of their complete range and also painting and detailing the figures.

www.gunthwaite.co.uk **MMI**



A painted image of all the new figures (courtesy Gunthwaite Miniatures)

AIRWAVES

VARIATIONS OF MODES, STICKS AND PROGRAMMING TRANSMITTERS EXPLAINED

AUTHOR: TONY HILL, GREAT BRITAIN

With the advent of multi-channel programmable 2.4 GHz R/C equipment, primarily designed for model aircraft now being used for maritime models, guest contributor Tony Hill explains some of the variations of modes, sticks and programming transmitters relating primarily to the Futaba T6EX. But very similar to other programmable transmitters this article has been adapted from an article first seen in the Potteries MBC newsletter...



MANUFACTURER'S INSTRUCTIONS

By far the largest market for radio control equipment is for use with model aircraft. The instructions provided by the manufacturers refer frequently to aircraft functions. This does not mean they are of no use to us. They are! We just need to know how we can use them.

STICK MODE

This is a feature that has been around for some time but it was not available for us to adjust and so we did not need to know about it. Now it is increasingly available and if you know what it does, you can make good use of it. The Stick Mode specifies which control stick and its axis controls the outputs of the functions on channels 1, 2, 3 and 4.

Most of us have used a two-channel transmitter and this is an example of Stick Mode 1 where Ch 1 is controlled by the horizontal axis of the RH stick to control the rudder and Ch 2 is the vertical axis of the LH stick to control speed/sails.

It is best to use the same axis of these two sticks for rudder and speed control regardless of the Stick Mode you might choose later. This will help you to control your boat, or that belonging to another member because they will all be to the same standard.

STANDARD STICK MODES

The following table shows the channel numbers controlled by the individual control sticks and their axes.

Stick Mode	←R→	↑L↓	↑R↓	←R→
1	4	2	3	1
2	4	3	2	1
3	1	2	3	4
4	1	3	2	4

As already mentioned two-channel sets follow Stick Mode 1. Multi-channel sets are generally supplied with Stick Mode 2 settings; preferred by the majority of pilots.

- Ch 1 – Aileron to bank/roll aircraft to control direction
- Ch 2 – Elevator to climb/dive aircraft
- Ch 3 – Throttle/motor control
- Ch 4 – Rudder to counteract wind direction and side-slip

As it has just been shown, various aircraft functions are linked to particular receiver output channel numbers and the position of these functions on the transmitter sticks changes when the Stick Mode is altered.

What I am going to suggest to you is that for model boat use, the same stick and axis is used for each control function as shown in the following table. The output channel numbers will then change when the Stick Mode is altered and not the position of the functions on the transmitter. This is an important statement that will make everything much clearer and easier for you to follow.

The previous table shows the stick/axis that controls channels 1 to 4 for each of the possible Stick Modes. The following table shows functions that each stick/axis should be used for when controlling a model boat. These two tables will be used for the applications that will be discussed later.

Stick/Axis	Model Boat Functions
←R→	Steer by rudder when underway
↑R↓	Control angle of drive shaft on out drives
↑L↓	Control motor speed, or sail winch
←L→	For twin motor control, to steer via motor control at slow speed or in reverse

SETTING THE STICK MODE (STCK)

This is usually achieved by holding down the two Mode setting buttons whilst switching on the power switch of the transmitter (Tx). If the Tx has only one Mode button then hold that down with the Select button and turn the power switch ON. Select the required stick mode with the Data Input buttons and turn the Tx OFF and ON again to save the new Mode setting.

TO ENTER SETTING MODE:

Turn on transmitter power switch.

If there are two Mode buttons press them down together for 2 seconds.

If there is only one Mode button press the Mode and Select buttons down together for 2 seconds.

TO LEAVE SETTING MODE:

Turn off transmitter power switch.

Alternatively press the two buttons used to obtain setting mode again for 2 seconds.

NAVIGATING THE MENU:

The settings appear in the form of a table.

The Mode button is used to step down through the settings.

The Select button changes the channel for which the particular setting is to be changed.

The Data Input changes the value or status of the setting.

MODEL MEMORY (MODL)

The settings for 6 or 10 models may be stored for immediate use. Some sets enable you to enter a name for the model instead of just a number and is more convenient to identify the model with which the selected settings are associated.

Note that the Stick Mode is not stored with the other settings for the model and if it is changed from the standard mode it must be recorded with the setting number for each model.

The Data buttons select the model number and the Select button selects associated settings within this group such as restoring the factory settings.

TRIM SETTINGS (TRIM)

Channels 1 to 4 each have a digital trim lever alongside the control stick axis and they can be set without putting the Tx into setting mode. As soon as a trim is moved its current setting is displayed and if changed it is immediately stored. These settings can also be changed from the setting mode in smaller increments.

REVERSE (REV)

Can be set for Ch 1 to Ch 6.

Reverses the action or function controlled from selected channel.

CHANGING SETTING

Put Tx in setting mode
Select REV with Mode button
Select Channel number with Select button
Select normal or reverse with Data button
(Shown by arrow ▲ or ▼)

DUAL RATES (D/R)

A switch on the front of the Tx enables an alternative group of settings to be applied to channels 1, 2 and 4.

The default setting for both setting groups is 100% servo travel. Ideally they should be to 100%, or less.

This adjustment affects servo travel equally in both directions.

EXPONENTIAL CHARACTERISTIC (EXPO)

The exponential function is part of the dual rate setting group and accessed by continuing to press the select key after the channel number selection. Different settings may be applied to each of the three channels controlled by the dual rate switch and for both switch positions.

The purpose of this function is to adjust the sensitivity of the controls around the spring loaded central stick position.

'0' gives a linear characteristic; -ve values give less sensitivity and +ve values give increased sensitivity around the spring loaded neutral point.

For boats, '0' would be best for most applications.

-50% for the rudder setting would mean that when the stick moves 70% of travel the rudder moves 50%. The stick moves 100% of travel the rudder moves 100%. Servo travel is affected equally in both directions of stick movement.

Different EXPO settings may be entered for both the up and down position of the dual rate switch.

END POINT ADJUSTMENT (EPA)

This is a particularly useful function that can be applied separately to all channels including the throttle.

It can be used to set independently for each channel, the limit of servo travel in each direction.

EPA is affected by the dual rate setting values and should be adjusted with the higher dual rate setting applied.

Note: A 100% setting will normally give $\pm 40^\circ$ of servo travel on Futaba equipment. Some of the new 2.4 GHz sets give $\pm 50^\circ$ of servo travel for a setting of 100% and for these sets it is suggested that the max Dual Rate Setting should be limited to 80% or less to prevent servo over travel.

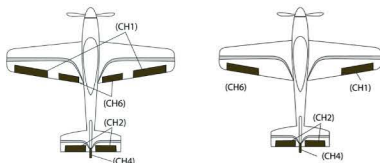
FUNCTION MIXERS

Channel mixing was originally developed for model aircraft so that the control surfaces could perform more than one function. In this example Ch 1 controls the aileron movement and Ch 6 controls the flaps, as shown in the LH picture.

By mixing these two channels as follows:

Ch 1 + Ch 6 = Ch 1 output

Ch 6 - Ch 1 = Ch 6 output



Independent Aileron and Flap

Flaperon Mode (Dual Aileron Servos Ch1 & 6)

Then in the RH picture both flaps move down to perform the flap function and they move in opposite directions to each other, in response to the aileron commands. It is the - sign on the second line that makes one of the flaps move in the opposite direction for aileron commands.

This combination of flap and aileron is known as Flaperon.

The following is a full list of mixers you may meet:

Flaperon (FLPR) mixes channels 1 and 6.

Elevon (ELVN) mixes channels 1 and 2.

V-Tail (-TL) mixes channels 2 and 4.

Program (PMX1) mixes any 2 channels.

Program (PMX2) mixes any 2 channels.

Their function names are for aircraft, but you will need them to identify them in the menu of your transmitter. I do not intend to cover the use of PMX1/PMX2 mixers at this time. If you must play with them, they should be used together and please include the - sign before the % value for one of the mixers.

SOME PRACTICAL EXAMPLES...

CONTROLLING AN OUTBOARD MOTOR

Here we have an F1 Cat powered by an outboard motor. Not everybody's choice of boat, but an excellent choice to introduce you to a mixing of control functions.

The ride attitude can be altered by tilting the motor forward to lift the bows so that air becomes trapped under the hull to lift it out of the water. This increases the straight line speed, but if it were to be turned sharply when it reaches the marker buoy it would roll outwards, possibly right over and break up. To prevent this, the angle of the motor can be tilted back to bring the bows down, settling the hull a little more in the water, making it more stable for the turn.



Channel mixing can be used for tilting the angle of the outboard motor when speed is increased

To achieve this on our model we need to use the Elevon Mixer. This mixes channels 1 and 2, which in Stick Mode 2 are both on the RH stick. Two servos are mounted in the hull and plugged into channels 1 and 2 of the receiver.

The arm of one servo is connected by a rod or Bowden cable to one side of the outboard motor and the arm of the other servo is connected to the other side of the outboard motor. Now when the both pull together the motor tilts forward and when they push together the motor tilts back. To steer one servo pushes and the other pulls to rotate the outboard about its pivot mounting. The throttle is controlled from the LH stick via channel 3.

SET-UP THE ELEVON MIXER

Step down with the Mode button to Elevon.

Press the Select button until INH appears.

With the data input button change from INH to ON.

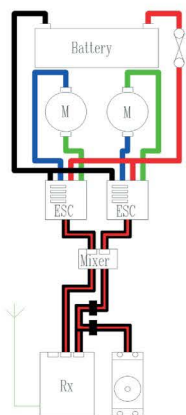
Leave the % mix at the 50% default value.

THE ELEVON MIXER IS SET

Adjust the range of movement of the outboard motor using the EAP Trims and servo reverse functions for Ch 1 and Ch 2.

That's it! Job done! Let's go sailing!

This is by no means the best example for the use of a mixer in model boats, but it is the simplest example with which to start.



Circuit showing the method of controlling twin motors with two ESCs and a mixer

but if the steering is then performed with the motors the boat can be manoeuvred very precisely even turning about its axis.

USING THE ELEVEN MIXER

We have already used the Eleven Mixer so let's start with that. It mixes Ch 1 and 2 and these are both controlled by the RH stick in the standard Stick Mode 2, but we need them on the LH stick to control the motors, requiring a change of Stick Mode.

CHOOSING STICK MODE

The channel numbers will be dependent on the mixer we have chosen. We now have to choose the Stick Mode to ensure the control is from the stick and axis we prefer.

We can see from the table below that for our example choosing Stick Mode 3 will transfer both channels 1 and 2 to the LH stick for us.

Stick Mode	←L→	↑L↓	↑R↓	←R→
1	4	2	3	1
2	4	3	2	1
3	1	2	3	4
4	1	3	2	4

Now we have the channel numbers associated with our standardised stick functions as follows:

- Ch 1 – ESC1 Port Motor
- Ch 2 – ESC2 Starboard Motor
- Ch 3 – Auxiliary Function
- Ch 4 – Rudder Servo

USING THE V-TAIL MIXER

This mixes Ch 2 and 4 and we need them both on the LH stick to control the motors, requiring a change of Stick Mode.

CHOOSING THE STICK MODE

Choosing Stick Mode 1 will bring Ch 2 and 4 to the LH stick. Now

we have the channel numbers associated with our standardised stick functions as follows:

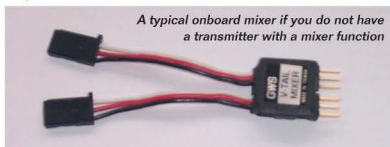
- Ch 2 – ESC1 Port Motor
- Ch 4 – ESC2 Starboard Motor
- Ch 3 – Auxiliary Function
- Ch 1 – Rudder Servo

SET-UP FOR CHANNELS 1, 2 AND 4

- Change the % mix from the default 50% to 100%
- Set Trims to 0
- Set Dual Rates to 100%
- Set EPA to 100%

USING AN ONBOARD MIXER

Don't be disappointed if you do not have a programmable transmitter. You can always choose to connect a mixer to the output terminals of your receiver that will do exactly the same sort of things. They are sold for model aircraft.



A typical onboard mixer if you do not have a transmitter with a mixer function

This is a photo of a typical V-Tail mixer. For the motor control example the two servo type leads plug into the receiver outputs for speed and rudder control. The two ESCs plug onto the two sets of three pins on the mixer.

They have been used to control twin steam engines, twin electric motors and also to control the attitude of an outboard motor. So we know it will work. You will be able to mix any two receiver outputs with them and so no need to change the Stick Mode.

If you have a multi channel set with the standard Stick Mode, use Ch 3 and Ch 4 for connection to the mixer and Ch 1 for the rudder servo. If you have a two-channel set plug a 'Y' lead into Ch 1 of the Rx and this will give two outputs. Plug the mixer into one of these and the rudder servo can then be connected into the remaining output from the 'Y' lead.

If both motors drive the boat in reverse when the control stick is up; reverse the throw with the switch for Ch 2 on the Tx. If one motor drives forwards and the other in reverse swap over the two connections from the mixer to the Rx.

Reset both speed controllers at this point to give stop with stick centred; full forwards with the stick up and full reverse with the stick down. Then adjust the trim on steering by motor channel to balance the motor steering.

USING TWIN MOTOR CONTROL

With the boat stationary in open water move the steering by engine control stick to one side. The boat should start to turn about its centre, but it will creep forwards because the propeller driving forwards is more efficient than the one driving in reverse.

Add a little reverse at the same time and you will find that you will be able to correct the forward movement and keep the boat on station.

Docking with this type of control can be very effective and close to the real thing.

SPECIAL NOTE

When using two Electronic Speed Controllers (ESCs) fitted with Battery Elimination Circuits (BECs) it is essential to remove the red lead from the servo plug of one to ensure that the voltage regulation circuits do not conflict. This can be achieved by withdrawing the pin connected to the red lead from one of the plugs and insulating it.

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Scharoun Steam yacht 1/32 Length 1140mm	£311.55
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R/C Yachts

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We are one of the largest stockists of model boat Shops in England and currently have on display some 300 to 400 model boats.

Split between static 'Plank on Frame and Radio Control kits From Companies like Robbe, Graupner, Aero Naut, Deans Marine, Marten Howes & Baylis, Billing Model Shipway. Along with the static manufacturers Calder Craft, Victory Models, Amati, Mantua, Corol.

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VINTAGE MOTOR SHED – 11

MID-RANGE TAYCOLS

AUTHOR: JOHN PARKER

The introduction of the large Marine motor in mid 1955 highlighted an obvious gap in the Taycol range between it and the low-powered Star and Comet models. This gap was filled just in time for the 1955 Christmas season by a medium-sized motor they called the Torpedo. I've always thought this an unusual name for a motor, given that it was taken from a device that ran fast for a very short time and then exploded! Fortunately the Torpedo motor was not prone to this, and it or one of its variants was destined to remain in production until the final days of Taycol twenty years later.

INTRODUCING "TORPEDO" THE TERRIFIC

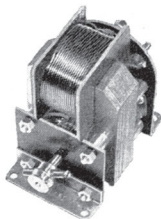
Latest in the series of

FAMOUS "TAYCOL" ELECTRIC MOTORS

—THE POWER BEHIND YOUR MODEL BOATS!

Taycol's newest and fantastically powerful 6 volt light-weight unit for marine (and mechanical) propulsion. Base 2½ in. x 1½ in. x 2½ in. high. Ideal for both the "TITAN" Tug and the VERON Police Launch, or any 20 in. to 30 in. length boats. Consumption (approx.) 6450-0.6 amps. (free-running), 4200-1.0 amps (max. efficiency).

PRICE 30/- (incl. P. Tax)



The Torpedo had a single series connected overhead field coil, open-frame built-up construction with brass spacers and Tufnol (reinforced phenolic) end plates in which the nominal 3/32" (2.3 mm) shaft ran directly. The brush gear consisted of dimpled phosphor bronze strips working against a disc commutator and the motor was designed for 6 to 12 volt operation. On 12 volts, current draw was 0.75 amps running free, 1.6 amps at maximum efficiency at 5,600 rpm and 2.75 amps at maximum power. My documentation refers to a Mk.2 Torpedo, but I don't know what the changes were. The Torpedo measured 66 mm by 42 mm across its base and stood 69 mm high.

By reducing the size of the lamination stack on both the armature and field winding, and of course fitting shorter studs and spacers, Taycol were able to quickly follow up the Torpedo with a lower-

powered version they called the Target. Another odd name – don't targets get hit and then explode? The Target measured 58 mm by 42 mm across the base and was for 4 to 12 volts with maximum power requiring 1.75 amps on 12 volts. Many production variations exist. For example, one of my Targets has unpainted face laminations, bridging links of insulated wire and a split field coil with central insulating cheek. The other has green painted face laminations, stamped brass bridging links and a single field coil.

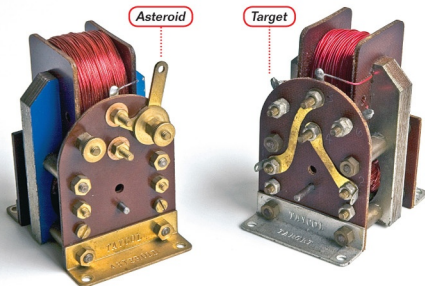
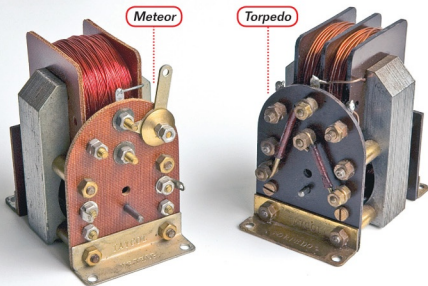
Meteor and Asteroid in their display boxes



To ease the difficulty of reversing a series wound field motor, Taycol wound an extra reversing coil over the field winding of the Torpedo and Target to produce the Meteor and Asteroid models respectively. Appearing in July 1958, these offered "instantaneous reversing" via a small lever fitted to the end plate. The reverse speed was deliberately designed to be slower than the forward speed. The four versions were sold side by side for some time, then a move was made to rationalise the range by discontinuing the

non-reversing Torpedo and the reversing Asteroid. As a result these models are the rarest today, longer term production having centred on the Target and Meteor.

Taycol were never too particular about accuracy in their documentation or advertisements and this can be a source of confusion to the collector. My two Target boxes show an illustration of what is clearly a Torpedo, and this is also true of many contemporary advertisements. For their time these motors were quite compact and powerful and must have sold in considerable numbers until more modern permanent magnet motors of similar power came along and made them suddenly seem very old-fashioned. Today an as-new Target or Meteor in its box would sell for around £30. **MMI**



VIEW FROM THE BRIDGE

The stretch of water between the UK mainland and the Isle of Wight, known as the Solent, hosts one of the largest selection and numbers of full size commercial and naval vessels in the UK. As well as full size commercial vessels the Solent also hosts many leisure craft and ferries both to the European mainland and to the Isle of Wight. Many modellers are inspired to build models of full size vessels after either seeing them in the flesh or seeing a picture of them. Hopefully we can bring the reader pictures of shipping in the Solent to maybe inspire them to build a model of a full size vessel. We are indebted to Wightlink for giving permission for these pictures to be taken from the bridges of their ferries operating from Portsmouth to the Isle of Wight.

Images taken by Captain P. Anthony



KATHLEEN ANNE (ABOVE)

Moored in Old Portsmouth's Town Camber Dock on 28th April 2011 is the luxury motor yacht Kathleen Anne. Prior to arriving in the Camber, she had been berthed at Portsmouth's Gunwharf Marina for over a week, but soon after this photo was taken and on completion of refuelling, the Kathleen Anne sailed.

This 39 metre superyacht was built in 2008 by Feadship – De Vries Scheepsbouw, Aalsmeer in Holland. She can sleep a total of 10 guests and has a crew of 6. Port of Registry is Douglas, Isle of Man, and with her twin 1055 hp MTU diesel engines driving two shafts, she can cruise at a maximum speed of 13.7 knots. Owned by her builders, she is used for hiring out on the charter market.

Viewed from the Bridge of St Faith.



CAMERON (ABOVE)

Owned by Briggs Marine Services of Burntisland in Fife, the 480 gt Cameron is seen here on 29th April 2011, moored in Old Portsmouth's Town Camber. Built in 1991 by Richard Dunston at Hessele on the River Humber, she is a Trials Support vessel when operating in open waters, but engaged more normally as a Mooring Vessel, equipped for the transport, laying and the recovery/ servicing of buoys and their moorings. She was originally operated by the RMAS (Royal Maritime Auxiliary Service) whose vessels today are operated by Serco Denholm on behalf of the MoD, and who still employ her near-sisters, the Moorfowl and Moorhen, but she was sold to Briggs Marine in 2004.

Viewed from the Bridge of St Faith.

HSU FU (PART 1)

AUTHOR: CLIVE HALLIWELL

THE BAMBOO SAILING RAFT – A VERY DIFFERENT SCALE MODEL USING TRADITIONAL MATERIALS AS USED TO BUILD THE FULL SIZE VERSION

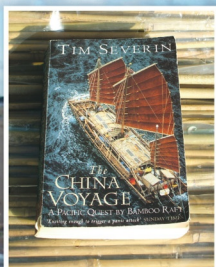
This project started by chance. Rummaging through a pile of books, donated by people to raise money for a church roof, I came across *The China Voyage*, by Tim Severin. On the cover was a striking picture of a three masted, junk rigged, bamboo raft. The book was free, but a donation was asked, for so I paid my money. The raft had been designed and built at the behest of Tim to test the theory that ancient Asian mariners had reached America, across the Pacific, long before Columbus.

Inside the book were two drawings, an isometric view, and a plan view, which turned out to be almost exactly (?) at

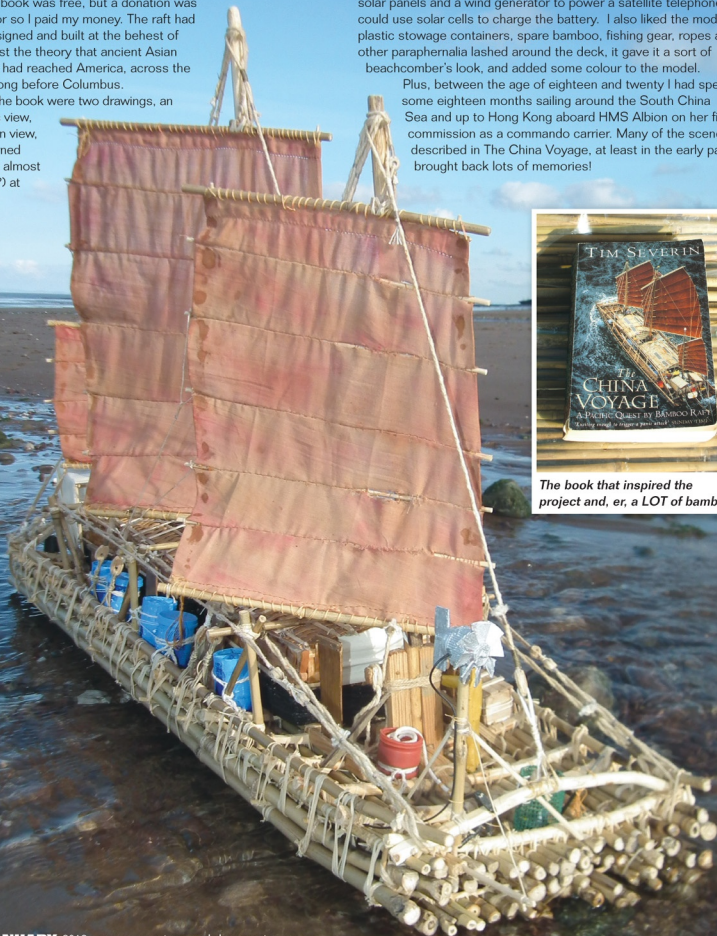
1/192nd scale. I spent an evening or two doodling (at 1/48th scale) to see if it was practical to build a working model; it seemed it was!

Another feature that really appealed was the fact that, though the raft would be constructed along traditional lines, it employed solar panels and a wind generator to power a satellite telephone. I could use solar cells to charge the battery. I also liked the modern plastic stowage containers, spare bamboo, fishing gear, ropes and other paraphernalia lashed around the deck, it gave it a sort of beachcomber's look, and added some colour to the model.

Plus, between the age of eighteen and twenty I had spent some eighteen months sailing around the South China Sea and up to Hong Kong aboard HMS Albion on her first commission as a commando carrier. Many of the scenes described in *The China Voyage*, at least in the early part, brought back lots of memories!



The book that inspired the project and, er, a LOT of bamboo!



R & D

I did some more 'R & D', that's 'reading & doodling' and decided to go ahead with it. I contacted our Ed to see if he was interested, and he was, so it was full steam, sorry, sail, ahead. (Note: it is essential, if you want to get anything published, to contact the editor, as he may already have a similar article on his hard drive!)

HSU FU

The original was 60 feet (18.3 m) long and 15 feet wide (4.6 m) and carried a sail area of 800 square feet (75 m²). Scale would be 1/24th giving a model 30 x 7.5 inches (76.2 x 19 cm). Draft will be discussed later.

So preparations began in earnest. I considered using just a few large diameter bamboos for the hull but realised I would lose the 'bundled' effect of the original, and possibly the buoyancy, so settled on much thinner bamboo to replicate the replica (sorry!) This produced a similar problem to the original, in that canes of scale diameter, 1/4 inch (6 mm), were generally only 24 inches (61 cm) long, therefore not long enough for single canes to be used and there would have to be joints in each length.

Note: Unless stated otherwise, the 'original' refers to the replica used in The China Voyage in 1993 not the very early rafts, details or drawings of which are not really available.

My main concern was putting a permanent bend in the many bamboos that made up the bow section, although it was a short, gentle curve, I did not want them to be held under pressure with ropes or ties to maintain their shape. The originals, freshly cut and green, were bent using the flames of firebrands. I would only be able to obtain mature bamboo.

The good news was that a trial cane was held over a candle flame and bent easily beyond the arc I would need it to and stayed curved as it cooled. The bad news? Early calculations deduced I would need to bend some seventy, or more, bamboos for the bow section! But at least it was feasible!

I would also need lengths of crooked wood, i.e. naturally bent, for the crossbeams that would hold the bamboos together, some 'baulks' of timber for mast steps and supports and some wood for the rudders and leeboards etc. I intended to source as much as I could from nature, or from recycled sources, especially timbers that would be visible, to try and give it as an authentic, aged look as possible.

At an early stage of my 'R & D' I wondered in to a junk shop and found an old wicker sewing basket. I spent an hour or so in the garden stripping it down, putting to one side anything useable. When I unwound the rattan from around the arched bamboo handle I found scorch marks on the curved sections! I guess, in all probability, the sewing basket had been made in China!

The 'rattan' binding was actually thin plastic tube. I set it aside unsure whether it would look right on the model as I was attempting to avoid modern materials for the build of the raft itself. I suppose an old woven laundry basket or a beach mat could provide the wickerwork.

RADIO CONTROLLED SAILING

The fact that I needed to fit R/C, and for the model to sail successfully, meant some compromises had to be included. Exact scale rudders for example, do not tend to work effectively on scale models and oversize versions are often fitted. The Rx, battery and two or three servos need to be incorporated in the build, plus easy access to them at the pond side. Items like supports for the hogging trusses would have to be moved to allow the cabin tops to open. Sheets (the control ropes) from the sails would have to be routed to their servos, and because there was no hull as such, all these controls would have to be fitted in the two canes, or in the cockpit.

There was also the distinct possibility I may have to include the facility to fit a weighted fin keel to stop the raft capsizing when trying to sail as close to the wind as possible. Only time will tell!

CUTTING THE BAMBOO

Some thought needs to be given to cutting your bamboo to length. You may well be able to source canes of roughly the right diameter and of sufficient length to avoid joints, even so care should be taken. Bamboo is noticeable for the 'knuckle' joints every few inches (at our scale) and these enclose the hollow sections that give the bamboo its buoyancy. At the bow the canes should be cut back to the first joint, taking care not to cut away the solid wall. I know we are not crossing the Pacific and prolonged buoyancy is not so critical, but it should look right.

The two jigs. The crossbeams in front, with the bow section bamboo at the back



Bamboo bending
Cut at knuckle Joint with support Hollow section (if unavoidable)

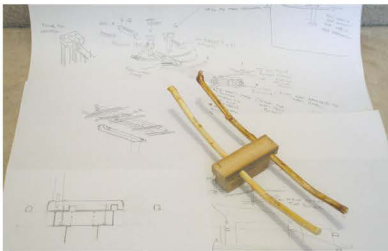
Again, aft, ideally each length should terminate at a joint. I appreciate that with so many lengths involved, and the very random nature of growth, this will not always be possible, so priority should be given to the bow section and any open ends consigned aft.

To assist with the bending I made up a jig so that the heated and bent bamboo could be left to cool off at the right curve. A photo shows the jig; two short lengths of broom handle and some scrap wood! It was just big enough to produce sufficient canes for half of one layer at a time. By then it would be time for a cup of tea.

CROSSBEAMS

By now I was becoming obsessed with collecting the crooked lengths needed for the said crossbeams. Fortunately, I live in a fairly rural area, with plenty of trees, and became increasingly practised at selecting branches, that when stripped of their bark and squared off would be the correct size, approx 6 inches/152 mm square, or 1/4 inch/6 mm at our scale.

Getting the right shape, flat in the centre and curving up at the ends, to match the outer bamboos, was more difficult. So I produced another jig, seen photo.



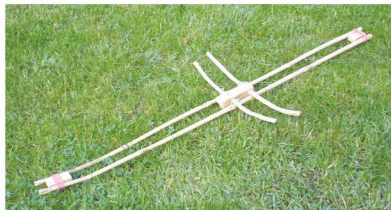
The main mast step and supporting block below (see text), amongst the doodles

The prepared lengths were soaked in water overnight. One end was often naturally crooked and the other end was coaxed in to the jig and then left overnight again, in the airing cupboard, to dry out. The beams were cut over length, to be cut back later.

Note: Always seek permission if it is not your tree!

MAIN MAST STEP

This may seem a funny place to start but I wanted to screw a support, or fixing block, beneath it to secure the weighted fin keel and I needed to fit the bamboo around this block so that it could be removed from below, for transport or static display. An inset on the plan shows how I approached the problem; there will be other solutions. The original did not have a keel of course, relying on leeboards, the weight of stores, water and crew etc. and the ability to reef, or drop, the sails in adverse conditions. I would not be able to do any of that via my transmitter!



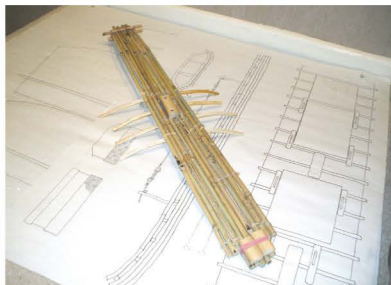
With the step lashed to the two crossbeams the first two full-length bamboo are added

THE BUILD STARTS

Once the step had been shaped, and slots cut for the two central crossbeams the lower block was screwed in place with the beams in position (see photo). The step was then lashed to the crossbeams, allowing the lower block to be removed later, without the whole raft collapsing!

I had managed to purchase two canes of more or less the correct scale diameter and long enough to cover the full length of the raft and these, after inducing a bend, were bound to the crossbeams. The relevant photo shows two spacers, held in place by rubber bands, helping to keep everything ship shape, or in this case, raft shape!

The reason for starting in the middle was twofold, firstly I would be able to 'balance' the random diameters of the bamboos to get the correct width on either beam, and secondly, if I had difficulty getting the bindings down through the layers of canes I could slide loops in from the ends. It was now merely a matter of lashing together

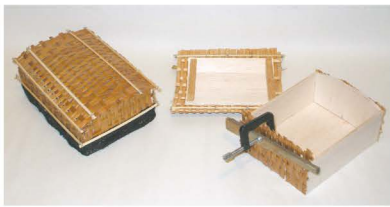


As more bamboo and crossbeams are added the removable block can be seen screwed beneath the mainmast step

another one hundred and forty or so bamboo and another fifteen crossbeams to form the basic raft! But I did feel I was under way, so to speak.

MINI PROJECTS

I always like to split my overall build in to mini projects, and with so many canes to bend and lash together it would be pleasant to break off and do something else. Also as the width of the raft grew things like the leeboards and their slotted supports needed to be fitted. I stated earlier that the draft would be explained. With the leeboards and rudders raised the draft was merely the equivalent of the three layers of bamboo, i.e. one foot six inches (0.41 m) or less, but with the boards down the draft increased to 4 ft 11 inches (1.3 m).



When weary of tying on bamboo, move on to the mini projects, in this case the cabins

The masts, rigging and the sails are perhaps greater than a mini project. The cabins and cockpit were built separately on the original and then lashed down to the raft. Not that there are any hard or fast rules here, but this is how I like to go about my assignments.

BACK TO THE RAFT

The next step was to fill in the gap between the already installed canes. A ready quantity of pre bent, and jointed if need be, bamboo are required. The next two crossbeams are added, one for'd, one aft and binding repeated. Bamboos are now added alternately, port and starb'd until the full width is obtained. The leeboards and their support timbers should be installed as progress reaches the particular crossbeams with the boards in the down position, perhaps using a doubled or thicker lashing so that a small gap is maintained and the boards can be slid up and down as required.

(Note: I can only apologise for keep using the word 'crossbeam' but my thesaurus will not give me an alternative!)

LEEBOARDS

There are eight leeboards, four per side, and each one slides up and down in a slot cut in a block of wood cut to span two crossbeams. These devices give the flat-bottomed raft its 'grip' on the water, mainly when the wind is on the beam. The two forward boards are on a line slightly inboard of the those further aft and utilise somewhat longer lumps of timber (see plan).



The leeboards and their support blocks were made early

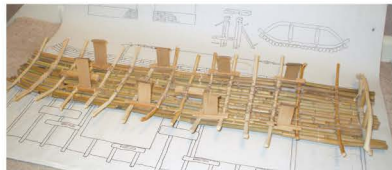
All the blocks were cut from wooden battens salvaged from the sewing basket but of course any suitable sized scrap wood will do. I say scrap because store bought square section strip would look a little too smart and would have to be distressed to appear realistic.

The leeboards themselves were cut from 1/16th ply (2 mm) and a length of scrap strip, hand cut, fitted across the top edge to stop the boards disappearing in to the water below. The stoppers were glued across the top of the boards and then both drilled through and the ends of cocktail sticks driven through to represent two securing pegs. The lower section of each board was hydro dynamically shaped, the bottom corners rounded and the edges 'sharpened' to reduce drag. The completed boards were then protected with varnish.

Each support block was cut and shaped to fit between the two relevant crossbeams and glued in place before adding bindings. I had no actual information as to the length of these boards and when the raft hull was finally completed I made four longer ones for the central positions, the only ones I intended using whilst actually sailing. Both sizes are shown on the plan; you can make your own decision.

FOREMAST STEP

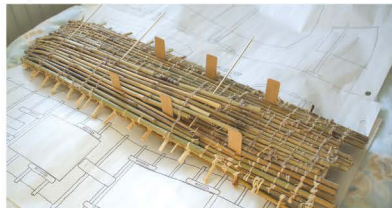
As the fitting of the crossbeams approaches the bow the foremast step needs to be fitted. Basically a block of wood with slots cut out to fit across the relevant crossbeams, as per plan, and lashed in



As the beam grows the leeboard support blocks are fitted according to the plan



With the 'rigging rails' fitted (see text) each binding was lacquered (thinned clear varnish)



The lower section, laced to flexible bamboo skewers, being added, with gaps maintained for the leeboards and fin keel

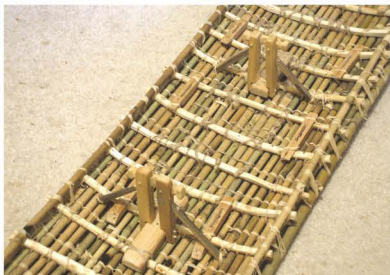
place. Also the two most forward leeboard supports need to be fixed in place as the width of the raft reaches their position.

RIGGING RAIL (MY TITLE)

With all the crossbeams bound in position a final bamboo needs to be lashed on top of the beams, on either side, directly above the outer canes, and running the full length of the raft. These will take the lower ends of the shrouds (the rigging that supports the masts). They should be well bound in place, preferably to both the crossbeams and round the upper bamboos below (does that make sense?) as the masts are stepped on deck and do not run down through a hull to the keel below, thus the shrouds will take most of the strain.



Lower level completed (fin keel incomplete)



The mast supports, or tabernacles, being fitted for the fore and main masts



The supports for the hogging trusses, held in place initially with clothes pegs and sheering elastic



The rigging blocks for the trusses (shown in isolation). The lighter, outboard truss, is optional

Because our model will not suffer the waves and storms that the original faced in the Pacific there is a temptation to minimise the number of bindings used. But to get the overall effect, even for the casual bystander, I intended fitting as many as possible, whilst my sanity lasted. Hsu Fu had more than three thousand rattan bindings!!

AN ASIDE

Tim Severin named his raft Hsu Fu after an ancient Chinese mariner, ordered by the first Emperor of China (he of the Terracotta Army fame) to search the Pacific islands for an elixir of immortality. (The story is recounted in *The China Voyage*).

I do not wish to pre-empt the ending, but the Emperor died!

THE PLAN

It was about now that I realised I really needed a full size plan, even if only in pencil. Doubling up dimensions from my doodles, or multiplying by eight from the book's 192nd drawing was becoming annoying, not that exact measurements mattered on this project. But if I wanted to break off from the lashings and have a go at the shrouds or the hogging trusses for example, a full size drawing would be an advantage. Discrepancies in rigging lengths can usually be taken up by the lanyards (more on rigging in Part 2). So I took time out from building to produce the plan.

THE CABINS

The thatched cabins and the cockpit sat inside woven baskets, which were covered in tar to try and keep them watertight. Needing to fit the R/C controls in the cabins I made up an inner cabin in balsa and glued wicker sections from the sewing box in place. The two roofs were constructed in similar fashion; balsa sheet glued to beams that had been shaped then covered with more wicker work.

I then created the 'baskets' around the bases by winding jute cord round and round the lower section; next I pushed cocktail sticks, alternately, in and out to create the basketwork effect. The sticks being trimmed back once in place. Black acrylic paint represents the tar (see photo).

Entry to the cabins was via small openings closed off with canvas screens to try and keep the weather out. Because I was fitting the R/C gear in the cabins dummy screens were made up and fitted in the closed position, i.e. there is no actual opening in the cabin walls.

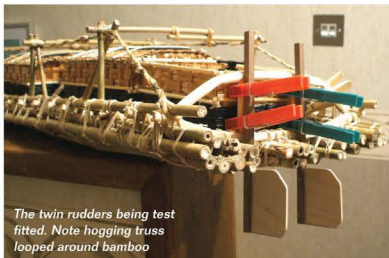
THE COCKPIT

Constructed in similar fashion to the cabins, but without a roof. A slatted wooden bench ran along either side. A large wooden box housed two paraffin stoves with the mizzen stepped in the centre. I replicated the wooden cooking box and the for'd ends of the two benches and fitted the mizzen step. The matting for the floor was a small piece of material used as backing for cross-stitch needle work, donated by my daughter, suitably stained with cold tea.

STEERING

I wanted to replicate the twin rudders hung from their posts and clearly visible. This precluded commercial rudder assemblies with brass blades and plastic tiller arms. During the voyage of Hsu Fu the crew rigged a canvas sheet over the cockpit to give some shelter to the helmsman. If I copied this feature I could conceal a servo at the rear of the cockpit and hopefully fit realistic looking rudders.

The rudders were made up using 6 x 6 mm walnut for the stocks with slots cut to take 2 mm ply blades, which were glued and pinned in place. Holes were drilled through the stock and blade to take securing pegs (cocktail sticks). The leading edges and central section of each stock were rounded off so that they would turn more easily in the bindings. The tops were left square to take the tillers and a peg fitted to stop the whole assembly slipping down out of their bindings. (see plan)



The twin rudders being test fitted. Note hogging truss looped around bamboo

The aft most crossbeam has an upper beam fastened to it, with two rudderposts glued and pinned between them (see plan). A wooden support 'box' was created for the servo. (cont. in part 2)

MACHETE NOT MACHINE

Do not forget, the ancient rafts, and the replica, were built by machete, not machine! You do not need to be dogmatic regarding measurements. About that length, about that height, about that thickness, will do. In fact my model's width went over scale by about an inch (25 mm). Probably no two rafts were ever built exactly alike. I should think no two models would be either!

THE BINDINGS

As stated earlier there were some three thousand rattan lashings holding the Hsu Fu together. However, towards the end of the voyage, the raft was held together with a miscellany of bindings, as the originals rotted away, so I felt I had some leeway. I had decided not to reuse the plastic 'rattan', from the sewing box, its obvious plastic construction just did not look right. Most of the lashings would be raffia, each binding being lacquered (clear varnish, as on the original. In other places the bindings were 'repaired' with odd bits of different cord, string, sewing cotton etc.

At the beginning of the build I tried to tie each binding tightly but found that as I added more and more lashings, and the two lower levels, and bound them in place, and lacquered them, the whole structure became quite rigid anyway.

MAST SUPPORTS

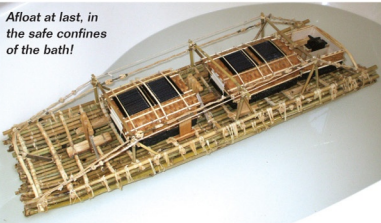
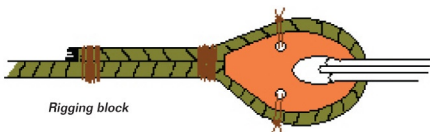
Two obvious structures on deck are the fore and main mast supports, or tabernacles. Heavy baulks of timber fashioned to fit against the mast and its step and rebated to take a crosspiece, again fashioned, as a belaying point for the running rigging. The timber for these was cut to size from oversized wood by splitting the lengths using a knife and small hammer, to give that rustic look. My version is shown on the plan, but the plan should not be used, rather build the supports around your actual mast, its step and/or crossbeam, to get a good fit and give good support.

THE HOGGING TRUSSES

This is a prominent feature running from stem to stern down either side of the raft.

Essentially they support the body of the raft, helping to stop middle section curving upward. The plan and photos shows my attempt. Heavy ropes are fastened to the outer bamboos at the bow and stern, via loops seized in their ends, and held up on a framework of bamboo. Blocks are fitted in the system so that the rope work can be pulled tight.

The book seems to indicate a second, lighter, truss running alongside the main support. I fitted one on each side, but it is probably not necessary on a model (if you are contemplating a full size raft it possibly is!) The heavier blocks also had two small holes drilled through the body to allow them to be tied in to the eyes with cord. I replicated this feature, but it is optional.



AFLOAT

With the cabins and cockpit in place the model was lowered in to the bath. It floated on an even keel, as rafts tend to do. At this stage I loaded several small pieces of lead sheet onboard until the bottom two layers were submerged. Some of this lead would be replaced by the radio control items, including a battery pack, some by masts and other deck clutter. The remaining weight could be made up into a 'bulb' for the bottom of the planned fin keel, or as a lump of ballast should I sail without it.

NEXT MONTH

Fitting the masts, rigging, sails and radio control and off across the Pacific, well, no, actually, my local boating lake. **MMI**

REFERENCE

The China Voyage: Tim Severin:

ISBN 0 349 10650 9

(Highly recommended; Clive Halliwell)



A glimpse towards next
month's finale

MEETING POINT

REPORTS ON MARITIME RELATED
EVENTS HELD OVER THE LAST
FEW MONTHS

25TH VIKING SHIPS RALLY, RAMSGATE, 4TH SEPTEMBER BY FRED STYLES

Held on the boating pool on the esplanade at Ramsgate it was a dull, overcast day with the wind coming up the Channel at a rate of knots. The show consisted of many clubs and traders who all made the best of the conditions. It is just as well we had a cafe and facilities close to the pool where one could get a warm meal and drink.



The Ramsgate Vikings display



The turbo duck

The show started off with a parade of assorted ducks and ducklings among which was turbo duck of some fame. These are all owned by the home club, and commented on by the chairman of the club, Ron. With these nine clubs from Sussex, Surrey,

Kent and Essex. There was a floating Birthday Cake, with Barbie giving all a high five, to congratulate Viking. The club boat announced the welcome to the Twenty-fifth Ramsgate Regatta.

At the event we gave clubs slots for sailing with 2.4 GHz and only took in 27 and 40 MHz Tx's. There were not many of these so it meant that the usual crew who stand at the top of the steps



A Barbie birthday cake



receiving these were free to enjoy the show. Over two hundred model ships were present from the nine clubs, some for the first time. The traders seemed to do well selling all sorts of nautical paraphernalia. To this effect the club raised a considerable sum for the Ramsgate Lifeboat, which it supports, also the Pilgrims Hospice. The selection of raffle prizes was so profuse that they ran out of tickets!

After dinnertime the clubs were allowed on the water and we saw 'C' class destroyers prancing around with the usual tugs etc. But, and there always is, unlike other years Cape Gris-Nez was disappearing into the gathering gloom with a real hooly coming up the Channel. At 1430 hrs the raffle was drawn and sadly the day was abandoned. This meant that the usual fridge magnet given to exhibitors was not given to all. If you should wish to have one then contact the club. Thank you all for your attendance.



Southend club with their display



The cafe area overlooking the pond

Some of the prizes to be won on the Hospice sale stand



Ugie Vale – Steel Drifter by Kenneth Evans (Caerphilly)



Perkasa P157 in Far Eastern colours by Phil Ehlers (Brynbach)



CWMBRAN MODELLING SOCIETY OPEN DAY, 11TH SEPTEMBER 2011, BY CHRIS SAUNDERS

It is difficult to imagine a better location for model boating than the Cwmbran model boating lake. Nestling in a sheltered valley the site has everything necessary to make this hobby as pleasurable as possible. Even the wind is moderated giving good sailing conditions no matter how blustery.

It is now two years since the venue was redeveloped after a fire in the original buildings. Torfaen Borough Council has worked with the local community to produce a multi-purpose lake and a delightful place for an afternoon stroll. The new facilities include a toilet block and a very busy restaurant where an exciting range of snacks and meals may be purchased.

Trent Lifeboat by Ian Povey (Brynbach)



Lifeboat display

American River Boat – Pusher Type by Mark Jennings (Brynbach)



Gaff rigged Schooner by Viv Evans (Cardiff)



Torfaen branch of the RNLI



Model boats can be sailed on two different pieces of water. Nearest the exhibition tents is a fairly small, shallow pool, useful for younger children to learn about the hobby. During the Open Day this area was used by representatives of Cardiff Marine Modellers for the club's 'Have a go' boats. This gave any children visiting the Open Day an opportunity to try their hand at controlling a model boat for free.

The main lake is large but accessible all the way around. A specially constructed launching area makes for easy access to the water. This lake was in constant use throughout the day, often with over a dozen boats on the water at the same time. The mix of sailing and powered craft gave plenty of interest for the public and inspired many exchanges of views and ideas among the exhibitors.

This year the Open Day seemed to have the RNLI as a major theme. The Cwmbran Society had brought all their lifeboat models and these made an impressive display both in the tent and on the water. The Torfaen branch of the RNLI was also present manning a stall selling a whole range of interesting gifts and mementos. This society has been active since 1938 run by volunteers raising money to help keep the full size lifeboat fleet afloat.

Many of the South Wales clubs were represented including Brynbach Model Boat Club, Caerphilly Model Club and Cardiff Marine Modellers. Overall this was a very well organised and pleasant day and the Cwmbran Modelling Society should be proud of what they have achieved. If anyone wishes to sail with the club they meet at the lake every Sunday (9 am to 12.30 pm) and Wednesday (12.30 pm until the park closes).

THE SOUTHERN MODEL AIR SHOW AT HOP FARM, PADDOCK WOOD, KENT – MARINE SECTION SHOWN ON 17TH/18TH SEPTEMBER, BY KIM BELCHER

As regular readers of these columns will know, I normally try to find a feel or theme to remember each show by. For me, this one was demonstrably – altruism – ‘living and acting for the benefit of others’. But let’s start at the beginning.

I have been attending this show in one guise or another for ten years. Each year it has got better. The show is brought together under the wing of the Croydon Airport Model Flying Club. For us, the Marine Section is hosted by the Cygnets MBC – Maidstone and the display and ‘village’ is organised by Alan Noble and Debbie Smith, ably assisted by Phil Knell (who organised this himself for many years).



The Marine Village – with Dave Frith’s Liftwell in the foreground and over on the left the Portsmouth Display Team’s large battleships, with the pool in the middle ground



The start of the marine trade section: Models by Design and their new Safehaven Marine Interceptor 42 pilot boat on display. Beyond Macs Mouldings and Hunter Systems

At the centre of the village is a large temporary pond – erected on the preceding Wednesday – some forty by thirty five feet (12.3 x 9.2 metres), with a depth of around thirty inches (0.77 metres) and the obligatory ‘wave band control’ table run by Rita and Bill Holmes. Adjacent to this a small, shallow pool with Springer push tugs for the children’s use. Stepped back, but running all around the square, on two of the sides in two rows, are twenty-four clubs with their marquees, gazebos and displays.



A close-up of Martin Clifton’s (Macs Mouldings) fishing catamaran displaying some of his cast resin windows, deck lights, capstans, ropes, access hatch covers and a seagull eating the head and entrails of a fish! He can supply the tail and entrails, should you so wish!



Rex Hunter’s 7” model of HMS Hermes being inspected by some visitors. It had Sea King helicopters and GR3 Harriers alongside the Sea Harrier versions. Highly detailed with a number of items on the flight deck electronically controlled



Love it! A great display by Martin Oliver on his Lady of Glenmorrow SWATH Research vessel. Models ‘in build’ help to encourage new people to our hobby. Martin had a neat and informative card giving the background details

Elsewhere at the show were many, many more generic trade stands, for our modelling needs, including from Wales, Component-Shop.

Some folk I know, visiting for the first time, said it should be called ‘The Southern Model Boat Show!’ Their reasons being that our ‘village’ area was very large, well laid out and organised, and that club members were willing to talk and engage with the public and that we were able to continue through the rain (which on the Saturday was considerable) and that many of the exhibits had display cards to inform the onlooker.



Alan Poole (Secretary – Dover MBA) about to demonstrate his German Seehund XXVIIb U-boat. Due to the clear, clean water both exhibitor and public could easily see what was happening!

Alongside the Cygnets these included some regular and new attendees, Broomfield, Watermead (Aylesbury), Black Park, Ramsgate Vikings, Herne Bay Herons, Crowborough, Dover, Chantry, Shepton Mallet Drifters, Tug-R-Ups, Grays Thurrock, Moorhen, Wat Tyler, Capstan, Southend, Leighton Buzzard MBCs, Basilidon as well as The Lifeboat Enthusiasts’ Society, The Model Hydroplane Club – Great Britain, Model Warships UK, the A Team Boatyard, the Association of Model Barge Owners (AMBO) and on the Sunday the famous Portsmouth Display Team. Should I have overlooked any clubs or representatives, my apology! All in all a very well attended and supported event.

Beyond all of this was the large area containing those staying for the weekend in their caravans and tents. Of course I have not forgotten the dedicated line of model boat trade stands, which included the familiar Models by Design display and the adjacent Macs Mouldings gazebo and Hunter Systems.



Whilst others look elsewhere in the pool a young observer prepares to take a photograph of Elwyn Baker's (Cygnets) meticulously presented 1/12th scale Rother Class lifeboat, based on the RNLB Alice Upjohn from Dungeness



A close-up of Elwyn Baker's Rother Class lifeboat on the Cygnets MBC's stand, showing some three crew figures in the wheelhouse, it makes for a realistic shot, enhanced by the fine attention to detail and the quality of finish

Now back to the actual models and my earlier comments regarding altruism.

What caught my eye immediately was the large 7" model of HMS Hermes. This was on Rex Hunt's Model Warship UK's stand. It had taken him five years to build on a Simar GRP hull and had recently been 'float' tested in the 'test tank' and was waiting to be motorised with two 800BB motors on 12 volts. The wealth of detail brought it to life – at least four modified Revell Sea King kit (and I think a Vessex) helicopters, eleven jump jet Harriers (GR3 and Sea versions) which were modified from 'clip together' Revell kits, a rear deck lift operated by a homebuilt scissor jack, a Harrier and Sea King which could be electrically raised and lowered with their related sounds, tow tugs, 'day' and 'low visibility' lighting and aerials which folded to give a clear flight deck.

In front of all of this was a Help for Heroes collecting box on loan from an adjacent display by Phil and Carol Sadd of the Shepton Mallet Drifters. Their stand had the Help for Heroes banner smartly fixed across the front of their display (which contained a model of Compton Castle – a paddle steamer just back from the repair yard after a summer loan to a certain magazine editor!), with another collecting box and leaflets. Carol said they had been collecting for this charity for the past two years and in 2010 had raised £200 across four shows. Whilst talking of raising funds for charity, members of the Ramsgate Vikings said they had raised £1,036 for the Royal National Lifeboat Institution (RNLI) throughout the year and also across 'the village'. Karin Locke on the Lifeboat Enthusiasts' Society stand had baked a huge array of cakes and bread pudding to sell across the two days – she sold out on the Saturday, having raised just over £132 for the RNLI too! Meanwhile her husband Phil repaired and re-programmed yet another Action Electronics P100



Ralph Wilkinson (Cygnets) shows Lee Dickinson (Watermead, Aylesbury) how to program his Spektrum Tx and get the best from his Graupner MicroMagic yacht

Frith and based on the Liverpool dock's Mersey Mammoth. She took just four months to build! Her size is 8' x 3' (244 cm x 91 cm) approx, weighs in at 150 kilos (330 lb) and is powered by two MFA 800 motors of 12 volts, using two balanced rudders to steer her. Dave constructed her mainly from wood sheet and then used copper tube for the 8' (2.46 metre) boom, which has a solar panel on it to charge the 3.5 V battery which powers the lights system. The whole model is fully functional, even using a grinder disc unit to power the crane's turntable and a Vauxhall Velox's window gearbox for the hoist! She can easily lift 30 lb (13.6 kilograms).

Another model to catch my attention was being built by Martin Oliver – a scratch-built model of a SWATH (Small Waterplane Area Twin Hull) Research ship named Lady of Glenmorrow. It was 'in build' and allowed an appreciation of the construction type being employed overall on this freelance designed vessel, to a scale of 1/32. He is hoping to have all normal working functions, but also to include an inboard moon pool from which to launch a 'live video' underwater camera, this can be viewed from the shore. All of this information was contained on a smartly displayed sheet for the observer to read.

Throughout both days there were constant displays, even through the rain. Old and young entertained us and sometimes this was accompanied by an informed commentary. Submariners enjoyed the clear, clean water to display their working models to the public and during one lifeboat display, of which there were four across the two days, three 1/12 scale Arun Class boats appeared on the water at the same time, alongside a Brede, a Trent Class belonging to Paul Ryan (Basildon) and a meticulously presented Rother Class lifeboat by Elwyn Baker from the Cygnets, based on the Metcalf Mouldings kit of RNLB Alice Upjohn from the Dungeness lifeboat station.

I witnessed another altruistic act when Ralph Wilkinson from the Cygnets helped Lee Dickinson from Watermead to re-set and program his Spektrum Tx for Lee's very neat little Graupner MicroMagic 'carbon' edition yacht. This is what the hobby is all about – passing on knowledge so all can enjoy their models with the least amount of hassle!

Saturday night saw a truly great display of some eleven boats on the water for a night sail – if only the public could have seen this – Phil Locke's Tamar class lifeboat, Paul Chilcott's Finnish ferry and Derek Attree's tug were just three.

A great weekend, a superb show, with plenty of club support – activity a plenty. Charities supported, fellow modellers helped, winter projects bought and recently completed projects now on the water! Our thanks must go to the Croydon Airport MFC and the Cygnets MBC, but especially to Alan Noble and Debbie Smith and their vanguard and rearguard teams who gave us all an enjoyable and trouble free weekend.

'Noisy Thing' module in the tightly spaced interior of Alex Bevan's tug – a Cygnets member. He went on to repair, re-wire and upgrade a well known trader's electrics in his well modelled and painted Vietnamese gun boat – now there's a lifelong supply of cast resin fittings coming someone's way!

Just along from them was the Black Park MBC and they had recently given the Bucks Air Ambulance a cheque for £500 from their regatta. On the same corner of 'the village' was the smartly laid out display by Tugs-R-Us. The eye-catching Liftwell is a model of a sea-going self propelled crane, built by Dave



Setting up the Centenary display

MYA CENTENARY – GRAND FESTIVAL OF SAIL, BY ALISTAIR ROACH

A 'Grand Festival of Sail' was held at The Round Pond, Kensington Gardens on the 18th September in celebration of the Model Yachting Association's Centenary, the Vintage Model Yacht Group's (VMYG) Silver Jubilee and the Model Yacht Sailing Association's (MYSA) 135th year. Based at Kensington the MYSA is one of the oldest model yacht clubs in the world.

The idea was to gather together as many big, beautiful and/or unusual vintage and modern boats as possible at the pond-side and also, hopefully, on the water. Significant boats from every class and decade were on show. Smaller and toy boats were also included so there was a wide selection of yachts for enthusiasts and visiting members of the public to view.

Although the weather forecast mentioned thunderstorms and gusty squalls the day turned out well with sunshine and a light breeze. The organisers were aiming for a 'wow' factor at the pond-side and this was certainly achieved. Serried ranks of boats, of all sizes and description were lined up in age order for everyone to view. They ranged from 15 cm to over 2.5 m in length. Peter Stollery (MYA) had produced laminated display labels for many of the boats which detailed their individual history, provenance and in some cases their successes in national and international competitions. What was most

noticeable was the huge variety of designs, sizes, different forms of construction and use of materials that have been used during the past hundred years. Superb craftsmanship and restoration skills were in abundance. There were some intriguing yachts on display including the massive 1897 Britannia, a 30 rater owned by Martin Bandey, with its huge bar keel and beautiful deck hatch design. This yacht certainly created a 'wow' factor and Anthony Warren's unusual 5 tonner Wave was also much admired and coveted. Wave, appeared an anomaly but was built on the 1730 rule. She is believed to date back to 1879 and was on display with racing certificates from 1881 and 1884. Originally built as a cutter, with pronounced tumble-home and something akin to a ram bow, her rig was changed to that of a yawl in later life to allow her to compete with the MYSA on the Round Pond.



One of the rows of boats displaying yachts from the late 19th/early 20th century



Michael Bencsik's 1930s 6" Balmain Bug Shamrock 2



Peter Schofield's 1730 rule Northern Star

On the water vintage boats ghosted along whilst modern bottle boats and Micro Magics raced passed them powered only by a zephyr of wind.

This unique event was certainly a great celebration. Congratulations go to Graham Frazer (Commodore MYSA), Keith Coxon, Peter and Roger Stollery of the MYA and Martin Bandey (VMYG), as well as their colleagues, for making it the great success that it was – not only for those who displayed their boats but also for the visiting public who could see what model yachting was all about and talk to the various boat owners. Humphrey Repton, the famous landscape gardener, said in 1794 – 'A large lake without boats is a dreary waste of water.' Perhaps a rather good thought to keep in our minds as we look towards the next hundred years. **MMI**



A Class Ambiorix dwarfs a Star toy yacht



Beautiful hatch cover design on 1897 Britannia



Floral deck design on aft of Britannia

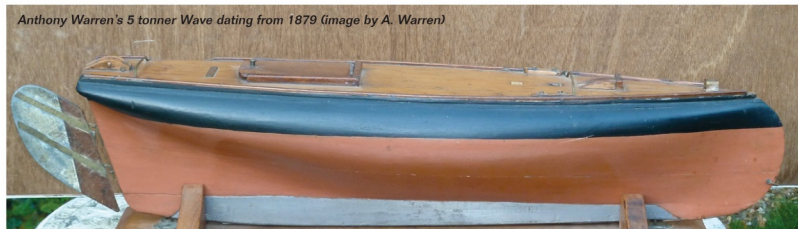


Martin Bandey's massive 30 rater Britannia was much admired



Old and new on the Round Pond

Anthony Warren's 5 tonner Wave dating from 1879 (Image by A. Warren)



SCALE SCENE

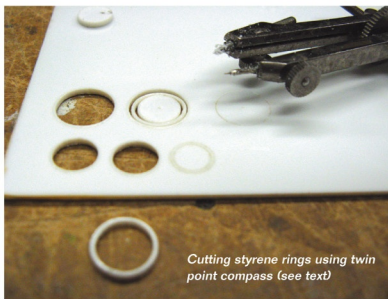
"PLASTIC IS YOUR FRIEND" – IAN CONTINUES LOOKING AT HANDMADE FITTINGS

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

Last month I was looking at making some fittings and I was extolling the virtues of plastic (styrene) sheet as a modelling material. This month I am going to expand on this idea and explain some techniques for working in plastic. Also I will be showing you some of the fittings that I have scratch-built using mostly sheet plastic in their construction. I hope you don't think of this as a form of showing off, because if you look closely at the photos (shot with macro) you will see that I am no better a modeller than anyone else. However, it is true that many younger modellers have not had the model engineering background that many of the older modellers had due to the fact that they had to make most of their own fittings, there not being many commercially available. So I thought a few quick ideas I've used in the past may be of use.

Most modellers will know how to make structures using flat plastic sheet, but by laminating it with a good quality plastic solvent, solid blocks of styrene can be produced which can be carved and filed to virtually any shape you like. If you can do it with wood, you can do it with plastic! The first technique I want to explain is how to mould cylindrical objects (funnels, turret bases and the like) without the use of a vacuum former. Find an object slightly smaller than the tube you want to mould. Wrap styrene sheet tightly around the former allowing about a 25 percent overlap. 1 mm styrene is about the thickest you can easily use, 0.5 mm or 0.75 mm being better. Keep the styrene tight on the former with elastic bands. Then place in a bowl and pour in boiling water from a kettle. Allow to stand for about 20 seconds (it's not an exact science) then cool

Vickers installation on MASH – 95% plastic (see text)



Cutting styrene rings using twin point compass (see text)



Types of compass or divider used to score/cut circles. The top ones are usable with care, but the bottom ones are the preferred type



Commercial compass cutters for larger circles



Representation of rotating clearview screen on small model lifeboat. The 5p coin gives idea of scale



Scratch-built 1/24th scale Oerlikon Cannon. The conical stand is turned aluminium, the support strap is paper, the spent cartridge bag is linen. Everything else including the barrel is plastic

rotating until almost cut through. Return to the outer circle and do the same, then finish off the inner circle then the outer. One of the photos shows the results and you can just see the compasses I used. For larger rings, compass cutters can be used (see photo).

Well that's about it for this month. I have included a photo of a 1/24th scale Oerlikon built using some of the methods mentioned here. Next month, amongst other things, I will explain how I moulded the tin hat shown hanging on the gun's shoulder rest. Without the aid of a vacuum former! **MMI**

with cold water. You should be left with a cylinder, which can be cut to size and glued to form your required shape. The twin Vickers gun turret on my WWII Motor Anti Submarine Boat in one of the photos was formed this way. As a matter of interest, the only metal items you can see in that photo are the Vickers' fluted barrels, which are formed from jewellers screwdrivers and the guardrails behind the turret. Everything else is plastic of one form or another.

Another very useful trick is how to produce rings from styrene sheet. This very is useful for producing things like circular deck lights, porthole surrounds and representing rotating clearview screens. One of the photos shows a close-up of the wheelhouse of my miniature Waveney lifeboat. The model is 14 inches long and to give an idea of how small the ring of the clearview screen is the coin is a 5p piece.

All you need to make this type of item is styrene sheet of the required thickness and a pair of screw adjustable dividers with two needie sharp points, or a pair of screw adjustable compasses of the type with a separate lead for drawing (not the ones that use a pencil) – you can just see this in the photo. Just decide on the inner and outer diameters of the ring, set the compass accordingly and rotate the compasses until the point scores through the styrene. I have the following to be the best sequence. Set to the inner diameter and score a circle. Set to the outer diameter and score a circle. Reset to the inner diameter and keep

2012 MODEL WEATHERING CHALLENGE

WEATHER YOUR BOAT AND WIN!

AUTHOR: MARK STEELE

Following the article in the November 2011 edition of MMI on page 50 of the Dora Star, the contributor Mark Steele asked if there was sufficient interest to run a challenge on weathering a small-scale vessel. The response has been very good with modellers in various countries expressing an interest. Hence Mark has kindly agreed to run and organise the challenge during 2012 with all entries to be in by 30th September 2012. As an encouragement for modellers to enter this challenge MMI will offer a year's subscription for each of the three classes and there will also be a medal for the winners supplied by Mark.

Weathered hull and sails of model Dora Star



WIN 1 YEAR SUBSCRIPTION TO



ALL ENTRIES TO BE IN BY 30TH SEPTEMBER 2012

RULES

There will be three classes:

Class A – For sailboats of any type (sails up or reefed, maybe soiled or torn) sailing barges, pilot cutters, schooners, square-riggers etc.

Class B – For powerboats, launches, tugs, power-driven fishing boats

Class C – For youngsters of 16 years or below of any craft within the size limits

The model craft can be a static display model within the overall length limits set of between 12" to 18" but must be able to sit on the water and be photographed nice and close to enable both the detail onboard and the 'weathering' achieved to be clearly seen. The photographs should do justice to the model and be high resolution as a jpeg.

A model sitting in a diorama will be acceptable, so long as the boat can be lifted off to float on the water.

Hi resolution digital jpeg photos of entries to be sent by email to weathering2012@comcast.net (please mark subject of email: Weathering Challenge) to reach me no later than 30th September 2012 – there will be a small panel of independent judges who in their opinion will award as winners the best models that clearly demonstrates realistic weathering effects. As is usual in these competitions the judges' decisions are final and no correspondence will be entered into with regard to results.

If you do not have access to the Internet to submit entries, hard copies of images and the Entry Form can be posted to MMI Weathering Challenge, PO Box 4239, Shepton Mallet, BA4 9AQ.

Winners will be announced and the top models shown in the November 2012 edition of Marine Modelling International, also online in the Duckworks Magazine, in Messing about in Boats magazine and in Windling World column in The Model Yacht magazine.

Please submit with each entry on the water image and an image of the builder holding the model.

Good luck and enjoy model making!

Entry Form (separate form for each entry)

Name of modeller:

Address: Country:

Email:

Class: A (Sail), B (Power), C (Junior):

Name of Model:

Brief description of materials used to build the model and what inspired you to build the model:



Full size trawler with real weathering!



Model Coaster with rust marks from water outlets

DUTCH MOTOR COASTER DINA

THE SCRATCH-BUILD OF A 1/32 SCALE WATERLINE MODEL INSPIRED BY CHILDHOOD MEMORIES OF WHEN THESE TYPES OF VESSELS ONCE VISITED SMALL CORNISH PORTS

AUTHOR: MIKE GRIGG



The completed model

I spent my childhood in and around Padstow on the north coast of Cornwall. At an early age I developed an interest in the ships which visited the harbour to deliver cargoes of coal and timber. At this time in the 1950s, Padstow was a fairly busy port, with a coaster appearing almost every week. Many of the ships were of Dutch or German origin. The ships of F T Everard were also regular visitors. And there were also seasonal visits by many Lowestoft and Great Yarmouth steam trawlers. I started making model ships in about 1954, using balsa wood and postcard. These were simple models, about 6 inches in length, representing the general flavour of what I had seen in the port.

THE FULL SIZE DINA

The Dutch coaster Dina was typical of the craft which traded between the UK and Continental ports. She was built and launched in 1939 and at first named Mitropa. She was renamed Dina in 1940. The overall length of the vessel was 38.51 m and she had a capacity of 198 gross tons. She was registered in Groningen. In 1969 the ship was sold to UK owners, registered in Guernsey, and was renamed Ash Lake. In 1988 Ash Lake was sold to Carrisbrook Shipping Ltd on the Isle of Wight, and later sold again for conversion to a houseboat. In 1992 she was reported to be lying on the Seine near Paris with severe fire damage.

I took photographs of the Dina during the 1960s when she called in at both Padstow and Truro. I think that I probably considered at the time, that this ship would make a fine model. Trade ceased in Padstow soon after this as the estuary became increasingly silted-up.

Many years later, in 1994, my interest was rekindled when I discovered the Coastal Shipping magazine published by Bernard McCall. Fortunately I had kept the photos of the Dina, and at last the decision was made to start the necessary research. It was a further two years before I actually made another ship model (a 1/100 scale general cargo ship) with the aim of exploring materials and modelling techniques. I had become quite rusty by this time.

PREPARING TO BUILD THE MODEL

In 1997 I arrived in the computer age, and immediately discovered the joys of the Internet. This provided a source of much information and many more pictures (see: www.xs4all.nl/~beejee/KHV.htm). Now work could begin! I refined my techniques on two or three other models before commencing work on the Dina. My hobbies include photography, and as a member of a local camera club, it is necessary for me to mount pictures for presentation. This has resulted in a considerable collection of surplus mounting card. The 1.2 mm thick card now forms the basic construction of most of my models. For the Dina, various thicknesses of card were selected,



A photograph of the real ship taken at Truro in the early 1960s – the ship was a regular visitor to Cornish ports



Another view of the Dina at Truro



A close-up view; useful for recording detail

A photograph of the ship under her later name of Ash Lake – the picture was obtained from the Internet – see www.xs4all.nl/~beejee/KHV.htm Side views like this are particularly useful when checking overall proportions



A side view of the superstructure – this photograph, taken at Padstow, was particularly useful for calculating the dimensions of various parts of the ship. The lifebelt pattern had changed since the earlier pictures

ranging from 0.3 mm to 2.5 mm. The 0.3 mm card usefully represents 9 mm steel plating at 1/32 scale. Plasticard sheet and Evergreen StripStyrene rods were also used for finer detailing.

The first stage was to transcribe the photographic information onto elevation and plan drawings. My career as an architectural designer came in useful here. In architecture, one usually starts with the plan and elevation drawings in order to produce a perspective drawing. With model making, the process is reversed. But it is particularly useful if a photograph illustrates the subject in a square-on side view. Of course, knowledge of the ship's dimensions is also necessary. Again the Internet provided the answers. It took me several years to collect all the necessary information. The last piece of the jigsaw puzzle fell into place when I found a porthole that had previously been obscured by the lifeboat in all the earlier photographs! For me, carrying out the research is every bit as enjoyable as the construction process that follows. I decided that a scale of 1/32 would be most satisfactory, producing a model of about 1.2 m in length. I also decided to make a waterline model to eliminate the difficulties of forming the underwater curves in card.

Stage two involved listing all the components and developing an order of construction. This provided a useful checklist to be ticked-off as progress was made. Only a few simple tools were required,

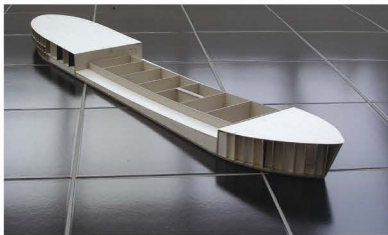
namely scissors, a couple of very sharp craft knives, and some tweezers. A micrometer was useful for checking the thicknesses of card.

BUILDING COMMENCES

Work on construction began in July 2010. The hull was formed with a 2.5 mm base and profiles, with 1.2 mm decking. The hull plating was added with 0.3 mm card, taking care to follow the plating pattern noted from photographs. The ship's name and port of registry were added to the plates before they were fixed to the hull. This made the process of lettering much easier. Portholes were also formed and glazed before the plates were fixed to the hull. Bulwark stays and capping were added using 1.5 mm thick card. Some domestic filler was used to improve the curvature around the base of the stern. Hatch coamings and covers were then added. The hatch cover wedges were formed with card and glued into place. I started painting the model as work progressed. If left until later, some parts would become inaccessible. Ordinary vinyl matt emulsion was used for the hull. Acrylic paints were used elsewhere. Bostick All Purpose adhesive was used for most of the work, with superglue being used for the smaller parts.

Anchors were formed from Plasticard sheet and glued into place. Next came the detailing of the foredeck. The windlass was constructed mostly with Plasticard, with rolled paper forming the winch drums. I have to confess that the windlass is an approximation, as I could not find a photograph showing the whole unit. But it is typical of the equipment used at that time. I had some suitably sized brass chain left over from another model. This was painted a rust colour. The ship's bell was carved from softwood and painted with Humbrol enamel. Mooring bollards were formed with rolled paper. Next came the cargo winches. These were formed with card, again with rolled paper for the drums.

The railings were added next. These were formed with various diameters of StripStyrene rods. Card templates were used to set the appropriate spacing between the rails. This was a very delicate process and quick-setting superglue proved useful.



An early stage of construction of the model – the base and profiles are formed with 2.5 mm thick card. The decks are formed with 1.2 mm thick card

1.2 mm thick card was used for most of the superstructure. An outer layer of 0.3 mm card was used to improve the finish. Windows were glazed with clear styrene sheet. Plasticard was used to form the wheelhouse window framing and the panelled timber doors. The interior of the wheelhouse was furnished with the wheel, binnacle, engine room telegraph, etc. A photographically reduced chart of West Country waters was placed on the chart table. 15 amp fuse wire was used to form the direction-finding loop aerial. It is interesting to note that the after part of the deckhouse is not symmetrical. It is offset to starboard to make room for the lifeboat on the port side. This demonstrates why it is important to obtain pictures of the original ship from various angles and both sides!

The lifeboat was formed with 1.2 mm thick card, using the same technique as the main hull. Thin card was used to add the clinker-built finish. Davits were formed with StripStyrene. A slot was cut into a piece of card to match the curve of each davit. The styrene rod was then inserted into the slot and the assembly immersed in boiling water to soften the rod. When cooled, the curve remained in place. Lifebelts were formed with layers of Plasticard and filed to a smooth rounded profile.



The same method was employed for the construction of the lifeboat, using 1.2 mm thick card

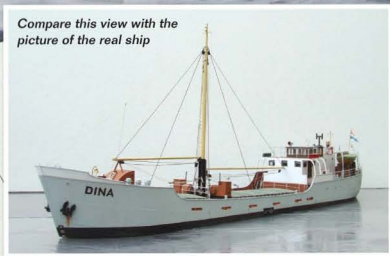
A view from the bow – the lettering was applied before the hull plating was fixed



A stern view



Compare this view with the picture of the real ship



Close-up of the starboard side of the superstructure



Foredeck detail



Detail of cargo winches



Mike Grigg with his model Dina seen at the Liskeard Model Society Exhibition



The aim was to make the model as realistic as possible



Close-up of the wheelhouse and lifeboat – the clinker hull of the boat is formed with strips of thin card

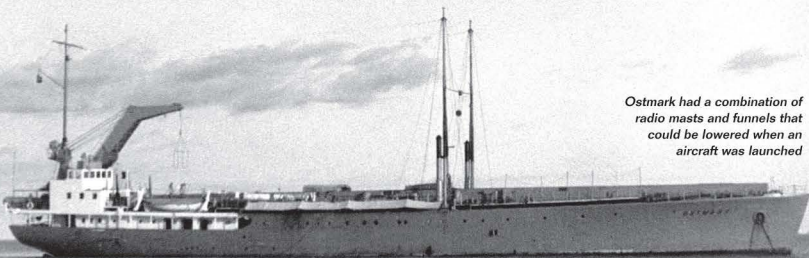
The mast and derricks were made from softwood dowel, with rigging points formed with U-shaped wire inserts. The mast tabernacle was made from Plasticard, with various cleats etc. added before fixing in place on the deck. The mast is hinged to permit lowering. The mast ladder was made with StripStyrene, taking care to provide the exact number of treads. Rigging was added, using various thicknesses of cord. The rigging screws were made with bent wire with paper wrapped around the mid sections. After five months steady work, the model was completed with the addition of the flagstaff and Dutch flag mounted aft.

Model making of any kind is enjoyable, but scratch-building is particularly satisfying. The necessary research is sometimes frustrating but always interesting. In the process, I accumulated a large number of sketches, photographs and notes, building the model can be the most straightforward part of the exercise. Scratch-building allows great freedom to develop techniques and explore materials, and the end result is a unique product. In my opinion, Dutch coasters are among the most attractive of ships, and I am surprised that so few kits are available for this type of vessel. So starting from scratch will often be the only way to produce a model of a particular ship. **MMI**

LUFTHANSA MOTHERSHIPS

AUTHOR: CHRIS KOENIG

EARLY AIRMAIL ROUTES ACROSS THE SEA HAD TO BE SERVICED EN ROUTE, THE LUFTHANSA MOTHERSHIPS PROVIDED THIS SERVICE



Ostmark had a combination of radio masts and funnels that could be lowered when an aircraft was launched

INCREASE

Air traffic has drastically increased in the past twenty years, and it seems it will continue to grow over the next few years. Travelling has become a commodity, and Christmas shopping in New York no longer is a fancy of the rich and famous. No frills airlines have made available air-ventures to just about everyone of us, and the glamour of travelling and aviation has nearly completely vanished. Crossing the Atlantic Ocean was not possible in an easy and comfortable eight-hour flight less than a century ago. Actually getting to the Americas was as difficult as flying to the moon proved until 1969!

In the early days of aviation, most major continental European airlines tried to establish a vital link with the United States of America. Amongst them was Deutsche Luft Hansa A.G. (DLH), today one of the most prestigious airlines in the world. In the 1920s, the company had just been founded and was eager to follow British and French aviation pioneers.

While DLH is known for operating aircraft, it went rather unnoticed that the airline operated a fleet of ships as well in the 1930s. Which is not so much a surprise, as DLH's air safety and catapult ships 'Westfalen', 'Schwabenland', 'Ostmark' and 'Friesland' did spend most of their time on a position in the midst of nowhere of the Atlantic Ocean.

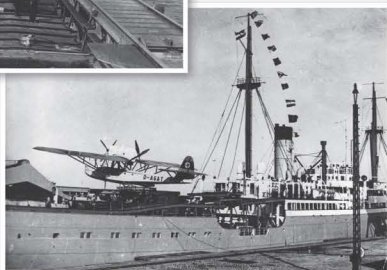
Their construction dates back as early as 1932, when there was no connection between Europe and North and South America other than shipping lines. DLH wanted to open a trans-ocean airmail line, and thus decrease the mail transportation time between the continents. While three weeks was common standard until DLH started their operations, a couple of days became standard afterwards.



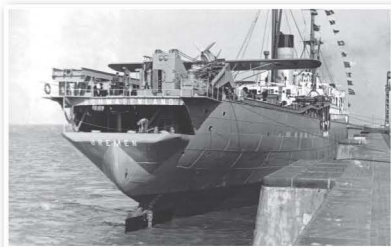
Boreas is launched by Schwabenland



Dornier 'Wal' seaplane Boreas (D-AGAT, S/N 298) while being lifted by Schwabenland



DLH-Air Safety and Catapult Ship Schwabenland and Dornier 10 t-Wal D-AGAT



Stern view of DLH-mothership, Schwabenland. The crane is lowered



What a quaint shot: the men at the platform of Schwabenland await an airmail seaplane, apparently Boreas



Twin Jumo 205 C3-diesels increased the range of Dornier Do 18 V-5 (D-ARUN). The first airmail service Bathurst – Natal of 'Zephyr' was flown April 23, 1937, with DLH-captain Alisch on the controls



Early 1933 shot of DLH-vessel Westfalen underway. The special sail towed by the ship and the huge tower crane are clearly visible

MOTHERSHIPS

The underlying idea for the trans-ocean airmail service was grouped around amphibious aircraft. In the early 1930s there simply was no suitable aircraft on the market that could potentially cross the Atlantic Ocean non-stop offering reasonable safety for its crew and still have enough room to carry airmail. Any flight across the ocean needed to be cost efficient, since DLH wanted to make money on the trips. But at the same time, the safety for the crew was a priority too.

Realising there could not be a one-flight journey, DLH planned so called air safety and catapult ships. Two of these motherships had been converted cargo ships, two more had been built according to DLH's specifications. While the first such vessel operated on steam engines, the following ones came with diesels, as these may be started at any time. The steam driven vessel needed to constantly burn precious coal to realise her 'standby' capability, which negatively affected her energy balance.

Once put into service, DLH motherships had very uncommon operational patterns. The airmail service between Europe and South America for instance operated between Natal in Brazil and Bathurst in Gambia. In the 1930s, Gambia was a British colony, and its capital Bathurst (Banjul) was a small coastal city. Between Gambia and Brazil, some 1,700 miles of open waters had to be crossed!

About halfway, a DLH mothership was positioned. The vessel offered space for up to three amphibious aircraft, sported a catapult and a tower-crane to hoist the aircraft out of the water. To ease picking up seaplanes, a huge special floating sail was carried by the motherships, which could be lowered from the aft platform of the vessels. Made from wear resistant fabrics and enforced with cork fins, the sail was towed by the mothership at low speed. Once an aircraft had touched down on the ocean, it was hastily rolled on the sail. Increasing speed of the vessel tightened the sail and thus lifted up the aircraft, which could easily be lifted up using the tower crane. A simple but effective method.

The seaplanes could then be transferred either on waiting position or directly towards the catapult. While the mothership steamed towards the seaplane's destination, the bird could be thoroughly checked, airmail could be unloaded and directed to another seaplane aboard, fuel could be added and a new crew could take over. Launched using compressed air, a seaplane would continue to transport the airmail, while the mothership would follow the recently launched aircraft for a while to serve as an air safety vessel in case of any emergency landings. After a few hours, the launched aircraft would have reached either Gambia or Brazil, which meant the mothership could change her course to the next rendezvous site somewhere in the midst of nowhere and sail there, to meet another seaplane a few hours later.

A rather big aircraft deployed was Hamburger Flugzeugbau Ha 139 V-3 Nordstern



Only a few Dornier Do 26 were built, but this was the most promising seaplane for the airmail service. Picture depicts Do 26 V-1 'Seeadler' in Lufthansa-livery



Another shot of a pre-series Dornier Do 26. To avoid the backside propellers being affected by spray, they could be uplifted during taxiing and take-off



Dornier Do 26 V-1 Seeadler while taking-off



This is what the back of an airmail seaplane's cockpit looked like in the 1930s



Before installing diesel engines in Dornier's Do 18, Junkers tested them on Ju 52s. Picture shows Jumo diesel engine installed in Junkers Ju 52/3m



This is the perspective of a DLH-captain when approaching the sail towed by a mothership. Picture depicts Westfalen in 1933

Geestemünde, steamer Westfalen had been frequently used by Norddeutscher Lloyd, Bremen. When the North American lines suffered from the economic crisis, she was laid off, but subsequently let to DLH. Modernised by Deschimag Bremen, the ship became the first DLH mothership.

The modernisation changed the appearance of the ship quite drastically: a 15 ton 'Becker' tower crane was added to lift up aircraft, specially guided rails allowed movement aboard the aircraft and a Heinkel-made K6-catapult was installed in front of the bridge. This was intended to ease the launching process, as the ship would turn its nose into the wind first.

In the case of any gale on the Atlantic Ocean, a steamer operating on a single screw would not face its vulnerable back to the blowing elements. However, this layout meant that aircraft had to be moved to the forward section of the boat, with the bridge representing a nasty obstacle. The solution was found by using a wheeled undercarriage and a special turning procedure: the aircraft was to be rolled forward and into a parking space between funnel and bridge. Within the parking space it was turned by 180° and – nose first – rolled towards the catapult. Work intensive, but proven! Westfalen started to serve in 1933, and remained in nearly constant use for the next six years.

A second mothership was converted by 1934. This time DLH opted for a vessel powered by diesel engines: the former 'Schwarzenfels' of Deutsche Dampfschiffahrts-Gesellschaft, 'Hansa'. Originally launched 1925, the vessel was modernised by Deschimag at Bremen. While the aircraft ops areas aboard Westfalen had been spread from bow to stern, the new vessel's ops areas were completely located on the aft deck. This included the catapult and the

STEPPING STONE

DLH's motherships may be compared to an intermediate step between the IGN motherships in WWI and 'real' aircraft carriers. The Atlantic Ocean provided the 'airfield', while DLH-vessels represented protective hangars, a filling station, an airport hotel, a met office and all the servicing facilities you may find ashore. Several tens of thousands of litres of high-grade aviation gas could be stored aboard. Neatly organised conduits and powerful pumps allowed distribution of 100 Octane fuel, oil and hydraulic liquids into the seaplanes, while fully equipped workshops and the best technicians and mechanics available serviced the aircraft.

The radio booth of the vessels was a second to none control station, utilising the latest technology to keep in permanent contact with the seaplanes. Some flights recorded more than 300 radio messages within twelve to fourteen hours in the air. Exact positions of both the aircraft and the mothership, as well as updated weather forecasts, could decide whether the flight made it home or not. Despite these efforts, various aircraft got lost.

The first DLH mothership was an old steamer, which was laid off during the economic crisis in the 1930s. Launched 1905 by Joh. C. Tecklenborg AG of

crane, which was of a folding design to avoid obstructing any aircraft when being launched. To achieve a good seaworthiness, Deschimag ordered 3,000 tons of sand to be filled into the ship's belly, before the vessel was renamed Schwabenland and put into service by Deutsche Luft Hansa.

Westfalen and Schwabenland used to be converted freighters, but proved to be very effective in their new roles. However, DLH was aware of the shortcomings of such converted vessels and decided upon ordering two more motherships to be built according to DLH specifications. By April 15, 1936, Ostmark was launched by Howaldswerke, in Kiel, Germany, while eleven months later Friesland appeared.



Spring 1937: Dornier Do 18 V-3 Aeolus is launched by Ostmark. Registered D-ABYM, the aircraft was lost a few months later

FAILURE

Diplomatic distress between the United States of America and Germany did lead to the first not allowing a full-scale airmail service to be operated by DLH in 1938. With the North Atlantic route unavailable for the time being, DLH dodged this route and focused on the South Atlantic business. Unfortunately for DLH, the US government did not change their attitude in 1939, which forced DLH to accept their plans had failed. The trans-ocean airmail service between Germany and North America could not be realised.

WWII then destroyed all further plans of DLH. Their motherships had been either seized by the Luftwaffe or at least asked for. Ostmark was sunk by September 24, 1940, after the British submarine HMS 'Tuna' had tracked her down close to the French Ile d'Yeu. The remaining ships served German naval recon aviation until close to the end of the war.

Westfalen was lost after hitting two mines in late 1944, while Schwabenland and Friesland surrendered to the Royal Navy in 1945. After just six years in the field, the DLH-fleet had already vanished. Aircraft development after WWII made motherships relics from a time gone by.

Model enthusiasts interested in recreating one of the DLH air safety and catapult ships may appreciate that Schwabenland/Schwarzenfels plans are available at the Deutsches Schifffahrtsmuseum Bremerhaven archives, and may be obtained for a small fee.

The author expresses a big "Thanks!" to Lufthansa-archives for their assistance. **MMI**



Hamburger Flugzeugbau Ha 139 B (V-3) D-ASTA is launched by Schwabenland. Just a few prototypes of this aircraft were produced



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The original vessel was built by Richards Shipbuilders
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of the Plumgarth/Avongarth class. The success
of her design lead to a further four ships of almost
identical design.

She was powered by a 7 cylinder oil engine built by
Ruston & Horsby, to a single fixed pitch propeller
operating with a kort steerable nozzle.

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AUTHOR: **BARRIE GRIPPIN**

A REPORT ON THE
HISTORY OF THE TID TUG
WHICH WAS THE INSPIRATION
TO BUILD A MODEL

TID TUG HISTORY

Earlier last year, having finished a model during the winter, I was looking for another project to keep me busy. I have often thought of building a tug, so I started to look for a suitable one. Since I 'scratch-build' my models, I searched for a tug design that would not be too big or heavy when built and did not offer too many problems when building the hull. The TID Tug is of hard chine construction, which I prefer. In the end I decided on the TID Tug plan in the MMI book of plans (MAR2447). This choice was helped by the fact that there is a TID alongside the quay about a hundred metres from the barge dock at Maldon, Essex, fourteen miles from where I live. Good photographs are always a huge help when building a model but having the original only a few miles away is truly excellent.

It wasn't until I started looking into my tug project properly that I realised that there is a lot of history behind these ships and I began to get really interested. The tug at Maldon is the Brent, TID No.159. It was launched at Sunderland in 1946 and was the last TID to be built. I understand that she was saved from the scrap yard in about

1971 by Mr R. Hall who owned her until his death a few years ago. Ownership passed to his widow, who, together with two friends, is in the process of setting up a trust with the purpose of repairing and preserving the ship. I believe that this trust may be set-up under the auspices of the Medway Maritime Trust.

In 1942 there was a need for a large number of tugs to handle warships and merchant ships at ports round the UK and, later, structures that were needed for the Normandy landings. The problem was that they were needed quickly and there were not the riveters available for new ship contracts. The Americans were already involved in the production line building of ships built by welding but the British had not yet tried this method. A design was commissioned that could largely be built by non-shipyard labour, using other engineering firms many miles apart. The final design was for a hard chine ship the shape and detail of which was quite different from anything that had been built before. The design was tank tested and found to be satisfactory. It was decided to build the hull in eight separate sections, each weighing about six tons, which could be



Starboard view of Brent



Front bow section

transported by road for final assembly at a shipyard. Some of these sections were transported to the shipyard from up to 200 miles away.

Initially, the contracts for the sections were given to five companies and the final assembly and fitting out was to be carried out by Richard Dunstan Ltd at Thorne in Yorkshire and later, when Dunstons could not cope with the demand, by William Pickersgill in Sunderland (Brent was completed by Pickersgills).

Production began in 1943. Many of the tugs were assembled at Thorne then towed down river to Hull where they were fitted out. When the first tug was finished, its test run was a trip up river to tow down the next hull, a practice that was continued and was a quick and efficient working plan. An important innovation at the time was that most of the welding was done by women. The plan worked so well that ships were being built at the rate of one every five days and the record was four days. I wonder if this could be achieved today?

The tugs were:

Length: BP 65'	Breadth 17'	Gross tonnage 54 tons
Length: OA 74'	Draught 7.3'	Full displacement 124 tons

Originally the tugs were designed for coal fired steam engines but the later ones were modified to burn oil. In all about 50 tugs were coal fired and about 132 oil fired. The design speed was 7-8 knots.

For those of an engineering mind, the machinery was vertical direct acting compound, 18" length of stroke, 12.5" diameter high-pressure cylinder, 26" diameter low-pressure cylinder. Horsepower: 220 indicated, 36.4 nominal.

Max revolutions: 175, revs per minute in service: 140. Boiler: Scotch type. Propeller: cast iron, right-hand, four-blade. Diameter: 5' 3", pitch: 7'; surface area: 11 sq ft. Fuel capacity: 8 tons coal or 9 tons of oil. Bolland pull: 2 tons, fuel consumption app 25 GPH (oil). Boiler feed capacity: 8 tons.

The impetus for modifying the engines for oil burning came partly because of the perceived need to operate the tugs abroad, in the Mediterranean for instance, where the quality of the coal available was too low.

The original fit out was quite standard but small changes occurred over the years, particularly after the war when many of the tugs were sold into private ownership: the most obvious change being the wheelhouse. All the original tugs were produced with open bridges, but most were later altered to enclosed ones, which varied a little in construction. The Brent is the only TID that I am aware of having a mizzenmast with gaff and derrick and I have no idea when this was fitted. The differences in finish and colour – all private owners having their own colour scheme – offers scope for modellers to customise their models to some extent. One example of a modification will be seen if photographs of Brent's funnel are compared with the MMI plan. It will be seen that Brent's funnel has been altered to allow her to pass under bridges on the Thames. Brent's bow was reinforced with transverse bars to protect her when pushing against other ships.

Most of the tugs were used by the admiralty although some were allocated to the army. Several were used to tow part of the equipment for the Mulberry harbour to Normandy and stayed to tend ships moored in deep water. There is a picture on the Internet of a rather scruffy TID alongside one of the Mulberry piers.

TID Tugs were quite small by tug standards and were not considered significant enough to warrant the employment of a skipper or an engineer. A crew for internal dock work might consist of: one Mate (in charge), one stoker, two riggers and one skilled labourer. TID 164 carried one Bosun, one chief stoker, one stoker and two seamen.

TID 57 carried one Mate, one mechanic, two stokers, one Able Seaman and one Ordinary Seaman.

During the war the Port of London Authority sustained losses to some of its craft and TID 159 was offered to the authority at the subsidised price of £4000. The tug was renamed Brent (after a tributary of the Thames) and put to work with the dredging department of the PLA. Brent worked until the 1960s tending dredgers and hopper barges wherever the Thames needed



Mast with navigation lights



Details of the stern

improvement. Later Brent was employed in the PLA dock system, tending barges and lighters.

With continually rising costs, the PLA looked towards diesel-powered tugs for improved efficiency, and in 1969 Brent was laid up and placed in the Authority's reserve fleet. In 1970 Brent was sold to a ship breaker for disposal. It was at this point that she was purchased by Mr Hall.



Midships and towing hook



Engine room exhaust and air intakes

Under her new ownership, Brent attended rallies and gatherings of vintage craft around the east coast. In 1973 Brent won an award given by the London Borough of Greenwich for the 'Best Kept Privately Owned Power Craft' at the Greenwich Festival. In 1974 she visited the rivers Swale and Medway. 1975 saw Brent on the Thames again, this time in attendance at the Sailing Barge Race during the Thames Clipper Regatta. In 1976 she escorted fishing smacks during a race from Gravesend to Billingsgate with the first of the season's oysters.

Brent is the only steam-powered vessel to have attended on the Thames the Queen's Coronation celebrations in 1953 and at the Silver Jubilee in 1977. At the Coronation Brent towed the float with the firework display.

Woodbridge was one of the ports visited in 1978 and in 1979 Brent completed an extremely successful cruise to the Netherlands where she visited Amsterdam and ports on the IJsselmeer.

Due to old age and the need for new boiler tubes etc., Brent has not been steamed for about 17 years, although her machinery remains in working condition. Brent is very easy to see, being moored close alongside the quay about 100 metres from the barge dock. A visit at low tide when Brent is high and dry on the mud allows you to see the majority of the hull.

The Medway Trust has already acquired and renovated TID 164 and pictures of her can be seen on the Internet. One of these pictures, taken from astern, shows the aft end of the ship in a pale primer coat, which shows the lines aft very clearly.

I understand that the major renovation of Brent will not take place at Maldon, but perhaps on the Medway. In the meantime two volunteers are working on her at weekends. It is not known when she may be moved but it might be wise to have a look at her soon.

It is often asked what the letters TID stand for. As far as I can see there is no definitive answer to this. My ex-naval friends tell me the most common interpretation is 'Tug Inshore Defence' or 'Tug Inshore Dock'.

Having visited the tug at Maldon and chatted to one of the volunteers, who was helpful in taking some pictures onboard, I took a great number of pictures from the dockside to help in interpreting the plan. It is easy to see that Brent is an old lady and this is made obvious by the fact that the starboard rubbing strake, which is steel and is sited just above the waterline, has pulled away from the hull at its forward end and is very rusty, although I believe the hull is watertight.

With all this information in hand, I sat down with the plan to decide how to build my model and what materials to use.

The building of the model will be the subject of an article in a later issue of this magazine.

A postscript to the wartime arrangement of women welders for the hull sections was that after the war the unions demanded that all the women welders be fired, under threat of strike. What can you say?

Next month we will cover the build of the TID Tug using MM1 plans and a new laser-cut woodpack. **MM1**



Rear view of the wheelhouse



Propeller and rudder



Stern view of propeller and rudder



Brent's anchor winch



Fuel/water tank in front of the wheelhouse



Brent's derrick on the port side with some of Maldon's barge fleet in the background

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GRAYHOUND LUGGER

THE BUILDING OF A LUGGER

AUTHOR: BARRIE STEVENS



The build of a new 1776 revenue lugger is very rarely seen, but in Cornwall in the village of Millbrook work is progressing at a great rate of knots by a team of shipwrights led by Marcus Rowden and Freya Hart in the build of this historic vessel.

Work commenced in April 2011 and the planned launch is in August 2012. Chris Rees, a local traditional boatbuilder, is heading the team of shipwrights, while Marcus and Freya are managing the project. It is a huge task and when finished and fitted out with her 3,500 sq ft of sail the aim is to provide festival voyages, ocean passages, tropical island and exploration passages. Freya told MMI that they chose Grayhound because she is a little bit different... she was a real privateer ship in her day, built for speed and fighting. She has a fantastic history and will be sailing with an original lug rig that is rarely in use these days.

At the end of November Grayhound was over half way planked, deck beams are in and all aft bulkheads are now in place. The BETA engine and generator supplied by Oxley Marine are also in their place. An appeal has been made to 'Sponsor a Treemail' which is a wooden peg that is used to fasten timbers in shipbuilding and 4000 are required for Grayhound, if you sponsor a treemail for £5 your name can be put on them!

During the build there are several open days when you can view the progress of this magnificent sailing three masted lugger, please visit www.grayhoundlugger.blogspot.com for an update



The main driving forces with Marcus (second right) and Freya (third right) not forgetting the youngest shipwright Malachi



Some of the already sponsored Treenails, a total of 4000 are required

on the build progress. When I spoke to Freya who by the way is an accomplished ocean yachtmaster (or should it be mistress?), sailmaker and has recently completed an Atlantic circumnavigation, she mentioned that her partner Marcus has already built a smaller 30' dipping lugger which he has sailed for over 22,000 miles. When completed the Grayhound will measure 65' on deck length, 108' overall length, 19' beam, 10' draught, weight approx 50 tons.

During the planned launch in August it would be good if a model of Grayhound could be present. We would like to make an appeal for any modeller who can or has built a three masted lugger that could be adapted into the Grayhound? If you can help please contact the Editor.

We aim to keep readers up to date with the progress of the build of Grayhound over the next few months. You can also watch a time-lapse film of the build by visiting www.youtube.com/watch?v=EvSvNhhSRDA&feature=related MMI



The deck beams nearing completion



The stunning lines can clearly be seen with the hull partially planked

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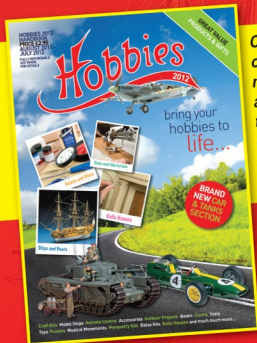
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RN ICE PATROL SHIPS

THE HISTORY OF ICE PATROL SHIPS AND HMS ENDURANCE

AUTHOR: KEVIN HOLMES

Reader Geoff Ayres was asking about models of HMS Endurance ex Anita Dan. By a huge coincidence January's Waterlines is about icebreakers (page 24), although unfortunately HMS Endurance as an ice-strengthened patrol ship did not make the cut! So, as only four such ships have seen service with the RN we can cover them briefly here.

The first RN Ice Patrol Ship was HMS Protector. This ship was one of a pair of netlayers completed between 1933 and 1936, the other being HMS Guardian. HMS Protector served in the South Atlantic, Home Fleet and Far East during World War II, spending 1942-45 at Bombay under repair. After the war she went into reserve, being recalled in 1954 for conversion into a guardship for the Falkland Island Dependencies. The work was carried out at Devonport in 1954/55 and involved ice strengthening, a modified bow, the addition of a helicopter hangar/operating facilities and flight deck, an enclosed bridge and mast lookout position. A new twin 4" gun was installed forward with the older single 4" and other smaller guns removed. Two Whirlwind helicopters were carried, initially HAR3s or 5s and from 1966 HAR9s.



Albatros 1/1250 model of HMS Endurance (ex Anita Dan)

On 3rd March '55 she departed from Portsmouth for the first of many annual South Atlantic deployments, returning for the final time in May 1968. She was extensively refitted in 1957 when the bridge was remodelled, and again in 1958 when a tripod mast was fitted to the hangar roof and a crane installed amidships. Not until 1959 was she officially classified as an Ice Patrol Ship. Returning from down south each summer she would refit from October to May before setting off again. HMS Protector was finally scrapped at Inverkeithing in 1970, some eight years after the Guardian had suffered a similar fate. As an Ice Patrol Ship, HMS Protector displaced 4250 tons (full load) and had a speed of 20 kts.

It had originally been intended to replace HMS Protector with a purpose built 7000 ton icebreaker to be known as HMS Terra Nova. This ship was a victim of defence cuts leading instead to the purchase from J. Lauritzen of Copenhagen of the ten-year-old ice-strengthened cargo ship Anita Dan. This ship was renamed

HMS Endurance (pennant A171) in August 1967 and converted for military service by Harland & Wolff, Belfast in time to deploy south for the first time in 1968. At this time two Whirlwind HAR9s would have been carried, these being replaced in 1977 by Wasp HAS1s. The same pattern of annual deployments as the Protector was followed until 1990/91, with one major refit being carried out at Devonport dockyard in 1986. This included converting the electrics from DC to AC, a major task, and also enlarging the flight deck and modifying hangar arrangements to operate two Lynx, plus provision of a new nine metre survey launch. Endurance's displacement was 3600 tons with a maximum speed of about 14 kts from a Burmeister and Wain diesel engine installed by the original builders Krogerwerft. The ship was sold to an Indian company in late 1992 and reached Karachi on 11th January '93. HMS Endurance has been comprehensively covered in 1/1250 with models from Albatros (ALK79), Trident (T924, but discontinued) and Skytrex (R1077).

A replacement for the ageing Endurance was chartered in 1991 and as HMS Polar Circle (pennant A176) sailed south in the late autumn of that year. As well as fulfilling an operational role this deployment represented an evaluation of the ship, a Norwegian built icebreaker owned by Rieber Shipping, as to suitability for the role and with a view to potential purchase. On return from the Falklands in 1992, the ship was indeed purchased, entering Portsmouth dockyard for a number of modifications. Most obvious of these concerned hangar facilities, which had originally been designed for a single Super Puma. The hangar was widened to starboard with one of the ship's boats being removed, permitting two Lynx to be operated. A large deckhouse was fitted to port immediately aft of the bridge. The ship was renamed in October 1992 (with pennant A171) and in early December deployed south.

Principal details of the new HMS Endurance are displacement 6500 tonnes, length overall 91 metres, beam 17.9 metres, speed 14 kts (two Bergen diesels), builders Ulstein Hatlo, and constructed to Det Norske Veritas standards (Norwegian equivalent of Lloyds) as an icebreaker; perhaps the only icebreaker to be commissioned in the Royal Navy.

After suffering severe flood damage the ship is currently laid up in Portsmouth and a replacement has been found in the form of a new HMS Protector ex MV Polarbjorn, which has already featured in Masthead.

For us 1/1250 enthusiasts models of the 1992 HMS Endurance and the current HMS Protector are listed by Albatros as ALK 95a and ALK319. **MMI**

HMS Endurance in April 1982



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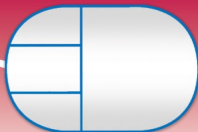
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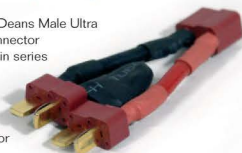
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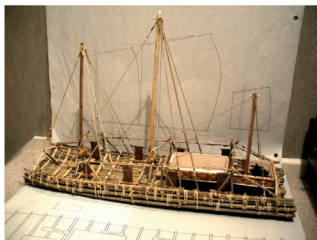
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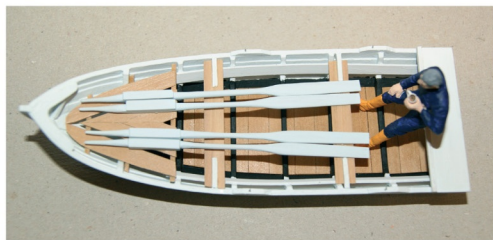
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