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#### Robbe 1195 Dusseldorf £399.99 ARTR

Scale 1:25 Length 1170mm Comes Ready Built



Robbe 1196 Busard £259.99 ARTR

Scale 1:20 Length 900mm Comes Ready Built

Joysway Dragon Force RTR RG65 Yacht 2.4GHz RRP £164.99

#### Our Price £155.00

Specification

Hull Material Plastic Moulded Mast Height 915mm Sail Area (Overall): 22.26 dm2 Sail Area (Jib): 7.66 dm2 Sail Area (Main): 14.6 dm2 Length: 655mm Height: 1338mm

Includes 2.4GHz Radio



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Model comes ready built and includes Spektrum 2.4GHz radio, battery & charger. Length 558mm (22in)

Our Price £195.00

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NOVEMBER 2013 – ISSUE 320



# THE JOYSWAY DRAGON FORCE RTR YACHT

Racing yachts are very popular and can be quite competitive and addictive! The Dragon Force yacht is one of the first ready to run yachts that complies to the relatively new RG65 class of racing yacht and due to its size makes transport easy and needs less time in rigging at the lakeside as many of the larger racing yacht classes require. This yacht is a new product from the company Joysway and should prove to be very popular for the experienced yacht racers and the newcomer.

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# MESSAGE

# FROM THE BRIDGE

#### **EDITORIAL**CONTACT

MMI generally publishes commissioned articles, but will consider other contributions including news items and factual articles. It is important that contact is made with the editor before any material is written, as duplication of items may result in articles being rejected. Prospective contributors can email or write for a copy of the MMI Notes for Contributors via Traplet Publications Ltd.

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

#### **GREETINGS ALL!**

It was very good to meet many readers at the shows and events we have attended this year, and to hear their thoughts on our hobby and from my point of view, trying to find out what, if any, new trends

Many readers and active model builders are usually trying to find something different to build. But as many find out, scaling down the dimensions of a full size vessel does not necessarily mean that it will perform well as a model and some tweeking of the hull size to change the free-board and ballast to make it stable may be required. I did have the misfortune during the summer of witnessing a near sinking of a lovely built paddle steamer when it was overcome by the wash from a much faster model. Therefore take care when operating on crowded lakes and ponds and consider other models on the water.

A question I am asked at events regarding MMI is why don't we publish more info for beginners as they are usually lost when it comes to electrics, brushless motors etc. So, over the next few months we will try to address this issue. BUT, I know from some of the long time readers I will be having my ears bent saying that we have already published this info a few years ago!

As I am sure you have already gathered when you opened this month's edition, it is somewhat thicker than normal. We have included the Traplet Shop Seasonal Sale catalogue with lots of interesting items to give hints for presents plus lots of Special

offers including 10% off plans, parts and woodpacks. For those readers who count pages you will notice we also have a few more pages, well 16 to be exact. This does give us more room to add a few more articles and an extended Meeting Point, trying to catch up on the many event reports you good readers have been submitting. We try to publish event reports in date order but if a report is submitted late it may go out of order. Many readers have been asking when we will be publishing a report on the new RG65 RTR yacht Dragon Force, and again this month we are happy to oblige. When you read this review article take a look at the size of the next generation 2.4 GHz transmitter. For the traditional scale modeller we have a feature plan and article on the trawler St Giles plus an article on the build of a stunning model of the Torpedo Boat that served USS Maine.

Have a good month and if you are visiting the Warwick Model Boat Show please come along to the Traplet stand for a chat. MMI



It is nice to see that some events have a novelty feature much to the delight of casual visitors to the lakeside. For non-UK readers this is a popular type of vacuum cleaner seen at the J class yachting regatta

# modelling INTERNATIONAL

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# **MASTHEAD**

# NEWS OF INTEREST TO THE MARITIME MODELLER

## EVENTS AT THE NATIONAL MARITIME MUSEUM GREENWICH

Trace Your Family History (14th November): Be inspired by this introductory session on how the Caird Library can aid your family history research as we follow a mariner's career through a selection of manuscripts from the Caird Library's extensive collection.

We'll Rant and Roar (21st November): In the new Nelson, Navy Nation gallery a unique musical experience with singers Maz O'Connor and Gavein Davenport, bringing history to life with their live performances.

Women and the Sea (28th November): The Fishwives Ensemble and Cecil Sharp House Choir provide an atmospheric evening of unaccompanied singing with a poignant repertoire of traditional songs giving voice to women's experience of the sea; from love and loss to hard toil and cross-dressing. Part of the Lost At Sea late event.

For updated information prior to visit please visit **www.rmg.co.uk** or Telephone: 020 8858 6565



which took part in the Battle of the Atlantic, namely Motor Torpedo Boat 219 which is at present used as a houseboat on the Thames.

For more information and details on how to support this valiant job please visit <a href="https://www.p1041.org">www.p1041.org</a> Telephone 07980 029938 or twitter: <a href="https://www.pubm.com/www.p1041.org">@www.p1041.org</a> Telephone 07980 029938 or twitter: <a href="https://www.pubm.com/www.com/www.pubm.com/www.pubm.com/www.pubm.com/www.pubm.com/www.pubm.com/www.pubm.com/www.com/www.pubm.com/www.pu

#### OOPS!

Thank you to reader Jim Corrigan who correctly pointed out that on page 63 and page 64 of the October edition of MMI we had our Ports and Starboards reversed on two picture captions. It is good readers are paying attention, our apologies for this slip.





#### SAD LOSS

We are sorry to announce that Frank Mew passed away on 31st August 2013 at his home in Scotland aged 87.

Frank was a chairman of the Blackpool and Fylde Model Boat Club for several years and helped to start the club. He also helped to arrange the club's first ever annual show which was

initially held at Blackpool Tower in 1997 which made a donation to the RNLI.

Frank was a very keen modeller and enjoyed sailing regularly at Fairhaven Lake until he approached his later years when he moved to Scotland to be near his family.

It was a pleasure to have known him and he will be sadly missed by all who knew him.

Reported by Ray Scrivens

#### SAD LOSS

Another sad announcement that Keith Hummerstone recently passed away.

Keith was an occasional contributor to MMI and well known in the Broomfield Park Club and the London area as a fine builder of working scale models, especially one of Ellen McArthur's record breaking Kingfisher monohull which drew great interest when on display at the Model Engineering show at Alexandra Palace.

We offer Nicola his daughter and family, our sincere condolences for their loss. **MMI** 

#### PS MEDWAY QUEEN UPDATE

The four year hull rebuild of the full size PS Medway Queen is nearing completion and flotation tests have started in Bristol City Docks ready for the tow back to Gillingham on the River Medway. The tug Christine has been chartered for this long tow and an appeal has been made for funds to pay for this tow. For further details visit <a href="https://www.medwayqueen.co.uk">www.medwayqueen.co.uk</a>

#### MTB 219 APPEAL

The small West Somerset port of Watchet is becoming a centre for preserving full size coastal defence craft with the Vosper Fast Patrol Boat P1041 Gay Archer now operational having recently visited the Bristol Harbour Festival. The main instigator of these excellent restorations is Paul Childs who has dedicated most of his time (and money) in the course of restoring other craft including Motor Anti Submarine Boat 27 and Derby class Army Cooperations boats Hyperion and Humorist.

Paul is making a new financial appeal to bring back to Watchet and restore to her original condition the only craft left in the world

# **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 MMI Editor, Traplet Publications Ltd, Traplet House, Pendragon Close, Malvern, Worcestershire, WR 14 1GA, England. We need the Date, Venue, Organiser/who to contact and crucially an Email/Website address and/or a telephone number, and post code would be useful for Sat Nav's. A full listing of events for the year can be found on

www.marinemodelmagazine.com/diarydates We do need at least 8 weeks notice to include in the printed magazine.

#### **NOVEMBER 2013**

MMI **DIARY** DATES

#### **NOVEMBER 8 to 10**

#### **International Model Boat Show**

A large range of model boat traders, club stands, individual exhibitors. A must to visit for all your model boating bits and pieces and inspiration. Open 10 am – 4 pm each day. Warwickshire Exhibition Centre, Fosseway, Nr Leamington Spa CV31 1XN. Tel: 01926 614101. Website: <a href="https://www.meridienneexhibitions.co.uk">www.meridienneexhibitions.co.uk</a>

#### **NOVEMBER 9**

#### Tone Valley MBC 10th Autumn Model & Hobbies Show

West Monkton Village Hall, Monkton Heathfield, Nr Taunton TA2 8NE. Open 10 am – 4 pm. Refreshments. All types of models and hobbies displayed, trade stands and a tabletop sale. Enquires and entry forms please Tel: 01823 283077

#### **NOVEMBER 16**

#### **South Coast Ship Show**

Held at the Holiday Inn, Portsmouth PO1 2TA covering all aspects of shipping plus an extended area this year for models. Organised by Mainline and Maritime <a href="https://www.mainlineandmaritime.co.uk">www.mainlineandmaritime.co.uk</a>/south-coast-ship-show Contact lain McCall, 07770 748615

#### **NOVEMBER 24**

#### Mini Ship (1/1200-1250 scale) Show

Wellow Village Hall (Hampshire) S51 6BR. 10.30 – 2.30 pm. Call Waterline Ship Enthusiasts (Dave) on 02392 352383 or email: dreadnought9@hotmail.co.uk

#### **NOVEMBER 30**

#### **Mobile Marine Models Christmas Cracker**

10 am start. Held at the factory of Mobile Marine Models, LN1 2YQ. The popular British Manufacturers Show. This Christmas market gives you, the boat modeller, the opportunity to 'get' those last minute items for the festive seasons. No admission or car park charges! For further details call 01522 730731 or visit <a href="https://www.mobilemarinemodels.com">www.mobilemarinemodels.com</a>

#### JANUARY 2014

#### MMI **DIARY** DATES

#### **JANUARY 17 to 19 2014**

#### **London Model Engineering Exhibition**

Great Hall, Alexandra Palace, Alexandra Palace Way, London, N22 7AY. Opening times are: Fri 10-5, Sat 10-5, Sun 10-4.30 The South's Largest Model Engineering & Modelling Exhibition. Contact Meridienne Exhibitions, Leamington Spa, Tel: 01926 614101.

Website: www.meridienneexhibitions.co.uk



# PLASTIC KIT SCENE

ROBIN LOOKS AT SOME NEWLY RELEASED PLASTIC KITS AND PAINTS FROM HUMBROL

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

German Submarine Type IX-C (U505 Late)

Model No.: 05114 Scale: 1/72 **Lenath:** 106.3 cm **Parts: 160** 

Over 190 Type IX U-Boats were in service with the German Navy specifically designed for long range ocean deployment, where they could operate at depths of up to 250 metres and with an operational range of nearly 13,500 nautical miles. Her crew

The U505 entered service in late August 1941 and by the end of

1942 she had been responsible for sinking eight ships in an area

from West Africa across to the Caribbean. In the spring of 1943

tower with the larger 'Winter Garden'. The upper deck was fitted

the after deck was now installed on the lower platform. The 10.5

naval deck gun was now completely removed. With the increased use by the Allied navies of Anti-submarine Groups combined with

West coast of Africa in June 1944. The U505 is now on display as an exhibit at the Museum of Science and Industry in Chicago, USA.

escort carriers the U505 was captured by the US Navy off the

She has now been restored as the only Type IX-C in existence.

exceptional. Here are a few of its features: late version Mk.III

open or closed, retractable periscope and antennas, detailed

A great model to add to any collection, its size could be a

For further information visit www.revell.eu or email

problem! Also the possible conversion to R/C could make it an

This is a huge 1/72 scale model from Revell; its detail is quite

conning tower, highly detailed hull with rivets and weld lines, full

deck detail, both bow and stern torpedo doors can be modelled

armament and fully detailed conning tower with compass, hatch and

Revell models are available from all good toy and model retailers.

out with two 2 cm twin flak cannons, and the 3.7 cm flak gun from

she was modified; this included adding the new Mk.III conning

consisted of 44 men and four officers.

(U505 late) (Courtesy Revell)



Model No.: 3705 Scale: 1/200 Length: 135 cm

Parts: 1573 including etched parts

The Missouri was the last great battleship built by the USA. She entered service in June 1944 and saw extensive action in the Pacific against the Japanese including the battles of Iwo Jima and Okinawa. She had the honour of being the ship on which the Japanese surrender was signed in September 1945. Since then she has seen

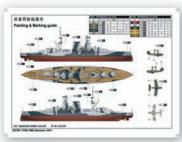


action in the Korean War in the early 1950s, decommissioned and placed in reserve in 1955, reactivated and completely modernised in the mid 1980s, and again saw active service in the Iraq War in 1991. She is now a museum ship moored in Battleship Row at Pearl Harbour. This is a truly massive plastic kit, both in size and parts. Apart

from the many plastic components there are 11 photo-etched frets containing many parts to enhance the model's detail. The hull is moulded in two sections, as is the deck. Full armament is well reproduced, the superstructure is highly detailed and the kit contains two reconnaissance seaplanes. I suspect that many modellers will be looking to convert a model of this size to R/C; I should think it would look very impressive on the water.

Back to something smaller now, Trumpeter have also released another Royal Navy battleship in 1/700 scale, HMS Barham.

HMS Barham 1941



The Trumpeter Barham painting guide

HMS Barham entered service in 1915 and saw action at the Battle of Jutland where she was damaged by enemy fire. After repairs she remained active until the end of the First World War. In the 1930s she was modernised and saw active service in the Second World War. In November 1941 she was in the Mediterranean and was hit by three torpedoes fired from the German U-Boat

**HMS Barham 1941** 

Parts: 220+ plus etched fret

Model No.: 05798

Length: 28.1 cm

**Scale**: 1/700

#### TRUMPETER MODELS

ukbranch@revell.de

even greater hit with many modellers.

After the release of the Trumpeter 1/200 scale battleships Arizona and Bismarck, they have now released a kit of the USS Missouri in the same scale.

U331, she capsized and a huge explosion ripped her apart, killing 862 of her crew. Images of this terrible destruction were captured on film, which can be found on many websites, just enter the name HMS Barham into an Internet search engine.

The model can be built as either waterline or with full hull, its wood deck is finely reproduced, as is the complete superstructure. A lovely model of a Royal Navy battleship that is not usually available in plastic.

Further details of these two kits can be found on the Trumpeter website together with their complete model listings at <a href="https://www.trumpeter-china.com">www.trumpeter-china.com</a>

#### **ZVEZDA MODELS**

Here are details of two releases from this well-known Russian manufacturer

#### German WWII Destroyer Z-17 Diether Von Roeder

Model No.: 9043 Scale: 1/350 Length: 35 cm Parts: 178

The Z-17 was named after the German First World War hero who died in July 1918 while trying to rescue the crew of his sinking torpedo boat. The Z-17 was the lead ship of the type 1936 class of destroyers; she was well armed with five 127 mm guns, two twin 37 mm anti-aircraft guns, four 20 mm guns and two 533 mm torpedo tubes. She also carried depth charges and mines. Her top speed was an outstanding 38 knots. Her action in the Second Battle of Narvik in April 1941 saw her sunk by British destroyers and the battleship HMS Warspite.

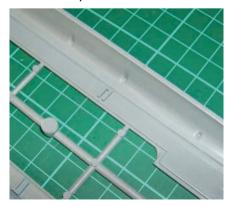
This is a well-detailed model with very fine and crisp mouldings



Zvezda German Z-17 destroyer



Well-detailed parts for the Z-17



The guideline for converting to waterline model

is in two parts and for those wanting to make the model into a waterline version there is a groove running the complete length of each section on the inside. showing where it can be cut using a sharp craft knife or saw. All parts are very well moulded with excellent detail, even the small 20 mm guns have moulded-on shoulder rests. Mines are included to mount on the rails, which are moulded on the deck section. Decals are also included together with an easy to follow assembly quide.

with no flash. The hull

#### Russian Nuclear Powered Missile Cruiser Petr Velikiy

Model No.: 9017 Scale: 1/700 Length: 36.4 cm Parts: 484

Petr Velikiy is the flagship of the Russian Northern fleet and was commissioned in April 1998. This ship is armed with a Granit long-range anti-ship



All these parts for a 1/700 scale model are very detailed and finely moulded



Petr Velikiy

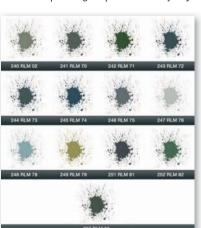
missile system and the Fort air-defence system, which carries 96 missiles. It is also armed with other gun and missile systems. She has a crew of over 700 and carries two Ka-27 helicopters. This is a formidable warship with a speed in excess of 30 knots.

When I first opened the review model I was amazed at the amount of parts, but after studying the assembly guide I realised many parts will not be used. This is because the kit can be built as one of five different ships of the same class, so there are optional parts for each, including different decals. The moulding is first class and I thought the sizes of the 1/350 scale destroyer parts were small but they are large compared to the parts in this kit. It can only be built as a waterline model, so a nice seascape base will show the full potential of this model. There are seven pages of instructions which need to be studied very closely as you will need to make your decision as to which ship you are going to build before you start.

I would like to thank Hobby Pro Marketing GmbH for supplying the sample models for review. Full details of these models and the complete Zvezda range can be found by visiting: <a href="https://www.zvezda.org.ru">www.zvezda.org.ru</a>

#### **HUMBROL PRODUCTS**

This new range of acrylic paints has been introduced with a new prefix of RLM at the beginning of each colour's ID number. This stands for Reichsluftfahrtministerium (Ministry of Aviation Nazi Germany), these are the colours set out by the Ministry in 1933 as the standard colours for the Luftwaffe. These colours may be useful for painting ships as the majority of them are a version of



Humbrol new RLM acrylic paint colours (Courtesy Humbrol)

grey, but of course many German warships also carried reconnaissance seaplanes. This new RLM range also now comes in larger 14 ml pots, not 12 ml like the rest of the acrylic paints.

Humbrol have also released a new acrylic primer that comes in the new 14 ml size – AB0001 Grey Primer Matt.

For full details of these new paints go to the Humbrol website at: www.humbrol.com MMI

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ver the last couple of months I've had a few people asking me about starting in fast electric racing. One gentleman had read my Electric Powerboats book, (still available from Traplet) and was wondering about what boats are available and were there any modern plans for self building. I had to answer that not many people scratch-build mono hulls today as almost all monos raced in the UK and Europe are stepped hulls. These are quite difficult to construct in wood and most people use commercially produced hulls. If you are in the happy position of being able to make your own hulls from scratch from GRP, I don't know of any available plans, so it's down to designing it yourself or basing it on an existing (competitive!) commercial hull.

#### RACE OR FUN

Years ago, if you wanted a fast electric boat you had to design it yourself or build one from plans. There were no kits available. Today, there are many different fast electric boats available and the choice of which one to build is determined by several factors, whether the boat is to be used for fun running or for competition, how much building you are prepared to do, what sort of boat you like the look of and how much money you are prepared to spend.



ARTR kit boat, good design could be made competitive with a little care. Trouble is the hull is plastic, not strong enough for racing

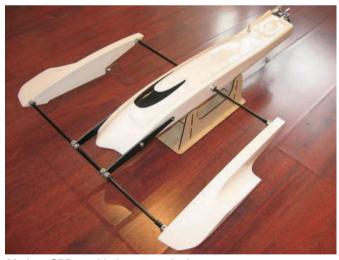
There is one very good reason for having a go at racing a fast electric boat.

If you have never tried racing before, I definitely recommend it as it is, quite simply, extremely good fun! It adds a fascinating element to Fast Electric model boats that you may be missing out on if all you do is blast around your local pond upsetting the scale boys.

If you do want a sport boat, that's OK, there are plenty of kits to choose from. Most plastic kits are quite comprehensive and usually include a drive system, motor, speed controller, propeller and a kit of fittings and decals. Some even contain cells. Kits such as these also have very detailed assembly instructions and do not require any real building skills, so are ideal as a first boat.

#### RACE AND FUN

If you want to try your hand at racing and to me that is the only reason for running FE boats, things can become more complicated, depending on how seriously you want to compete. Competition boats are usually purpose designed racing boats but sometimes at a race meeting you may get the odd kit boat with varying degrees of modification to it



Modern GRP moulded outrigger hydro

Certain kit boats can be very competitive when fitted with a decent metal hardware set, a metal propeller and the right sort of motor, whereas others can become rather unstable and unpredictable at high speed, and are not really suitable for racing. Also many kit boats have plastic hulls, which really do not stand up well to the rigours of racing.

You can be pretty sure that a successful competition design will, if built correctly with quality components, perform as advertised. However, boats such as these tend to be very 'bare bones' in comparison with a plastic kit boat, often consisting of not much more than a bare hull and a sheet of set-up instructions.

If you have decided you want to build and run an outrigger hydro,



Traditional design all wood outrigger hydro



Pre-cut wooden parts for a scale hydro (Atlas Van Lines)

you are faced with a choice. You can buy one of the very few kits available online, or try building from one of the available designs such as the Fanatic or Assassin in the Traplet plans book, or from JAE in the US. Although the Traplet plans are older designs they can still be competitive. You could have a go at designing your own. Building an outrigger is not too difficult for anyone with a modicum of modelling skill, and building from plans is the cheapest way of putting a boat on the water. The cost of the materials and your time is negligible in comparison with the cost of a GRP or epoxy glass

hull of which there is plenty available, check out the Internet. Even though they can look a bit agricultural, hand-built wooden hydros can be every bit as strong and fast as the more esoteric looking GRP hulls if well made.

#### CLUBS AND COMPETITIONS

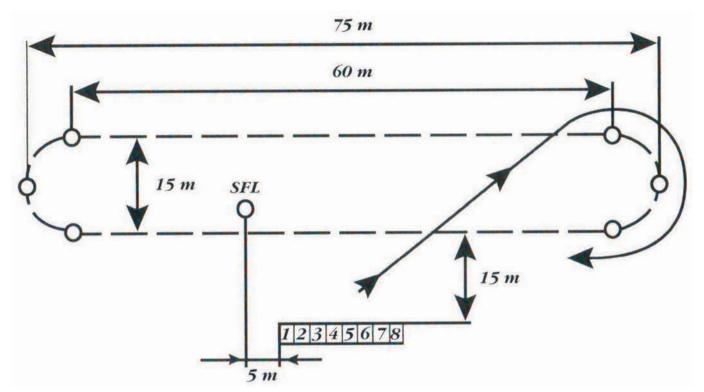
For an idea of what models are available, a good place to look is at one of the many club or national race meetings that are held during the season from March to October. You will get an idea of what is competitive and what is not, and you can speak with the owners of the various boats being raced and find out what sort of components they have used and what modifications, if any. they have had to make. Also, you will see what is now possible in performance terms from modern fast electric boats. One of the comments often heard from spectators is that they "never thought electric boats could go so fast". If you are keen to get started in racing, your first move should be to make contact with a local club if you can. Most local model boat clubs have one or more members who are into fast electrics, some clubs even hold their own race meetings. Club racing is much more relaxed than national competition, and some clubs adopt a 'run what you brung' approach to try and encourage as many people as possible to have a go.

Even better is to contact the MPBA fast electric section (www.mpba-fes.org.uk), which will give you contacts and the race classes and rules. Whether you want to race at club, national, or even international level, you will need to obtain a copy of the relevant rules and regulations in order to build a suitable boat which conforms to the particular class you wish to compete in. Many clubs base their competition rules wholly or partly on MPBA and NAVIGA regulations, making it easy to run at local, national and international level.

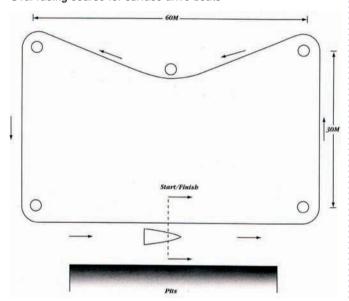


The current best boat for the mini mono class. Mine has GPSd at just over 34 mph in race trim. The Etti Mini Envoy!





Oval racing course for surface drive boats



'M' course for submerged drive multi boats

There are basically two forms of FE being run in the UK. Submerged drive boats run anti-clockwise on a triangular or 'M' shaped course, or surface drive boats running clockwise around an oval course (see diagrams). I'm not going to run through all the racing classes here as there are quite a few and there may be slight variations at club level. A look on the MPBA fast electric website will give you all the national and international classes and rules. The main MPBA website will give you contact details of the clubs affiliated to the MPBA. The main Fast Electric clubs in the UK are South West Association of Model Boat Clubs (SWAMBC) in the southwest, ELECTRA in the south and Northern Amp Draggers (NADS) in the north and these all have their own websites as well as being connected to the MPBA site.

My strong advice to anybody considering running any kind of boat in competition or in a public place would be to join a club affiliated to the MPBA or join the MPBA directly as a countrywide member. There are several advantages of being a member, but the main one

I'm thinking about here is the fact you will have 10 Million pounds worth of insurance cover (yes £10,000,000) in case of accidents.

There is a third type of competition for FE boats run by the MPBA at a national level once a year. Straight Away Speed Records (SAWS) - the setting of speed records holds a fascination for some people. The idea of building a boat as lightweight as possible and with the greatest amount of power is certainly a challenge, and pure speed machines can be very exciting to drive.

Until fairly recently, speed records in the UK were the province of those with the means to buy expensive rare earth motors and lightweight cells, but a revision of the regulations and cheaper motors and more powerful brushless motors, cells and radio equipment has created many more classes to try and encourage as many people as possible to have a go.

The speed course is between two points 110 yards (1/16th mile) apart. Boats are timed each way and in order to get a time, you must make one run in each direction. The aggregate times of your two best runs are used to calculate your average speed over the course, and you will get the fastest speed if you drive the straightest, therefore shortest, course, between the two timing points.



A huge outrunner brushless motor - going by the size, could give over 5 horsepower



#### WHAT TO DO AT RACE MEETINGS

OK, now some of the etiquette of racing. Normally there will be a drivers meeting before the racing starts. Make sure you listen carefully as there may be some information you need to know about judging rule changes etc. Check for the times of your races and be there ready to race at the appointed time. Do any judging duties as soon as you are asked, as this will help the racing go smoothly for all.

There is a well-worn motor racing cliche which says that "to finish first, first you've got to finish", and this is very true of model boat racing. Having a really fast boat is one thing, but if you can't drive reasonably neatly, avoiding the turn marker buoys and the other boats, then you will struggle.

Any sort of contact with another boat or a buoy runs the risk of damaging your boat, and putting you out of the race. Catamarans and hydroplanes run the risk of trapping a marker buoy between the front sponsons, and mono hulls with sharp bows can embed themselves in the soft foam from which the buoys are made, both of which put you out of the race, so it pays to give yourself plenty of room. Your boat must be easy to drive, leaving you free to concentrate on what is happening around you. Twitchy, nervous handling boats are a handful to drive even when blasting up and down an empty lake on your own, but can be a nightmare to control around a tight, oval course amongst a pack of other boats. Most people will shrug off the odd incident, but if you make a habit of crashing into others, you will not be popular!

So, the basic advice is to keep your head, drive a neat and tidy course, and try to stay out of trouble. Common sense is the most valuable tactic when racing. If you are running on the recognised racing line, the onus is on the other drivers to find a way past you if they want to overtake. Experienced drivers will make allowances for those less experienced, so stick to your line and don't weave around trying to make it easier for others to overtake, you will just make it harder if you make unexpected moves. If you have to come into the pits for some reason, for instance if you get something wrapped around the prop, when rejoining the race have some consideration for the other boats, don't just drive straight out into the path of the other boats. They will be travelling at full speed, you will not. Take a wide line into the first turn until it is safe for you to rejoin on the racing line.

#### ESSENTIAL MAINTENANCE

Finally, after race maintenance - building a really fast boat is one thing, keeping it in that condition is another. The more speed you want, the more power you are going to need. The more power you have, the more stress you impose on the motor, the drive system and the cell pack, so the more time you are going to have to spend maintaining your boat. Regular maintenance reaps benefits in reliability as well as speed, as you are more likely to spot a potential problem before it stops your boat in the middle of a race. I try to do the following after each time the boat is used. I know it's a chore after a long day's racing and perhaps a long drive, but try not to put it off!

#### AFTER RACE MAINTENANCE SCHEDULE

- 1. Remove, dry and re-oil the flexible cable drive shaft if fitted. You should try to do the same with solid or wire drives if possible too. Replace just before you use the boat again - do not leave a flex shaft in place in the boat.
- 2. Clean out any oil/water residue from the drive shaft.
- 3. Check all hardware-mounting bolts are tight.
- 4. Remove the receiver, receiver cell pack if used and electronic speed controller and check for moisture. If you have your receiver in a balloon, remove it even if there is no water in the hull, as there could be condensation inside.
- 5. Check your drive cells for damage, make sure they are dry and if storing for any length of time charge to about 50% (LiPos) and never store uncharged.

There are lots of reasons why so many people enjoy attending race meetings. The racing itself can be very exciting both as a competitor and as a spectator. There is the social aspect, spending a pleasant day with your friends tinkering with boats. Also, taking home a nice shiny trophy can be very satisfying.

Electric meetings are usually relaxed and friendly, and we try not to take ourselves too seriously. Keep in mind that while it is not supposed to be a contact sport, accidents do happen occasionally. Come along and give it a try – I guarantee you'll be hooked! MMI

# **AIRWAVES**

#### ALAN TELLS US ABOUT THE CHALLENGE RACE OF FULLY **AUTONOMOUS SAILING BOATS**

AUTHOR: ALAN SENIOR GREAT BRITAIN

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#### MICROTRANSAT CHALLENGE

Four years ago in the November 2009 Airwayes I wrote about the performance improvements that brushless motors could bring and to measure the speed improvements of the Perkasa MTB I used the Eagle Tree eLogger and a GPS receiver. The data recorded by the GPS receiver not only recorded the model's speed but also its track and this allowed the model position (recorded as latitude and longitude) to be later plotted on a satellite map of the lake. At the time I realised that it would not be long before a fully autonomous marine model would be created by a modeller and this could be programmed to sail a particular route, potentially anywhere in the world. Of course this is not really as simple as it initially may sound as even though the technology is readily available there are many challenges that must be overcome, both in the design of the model and the control system.

A Google search on the Internet back in 2010 quickly revealed that a competition had already been created called the Microtransat Challenge (www.microtransat.org), which is a transatlantic race of fully autonomous sailing boats. This Challenge started in 2005 and in the beginning it was mainly universities entering, but now marine modellers are starting to enter as well.

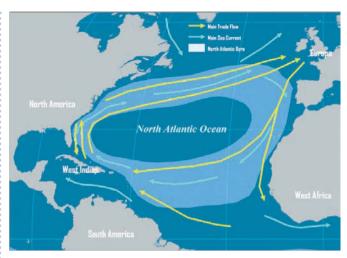
The competition is open to anybody including private individuals, universities, schools and companies. Entry is free but the only prize will be the glory associated with being the first fully autonomous boat to cross the Atlantic and a place in the record books. At the moment no robotic model has managed to complete the trip or even make it to the starting line, the most successful boat was created by a team from Brest, France where their boat sailed for eight days in total. However, I anticipate that in the next five years a model-sized craft will complete the trip, maybe a model built and sailed by a reader of MMI!



Location of the start and finish lines for the East to West Microtransat Challenge

Originally the competition had defined start times but this has now changed, the 2013 Microtransat ran for the duration of the whole year and the craft may depart at any time. There are two courses, one runs East to West from a start line west of the UK and France and finishes in the

Caribbean. The other starts off the north-eastern coast of the USA and south-eastern coast of Canada, it finishes off the west coast of Ireland. When looking at the trade winds that were used by sailing ships throughout history it becomes clear why these start and end locations have been chosen by the competition organisers, on average there will be a wind on the stern of the craft if the correct course is taken, potentially making the passage somewhat easier.



The Atlantic trade winds and ocean currents



Robin Loverlock's robotic model

The January 2013 Masthead featured an autonomous model made by Robin Loverlock of Sunninghill who has spent four-and-a half years building, testing and perfecting his solar powered 1.3 metre long model yacht. Progress can be followed on www.gpss.co.uk/autop.htm Robin has a great online blog where you can read all about his trials and tribulations.

#### **DESIGN ASPECTS**

After reading about the Transat Challenge I started thinking about the problems that would be encountered by a model sized craft on a full sized ocean and some of the design aspects. Clearly one of the key problems is that at model size scales the voyage distance is relatively huge, for example a robotic craft on the Transat Challenge would need to travel around 2000 nautical miles and this is going to take a significant amount of time. Since the model must sail and tack occasionally it is probably only going to be able to manage an average speed of maybe 1 knot, so potentially the voyage would take at least 2000 hours or about 84 days! Thus a reasonable design aim would be to design a craft that could operate autonomously for six months.

Clearly the craft is going to need some electrical power to run the control, guidance and position reporting electronics so either a large battery must be carried or a solar power charging system must be used. If we assume that the average consumption of the electronics is 0.1 A then we would need a 200 Ahr battery, which would theoretically last the minimum required 2000 hours, but this would weigh in at around 60 kg for an SLA type! So we either need a very large model or we need to economise on power and use a solar panel to keep the battery topped up. The Transat Challenge rules permit craft of up to 4 m in length so in fact it would be possible to carry the large batteries needed, however, then costs increase pro rata, a point to bear in mind considering that the craft could get lost and never be recovered!

The control system could be based on existing radio control type servos, winches etc. but these would have to be of high quality to last the duration of the voyage. One of the problems the craft would experience is that the waves are going to be very large in comparison and will continuously push it off course, it is therefore anticipated that a model with a good long keel and a high level of directional stability would be needed to minimise the frequency of course corrections that would quickly wear out standard servos and use up valuable power resources.

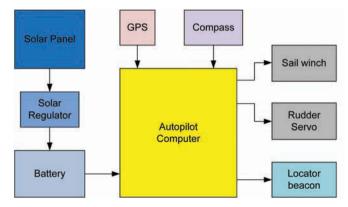
Tides are not so much of a problem once the robotic craft is away from land but the waves will keep the decks of smaller models continuously awash, reducing the effectiveness of solar panels. The waves are also likely to make the craft capsize and roll so it must be robust enough to survive this continuous abuse, perhaps a strong aerofoil wing would be better than a sail? The model is clearly going to need to be thoroughly waterproofed for obvious reasons, in particular because the temperature changes experienced from day to night will increase and decrease the air pressure in the hull and water will tend to be drawn in much more easily than it is expelled. Salt water is corrosive too and electrically conductive so all fittings would need to be stainless steel and the electronics will need to be kept absolutely dry.

Weed and debris is a significant hazard at model sizes so the hull shape would need to be carefully designed to shed weed and avoid trapping it in areas like the rudder and keel. Taking a course to avoid the Sargasso Sea area where rafts of weed accumulate would be advisable too! Fouling can be mitigated by using standard anti-fouling paints as used on full sized craft.

#### **ELECTRICAL SYSTEM**

In terms of the electrical system a minimum set-up will comprise:

- Batterv
- Solar panel and regulator
- Low power computer and software
- Servo for steering
- Winch for sail adjustment
- **GPS**
- Electronic 3-axis compass
- Tracker



Block diagram of minimum electrical system for an autopilot







Electronic compass (top), Arduino computer and GPS module (bottom)

Most of the subsystem components needed to build the electrical system are readily available; probably the most difficult task is to find a suitable computer board and the software to control everything. One very popular computer that is used in robotic models is called an Arduino, there are many hobby enthusiasts who use these type of computers on Quadcopters as autopilots (search for ArduPilot on Google) so I suspect that a few posts to an Arduino Internet forum is likely to find a volunteer to help write the software. To improve reliability the sail winch could probably be dispensed with by operating the sail at a fixed angle to the hull and operate the model more like a free sailing pond yacht with vane steering.

The tracker used to be a significant problem as position reporting in the oceans has to be done via a satellite link, recently however, a compact new product called SPOT Satellite GPS Messenger has been released that allows tracking anywhere in the world for a relatively modest cost, the position being reported periodically on an Internet map of the world.

#### WORLD ROBOTIC SAILING CHAMPIONSHIP

Sailing a model across the Atlantic is clearly a huge challenge but there is a more manageable competition called the World Robotic Sailing Championship (WRSC) organised by ENSTA Bretagne (www.ensta-bretagne.eu/wrsc13) and IRSC (International Robotic Sailing Conference), an international and annual marine robotics competition and conference in Brest. Originally designed for autonomous sail boats, the competition has been opened this year also to motorised craft and includes tasks such as station keeping, speed in different conditions, track accuracy, obstacle avoidance, target tracking, endurance and cooperation.

Of course there is no reason why a competition could not be organised locally at club level to minimise costs and increase the chances that the model will be recovered! If any readers are working on an autonomous model then I would like to hear from you.

#### RUBBER DUCKS

As an aside, even humble rubber ducks and bath toys have made some pretty amazing ocean voyages. To learn more, search for 'Friendly Floatee toys' on Google, you will find that in 1992 a container was washed off a ship during a storm in the North Pacific Ocean and over 28,000 plastic toys, including rubber ducks, were released into the sea. These toys travelled the oceans for years following the currents and driven by the winds and have been found all over the world to the delight of many oceanographers, all without the aid of GPS or computers!

#### CONTACTING THE AUTHOR

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

# **CHANDLERY**

NEW ITEMS OF HARDWARE AND BOOKS OF INTEREST TO THE MARITIME MODELLER

#### THE RADAR MOTOR

A very useful small electric motor and gearbox suitable for driving a radar, helicopter rotor drives, ramp opening doors etc. Measuring 36 mm long and a diameter of 12 mm it can run on any voltage from 3-12 V depending on the power required, for example at 3 V the rotation is 58 rpm. Cost at the time of going to print is £12.60 including P&P.

Available from Model Motors Direct, Barton Barn, Home Farm, Iwerne Minster. Dorset DT11 8LB. Tel: 01747 812440. MMI



#### **NEW KIT FROM DEANS MARINES LCM 6** 'MIKE BOAT'

The latest kit from the stables of Ron Dean and his team is the LCM 6, which saw service in the Vietnam War with many still in use today being modified for pleasure and private use.

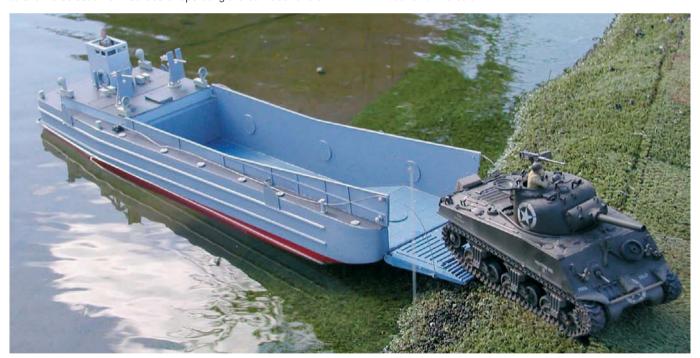
The kit comes with a fibreglass hull and rubbing strip details, laser cut plastic for the tank deck and superstructure. A complete set of fittings are included in the kit with all detail parts such as weapons, deck fittings, etc., cast in light alloy and resin, prop shafts in stainless steel are cased in brass proptubes, rudders and tiller arms are also included. These, together with comprehensive instructions to show a selection of methods of operating the bow door and a

full size plan to assist in the assembly of this impressive model. A colour chart plus a set of decals are included in the kit to add the finishing touch to this model. This is a worthy and much requested addition to their warship range.

The model has been designed to carry a 1/24th scale R /C tank (not included), details of the 1/24th RTR and plastic kits that can be carried in the LCM are shown in the instructions. Length of the LCM 6 is 710 mm and beam 185 mm with a release price of £195.00 (at the time of going to press).

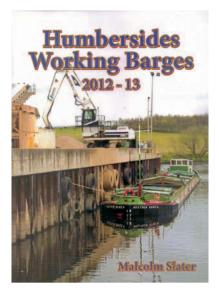
Further details from Deans Marine, Conquest Drove, Farcet, Peterborough PE7 3DH. Tel: 01733 244166.

www.deansmarine.co.uk









#### HUMBERSIDES WORKING BARGES 2012-2013

This book covers many of the working barges seen on the Humber Estuary mostly taken during 2012 and 2013. It is surprising that in the UK over three million tonnes of goods are transported on the large inland waterways. The detailed excellent colour photographs will aid any model maker wishing to build a working barge.

Essential reading for all modellers

#### **HOBBIES 2014** HANDBOOK

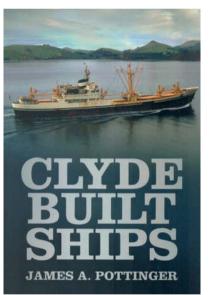
For model makers of all interests this annual publication is a font of information and an inspiration for future projects. The family owned business is now in their 119th year and continues to grow with many new items and kits. A must for any modeller's library or workshop.

Author: Malcolm Slater Pub Date: 2013 RRP: £6.50

EAN/ISBN: 978 1 871392 05 0 Format/Pages: Softback/32 pages Illustrations: Colour photographs Dimensions: 29.8 cm x 20.8 cm x 4 mm

Publishers: Slater's photographic Sales and Publishing, 75

Broome Close, Huntington, York, YO32 9RH



#### CLYDE BUILT SHIPS

The River Clyde in Scotland was once one of the major ship building sites in the world but sadly the industry has declined to virtually non-existent. It is very difficult to list any type of ship that was not once built on the Clyde with one of the first iron hulled commercial sailing ships - the SV Cutty Sark – now preserved in Greenwich to modern ferries. The author -James Pottinger – is well known to modellers as he has supplied model plans

to MMI for a number of years as his wealth and knowledge of the full size shipping industry is second to none. The book includes detailed pictures usually two to a page of many of the ships built on the Clyde with brief details of when and which shipyard manufactured them.

Author: James A. Pottinger

Pub Date: 2013 RRP: £14.99

EAN/ISBN: 978 0 7524 8999 5 Format/Pages: Softback/128 pages

Illustrations: Black & white and colour photographs

Dimensions: 23.3 cm x 15.5 cm x 9 mm

Publishers: The History Press, The Mill, Brimscombe Port, Stroud, Gloucestershire, GL5 2QG. www.thehistorypress.co.uk

**Pub Date: 2013** RRP: £3.50

Format/Pages: Softback/186 pages

Illustrations: Colour photographs and diagrams **Dimensions:** 29.8 cm x 20.8 cm x 6 mm

Publishers: Hobbies Ltd, Units 8-11 The Ravening Centre, Beccles Road, Raveningham, Norwich, Norfolk, NR14 6NU.

Tel: 01508 549330 www.alwayshobbies.com



#### HANDS TO MAKE AND MEND

This delightful small book records the history of making model ships by seaman while at sea. In the past there was a great following of making model ships out of any material while at sea from bones to old pieces of wood. The finished models were then either given away as gifts or used as items to trade. One of the interesting points raised in the book was that many seamen serving on sailing ships had a large amount of time to study other

ships' profiles at sea and they could build a model without any plans and only a small tool kit. Sadly today with modern shipping techniques and multinational crew the skills of model ship building at sea has virtually disappeared.

Author: John Gilman Pub Date: 2008 RRP: £5.00

Format/Pages: Softback/44 pages

Illustrations: Colour photographs and hand drawn pictures

Dimensions: 20.8 cm x 14.8 cm x 4 mm

Publishers: Deckchair Books 32, Osborne St, Leek,

Staffordshire ST13 6LJ. (Some copies are still available direct

from the author, 07814 993617)



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Length approx: 1170 mm Height approx: 400 mm Total displacement approx: 9000 g Width approx: 250 mm Scale: 1:25

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£291.00



This model is based mainly on old photographs of a Tyne Pilot Boat.

Little seems to be known now of her service career except that she was built in 1907 and was based on the River Tyne. So far as is known the colours are correct and she features a large anchor windlass on the fore deck. One thing that is certain is she was built onto the already proven 86' Steel Drifter Hull so fits readily into our range and builds into a clean uncluttered model which is ideal for steam or electric power. With the large saloon entry house good access is assured, and that, along with her funnel position makes her ideal for steam installation and the opening doors etc ensure a plentiful air supply to burners.

Photographs show a builders type ladder lashed to the forward boom and we have faithfully portrayed that on the model.





# JOYSWAY DRAGON FORCE

CHRIS JACKSON REVIEWS THE BRAND NEW RTR SAILBOAT FROM JOYSWAY

AUTHOR: CHRIS JACKSON

have to declare a certain personal interest in this model sailboat as I was very much involved in the establishment of the RG65 class in Great Britain after sailing with the original fleets based in Argentina, Brazil and Chile during visits made in 2005 and 2006. At that point all the South American boats were more or less home built although I was shown the latest hull and foil mouldings from a producer in Brazil which were of high quality. The first open International Regatta for the class was then held in Buenos Aires and attracted a few European skippers including two from France. As a result of the retirement of the initial motivator behind the ICA, Maximo Lange, an election produced a successor in Antoine Froment from France, at which point the focus of the class moved away from South America towards Europe. A second International Regatta was organised in Paris, France where the results were dominated by the Argon design produced by SailsEtc. At a more modest level of competition the numbers of RG65 class boats sailing in the UK grew and a formal National Class Association was formed. They held a first National Championships last October with 17 boats sailing and by

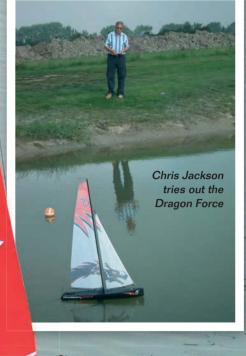
A trio of UK sailors saw the potential for a low cost production boat and made contact with Ripmax, the UK distributors of the

sailing at local level.

the end of last year the class had

around 75 boats registered, and

there were significant numbers



Chinese company Joysway. This produced a link to Joysway's design and development department which proved extremely efficient in translating the existing Ice design by Mark Dicks into the very practical model suited both to the casual sailor and most importantly to the more competitively minded skippers looking for a moderately priced but nevertheless properly designed boat. We had the opportunity to test sail one of the pre-production prototypes which had to be handed back after a week or two, and since then a great deal of extra effort has been put into sorting out a really neat and efficient boat. The RTR package has now been available for a couple of months and we have been provided with an example from the second shipment made into Ripmax at the beginning of September 2013.

#### THE BASIC DESIGN

Mark Dicks has already designed a number of IOM class boats and is also very familiar with the Marblehead Class, and the RG65 class is effectively a half size Marblehead so he naturally extended his portfolio to the RG65 class with the Ice design moulded in carbon fibre by James Edwards of Robot Yachts. This high quality hull, fin and rudder were well tested by the time Joysway came into the picture so it saved a lot of time to base the Dragon Force on the existing boat.

The RG65 class allows three rigs to cover different wind and wave conditions but the production boat had to offer a single rig so as to offer a casual modeller a good window of possible wind strength without having to worry about spare rigs and making sail changes at the lakeside

The basic hull is moulded in ABS plastic and for production reasons, this means there is a separate hull piece, which accepts both the fin box and mast base and gives overall stiffness to the entire hull. The bow bumper is very cleverly moulded into and around the bow, and all the required deck fittings are provided fixed in their places. The rig details are based on current competition boats of the class and are very easy to sort out. The fin, made of aluminium alloy, and rudder are profiled and ready to fit, and the ballast is cast in zinc alloy rather than lead so it conforms to the health and safety requirements of the model and toy trade.



The original Dragon Force prototype based on the Ice design by Mark Dicks shows off the well-balanced hull lines



This is the original Ice, moulded in carbon fibre by Robot Yachts and sailed very effectively by designer Mark Dicks

#### **BOX CONTENTS**

The packaging is of the usual modern high standard with excellent full colour artwork on the cardboard outer wrap concealing an inner polystyrene moulded block which has been superbly engineered to hold in place all the boat parts and also the very handy building and display stand. This actually arrives fixed into the underneath of the polystyrene block and is only seen when the block is removed from the cardboard outer, a fact which has led to a number of builders not realising where it was until after taking alternative action!

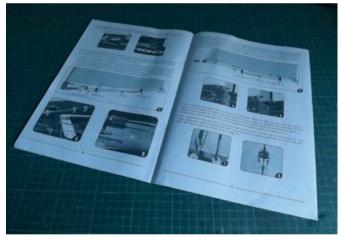
The timber stand is CNC cut to close tolerance and fits together without any need for adhesive at which point it can be used to hold the main hull moulding.

The hull comes more or less fully fitted, and the fin and ballast only require dry assembly and fixing with provided screws. The mast and booms are all carbon tube and are already equipped with all required fittings. The sails are rolled and it is a good idea to hang these up and apply a small weight such as a paper clip to the bottom to allow them to stretch a little.

Absolutely everything required is provided in the box except the eight AA batteries needed to power the transmitter and receiver.

#### **BASIC ASSEMBLY**

There are full 'building' instructions in the box in a well printed and ordered booklet, although the black and white photos are sometimes a little dark so that fine detail may be a problem for the beginner. I started by attaching the fin to the ballast and then fixing the fin into the hull. This stabilises the hull so that it stays more or less static on the stand. The rudder was next, and this is easy to place in the fitted hole near the stern. On my example this was a bit too tight a fit so I gently reamed the hole out with a 3 mm drill bit.



The 16-page booklet has a very clear layout, following the correct sequence for assembly of the model, and also a complete list of manufacturer supplied spare parts

#### RADIO EQUIPMENT

The manufacturers supply a transmitter and receiver on the latest 2.4 GHz band, which is ideal as it allows newcomers to switch on at the lakeside without danger of interference with other users. The transmitter is of very unusual appearance and as delivered has the two control sticks packed flat to reduce the space required. They screw into the front of the unit without problems. The Tx and Rx are normally supplied already 'bound' to each other but the instructions cover this point in case the user finds at a future juncture that they need to be re-tuned. This can happen if the Rx is switched on before the Tx and the instructions emphasise this point... always switch the Tx on first. The units are obviously also for model aircraft or helicopter use and there is a mixer adjuster slider on one side of the transmitter and care needs to be taken to ensure this is in the 'off' position. There are electronic trims for both winch stick and rudder stick and the general appearance of the very light transmitter has been much admired at the lakeside.



The Dragon Force main hatch open to show the compact installation of receiver, winch, rudder servo and battery pack holder, all of which comes set-up ready to run... just add four AA cells



The very original transmitter design, clearly also used on other Joysway products, proved very suited to the sailing world

#### ONBOARD RUDDER SERVO AND WINCH

The onboard radio equipment is supplied already completely installed with a deck mounted switch and wiring loom from a battery holder suited to four AA cells. This connects to the Joysway 2.4 GHz receiver and onwards to a rudder servo and drum winch. The rotational travel for the winch is actually quite small and it is a good idea to fire this up to test it before building up the rig. The winch is well up to the job of hauling in the relatively modest sail areas involved with an RG65.



The low budget winch provides ample power to move the supplied maximum size rig in a range of wind-speeds



The stern deck layout is neat and follows normal racing RG65 style, note the easily reached on-off switch, and the pulley-block to turn the sheet line without friction

#### **RIG AND SAIL ASSEMBLY**

The key component of the rig is a very well-engineered ball raced gooseneck and kicker assembly, through which you insert the slightly longer end of a short carbon fibre joiner tube which has a moulded flange on it. The extension of the tube below the gooseneck fits into the mast box and then the main mast tube fits onto the upper half of the tube and rests on the flange, which rotates on the inner ball race rather than the outer moulding of the gooseneck body so friction is minimised. In very light wind during part of our tests the ease of movement of the main boom was guite outstanding.



The superbly engineered gooseneck is central to the rig's performance and proved extremely friction free in light winds

The instructions cover the assembly of both foresail and mainsail to their respective booms very thoroughly and in a step-by-step fashion, linking text to specific close-up photos superimposed on a more general image of the boat. The main item used in this operation is some thin black Dyneema cord which can be a bit difficult to see when close to a black hull and above a green 'cutting board' so I laid the boat on its side above a couple of sheets of white copy-paper to give a much sharper background contrast, and this allowed me to see the black cord a lot easier.

#### FINAL PREPARATIONS FOR SAILING

The boat has two deck hatch openings, which require patches before sailing to keep out the water. There is a small one on the starboard side adjacent the mast, which is easily removed and

a larger central one, which requires a bit of care when attaching or replacing as the mainsheet lines traverse this area. I made templates of both before sailing so I could cut replacements from sticky back sailcloth. The smaller patch should be removed every time after sailing to allow the inside of the hull to release any trapped moisture but the larger one can stay in place unless you require access to the battery box.

One thing to note is that the factory supplied larger patch has no adhesive on the central area which means it cannot stick to the top of the winch drum. If you use other products to replace this hatch cover then you should blank off the underneath of the centre bit of the patch with a reversed layer of cloth so as to avoid clogging up the winch drum. Obviously one needs to check the battery charge levels and replace cells if there is any chance they are below reasonable power but then you are all ready to go sailing!



Mike Weston, on left, and Mark Dicks, show off the long and short keel options whilst trial sailing their early production examples (photo Buzz Coleman)

#### **FACTORY OPTIONAL EXTRAS**

The Joysway Company realises that by no means all purchasers will have deep water available to take the 300 mm long keel so it has made available a shorter keel for lakes where the water is shallow. This is not included in the RTR box but is readily available. If the water is shallow it is likely that the lake will also be sheltered so that the sails will be under less pressure and thus the shorter keel will work well. Other than that the boat is supplied absolutely complete and ready to go!

#### **HOP-UP PARTS!**

More competitively minded skippers will be interested in the specialist items which can transform their boat into a flat out racing RG65, and there are already a number of options. Joysway have



Three boats going flat out downwind in winds gusting to 20 knots at Coalhouse Fort Lake in Essex, note the way the hull design copes with this and allows exciting sailing! (photo Buzz Coleman)



John Tushingham produces Graphite Sails and has already made a number of third suits, using, Joysway mast and booms, and this photo shows the size of the smallest sails listed in the Dragon Force class rules

designed two smaller rigs and sail sets and these are designed to fit the same length booms as the top rig. A full range of spares, even including a white colour hull moulding, is being imported by Ripmax but you should bear in mind that there is a 90 day shipment delay for orders as well as the usual process of ordering from a local model shop to take into account. In addition to the Joysway products there are several independent UK sail-makers which are offering sails in plain white (or at least opaque) draughting film which would allow a club fleet to add sail numbers and class logos so that each of their boats was easily recognised. These include Graphite Sails (www.graphitecreative.co.uk), Housemartin Sails (www.housemartinsails.co.uk) and RC Yachts (www.rcyachts.org.uk). There may be others within the specialist radio yacht suppliers who also start listing Dragon Force spares and rigs as part of their portfolio.

#### WWW.DRAGONFORCE.COM

There is a designated Dragon Force website up and running and this has on it a complete set of Dragon Force class rules which are designed to limit home modifications which in turn might lead to the blurring of the strict one-design nature of the boat as supplied. The boat can sail in an open class RG65 fleet exactly as supplied and the only modification which may be worthwhile is to switch to a set of rechargeable cells or even a LiPo battery and locate it using Velcro on the side of the fin box where the small access hatch is placed. This would mean that batteries could be changed with the minimum of fuss, as the larger patch could remain in place unless some maintenance was required. Another aspect of the website worth checking out is the FAQ section as it may answer any questions you may have before you waste time and money!

#### **RG65 CLASS WEBSITE**

If you want to register your Dragon Force with the National Class Association then you will need to contact www.rg65.org.uk which is already set-up and lists the activities of the class within the UK. There is a link to their membership secretary who can provide a dedicated sail number and include you into the information system. At the moment this is free to members. MMI

#### KITBOX DATA

**Joysway Dragon Force** 

Length: 655 mm Beam: 116.5 mm Overall Height: 1338 mm Mast Height: 915 mm RTR Weight: 1350 g Sail Area: 22.26 dm<sup>2</sup>



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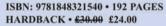
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Aeronaut Clipper 17" builders kit with fittings, nylon sails, keel, and alloy spars for simple radio control. Perfect as a beginners or family project.

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Aeronaut Bella 810mm semi-scale builders kit of a 1950s day sailing yacht with laser cut mahogany and ply parts £162.95









aving had the pleasure of writing this column for some time, I sometimes find that I need to go back and explore some topics from a past Powerplug subject. In my attempts to overview a certain set-up, handling or repair point on an I/C boat, your scribe forgets to remember that the novice power boater might not be fully aware of the steps required to complete the job. Even a seemingly simple step left out of the text can make a simple job seem impossible, so this month's Powerplug will be made up of small, yet important, items related to nitro/petrol boats. Our first topic will involve the proper adjustment technique for a Zenoah petrol engine's ignition module and this chore will be usable on almost any brand of petrol/marine motor.

#### **GAPPING A ZENOAH**

Not too long ago, one of these columns told the story of a crashed marine craft whose power plant suffered an ignition glitch that saw the main spark module move/contact the crankshaftmounted flywheel unit. Secured by two small screws, the Zenoah engine's module is adjustable to suit small differences in manufacturing of the engine/ignition components and if you do



To properly re-gap a Zenoah engine's ignition module, you'll first have to detach the thick aluminium mounting plate by removing the three tapered-head screws holding the plate to the crankcase

any kind of breakdown of the motor, the module's air gap with the flywheel will demand some tweaking. To access the module's twin mounting screws, the boater may have to first detach the engine's flat aluminium support plate as this component can partially block the module's adjustment point with the flywheel. Used as an attachment point for most gas hull motor mounts, this thick alloy plate can usually be removed without extracting the entire power plant from your hull. Three countersunk Phillips-head screws retain the plate and I'd recommend that the modeller use a well-matched Phillips head screwdriver and/or a suitable impact driver tool.

Manufactured from slightly soft steel, these plate screws can be easily damaged by the use of a too small cross-blade screwdriver with the result being that you'll have to ruin the fasteners to get the plate free. Between having the right screwdriver and giving each screw a solid whack before attempting to loosen it, the three screws should come free of the engine case. Along these same lines, the two smaller screws that retain the ignition module are also made from a soft material: so, they too will demand extra care during their removal and also during the module's adjustment process. Again, having the right profile screwdriver that is also in good condition is



Nothing more than a regular paper business card is required to tweak a Zenoah ignition module and its mounting holes having enough adjustment movement to get the right air gap on the engine's flywheel



Positioned at the point where the engine flywheel's magnets match up with the module's laminated 'legs', the paper card creates the clearance at which point you can tighten the module screws and remove the card



Made from a relatively soft metal the module's twin Phillips-head screws can be replaced with hardened Allen-head fasteners that will be easier to work with when adjusting the module

required; plus, if you notice any rust or corrosion around the screw's engine case threads, a pre-spray with a suitable lubricant is always a good idea. Once the module's twin fasteners are free of the power plant, the module can be removed and checked for any signs of oxidation; plus, the flywheel's inset magnets should be inspected/ checked at this point to ensure the air gap between the components is correct once everything is back together.

A light sanding with fine grit emery cloth or a low abrasive Scotch-Brite pad will usually dislodge any rust particles from the module or flywheel after which some denatured alcohol and a cotton rag will complete the ignition cleaning chores. A good quality paper, stock business card will provide the 'gap tool' and it must be carefully situated to ensure the right level of space is found between the module 'legs' and the outer flywheel area. Placed directly over the inset magnets on the flywheel, the card will then see the module's  $% \left( 1\right) =\left( 1\right) \left( 1\right)$ laminated legs positioned on the paper card; and at that juncture, the two module retaining screws can be reinstalled. Once the boater is sure that the module is tight against both the main engine case and properly placed on the card/flywheel space, the screws can be tightened up and the card can be removed by slowly turning the flywheel. As a side note to this important engine tweak, I'd recommend that the modeller replace any/all of the module/mount fasteners with Allen-head screws available through many hobby/ DIY stores. Besides being made up of harder, tougher steel, the Allen-head screws will give you a better grip than the Phillips/crosshex bolts which will make it easier to access/adjust the module's air gap.

#### CARB SHUTDOWN SET-UP

For many petrol boat owners the main way to shutdown their hull's power plant is via an onboard ignition spark 'kill' button and while this system will stop any petrol marine motor, there's another way to stop the engine in a quick fashion. The carburettors on gas boat engines feature an idle speed adjustment screw and by removing this tapered-end screw, and readjusting the boat's throttle linkage, you can shut down the power plant through the fuel supply system. Your transmitter will also have to have enough throw on its throttle stick/trigger to accommodate the carburettor's available venturi shaft swing, but, most current radio controllers are designed to be adjusted this way. Doable on both solid rod and flexible-cable throttle linkages some changes in both the servo horn and carb venturi shaft arm will be necessary as the goal will be to see the venturi plate completely closed when the Tx stick/trigger is in the full-on 'brake' position. I prefer this engine cut-off technique on gas hulls as there will be situations where you might not be able to easily/quickly reach an ignition kill button/switch while a push on the transmitter stick/trigger will accomplish the same goal – a silent engine.



By removing the Walbro carburettor's idle screw and altering your boat's throttle linkage and transmitter stick/trigger, you can quickly shutdown the engine when returning your boat to shore

#### **GLOW PLUG MODS**

A quick performance tweak that any nitro boat owner can do to a fresh glow plug is to check its centre heating coil to move it closer to the plug's installed position to the motor's combustion chamber. The plug coil's thin wire makeup can get pushed-in/misaligned during the manufacturing process, so your goal will be to, if needed, re-centre the coil inside the plug's main body. While you're doing this chore you can also lightly pull on the wire coil to move it more towards the tip of the plug as this will move the heat source towards the engine's firing chamber. The tools you can use for this chore include smaller jeweller's screwdrivers, small-diameter needle-nose pliers and dental picks as well as any other utensils that will fit inside the glow plug's threaded body. Once you've tweaked the plug coil hooking a charged plug ignitor and checking that the wire coil glows bright red will indicate that the new plug is ready for use in your nitro boat's power plant.

#### **FILTER CHOICES**

As is the case with any I/C boat's fuel supply set-up the modeller will need to include some sort of fuel strainer in the system to prevent trash from getting into the engine's carburettor body. Both inside the tank and hose/inline filters are available for either a nitro/ petrol hull's fuel layout; plus, many boaters end up using one of each type in their fuel system. In general, the inside-tank filter is called a 'clunk' type strainer that, along with keeping debris out of your engine, also helps to pick up all of the available fuel inside the container. Affixed directly to the hose running from the tank to the



Either mounted inside your boat's fuel tank or positioned in the container's supply hose a good aftermarket fuel strainer will keep any debris from fouling the inside of the marine craft's carburettor

carburettor, an inline fuel filter also has a secondary benefit in that you can disconnect one side of the hose/filter line and use it to refill your hull's fuel cell. As for replacement of either type of fuel strainer they will usually be best switched-out at the start of the new boating season along with doing a flush out of the entire system.

#### **CABLE TIP FIX**

For any I/C boat that relies on a flexible-cable prop shaft it's relatively easy to create a stronger connection between the stranded-wire shaft and your engine's clamp coupler. Many RTR powerboats that feature flex cables just have a cut end on the shaft, so the modeller can strengthen the coupler end by 'sweating' some solder into the cable thus making a more solid shaft end. A high wattage soldering iron, some high-tin content solder and a suitable soldering flux are your main tools for this project, plus a good wire brush is needed to pre-clean the cable end. The paste flux will also help clean the cable strands after which you can flow the solder into the shaft end. Once cool, the modified shaft can be smoothed over with a fine tooth metal file and/or some fine emery cloth to ensure that the soldered cable will still fit easily into your boat's engine coupler. A bit of additional filing might be required to match the cable to the coupler and/or doesn't leave any excess gap on the opposite shaft end. This trick can greatly reduce the chances of having a cable shaft slip under the load of a larger propeller.

#### **EXTRA HULL SUPPORT**

Likely due to production costs, many pre-built I/C marine craft come with hull cradles that don't have enough cushioning material at those points where the hull contacts the stand. In many instances boats are damaged while their owners are attempting to start up the vessel's power unit with the result being scratches, chips and even gouges in the boat's bottom spaces. To avoid this gremlin you can add some extra cushioning via some round foam pipe insulation or a suitably sized pool noodle/float material. Cut with a regular snap-blade or carpenter's knife, these dense foam wraps can be glued or tie-wrapped to the stand's existing padding; or, if the fit between the two cushions is tight enough the additional foam can be installed/removed when needed at the lake or in your shed.

#### STOP PRACTICE

Whenever I bring this idea up with any of my close boating friends I receive a very strange look. Along with just running and enjoying your powerboat whenever you have the time, it's also a good idea to sometimes practise bringing your hull safely back to your lake's shoreline. Now if your vessel is equipped with an onboard clutch drive set-up, this procedure will only involve a slow, above-idle speed route to the beach, pier, dock, etc. you use to recover your hull. On the flipside, the action of steering a high-output, direct-drive



The idea of using some on water runtime to practice your boat's return to shore procedures, especially when you're doing it with a high-performance marine craft like this twin-engined gas hydro hull, is helpful

I/C marine craft will demand knowing the boat's coasting abilities, its steering skills with/without power to the propeller, and where you should be to actually extract the vessel in a safe manner. Earlier in this column the topic of adapting your carburettor/transmitter to shut down the engine was discussed and this arrangement can also require some practice time when landing a power craft. Knowing when to cut the power to stall the hull's engine is critical to avoiding a high-speed beaching of your boat.

Having witnessed numerous hard landings that have snapped drive shafts, cracked hull bottoms and ruined countless metal propellers, I would strongly recommend practising your landings especially if you've just changed or upgraded any hull in your I/C fleet.

#### **HEADER PROFILES**

During a recent upgrade project on a friend's RTR nitro boat, your scribe was asked to install an aftermarket tuned exhaust pipe to the hull in question. Although already equipped with a basic tuned exhaust the chosen/new pipe would not match up properly with the stock engine's OEM header pipe, so a new header pipe had to be purchased. Luckily, there were a host of different aftermarket headers for the hull's glow engine, plus they each had their own unique bend, pipe size and length to help the modeller choose the right exhaust header. Many of these components are actually designed for model aeroplane usage; however, most of these headers can be modified for use on powerboats. For the hull I was



Available in many shapes and pipe lengths these aluminium and steel nitro engine header pipes can all be adapted to I/C boat power plants with only a bit of trimming to suit your tuned exhaust pipe's dimensions

tinkering on its .18Cl glow motor could use almost six different headers and the one picked only required the shortening of the main pipe to suit the engine/tuned exhaust's dimensions. Since both the header and the exhaust's mating sections had the same outer diameter there was no special silicone hose needed to join the parts, so with the right header pipe in place, the coupler hose only required a pair of nylon tie-wraps to secure the exhaust together.

#### STARTER MARK

Our wrap up topic this month centres on a simple mistake a boater (ves. yours truly) can make when attempting to start up a competition-style nitro boat. Equipped with a starter-belt system I was in a hurry to run the completed hull as bad weather had prevented any runtime for several weeks. With the fuel tank full, the plug ignitor in place and the required electric starter joined to the engine's flywheel groove, the handheld starter's button was engaged and the motor was quickly turning at its required rpm levels. Yet, even though it sounded like the power plant was trying to fire up, no real rpm rise was achieved after 30 seconds of starter



Using a regular black marker this handheld starter's adapter cone's proper rotation for a belt-starter set-up is indicated, as most nitro marine engines will spin over backwards under the power of a high-amp starter unit

Thinking that I'd fouled a glow plug by flooding the engine the plug was replaced with a fresh one, plus the ignitor battery was also checked and the carburettor mixture screws were also checked for their proper factory settings. Another starter spin up segment again had no effect on the engine; so, I now decided to stop, move back from the modified boat and to try to figure-out what the problem was with either me or the marine craft. Knowing that I was working with a quality nitro engine, fresh fuel and a high-amp starter motor, it was obvious that there was something I was doing wrong in my start up procedure. Then it dawned on me, my previous use of the handheld starter required that its electric motor spin in the reverse direction you'd need for the modified boat; so, it only took a quick switch of the starter power leads to cure the 'problem'. In seconds, the correctly-turning glow engine started-up smoothly without any further tweaking and from now on I'll be marking my starting unit to know the right rotation for each type engine I'm working with.

#### **CLOSING THOUGHT**

Although these seemingly small subjects might not directly apply to a lot of MMI's boat readership, the goal here was to help those who might not have previously been subjected to the topics mentioned here. As always, if any readers have questions or would like to show off their latest nitro/petrol boats, please feel free to contact this writer via the email address at the top of the column. Talk to you next time! MMI

#### TIP OF THE MONTH

We all know the process of having a less than half tube of sealant, adhesive or grease in our toolboxes and far too often these products go to waste. To help better utilise your chemicals you cut open the part used tube and transfer the remains to a small hobby syringe available at most hobby dealers. I keep a few of these clear syringes around, as they're also very useful for placing small amounts of compounds in tight places. Their tips can also be trimmed to suit whatever level of glue you need inside your hull. I use one for getting drive shaft grease into smaller strut bushings as many of these drive parts have small oiling holes in their makeup.



When your tube of glue, sealant or grease gets down to its last legs you can simply cut off the used-up section and squeeze the remaining compound into a small syringe and apply the material to whatever spot is needed inside your hull

#### TRICK OF THE MONTH

One way you can tell a long time I/C boater is that he/ she will have a lot of arm, neck and face skin that's had sun damage. As I'm one of these modellers, I've begun to use a protective face cover used by fisherman to cut down on sunburn damage. Some are called 'buffs' and these lightweight and breathable fabric headwear blocks a lot of the harmful UV rays of the sun, plus you can move the mask around to suit your neck, ears, etc. I normally also wear a straw hat with the mask as with my lack of hair this keeps me safe with only a bit of sunscreen on my face and neck. You might be a bit wary of walking around with one of these masks on your head, but it's a lot nicer than applying a lot of sunburn cream once you're home!



Lightweight and capable of protecting your head and neck from sunburn these fabric facemasks are marketed for fishermen; yet, they can also protect I/C boaters who spend a lot of time in exposed pond areas

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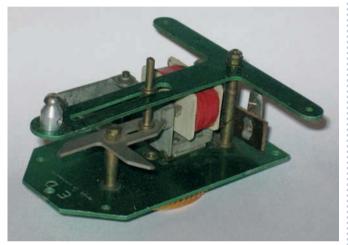
# VINTAGE CHATTER! PART 3

### WE HAVE CONTROL! THE ESCAPEMENT APPLIED TO R/C

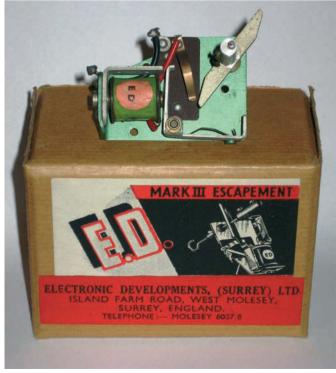
AUTHOR: DAVID WIGGINS GREAT BRITAIN

i there readers - we continue now from last month's ECC single-channel radio of the early to mid 1950s with 'the' essential item for boat or aircraft rudder control back then -

In the very earliest days of model radio the end result of one's receiver was a single relay – a relay being a simple, high resistance, electro mechanical, device 'lifted' from the first telephone exchanges. Upon receipt of a 27 MHz carrier wave (cw) signal the receiver, if correctly tuned, would respond with either a slightly increased or decreased current in the valves (high voltage), anode circuit. Such receivers were hence known as either 'current rise' or 'current dip' types with the relay armature either 'pulling in' or 'dropping out' on command. There is not space here to discuss the relative merits of both (and I have built and used both), but the ECC



An ED clockwork escapement of the early to mid-1950s. Simple and reliable, it was the first choice rudder control device of many an early R/C boat man



A mint and boxed ED rubber escapement meant for model aircraft or small boats

951 receiver shown last month was a current rise type meaning (put simply), that it consumes the least high-tension current on idle and the most on receipt of a radio signal from a transmitter. In response to this signal an electromagnetic field (back to school science here folks!), developed in the relay coil pulled down its armature and 'made' a contact. That's it. So, what you had in your model was a single, remotely operated, switch and NOW you have to make it do some mechanical work in order to turn your boat's rudder, hence the term single-channel.



A Fred Rising two-pawl clockwork escapement controller with its winding key and in original box. Another very collectable mint and boxed item from the author's collection

#### **ESCAPEMENT CONTROL DESCRIBED**

The first items invented for the purpose were called escapements. Why? Well, it's easy to understand if you look at a few examples. The early experimenters got their idea from the world of horology and the 19c clocks 'anchor' escapement. Escapements, all with low voltage coils, requiring 3 – 6 Volts, could be purchased powered by either strip rubber or - back to clocks again - a spring and I have three nice examples of both types to show you. In boats the clock spring type was pretty much de rigueur as there was usually insufficient space for the long strip rubber motor used in model aircraft. That said, I have seen rubber escapements used in boats.

By far the most popular manufacturers of clockwork escapements, back then, were ED (Electronic Developments) Ltd. of Surrey and Fred Rising of Rutland and I have used both with equal satisfaction. Later on, rubber powered escapements were slightly improved by firms like Elmic to give a measure of 2-channel (rudder and throttle), or even 3-channel ('kick-up' elevator in an aircraft) capability, but that was in the 1960s.

There were a variety of control ideas applied to the use of escapement control. There were two and four 'pawl' designs for



Instructions for operating your

3 to 6 v.

Another view of the Rising clockwork actuator - the nylon pawl, coil and connecting tags are all clearly seen

example. The most common end result in a model fitted with a two-pawl escapement was sequential, press button rudder control with self-neutralizing helm. Thus, with one's finger off the button, one always had central rudder. To obtain right rudder one might, say, give a 'press and hold' pulse with the next press giving a left.

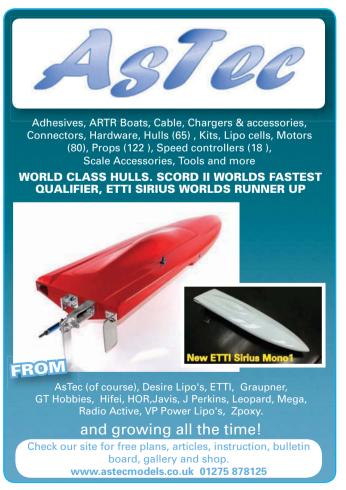
This was regarded as a 'safe' option with a diesel or petrol powered boat as, if one lost control, one would always have centre rudder and the boat would come ashore, somewhere or other, albeit with a crunch! Frequent losses of control were pretty much the rule then. Electric motive power - dealt with later in the series was a very much safer, slower option for the 1950s radioman it must be said.

In particular, the 3-6 Volt ED Clockwork device illustrated, designed by ED's popular

Design Engineer Mr George Honnest-Redlich, was a very popular and reliable choice throughout the '50s era. Also popular were the Fred Rising range. Both were offered to modellers, as they were then, by popular UK distributors like KeilKraft of Wickford in Essex. Once one had mastered the single channel button pressing control process AND obtained (or home built) a semi-reliable 'valve' radio link (equipped with a set of fresh batteries let's not forget), with which to operate sequential escapement control really was a quite useable control system given its limitations. The main ones being limited mechanical power and a finite limit on the number of mechanical movements that a fully wound spring could provide say 100-150 rudder operations with power falling off as the spring ran down with each command.

Next month I'm taking a passing look at finding yourself a '50s boat kit for radio use so, until then, I bid you all adieu. MMI





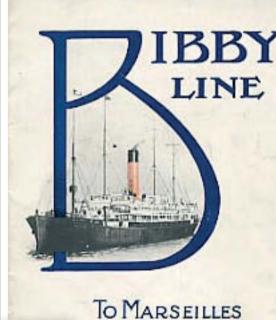
# WATERLINES

KELVIN RECOUNTS THE STORY OF THE BIBBY LINE

**AUTHOR:** KELVIN HOLMES GREAT BRITAIN

khwaterlines@btinternet.com

erhaps the oldest British shipping company still in existence, the Bibby Line, celebrated their 200th anniversary in 2007, 1807 being the year that John Bibby with his business partner John Highfield organised regular sailings between Parkgate on the Dee and Dublin. The company's history has been fully documented in a number of books including 'History of the Bibby Line' by JP Light (published 1947), same title again by EW Paget-Tomlinson (1969) and most recently 'Time and Tide - 200 Years of the Bibby Group' by A. McIntyre-Brown (2007). The latter includes an excellent fleet listing although be aware just over half the book is about the people of Bibby rather than the ships and history of the Line



· EGYPT · + CEYLON + SOUTHERN INDIA AND BURMA.

An interesting remark in the official history of Harland & Wolff (H&W) is that without the Bibby Line the shipyard would not have existed and of the first 21 ships built, 18 were for Bibby starting with the Venetian in 1859. In 1880 two new steamships for the Burma run were ordered from H&W, these being the Lancashire and Yorkshire, the first Bibby ships to adopt the 'Shire' naming convention that remains today. Trooping became a major part of the Line's activities with Lancashire (built 1889) called up during the Boer War as HMT No. 14 and this role continued through two world wars and right up to 1962 with the last of the line being Oxfordshire (completed 1957, initially chartered then in 1964 sold to SITMAR

During WWI the entire fleet was requisitioned serving as hospital ships, troopers and armed merchant cruisers (AMC) with only one sinking, the Worcestershire (1904) which was mined off Colombo in 1917. By 1939 the fleet was 11 strong and again all were called up with two war losses, both torpedoed - firstly Yorkshire (1920) in October 1939 by U-46 followed by a second torpedo from U-37. U-46 then sunk Ellerman's City of Mandalay, which had come to the assistance of the Yorkshire; the survivors of both vessels were rescued by the American freighter Independence Hall and landed Bordeaux. Bibby's other loss was the Shropshire (1926) which was

sunk in May 1941 when serving as the AMC HMS Salopian off Greenland. D-Day June 1944 found four of the company's ships serving as troopships, namely Cheshire (1927), Devonshire (1938). Lancashire (1914) and Worcestershire (1930).

lan Allan's Ocean Ships of 1964 records a Bibby fleet of nine, all but one of post-war construction with the most modern being Lancashire (1963) a cargo ship of 8918 tons built on the Clyde. She was sold in 1970. In the mid 1960s Bibby helped form the Sea

Bridge Consortium to operate oil/ bulk/oil carriers (OBO) and in 1968 entered the Liquid Petroleum Gas (LPG) area when the Wiltshire was ordered from Hawthorne-Leslie, she was followed in 1972 and 1974 respectively by the Hampshire and Devonshire. Ocean Ships of 1974 informs us that the entire fleet has been renewed with four vessels built in 1966-68 and seven in 1970-73 including the first of the very large 85,000 ton OBOs English Bridge built by Swan Hunters on the Tyne.

October 1980 saw the tragic loss with all hands of the OBO carrier Derbyshire reported as overwhelmed by a typhoon in the South China Sea. From 1990 to 2004 Bibby had a 50% ownership of the Botany Bay chemical carrier fleet. As of 1998 the Bibby fleet comprised two tankers (Herefordshire and Shropshire) and four LPGs (Staffordshire. Oxfordshire, Lincolnshire and Cheshire) with the three last named operating as part of the Exmar organisation until sold outright to Exmar in 2005. In 2002 Foreland Shipping was established with Bibby enjoying 25% ownership; this group operates six RO/ROs all under charter to the MoD, two of which Hartland

Point and Anvil Point were built by Harland & Wolff, the first since Canadian Bridge back in 1974.



Albatros model of the Devonshire



Lancashire in the Len Jordan series



Mercator model of the Shropshire



Another Albatros model - the Worcestershire

Bibby returned to cargo vessel ownership in December 2006 with the small 2500 ton Hertfordshire, a general cargo vessel built in 1995 as the Mira. The following year brought the Florence, a 53,000 ton bulker and the diving support vessel Bibby Topaz, the third such vessel operated by Bibby Offshore (previous DSVs being Bibby Aquamarine in 2003 and Bibby Sapphire in 2005). 2009 brought a return to OBO operations with the 57,000 dwt bulk carrier Shropshire followed in 2012 by the Cheshire. Both are Chinese built Supramax (see note) bulk carrier cargo vessels. The current fleet is completed by five small 6,188 dwt tankers, all Chinese built and registered/flagged in Singapore, the vessels concerned being MVs Brixham, Harlington, Kiel, Mumbai and Rmeil all acquired by Bibby in October 2011.

A note on the term 'Supramax' - all bulkers are categorised by size, those in the range 35,000 – 50,000 dwt being 'Handymax'. Supramax vessels fall within the 50,000 to 65,000 dwt range. Next we have Panamax typically 65,000 - 80,000 dwt but restricted specifically to the size of the lock chambers in the Panama Canal (32.26 m wide, 320 m long and 25.9 m deep). Lastly 'Capesize' which covers vessels typically well above 100,000 dwt which cannot use either the Panama or Suez Canals and therefore must



Oxfordshire was the last of the Bibby troopers

round either Cape Horn or the Cape of Good Hope. There is also a Suezmax dictated by the depth of the canal, the 221 foot clearance under a bridge and a maximum width of 230 ft, the latter unlikely to be a problem for most ships. Check out Lloyds Information Sheet No. 30 (a free downloadable PDF) for various modern ship size definitions.

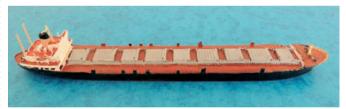
The table lists the disappointingly few known waterlines of Bibby ships. In current production are Rhenania, Albatros (AL) and Len Jordan (via AH models). Discontinued are RG, G, Mercator, Deep C, Vindebona and Luna, the latter a rare, assumed German made, range whose full listing can be found in the free Katalog PDF download from Galerie Maritim. At the time of writing the Optatus re-issue of Pacific Bridge is available from German retailer Wiedling but is €105. **MMI** 



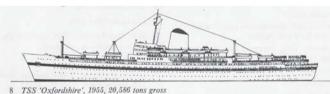
Albatros 'K' series model of the current Hurst Point



Hartland Point at Marchwood



'Deep C' version of Pacific Bridge



Yet to be produced in 1/1250 - Oxfordshre (drawing by JH Isherwood from History of the Bibby Line, 1969)

Ship	Built	Notes	Models (* = illustrated)
Leicestershire	1909	Sistership Gloucestershire (1910)	RG 20
Yorkshire	1920		Rhenania 8
Shropshire	1926		G-31, Mercator 578*
Lancashire	1917		Len Jordan L8 (as in 1931)*
Worcestershire	1931		Albatros 146*
Derbyshire	1935	Sistership of the above	Luna 35
Devonshire	1939		Albatros 174*
Leicestershire	1950		Len Jordan L22
Pacific Bridge	1967	Sistership Atlantic Bridge/later	
		re-named Dorsetshire	Deep C 23*, Vindebona 26 (re-issued by Optatus)
Hurst Point	2002	Foreland Shipping	Albatros K series 305*

1/1200 & 1/1250 scale models of Bibby Line ships

## RED MARVELS IN COPENHAGEN

THIS IS THE STORY BEHIND TWO BEAUTIFULLY RESTORED. WOODEN HULLED LIGHTSHIPS. WHICH CAN BE VISITED NEAR THE CENTRE OF COPENHAGEN. ONE IS A MUSEUM WHILE THE OTHER IS A BAR AND RESTAURANT AUTHOR: CHRIS KOENIG

enmark's capital Copenhagen has a great many tourist attractions on offer. Among them are five (!) light vessels situated in the vicinity close to the old city centre. Let's take a walk and visit two of the best preserved!

#### FYRSKIB NR. XVII GEDSER REV

The Danish National Museum is the owner of a red marvel moored within Copenhagen's Nyhavn: the Danish 'Fyrskib' Nr. XVII Gedser Rev. Built by N.F. Hansen's yards of Odense, Denmark, in 1895, the vessel was constructed from oak – below the waterline the wood was protected by copper plating. Measuring 33.60 m in length and 6.40 m in width, the original service displacement was 170 tons. The vessel was manned by seven men on a 14-day shift pattern, the crew included a light vessel captain, a carpenter, a cook, a radio operator and three able deck hands. By the summer of 1895 the vessel was towed to the shallow and dangerous sands

Fyrskib Nr. XVII Gedser Rev at her mooring in Copenhagen's Nyhavn



This picture reveals just how much work lies ahead of the restoration team for Gedser Rev

of Lappegrund, where she stayed until the end of WWI.

By 1921, the light vessel Nr. XVII was docked and totally modified e.g. by changing the signals and implementing a new 146 hp threecylinder diesel engine. The new diesel was necessary to provide both engine power for the three-bladed prop and for the generators producing electricity for the signals. After finishing the modifications Nr. XVII sailed for the position Gedser Rev. While the Baltic Sea's average depth is approximately 15 m around Denmark, the waters south of Gedser are quite shallow. About eight miles and 145° off Gedser ferry terminal a reef spans for several miles. Its underwater mountains are commonly referred to as Gedser Rev, but many of the sands have individual names such as Yder Knob, Mellenknob, Trindelen and Gedser Landrev (seen from the Southeast to the Northwest). Just off Gedser beacon is a dangerous sand called Gedser Odde, and there the average depth is just 1.80 m, while nearby Kroghage Dyb and Rödsand Rende are further obstacles. To the West of the ferry port the sands of Kroghage Pynt and Rödsand occasionally sport depths of less than a few centimetres. To worsen things, many underwater obstacles like big stones make navigating these waters a demanding task. Light vessels and shorebased beacons drastically reduced the number of tragic accidents.

Fyrskib Nr. XVII Gedser Rev stayed on position until the German Army invaded Denmark in 1940. After occupying Denmark the German forces 'rented' the vessel and used it as a man-o-war off Kalundborg. Shortly after VE Day, Nr. XVII returned to her position off Gedser. Nine years down the road, tragedy struck when a freighter rammed and sank the light vessel in 1954, the incident claimed the life of one crewmember. After salvaging the Nr. XVII she was towed to a repair yard and it was decided to rebuild her into an operational condition.



Although built from wood, beacon and superstructures have been made from metal

Put out of service in 1972, she was moored at a jetty in Holmen. By chance the director of the Danish National Museum, professor Glob, spotted the light vessel and asked A.P. Møller and Hustru Chastine Mærsk Mc-Kinney Møllers-foundation for a 50,000DK fund to buy the ship. A 70-year-old gentleman by the name of Mads Hansen accepted the offer to become coxswain aboard the museum vessel, and along with him other retired enthusiasts formed a club called 'Trekoner Aktiv' to care about the vessel. The club managed the Fyrskib Nr. XVII Gedser Rev until the year 2000, when it became obvious a general overhaul was necessary.



Fyrskib Nr. XVII Gedser Rev in a pre-WWII shot



After WWII Nr. XVII served the Gedser Rev position for another three decades



The royal mint in Denmark issued a coin showing Fyrskib Nr. XVII Gedser Rev

Engineers at the yard checked thoroughly and estimated 4Million DK were needed to pay for the restoration of the boat. Neither the club nor the Danish National Museum was able to fund this much. Once more, A.P. Møller og Hustru Chastine Mc-Kinney Møllers Fond til almene Formål was contacted – and once more the foundation aided the project!

By January 2001 Nr. XVII went to A/S Hvide Sande Skibs og Bådebyggeri yards in Hvide Sande, Denmark, and stayed there until October 2003! In her wonderful red and white livery the boat was the main attraction at Hvide Sande – about the same role she played in Copenhagen after returning there by November 2003.

However, being a technical monument doesn't prevent a wooden beauty from growing old, too. A major restoration project has been carried out already in the summer of 2013. The wooden hull was inspected and repaired, as was the protective cooper covering. Currently the deck and main structure are undergoing an extensive restoration also. The challenging project is funded by A. P. Møller-Mærsk Group of Copenhagen.

#### clubhouse, the sailors and yachtsmen invested nearly 500,000DK into their red marvel, which fits so nicely into Dragør harbour with its 17th century buildings and traditional fishing vessels. After a while the club realised their clubhouse was a bit too expensive in the long run and had to sell her to Arp Hansen. Arp – well-known owner of Copenhagen's 2Nyhavn Hotel - paid about the same amount the sailors had spent in the past seven years. Motorfyrskib Nr. II was berthed close to Arp's hotel and now offers traditional Danish food and an assortment of wine and beer.

When visiting Copenhagen, be sure to pay a visit to Nyhavn and check out both light vessels. MMI



Beacon of Motorfyrskib Nr. II, which is also moored at Copenhagen's Nyhavn



Built in 1915/16, Motorfyrskib Nr. II was made from oak wood and served both Baltic and North Sea positions

#### **MOTORFYRSKIB NR. II**

Just a few yards from Nr. XVII another light vessel is moored at quaint Nyhavn: Motorfyrskib Nr. II. While the first is a museum, the second houses a small restaurant. Built in 1915 at Rasmus Møller Værft in Fåborg/Denmark, this light vessel was also made from oak wood. When finished and due to be delivered in 1916, the new ship was already motorized. The dimensions: 33.58 m in length, 3.47 m draught and 6.82 m width, resulting in a displacement of 342 tons. The new gang who took over the ship underwent extensive shakedown cruises until Motorfyrskib Nr. II was sent to her first position at Gilleleje Flak N. By 1920 a new position - Grådyb - was assigned, where the ship stayed until 1927 when she sailed for Horns Rev (1927-1930). When a desperate need arose for a vessel to take over Vyl, a position roughly 25 miles in the mere West of Esbjerg, Motorfyrskib Nr. II was chosen since she was able to get there without calling a tug for assistance. Ten years later and after the German invasion, the ship returned to her home base and was subsequently rented by Germany to serve as a wartime light vessel.

After the end of WWII and with coastal traffic intensifying, Motorfyrskib Nr. II was positioned at Station SW1 (25 miles West of Thyborøn) in 1946. The following year she returned to Vyl and was kept in operational service until 1969. Automatic light floats had recently been deployed by the Danish authorities, but the Nr. II was in good shape and therefore kept in a reserve status for nine years! By 1978 the Danish authorities sold off the vessel for 31,000DK to a local yacht club at Dragør. Serving as a floating

### **SCALE** SCENE

IAN CONTINUES HIS LOOK AT **ADHESIVES** 

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

efore I carry on with this article, I would like to mention something I should, perhaps, have brought up last month. If you are gluing something to a surface that has already been painted, you should realise that the join will only be as good as the adhesion between the paint and the surface it has been applied to. So if circumstances dictate that you will have to glue fittings etc. to a pre-painted area, make sure that you have prepared the surface well so that the paint has a good bond.



The InstaTite range of cyanos in various viscosities (Courtesy Starloc Adhesives)

Right, having covered wood gluing in a broad sense, I'm going to look at two or three of the other main materials used in modelling. I'll deal with metals of varying sorts first. Very few people build model boats in any kind of metal these days, so mainly fittings, masts, stanchions, gun barrels etc. are where you will find it and then quite often in brass. Other than that aluminium may be used for motor mounts, servo mounts and the like. Not forgetting prop shafts, which could be aluminium or brass, perhaps even have a chromed finish like some Graupner shafts. For assembly work such



One form of waxed paper (see text). Use inside of wrapper to glue on



Very strong Flexepoxy, good for bonding in prop shafts etc. (Courtesy Starloc Adhesives)

as masts or ships' rails, soldering could be the answer, although Starloc do some adhesives specially for gluing various metals, whilst for gluing fittings to a deck or hull a good cyano should fit the bill. For gluing in motor/servo mounts or prop shafts in scale boats, two-part epoxy should be sufficient in most cases if the components are suitably abraded first. However, I will add to that statement a little later. If you are using cyano to attach fittings etc., you may not want things to stick immediately to allow a little time for adjustment. So my advice is not to use a thin cyano, but to use a medium or thick type, which will give you a bit of 'wiggle room'. Some cyanos will have some gap filling properties such as Starloc's Non-Drip Gell Cyano, which gives a 10 to 30 second setting time and seems ideal for spot fixing fittings to various materials. One quick tip if you are assembling anything with cyano glue is to try and find some waxed paper, as it does not stick easily to waxed surfaces. One of the photos shows a source for this, a Warburtons loaf wrapper! Use the inside surface not the outside shown.

The next material to look at and probably the most common in boat modelling is plastic in all its various forms. Depending on whether you kit bash or scratch-build the two main types you will probably encounter most are High Impact PolyStyrene (HIPS for short) and ABS (Acrylonitrile Butadiene Styrene). HIPS will usually be found in sheet form for modelling, but could be used in the vacformed parts or injection moulded kits. In model boats ABS is used mainly for hulls and basic superstructure parts, although it can be bought in sheet form. Now to get this straight, if you were fitting parts of dissimilar material to any kind of plastic you would use



PolyWeld (L to R) Thick, Medium, Thin. The Medium and Thick have gap filling properties (Courtesy Starloc Adhesives)

some type of glue. To assemble all plastic parts you should use a solvent-based adhesive, which will melt the contact surfaces of the two parts and effectively weld them together. Starloc has a range of solvent adhesives called PolyWeld in three different thicknesses. which will effectively weld such rigid plastics as HIPS, ABS, Perspex (Acrylic), Lexan (Polycarbonate) etc. Mek Weld which has a slower drying time than PolyWeld will also weld Styrene and is ideal for plastic kits such as those by Airfix etc. (Anyone building a Corvette?)

Earlier in the article I mentioned gluing metal parts to plastic hulls etc. might be done with two-part epoxy, however metal and wooden parts are traditionally difficult to glue firmly to plastic hulls, especially to ABS hulls. The glue of choice for many years in Graupner kits using ABS hulls was Stabilit Express, but this tended to be expensive and quite hard to get hold of at times. Starloc Adhesives has a number of products that would be suitable for this job and a look through their online catalogue with its recommendations for each product will find the one for you. However, for motor and servo mounting my preference would be to construct a platform from thicker styrene and weld that to the hull. Then screw or bolt your metal motor/servo mount to that. One thing to remember is that a thin vac-formed hull can be melted by solvent adhesive so be sparing with it. By the same token be careful with two-part epoxies on a plastic hull as they produce heat as they cure and can easily distort the plastic near the joint.

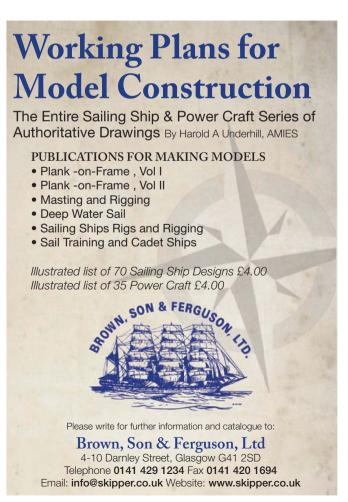
Finally, windows in models, whether they are porthole glazing or whatever, can be spoiled very easily by using the wrong type of adhesives on the clear acetate or transparent styrene used. Starloc do a special canopy glue designed I believe initially for aircraft canopies, however, I have found odourless cyano to work pretty

That's all for now, more next month when I cover adhesives for use with GRP hulls. MMI



Applicator bottle for solvent adhesives with fine needle and spares (Courtesy Starloc Adhesives)





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# US DEVELOPMENT OF A TORPEDO BOAT IN 1895

THIS ARTICLE DESCRIBES THE DEVELOPMENT OF THE AUTONOMOUS TORPEDO AND THE EARLY DESIGNS FOR TORPEDO BOATS. IT CULMINATES IN THE BUILDING OF A MODEL OF A TORPEDO BOAT DESIGNED TO BE CARRIED ABOARD USS MAINE AUTHOR: ERIC BAUTHIER AND RENÉ LEFÈVRE



riginally in 1895 two Torpedo Boats of 14.8 tonnes were planned for the battleship USS Maine. They were to be armed with 18-inch Whitehead torpedoes installed in a torpedo tube in the bow. These boats were to be carried on the flying bridge between the central and aft superstructure of the Maine. René Lefèvre presents drawings of one of the two craft proposed. Once again, our exceptional model maker is offering us a piece of high quality work

The Torpedo Boat for the USS Maine was built by the shipyards of New York. From the outset testing showed she could only achieve a speed of 12 knots instead of the 18 knots expected. This disappointing performance contributed to the Navy abandoning the concept of a Torpedo Boat on board. Thus, the second Torpedo Boat was never built and the two planned for the USS Texas, the sister ship of Maine, were also struck off. This meant that the unique prototype was not needed aboard the Maine and so was assigned to the Newport torpedo base where she served for a time as a training craft before ending, most likely, as scrap.

#### THE TORPEDO BOAT'S DIMENSIONS

The Torpedo Boat designed for Maine was begun in 1894 and had a length of 18.8 metres and a width of 2.78 metres and a draft of 66 cm. It was powered by a 200 hp steam engine, which was designed to achieve, as said above, the speed of 18 knots. Its displacement reached 14.8 tonnes and its crew consisted of five sailors.

The torpedo used on the boat, still made today, was the 18 inch (or 45.7 cm) Whitehead which had a length of 3.5 metres and a total

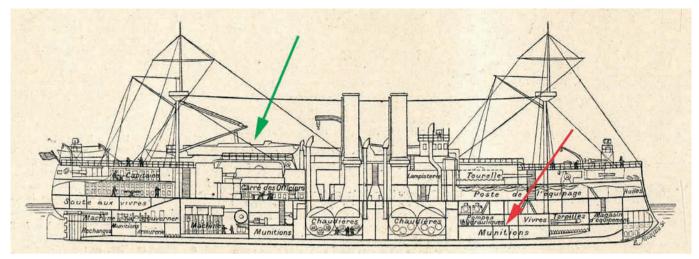


The Torpedo Boat for the USS Maine (Navy)

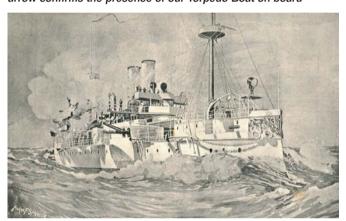
weight of about 400 kilos, including an explosive charge of 60 kilos of gun cotton. It was installed in a torpedo tube. An air compressor with a pressure of 95 kg/cm² propelled the torpedo 800 metres at a speed of 28 knots (52 km/h). There was a larger size version of this torpedo, which measured 5 metres in length carrying 110 kilos of explosives. The craft was also equipped with a rapid-fire cannon Driggs-Schroeder with a calibre of 3.7 cm.

#### THE USS MAINE

When it entered service in 1895, the USS Maine was the first modern ironclad for what was called the new US Navy, emerging



An illustration of USS Maine from 12th March 1898. The red arrow indicates the ammunition bunkers that exploded, while the green arrow confirms the presence of our Torpedo Boat on board



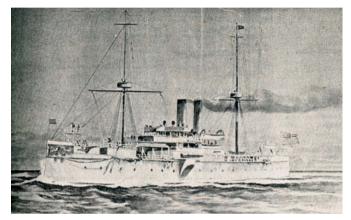
The battleship USS Maine, an illustration from 19th February 1898

from the legacy of the Civil War (1861-1865) and somewhat forgotten. She was assigned to the Atlantic Squadron based in Portland, Oregon. At the end of 1897 with the insurrections having broken out in Cuba (then a Spanish colony), the Maine was ordered to Havana. She arrived on 25th January 1898 to protect US citizens and their interests, and to support the protests and demands of the consul Mr Lee. The publications of the time emphasised that the mission of the Maine was peaceful in nature and her visit to Cuban waters a pure courtesy. On entering the port she even exchanged salutes with the Spanish cruiser Alfonso XII.

While at anchor, the Maine suddenly exploded on 15th February at 22:00 hours. Of the 510 officers and men, the explosion resulted in the death of nearly 260 and a further 210 were wounded (these figures are disputed). The tremendous explosion took place in the front ammunition store, located below the hydraulic pumps and above the deck where sailors were sleeping, which explains the large number of people killed. The shock was so violent that the cruiser



The USS Maine entered the port of Havana on 25th January 1898. It was destroyed 21 days later (Navy)

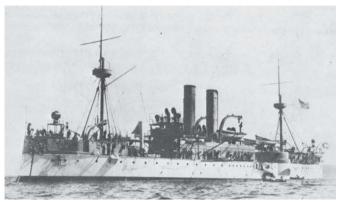


This illustration of the USS Maine appeared in The European, 6th March 1898

literally lifted out of the water and then fell back partially destroyed. The quake was felt throughout the city and the electric lights went out. A fire ensued and the burning ship was soon sank, the sailors who were able to escape, by swimming or in boats, were picked up by a gunboat and an American merchant ship. The crew of the Spanish cruiser Alfonso XII, anchored nearby, strove valiantly to rescue the survivors.



Aboard the Maine (Navy)



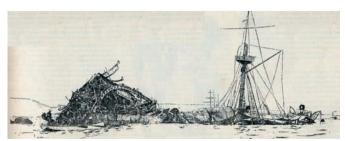
USS Maine (Navy)



Wreck (Navy)

According to the American newspapers of the time, the Cabinet in Washington was convinced that the Maine was destroyed by an underwater mine. The American public believed that the explosion was deliberately provoked by the Spanish authorities and gave rise to a rallying cry: "Remember the Maine!" The United States used this as a pretext to declare war on the Spanish colonial power. This war, which began in April 1898, can be summarised in a landing in Cuba and two naval battles in which Spanish squadrons were virtually annihilated. The conflict ended in December of the same year with the victorious Americans obtaining the independence of Cuba, and the annexation of Puerto Rico, Hawaii, Guam, Midway and the Philippines (held until 1992).

The causes of the destruction of USS Maine were not established until much later. The only certainty at the time was that the



The wreck of the Maine from a photograph taken by an envoy of the world after the disaster.

ammunition bunkers at the front of the ship exploded. Further light on the subject came in 1976 when the Navy published an investigative report concluding that the accident was caused by the spontaneous combustion of either a powder magazine and/or the dust from a coalbunker close to the 5-inch ammunition. Other experts doubted this, but several dives on the wreck confirmed that the explosion took place from inside the hull. However, examination of the lower part of the hull also revealed damage caused by an external mine, and so one thing probably led to another. This survey is the subject of a publication by the Department of the Navy under the title, 'How the battleship Maine was destroyed'. Re-floated in 1910 the wreck was sunk during a ceremony off the coast of Cuba on 16th March 1912. Today there are two monuments erected to her, one in Havana and the other at the Arlington National Cemetery. The latter contains one of her anchors and one of her two masts.

#### TORPEDOES AND TORPEDO BOATS: A LITTLE **HISTORY**

In 1867, after two years of collaboration between an Austrian officer, Luppis and a Scottish engineer, Whitehead in Fiume (now Rijeka, Croatia while in Austrian possession), there appeared the first effective motor torpedo. It, however, lacked stability because its immersion depth could vary by several metres. It was a 'cigar' of about 3 metres long with a diameter of 35.5 cm, weighing 216 kilos with 8.5 kilos of explosive. The torpedo could travel 600 metres at a speed of 6 knots (11 km/h). The Austrian government refused to fund the development of this new weapon so Whitehead offered it to the British who, after various tests and trials, bought the manufacturing rights in 1870.

Other navies did not take long to follow the English example and also acquired licenses to manufacture what became known as the Whitehead torpedo. Everyone guickly fitted the device onto existing ships. The appearance of the self-contained torpedo gave rise to a renewed interest in the Torpedo Boat. Previously torpedoes were armed and towed to the enemy making them difficult to use, if not suicidal. The crew had to manoeuvre their ship into direct contact with the enemy, while under fire, making the operation as dangerous for the attacker as for the attacked.

The Torpedo Boats were small, hardly of naval quality and of limited range, hence the idea to embark on larger units capable of delivering the torpedo to any theatre of operations. First, it was the large steam lines that were fitted with the side launching torpedo systems. Then a standard size emerged with substantially all the vessels having an average length of 18 metres and a displacement of 15 tons. They were armed with one or two bow tubes and were called second or third class Torpedo Boats to differentiate them from offshore destroyers which were bigger, more powerful, and self-contained.

Thus, for some time, battleships, in particular, carried one or two of these small craft. Photographs of this period show these small Torpedo Boats aboard the English battleships HMS Inflexible (1883) and HMS Edinburgh (1887). There was also on the Italian battleship Duilio, at the stern, behind a panel opening to the sea a hangar specially designed to contain a 30-ton Torpedo Boat of the Clio type. England and France only built ships to carry smaller units. A merchant ship, still under construction, called Hecla was commandeered by the Royal Navy in 1878 and turned into a torpedo carrier. It had to be replaced in 1889 by Vulcan, a ship that had the looks, size and armament of a cruiser, but was fitted, like its predecessor, with six 2nd class Torpedo Boats. In 1895 France also launched a cruiser-destroyer, the Foudre, capable of carrying up to ten torpedoes. However, a new weapon was born which was even more revolutionary than the torpedo: the aircraft, which could also carry a torpedo! The Foudre ended her career as a seaplane carrier. Moving with the technical advances, the Torpedo Boats would soon make up their own fleets and were often larger.

#### THE CHOICE OF MODEL

During the summer of 2002 a member of the Nautic de Roux Model Club (B), who spent his spare time making a steamboat,

suggested that René Lefèvre should construct a similar craft. "We could sail together," he shouted. With little enthusiasm for this because he didn't do much sailing, René Lefèvre argued that the proposition could certainly attract one of the numerous confirmed steam enthusiasts in the club. The story with the model maker in question stopped there temporarily, however, soon after the idea insidiously resurfaced.

Twenty years ago, to learn about employment opportunities and a possible job as a fitter, René Lefèvre had made a steam engine. It was a classic vertical twin of his own design and equipped with a double skinned boiler he had made previously and was a copy of a commercial model. This set-up, after running two or three times on a test-bed, ended up forgotten at the bottom of a cupboard until one day in the summer of 2002. René Lefèvre wondered why not use the old steam plant in a new model to show its capabilities? Having a preference for old and/or little known vessels, our goldsmith chose a small Torpedo Boat glimpsed in the pages of a book on early American battleships. To make this he had to find the plans. The information in the book included a simple side view and a photo, all referenced to the National Archives of the United States. René Lefèvre inquired of this institution which, by return, sent him a list of available plans. Unfortunately, American Archives were now working in cooperation with commercial intermediaries who were responsible for the printing and distribution of these plans, resulting in a significant increase in the price. But what is more annoying, as reported by René Lefèvre is that these intermediaries shun orders from overseas. At present, while the construction is complete, our modeller is still awaiting responses to requests. Fortunately, he discovered that the plans of this small Torpedo Boat were available in Germany and two of his friends acquired them for him. René Lefèvre designed a version that appears in this issue.

#### KEY FEATURES

In order to easily accommodate the engine with its boiler, the scale of the model was chosen to be 1/12.5, or twice that of the original plan. This resulted in a vessel of 7.5 kilos displacement, which would measure 1.50 m long and 22.2 cm wide and 5.5 cm draft. The latter was deliberately increased to 6.5 cm in order to allow for a possible increase in displacement of 2.5 kg, or a greater height of the freeboard. To make the model more interesting René Lefèvre decided to look at the possibility of using the torpedo tube in the bow to actually launch a torpedo.

#### THE HULL

For its rigidity, for its lightness, but especially for its ease of use, wood was chosen as the main material to make up the hull of the model. In conventional construction, fifteen perforated 5 mm plywood frames were installed on a building board upside down, (keel up), ensuring they were flat and rigid. The frames were planked with pine strips 2.5 mm thick, these were between 12 and 14 mm wide. They were tapered at both bow and stern. The rounded stern of the boat was planked with vertical strips shaped using a file and glued to fit the former.

After plugging any gaps the hull was carefully sanded, and then it was covered with two layers of crossed strips of fibreglass impregnated with polyester resin. Wet and dry was then used to finish the surface. The inside of the hull was then generously coated with resin to ensure water tightness. Then, the outside of the hull was covered with tissue paper, glued with aircraft dope, and carefully sanded. These operations followed each other to produce a perfectly smooth surface. Some reinforcing strips and metal joiners were glued in place as were the rubbing strake composed of two layers of plywood with rounded edges. Holes for the rudder and stern tube were then cut. The propeller tube, which had previously been made from scratch with handmade bearings, was glued in place, as was the rudder tube and its support, which held it firmly in position. The bridge was constructed from 2 mm plywood, and consisted of eight parts,



The wooden hull is of conventional construction followed by two layers of fibreglass and polyester resin (R. Lefèvre)

some of which were single narrow strips due to the large area occupied by the superstructure.

#### THE COCKPIT

At this stage of the construction, it was best to complete the part of the superstructure, directly attached to the bridge, that were still untreated, with more details added later. This superstructure was made from zinc and brass, and had four parts, which were built separately.

The cockpit had an oval shape with a slight taper. This was first drawn on a flat sheet of cardboard. After making the inevitable and necessary adjustments, the traced pattern was transferred onto a copper plate of 0.6 mm, and was then cut out, folded and soldered. The domed roof was formed by hammering a piece of oval zinc onto a concave former made of wood. The operation was repeated until reaching the shape and curvature required. It was therefore the perfect fit on the vertical part to which it was soldered. The cabin that resulted was temporarily held in place on the bridge by a few nails.



The cockpit of brass. The zinc roof and the wooden former on which it was hammered (R. Lefèvre)



The cockpit seems shielded

Details of the cockpit with the anchor reproduced in aluminium and brass



The forecastle made of brass and wood (R. Lefèvre)



The forecastle almost finished and soldered to the cockpit



Overview of the bow

#### THE FOREDECK

The foredeck was made to perfectly fit the contours of the bow and the cockpit. This rather special shape is somewhat reminiscent of the curve of an iron. Before the component was formed on the model, a cardboard template was cut and then transferred to a sheet of 0.3 mm brass. The rivets were printed one by one in the metal, using a punch. This part was carefully fitted and soldered to the cockpit. This was followed by the production of reinforcing strips, joint covers, brackets, hatches and other deck fittings.



The forward hatch

#### THE CENTRAL SUPERSTRUCTURE

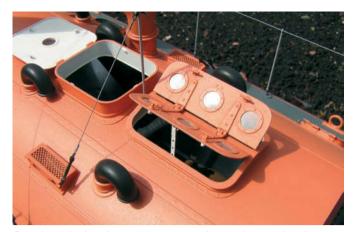
The central superstructure was formed in metal like the previous component. This had a rounded rectangle of brass, accurately shaped and soldered onto a frame that consisted of two corner pieces that connect the two end panels. All this fitted perfectly with the bridge opening. The whole was embellished with various pieces of hardware such as panels, aerators (resin), hatches, davits, anchor (aluminium), funnels, etc. These were made from chrome copper tube 32 mm diameter as used in plumbing. After a thorough sanding



Central superstructure of brass and zinc (R. Lefèvre)



Central superstructure with open hatches to cool the steam engine



Details of the hatches: a testament to his professionalism!



The central superstructure being completed (R. Lefèvre)



The quick-firing gun Driggs-Schroeder an inch in size



The rear seat and curved slats are cut from a sheet of 1 mm thick plywood

the bare copper was exposed making it easy to solder. Similarly, at the rear, a metal grille platform was formed from 2.5 mm wide latticework and a traditional gun completed the assembly.

#### THE BENCHES

Fashioned from 0.3 mm brass sheet, the benches are internally lined with planks of plywood cut 1 mm thick, carefully fitted and glued. The curved portions are shaped in plywood. The vertical and horizontal profiles are assembled between 2 mm plywood sides. The wood is sanded and stained with walnut stain before applying a final coat of clear varnish. Now the superstructure was glued in place while the other pieces are fitted into the openings of the bridge. Removable sections allow easy access inside the hull.



The front and rear seats trimmed with strips of plywood of 1 mm thickness (R. Lefèvre)



The front seat and access to the cockpit



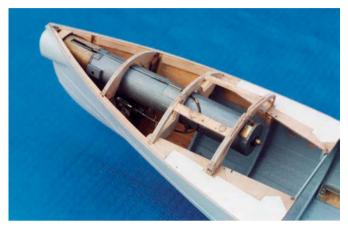
The perfection of the grating at the stern

#### THE TORPEDO TUBE

The removable torpedo tube is made from a cylindrical shaped plastic tube 30 cm long and 40 mm diameter. Its front end fits into the bow of the vessel, the other end is closed by a circular cap made from plywood. Running through its centre, by means of a metal tube

was a connecting rod from a piston fitted with a spring for ejecting the torpedo. A servo, attached to the main tube, is fitted with an L-shaped yoke, which operates two levers. The first lever opens the door of the tube via a flexible shaft and a push button release mechanism. The second lever then rotates in the same direction and mechanically releases the torpedo.

The torpedo has a volume of 200 cc and consists of a cylindrical central part (plastic tube 36 mm diameter), and two ends shaped like a cigar cut to size in hardwood. The nose cone is a simple sealing cap. Three rechargeable batteries, a motor and a timer (adjustable



The functional torpedo tube in place (R. Lefèvre)



The torpedo tube and torpedo split into its three parts (R. Lefèvre)



A model of the Torpedo Boat designed to be carried on the USS Maine



The torpedo assembled and ready to load



The torpedo outlet

from 5 to 20 seconds) are all arranged in the central cylinder. The timer system determines the operating time of the torpedo, in short, its range. Thus it is always possible to recover it. There is also a set of magnetic contacts (reed relay type), which, with a magnet glued to the torpedo tube, starts the timer when launching the projectile, and also activates the propulsion engine. To allow maintenance of the torpedo, the tail cone is simply fitted into the body of the machine and is sealed by an O-ring. The volume available in the rear cone

allowed installation of twin screws contra rotating using a differential from a small radio-controlled car.



The rivets are small circles of paper 1.5 mm diameter, cut with a cookie cutter. These rivets are glued individually - there are more than 2,500

#### THE PAINTING

The hull was given two coats of white primer. After a final sanding with the fine sandpaper, the vertical metal joints and the exact positions of the rivets were marked. Rivets, barely visible, were represented by small circles of paper 1.5 mm in diameter, cut by a punch, these rivets are glued individually in the required locations - there were over 2,500. The hull was



A few pieces of hardware made in brass, zinc, aluminium and resin (R. Lefèvre)

covered with three to four coats of white enamel satin sprayed using a spray gun. The superstructure was covered with ochre, which the Americans call 'buff', that is to say the colour of chamois leather. The visible parts of the bridge were painted dark grey, with brown sheer strakes and some of the deck fittings in black.

#### THE TECHNICAL DETAILS

For clarity and simplicity of wiring, all the elements that make up the entire radio control (receiver, servos, and battery) are concentrated in the forward area, leaving the rest of the hull available for the installation of the steam plant. A servo actuates the rudder through a semi-rigid Bowden-type cable the sheath of which is glued along the inner edge of the hull. A rotating round bar of fibreglass, a material that is both rigid and slightly flexible, operates a servo valve that controls the admission of steam into the engine, and hence the



The power plant 'dry' (R. Lefèvre)



The boiler gauge



Details of chimneys made with recycled plumbing parts



Contra-rotating propellers steer the torpedo via a small radiocontrol system



The hand-crafted four-bladed propeller made of copper



The steam engine, a personally designed vertical-twin classic

speed of the craft. A third servo operating in the same way as the previous one can reverse the direction of the motor by acting on the Stephenson's valve gear. Powered by the steam engine and a four-bladed propeller, the Torpedo Boat navigates smoothly. The tapered hull is certainly the cause. Speaking of this hull. it can easily be noticed that the lines could be well suited to the design of a motor launch or a luxury yacht.

#### CONCLUSION

For his umpteenth construction, René Lefèvre again offers us a high quality reproduction of an ancient ship. His ability, forged throughout many years of experience, has addressed a wide range of different techniques and mastered them. This gives rise to the nickname of René the Goldsmith partly modifying his surname. This craftsman, with great sympathy and always eager to help others, brought a reputation for excellence to ship modelling. The greatest model boaters



The engine in detail



The body double boiler



The entire radio is installed in the front of the model to allow maximum space for the installation of the steam engine and its boiler

in the genre have noted that even a philistine could not remain indifferent to his work. How many passions were born at the sight of his outstanding achievements? How many novices have become now, thanks to him, modellers? Certainly, René Lefèvre is an example

Characteristics: Original Boat

Length: 18.80 m Width: 2.78 m Draught: 0.68 m Travel: 14.8tons

Engine: Steam engine of 200 hp Expected Speed: 18 knots Speed Reached: 12 knots

Crew: 5 mariners

Armament: 18-inch torpedo, rapid-fire guns of 3.7 cm

Characteristics: Model Boat

Scale: 1/12.5 Length: 150 cm Width: 22.25 cm Draught: 6.5 cm

Engine: Steam, twin-cylinder vertical

#### **EDITOR'S NOTE**

This article was submitted in French and has been translated using Google Translate, school French and the help of a friend who has a good knowledge of the language. As we cannot guarantee the accuracy of the translation, the original French text can be emailed on a request to the editor. Throughout the French text this craft is described as a Destroyer. As this is an unusual subject it has proved impossible to confirm this designation and so I have erred on the side of caution and used the term Torpedo Boat.

Reduced scale plans of the Torpedo Boat designed for USS Maine can be found on the MMI website: www.marinemodelmagazine.com



The first launch of the torpedo. René Lefèvre soon noticed the excellent nautical qualities of his model



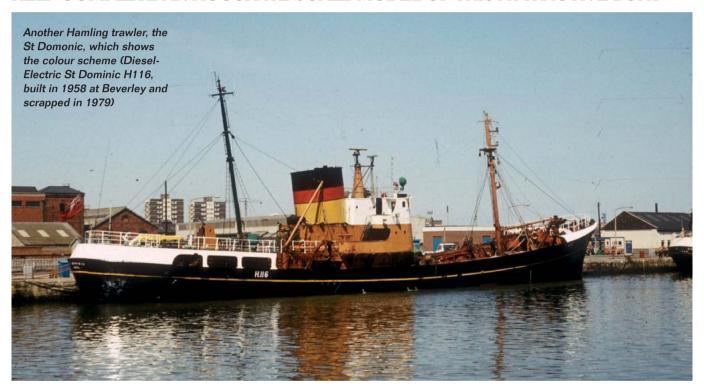
René Lefèvre presents his completed model



Completed craft sailing

## **COR TRAWLER AUTHOR: JIM POTTINGER**

THIS MONTH'S FEATURE PLAN (MAR3620) IS OF THE MOTOR TRAWLER ST GILES. SHE HAD A LONG AND CHEQUERED HISTORY BOTH AS A FISHING VESSEL AND AS THE SEA SHEPHERD II OWNED BY THE SEA SHEPHERD CONSERVATION SOCIETY. THE ARTICLE CONTAINS USEFUL INFORMATION TO HELP COMPLETE AN ACCURATE SCALE MODEL OF THIS ATTRACTIVE BOAT



#### THE HISTORY OF THE ST GILES

The St Giles was launched on 9th February 1962 at the Port Glasgow shipyard of Ferguson Bros Ltd and was built for Thomas Hamlings & Co Ltd of Hull, registered in May of the same year and taking the fishing number H220. This builder is more associated with the construction of tugs, dredgers and other specialised craft in modern times, and inspection of their records confirms that the St Giles was the only side trawler they built. However, they built the stern trawlers St Finbarr, St Jason, St Jerome, St Jasper and St Benedict between 1967 and 1973 for the same owners. The shipyard must have been pleased with their St Giles as more trawlers, the Roman and Goth, were built in 1974 for British United Trawlers, the last fishing boats they built.

Whilst she had vastly improved accommodation and crew facilities, achieved by having the enclosed deckhouse on the main deck aft extended out to her port side, she, nevertheless, had the same exposed open deck and fishing arrangement as was common on the earliest steam trawlers. Indeed, side trawlers were still being built right up to their demise of a type that exposed fishermen to the same conditions as their grandfathers before them.

Whilst the Salvesen family, more noted for their whaling activities than trawling, owned Fairtry (I) the first true British stern freezer trawler (completed in 1954), it was not until some years later that the next stern trawler was commissioned by established trawler owners.

Thomas Hamlings was a partnership between Tommy Hamling and George Hall, the Lord Mayor of Hull, who supported various business ventures, this company being formed in 1893. Unfortunately Tommy Hamling, keen to have the fastest horse drawn vehicle in the district, ironically was killed when his vehicle overturned in a traffic accident. The company then came under the chairmanship of Harold Hall and then his son Harold Watson Hall until its demise in 1983. A number of their trawlers were requisitioned by the Admiralty in WWII and in deference to the death of Donald Hall, killed at Dunkirk at the beginning of the war; a black band was added to the funnel. In the boom years between 1948 and 1962 they had side trawlers built and then a series of freezer stern trawlers were constructed. Despite pleas by Hamling's managing director to the Government for assistance and support due to there being no profitable fishing grounds available in the 1980s none were forthcoming and the company closed in 1983.

Even before the newsworthy events surrounding her later career the St Giles had been in a few scrapes with the Icelandic patrol vessels during the height of the so called Cod Wars in November 1975. The Icelandic Thor and the British protection vessel HMS Brighton had been skirmishing and manoeuvring as close to each other as 20 feet as she tried to thwart the Thor from interfering with the St Giles trawl. She still had her trawl out when the Thor managed to cross astern towing a cutting wire which severed both



St Giles prepared to cast off at the entrance to St Andrews Dock at Hull. An additional radar scanner has been mounted on top of the wheelhouse, the aft trawl door can be seen stowed outboard of the aft gallows (courtesy of David Buckley collection)



Here we see her at the same location seen from the other side of the dock entrance. It would appear that she is about to go out to adjust the compass with the men in shore rig on top of the wheelhouse (courtesy of Jonleif collection)



Starboard view of St Giles, the bag ropes attached to the aft leg of the mast shrouds can be seen clearly, possibly she is arriving after trials as she is still pristine and light ship (courtesy of Jonleif collection)

trawl warps. This so angered the crew that they called for the HMS Brighton to sink the gunboat as she headed away. Much of this incident was filmed by a BBC Film Unit.

The successful introduction of the 200 mile limit by Iceland effectively spelled the end of the UK distant water trawler, and in October the St Giles was sold to the Sea Shepherd Conservation Society and renamed Sea Shepherd II, replacing the former trawler Westalla. She moved to the Gulf of St Lawrence in April 1983 where she escorted three sealing ships out to the Harp Seal Nursery. For her pains she was rammed by vessels of the Canadian RCMP and Coast Guard and boarded in a tear gas assault in the ice, north of Nova Scotia. The captain and seventeen crew members were charged, somewhat ironically, with violating the Seal Protection Act, which forbade any approach within half a

mile of a seal hunt and interfering with seal killing. The vessel was guarantined. Following a long series of court actions, counter claims and appeals, in April 1985 the Court quashed the charges and ordered the return of the Sea Shepherd II to Captain Watson who recruited a crew of volunteers with the intention to sail to Europe.

In 1992 she was sold at Ucluelet, British Columbia after a large bill for pilotage was handed to her owners. All valuable equipment was taken off and the hull was later sold. It was reported to the Canadian Coast Guard in April 2004 that she had been located in Robbers Pass, Tzartus Island B.C. and was considered a derelict in danger of sinking. As the exact ownership could not be confirmed she was prepared for scrapping by pumping out waste oil and diesel fuel. It was also discovered that she was taking in water. She was taken to the Esquimalt graving dock, arriving on 27th May 2004, and by 30th July her scrapping was complete.

The following lists some of her campaigns:

1981- Iki Island, Japan dolphin protection campaign

1981 - Soviet Siberia exposed illegal whaling

1983 - Blockade of St Johns Harbour to stop Canadian sealing

1989 - Confrontation with illegal Mexican and Venezuelan tuna fleets

1990 - Rammed illegal Japanese driftnet boats and sheared the power block used for the nets

1991 – Rammed Mexican outlaw tuna boat in Guatemalan waters with Government thanks

1991 - Boarded the replica ship Santa Maria during Columbus voyage anniversary in protest of 500 years injustice to Native American peoples

1992 - Caught USA tuna fishing illegally

1992 - Caught Costa Rican boats poaching sharks and dolphins in the Cocos Islands

1992 - Second major confrontation with illegal Japanese drift net fleet



Quarter view, with men on top of wheelhouse and the man leaning on the port guard rail abreast the bridge (courtesy of Jonleif collection)

#### **MAIN PARTICULARS**

Length Overall: 178 ft 8" Length BP: 173 ft 9" Breadth Moulded: 32 ft 0" Depth Moulded: 16 ft 6" **Gross Tonnage:** 658 Net Tonnage: 242

Main Engine: One Mirrlees, Bickerton & Day, Stockport

4-stroke SA 8 cyl. 15" dia x 20" stroke

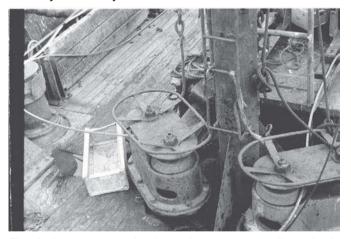
**Bhp:** 1,400

There is something of a mystery about the lengths shown on page 53 as quoted on the builder's drawings and the Lloyds Register given the extensive overhangs at the ends, especially at the bow. I cannot reconcile the small difference in the length between perpendiculars and overall length. In fact, by measuring the lines plan as marked as above stations at a scale of guarter inch to one foot (1/48) these lengths come out at 167.4 feet between perpendiculars and 193.7 feet overall, a difference of 26.3 feet. This is more realistic in relation to the large, aforementioned, overhangs fore and aft.

She had accommodation for 24 men, which included skipper, mate, radio officer and three engineers. The skipper had a selfcontained dayroom, bedroom and bathroom on the deck below the wheelhouse, while the crew were berthed in two or three berth cabins. The trawl winch had direct drive from an electric motor sited on the main deck, inside the forward end of the deckhouse below the bridge, which took its current from a trawl winch diesel engine generator in the engine room.



Possibly a trials view judging by flag at foremast and crowd aft (courtesv Peter Bradv)

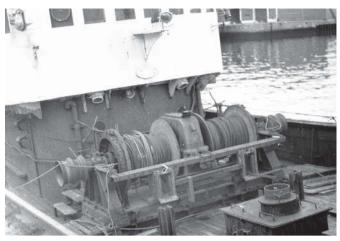


This deck view on a trawler shows the warp centre roller and side roller placed outboard with warps running around the sheaves

#### BUILDING A MODEL FROM THE PLANS

Whilst I would hesitate to recommend this plan as simple to build there are no obvious difficult areas for constructing a model, but as ever the devil is in the detail. How much time and effort is the model maker willing to expend in replicating accurately in respect of scale and realism all the numerous small details and fittings on the ship? Another factor is the amount of space available in the usual household to work and store a model of this size, of course she could be built at a smaller scale but in my opinion the whole character of the trawler and general effect would be lost.

Even a cursory inspection of the lines and body plan will confirm the relatively fine lines and yacht like shape of the hull. Despite the raking bow, hollow waterlines forward, and the sloping cruiser stern the waterlines are almost equally balanced in the forward and aft half of the hull. The positions of the half round protective bars on the starboard side of the hull shell plating are shown on the profile on Sht 1

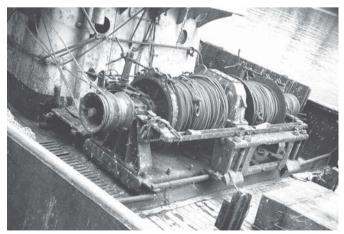


Electric trawl winch on a middle water trawler, the warp leading onto spooling gear, then to the winch barrels, is fitted on the forward side of the winch and slides back and forth with vertical guide rollers for the warps. A fish loading and unloading hatch and top of one of the pond board pillars can be noted in the foreground

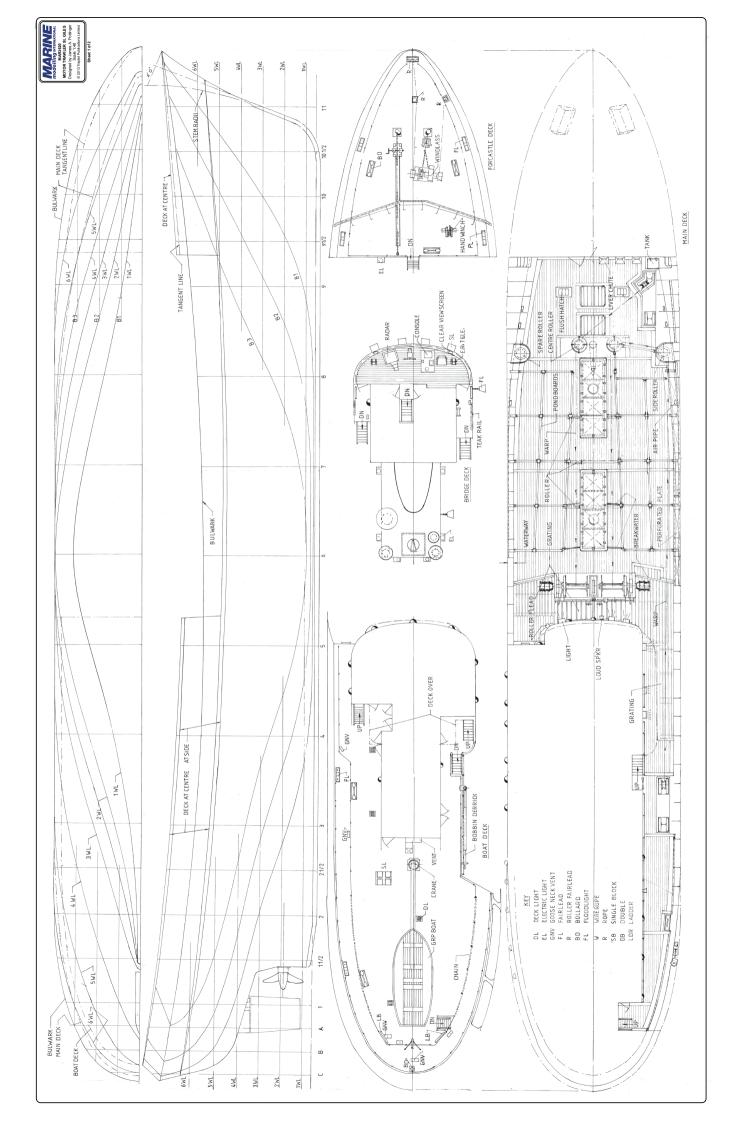
Anchor mooring arrangements on the forecastle deck are somewhat odd in that only the starboard anchor chain is handled by a powered windlass, while the port side has the chain arranged to be led aft and handled by the trawl winch. The anchor windlass had a dual function with the warp ends suitably aligned to the deck rollers for mooring alongside, all reflecting the usual pattern of mooring starboard side to the quayside. The anchors themselves are housed in deep pockets on each side of the bow.

Three liver discharge chutes are affixed to the forecastle bulkhead, spaced as per plan view on Sht. 1, see Sht. 2 for elevation end view, which also shows position of ladder, deadlights, access door to forecastle and a tank mounted inboard and against the starboard bulkhead. This view also shows a series of footsteps attached to the inboard side of the port and starboard bulkheads, also shown is the shape of the round of the forecastle whaleback.

The plan view of the deck shows the arrangement forward of the wheelhouse, the two large hatches have a circular opening on each for emptying the fish down to the hold, and will be fully opened when discharging the catch ashore. See detail on Sht. 2 for the locking arrangement of the hatch lid and a portable warp roller to support the trawl warp leading from the centre and side rollers aft to the trawl winch barrels. These rollers, detailed on Sht. 2, guide the warps from the forward and aft gallows to the trawl winch. The forward gallows has an angled sheave built in the foot to allow a fair lead of the warp from the hanging block to the port centre roller,



Another view of similar arrangement, the actuating mechanism to make the guiding on gear go back and forth is hidden under the channel cross bar at front of the winch, note brake operating handles





A view of the guide sheave angled at the bottom of the gallows fore leg with cover over the warp which leads to the port centre roller. The trawl door and one of the trawl bobbins should be noted. Just in frame is the warp hanging block



This shows a typical trawl board, on a stern trawler in this instance



Trawl warp hanging block and attachment to the gallows, also with safety chain loop



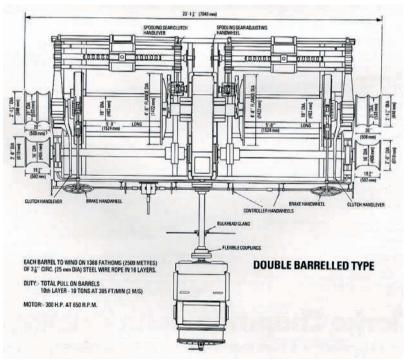
see arrangement on Sht. 1 and 2. The aft gallows has a sheave incorporated in its forward leg, see Sht. 2.

Deck pond boards are made up from wooden boards slotted in steel vertical supports to prevent the catch sloshing around the deck when emptied from the cod end, see Sht. 2 for detail of supports. A breakwater is fitted on both sides at the aft end of fore deck just ahead on the windlass, a raised grating being provided around the trawl winch. At the deck edge, just inside the bulwark, is a waterway on both sides of the vessel's fore deck, that on the starboard side has a perforated cover plate bolted to angle bar supports to prevent any fish washing out of the freeing ports, see bulwark detail on Sht. 2. This sheet also shows detail of the wooden deck, margin plate and bulwark stanchions formed from tapered bulb flats. A number of swan neck vent pipes are positioned just inside the bulwarks on both sides, see Sht. 2 for detail.

The arrangement of the boat deck and bridge deck above should be self-explanatory. Note the portable chain guardrail, on the boat deck, is in the way of the lifeboat. The bobbin derrick mounting pivot arrangement at the side of the casing can be seen on Sht. 2. I have included a sketch of a typical trawl board; the actual design often varies between vessels, which would be stowed in the space between the foot of the gallows and the bulwark when not in use. There is a fair amount of rigging on a side trawler of this era, which hopefully will be clear from the drawings. Note the twin wires with rollers attached to the starboard shrouds and led aft to a securing point just inside the bulwarks. This arrangement is to provide some control of the cod end when it is hoisted inboard and swinging about. Most illustrations of side trawlers, except when fishing, will show this tackle unrigged and usually wrapped around the base of the shrouds. The light line reeved to a block high up on the forestay is used to hoist an oil lamp when anchored. A number of single and double sheave rollers are fitted along the starboard side of the casing, a key is provided as to type, as is type of rigging, i.e. wire or rope and single or double blocks etc.

The arrangement of lights on the foremast and wheelhouse top has been the subject of some debate, and my suggestion would be

- Top light to be all round green
- Middle all round white
- These two above being shown when trawling
- Lower white steaming navigation light
- Those on the wheelhouse top to be repeats of above

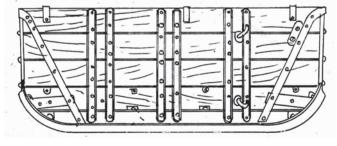


#### COLOUR **SCHEME**

See included photo of Diesel Electric St Domonic H116, another Hamling trawler. Not shown would be wooden decks and light brown hatch coamings, forecastle bulkhead and inside of bulwarks, skylights and deck fittings. MMI

A typical electrically driven trawl winch as fitted to a large trawler; the drive motor being housed in the deckhouse under the wheelhouse

Here we see the fore deck of a trawler at sea, the cod end looks as if ready to put back in the sea, the fish is scooped up off the deck within the pound boards into washing trough in the centre and hence the sloping slide to the hold via the circular loading hatch



Wooden trawl door with steel straps and armouring at the bottom

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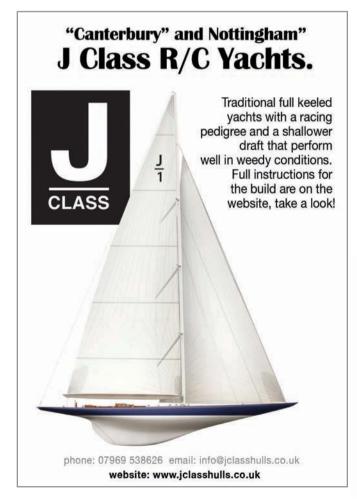
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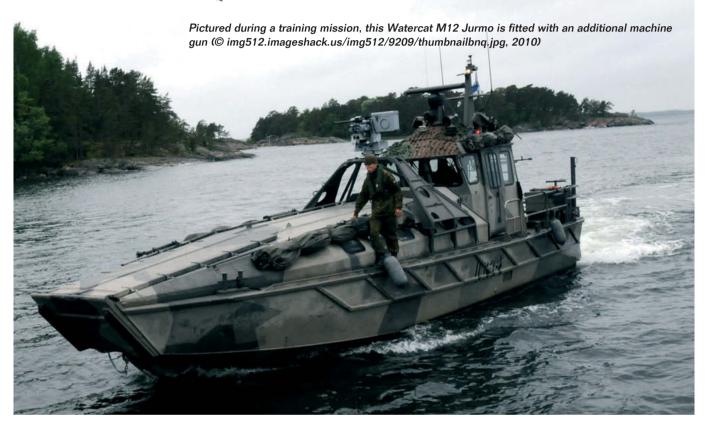






## **MARINE ALUTECH'S WATERCAT M12 JURMO PT 1**

CHRIS DESCRIBES THE CONSTRUCTION OF THIS 1:16 SCALE MODEL OF THE FINNISH NAVY'S FAST ATTACK CRAFT DESIGNED TO CARRY UP TO 22 RANGERS AND THEIR EQUIPMENT AUTHOR: CHRIS KOENIG



id I ever write about Daniela, my old buddy's wife? Daniela and Hans Witkowski operated a model shop in Bonn, Germany for decades, and whenever I entered the shop she offered me a freshly made coffee and some cake (if there was anything left). Hans is the sort of modeller you simply want to meet in a hobby store: wise, relaxed, with tons of experience and smart ideas on how to fix problems before they cost money. There are many things on the Internet but there is one thing you can't Google: sympathy and the true passion for solutions.

However, during one of those rainy afternoons when I still worked on behalf of the consultancy branch, I chose to have my coffee break with Daniela. She was in the process of cleaning up the basement of their store and was about to fill a basket with oddments. Among them I found a dusty cardboard box made by Kirin and Verlinden - obviously the 1:16 figures had failed to spark interest in Bonn. I thought 120 mm military figures could be great to use aboard a large-scale craft and then recalled Watercat M12 Jurmo by Marine

Marine Alutech supplied the Finnish Navy with 38 Watercat M12 Jurmo LCP Personnel Landing Craft. The design dates back to 1999. The Finnish MOD ordered the craft and Marine Alutech Oy AB started to deliver by 2001. Marine Alutech's Watercat M12 is based upon the type Watercat M11. Watercat M12 Jurmo offers space for up to 22 naval infantry. The boats are powered by 331 kW Caterpillar Mod. 3216 diesels and twin Kamewa FF 375-jet drives to achieve an

average speed of 35 knots. The main dimensions of the boats are (L) 14.20 m, (W) 3.70 m and (D) 0.70 m, payload is 3,500 kilograms. In operations a radius of 240 nautical miles at an average speed of 30 knots is realistic. Electronics aboard comprise Raystar's 120 GPS System, Raymarine RL80C and a radar, Raymarine's L760RC, depth sounder and radio. A bow ramp eases naval infantry operations, while Russian made 12.7 mm machineguns NSV-12.7 (HCB Никитина-Соколова-Волкова) or 40 mm grenade launchers eliminate resistance ashore

Delivered to the Finnish Navy and registered as hull numbers U (Uisko) 601 to 638, the craft have been in constant service ever since. Naval infantry praises the deep 'vee' configuration making the boat immune to harsh weather: even at a low speed the boat rides on the waves. Travelling may be compared with riding in a school bus, not in an LCP or fast attack craft. Shallow draft and high top speed are further characteristics, which predestine this class for a scale model project. Daniela's Kirin and Verlinden make a convenient 1:16 scale kit. The model Jurmo has the following dimensions: (L) 0.887 m, (W) 0.228 m and (D) 0.0468 m which exactly fit the back seat of a Vauxhall Corsa - so, let's go for it! In 2001 during a press conference a graphic of U 602 was shown to international press. The plans became available online at www.mil.fi/ajankohtaista/ tiedotteet/arkisto/2001/20011030\_1224\_1.dsp but Marine Alutech refused to send anything else, so this very rudimentary graphic had to serve as a starting point. To reduce the complexity of the Jurmo



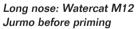
Aligning the foundation for superstructures

project I opted to split it into five smaller projects: hull, coverage for the cargo hold, bridge superstructures, details and paint job, engine technology and R/C.

#### HULL

Seven bulkheads and stringers were glued to a wooden deck and installed upside down. Sheet balsa in various sizes and the leftover timber from guiding firework rockets into the night sky, made up the materials to cover the frame work. Experience gathered in the past had shown that GRP reinforced hulls withstood almost anything at the lake. Building a model boat from wood and applying polyester inside is much easier than attempting to build the whole thing from GRP. Consequently, I asked a professional auto body shop to supply

200 - 450 g/m<sup>2</sup> glass fibre and polyester resins. To increase the ruggedness of the boat another layer of GRP was applied to the outside of the hull making Jurmo an extremely sturdy construction. Glasurit polyester putty and a stack of used 3M-abrasive pads, (which had been waste for the local auto body shop but definitely did a great job for me), helped to finish the hull in no time. After reinforcing the hull an engine mount was added and servos and R/C equipment were mounted on wooden support stringers.





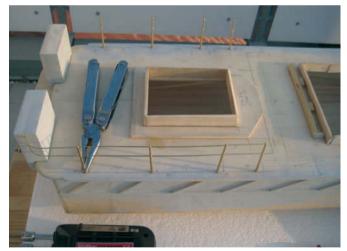




After finishing the construction jobs, spruce and GRP form a formidable craft

#### **COVERAGE FOR CARGO HOLD**

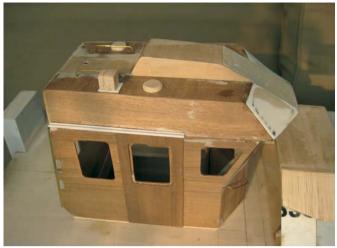
Using bulkheads is OK for the hull, so why not use a similar design for the covering? This hood was actually constructed around formers made from 5 mm ply and – once again – 5 x 5 mm sticks that hitherto had served firework rockets. Architectural spruce measuring just 1 mm in thickness was considered even better than sheet styrene to cover the frame works this time, while brass wire and splints were soldered together to imitate the handrails. Made entirely from wood the lid was then filled and sanded thoroughly several times to produce an even surface. The wood grain has to disappear before applying the basecoat otherwise the fine structure shines through. Although a machine gun would have been an interesting detail, I opted not to add one. Further, the hood was closed at the rear to increase stability.



Railings are soldered together directly on the boat

#### **BRIDGE SUPERSTRUCTURES**

When checking out the models of fellow enthusiasts I often wondered whether we actually wanted to build boats or superstructures. It's amazing to see the wealth of detail many of us put into the superstructures, while at the same time the hull is just a floating piece of wood or GRP. A set of formers and stringers, a few rocket sticks and 1 mm architectural spruce made up the superstructure of Jurmo, which was then primed and sanded. The superstructures and the lid that closes the cargo hold are the main points of access into the hull and the biggest single constructions besides the hull. Searchlights, navigational lighting, door knobs, windshield wipers, antennas, containers for oil, the ladder to reach the topside of the hut, radar, typhoon etc. are simple but effective details that need to be added. And while doing so you realise the superstructures will have their own personality once finished.



Hull and superstructures were built parallel from spruce



Superstructures and basic frame are aligned and ready for priming



Superstructures after priming



What are you doing here? The model skipper controls building progress



Although the boat is largely built from wood, some styrene was



E-Power: Graupner's 700 BB was installed, but is supposed to be replaced by a 6 cc later

After painting both the hood and the bridge in olive drab the windows were made from Perspex material. To glue the windows in place an indirect method was chosen. UHU plus Schnellfest 5-min transparent was applied to the backside edges of the windows and the wood of the compartments. This is pretty safe and does not create the superglue stains that sometimes appear on transparent material. This method works very well and I am using it on all windows in the future.

#### SIMPLE, BUT EFFECTIVE **TECHNOLOGY**

With a totally waterproof and GRP-reinforced hull Jurmo is ideal

for a nitro-powered engine. If nothing can get in, nothing can get out, under normal conditions, and a silencer will show all those folk at the pond what real combustion power is all about. On second thoughts, I felt uncomfortable with carrying a fuel bottle to the lake each and every time Jurmo headed for open water since my spouse objected to the smell. Instead we came to the agreement that an 8.4 volt Speed 700 BB electric motor by Graupner, running on 14 -16 cells, would be the best choice. Instead of jet drives a hydro drive train and a hydro rudder were obtained from Ernest Zavarsky of MHZ, basically because of the low cost of these components compared to

A two-channel receiver and a standard servo are about all it takes to get running, although additional batteries had been stored inside Jurmo's belly to operate the navigational lights. The hull is quite big and consequently the R/C equipment is not sufficiently heavy to produce enough draft. More batteries or eventually a large fuel tank and anything between 6 cc and 30 cc should replace the Speed 700 BB in the future.

#### **DETAILS**

Railings and bollards were bought, but the rest was made from copper, brass and wood scrap. When checking out the camouflage I was close to madness. Depending on the angle the photographer chose for his pictures, the camouflage looks grey/greenish brown, but these three colours could vary considerably. The background, the weather conditions, the colour of the sky, its light and clouds, the speed of the boat etc. varied the colours, making it fairly impossible to establish the original paint codes. Colours are always subject to speculation, and sun and rain may alter the original paint job after just a short period of time. You may recall those red cars in the 1980s and 1990s that had lost their topcoat to (acid) rain and intense

exposure to sunlight. While some parts of the cars were still in good glossy shape, other areas seemed dull and this was not the result of daily operations on the Baltics, but simply trips from home to work and back!

Unable to come up with proper information I contacted Marine Alutech, showed some pictures of the boat and asked for their advice. Niko Haro, the managing director, replied that the camouflage was ordered by MOD and consisted of No.048 (bright), 049, 062 and 072 (dark) colours. What seemed like a big win actually was another disaster: MODs specifications are standardized, but they failed to



utilising brass and board material



All main structures being primed

translate into any other standard such as RAL, FS Federal Standard etc. Niko told me that a company by the name of Syntal produced the stuff. Sadly, I did not find a Syntal company, and Niko did not answer further emails. In the end I simply gave up and applied Tamiya TS-41 Coral Blue below the waterline, while Tamiya XF 61 Dark Green was applied on the rest. During a trial run, however, a jogger stopped at the waterfront and told me he was with an engineering battalion in Finland during the late 1990s. According to him my model was painted very close to Syntal AN 100 Dark



Cold air and snow are ideal companions for spray painting outside the spray booth!



This is what a Jurmo looks like before applying the camouflage



Applying the primer is easy if you use Glasurit products available in spray cans





Author prepares Watercat M12 for a practice run

Green, whereas the operational boats used Syntal-Naamiomaali Camouflage Paints produced by Teknos Oy at Helsinki, Finland. I decided on keeping my model in olive drab, and not redoing the paint job.

Finally the project neared its end and I got to the point I had started towards 16 months earlier. Daniela had sold a Verlinden Productions kit No. 659 US Tanker, Desert Storm and another M222 Missile Launcher kit made by Kirin of Hong Kong to me. I assembled both kits and added AN/TAS-5 and SU/M-22 sights to the M222, as well as a few other parts in 1/16 scale, before heading for the nearest lake. There, Jurmo makes an impressive sight and offers all the fun you would expect from such a big scale craft.



I owe thanks to my sources for both the written articles and pictures: www.defencetalk.com www.militaryphotos.net (Special Thanks! to Cpl. K.), Marine Alutech Oy AB, Patria Oy, PIZM and my late spouse Silke Meyer for supporting this project during our time in Cuba! MMI



At 1:16 scale reproducing fine details is easy





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## HIVIS BLAZER

A VISIT TO THE ARCHER PATROL BOAT HMS BLAZER GIVES AN UNDERSTANDING OF HER ROLE AND SOME VERY USEFUL DETAILED PICTURES OF THIS REGULARLY MODELLED BOAT

**AUTHOR: PATRICK BONIFACE** 

he Archer or P2000 patrol boats of the Royal Navy are one of the most popular subjects for warship model boat builders in the United Kingdom and MMI caught up with HMS Blazer on her first visit to Chatham Dockyard in May 2012. The Archer class boat had a prominent role in last summer's Olympic Games serving as one of the Royal Navy vessels providing security to the games. She also had the honour of escorting the helicopter assault ship HMS Ocean to her berth on the River Thames.

HMS Blazer, at the time of writing, was under the command of Lieutenant James Beddle, and principally employed on training duties around the United Kingdom and continental Europe. Each of the fourteen members of the class are attached to a University Royal Naval Unit (URN's), in HMS Blazer's case it is Southampton and Portsmouth Universities and Southampton Institute. HMS Blazer was built by Vosper Thornycroft in 1985 and is manned by five full time Royal Navy personnel plus twelve students who can remain onboard for up to a fortnight at a time. The main purpose of the training is to develop teamwork and promote maritime skills.



HMS Blazer alongside Chatham Maritime in Kent



HMS Blazer from the stern - note the distinctive curve of the guarterdeck

Lieutenant Beedle explains:

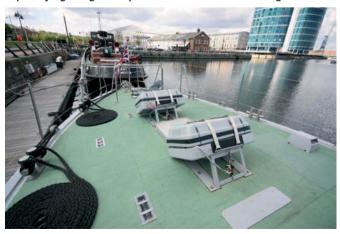
"It's about command and management in challenging and arduous conditions, something that will take them outside of their comfort zones so these boats are perfectly suited for that task.'



Bridge instruments



Top of flying bridge with pennant number and searchlight



Forecastle looking forward



Starboard side details



Port side radar support strut



Access door to flying bridge



Forecastle looking aft



Radar and instruments



Radar and instruments



Quarterdeck from above - note missing seaboat lost due to economy measures

As Lieutenant Beedle explains it is all about teaching self-reliance and command skills:

"Everything from getting up in the morning with another twelve people and working with them in a very confined area and making their own breakfast, all the very basic stuff right through to working with ropes, wires and hawsers and berthing the ship and of course navigating us around safely. We're taking them out of their normal environment and giving them something extra-curricular."

Each of the fourteen P2000's has a displacement of just 77 tons but is more useful than their size might suggest. Lieutenant Beedle continues:

"HMS Blazer is built out of glass reinforced plastic and is powered by two Rolls-Royce Perkins CV12 turbo charged diesel engines and capable of making a maximum speed of 22 knots." During a conflict the P2000's are capable of being armed with

a 20 mm GAM-B01 gun and a pair of general-purpose machine

guns and would be employed in defending ports, harbours and anchorages from enemy attack. The Archer class vessels are becoming quite aged with the most recent one having entered service in 1988. There are currently no plans to replace these venerable patrol boats in the Royal Navy. Please note that Lieutenant Beedle is no longer in command of HMS Blazer. Currently the CO is Lieutenant Amie Jackson. MMI



Port side superstructure details



Emergency lifejackets



Bow details



Lt James Beedle, commanding officer of HMS Blazer (until November 2012!)



Bridge compass

### MMI VISITS

**GERMANY:** THE TECHNIC MUSEUM AT SPEYER AND SHOPPING IN WIESBADEN

**AUTHOR:** C SAUNDERS GREAT BRITAIN



y wife and I have become fairly regular visitors to Germany with my son and family living and working in Heidelberg. To begin we spent most of the visits looking at Heidelberg and the surrounding countryside. It is a particularly beautiful area with the river Neckar winding its way through forested hills.

#### THE TECHNIC MUSEUM AT SPEYER

As we became confident with the transport system, we became more adventurous with our visits. On one occasion we visited the beautiful town of Speyer. Having completed the town tour we came across the Technic Museum. This is a very well set out museum with a huge variety of exhibits ranging from enormous steam trains to fairground organs.

Items of interest to the model boater began in the main building where a number of one and two manned submarines were on display. Like all the exhibits the story of each item was clearly detailed in a number of languages including English. One was left to



The main exhibition hall at the Technic Museum has a number of mini submarines on display



Outside the exhibits are supported on pillars and entered via a staircase

marvel at the courage needed to operate these small, dangerous craft

Outside the main building is a breathtaking display of aircraft and boats all mounted on pillars. The centrepiece is a banking Jumbo Jet about 100 ft above the ground. Climbing up to this aircraft is quite demanding as is walking around inside due to the banking angle. You can even venture out on the wing to get a panoramic view of the museum and surrounding area. On the way down the young and fit take the slide, while the more mature prefer to retrace their steps down the stairway.



Among the boats displayed was the SAR John T Essberger



Being able to clamber all over the craft is ideal for anyone interested in building a model



The U9 is fully open for exploring but gets very hot inside when the sun shines



The model exhibition has many cases of very high quality warships and commercial craft



A climb to explore the Lufthansa Jumbo Jet is one of the highlights of the visit

Among the many full sized craft on display are the John T Essberger rescue craft and the U9 submarine, both of which are fully open for the visitor to explore. I spent ages clambering around these boats, taking pictures; however, my wife was a little put off by the height above around for some of the walkwavs.

Just behind the marine display we found a fairly small building housing a display of model boats. Superb models in almost every scale and size were on display and so it has been difficult to select just a few pictures for this article. Overall this was a great museum to visit having something for almost every age and interest.



A number of very large models are on display including the MS Bremen 4



Claimed to be the largest sea-going model ship in the world the MS Bremen 4 is over 12 m long

#### SHOPPING IN WIESBADEN

On another occasion we stayed for a few days in Wiesbaden, close to the Rhine. Again this is an interesting town close to Frankfurt and so easily accessible from the airport. On the second day we decided to take a walk outside the main town centre and suddenly came across a very interesting looking model shop.

On entering it was clear that the shop specialised in model boating and had a wealth of interesting items on display. I was soon in conversation with the owner, Martin Schroder, who spoke very good English, and was very keen to show me around. He seemed particularly proud of his steam fittings, which was of special interest to me having written 'Steam Scene' for a number of months. Unfortunately, all the threads were metric and so would need adapting to the ME thread used on all my equipment.



The Bastlerquelle Stiefvater or Stepfather's Hobby Shop if my translation is correct



The shop was packed full of very interesting products for both the model boater and general hobbyist

I was interested to hear that the local model boat club had had a public display of their models the previous weekend, which had generated a great deal of interest. Unfortunately, despite being almost surrounded by a river and a number of lakes and ponds, finding an area to sail model ships was so difficult that the club had nowhere to sail at the time of my visit.

Finding a shop that was clearly flourishing was very pleasing in

itself, however, just around the corner I came across another model shop. This time the owner explained that they catered mostly for aircraft and that they directed any boat enquiries around the corner to the other shop. This shop also gave the impression of doing good business and so I can only assume that model building is alive and well in this area. MMI



Just around the corner a shop concentrating on flying models

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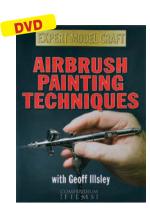
Frank demonstrates using an airbrush by adding an easy to replicate custom paint design to an aircraft engine cowling, as well as adding realistic weathering effects to a pre-decorated model warbird. He also paints a boat hull and a car body shell, to show you that airbrushing is easy.

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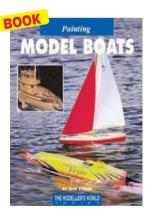


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#### Painting Model Boats

by Rick Eyrich Learn the art of painting model boats in this exciting book detailing how to paint static and R/C models. Suitable for both novice and expert alike, the book features: The book

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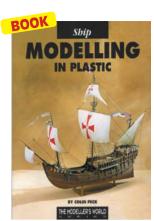
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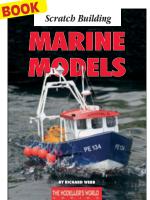




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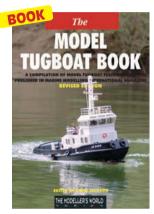
#### by Richard Webb

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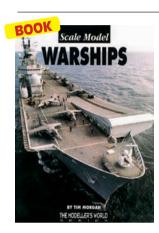
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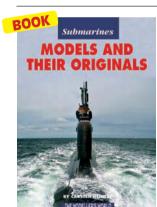


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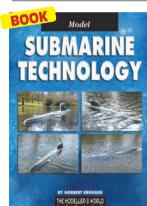


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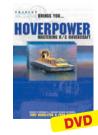
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### **CLASSROOM BENEATH WHITE** SAILS – THE CALLIOPE PROJECT

THIS IS THE STORY OF HOW A YOUNG UNIVERSITY STUDENT SET OUT TO DESIGN THE PERFECT SAIL TRAINING VESSEL AS PART OF HIS MASTERS THESIS

AUTHOR: CHRIS KOENIG

lue water sailing seems to be a romantic voyage, but actually it is not. Watching beautiful sailing ships parading or flying their flags invites a (day-) dream. But if you are aboard such a vessel, you should not get caught dreaming. Sailors stand up to the ideal of true friendship and confidence in their own and their comrades' abilities. "One hand for the ship, another one for you" summarises what the sailing is all about.

The ocean is a wonderful place to be, but it's equally unforgiving. Today even small pleasure boats sport a multitude of electronic devices, and no large vessel navigates without GPS and computers any more. Technological developments, however, should not cause humans to overestimate their capabilities. The ocean is a tough guy to wrestle with. Once you set your feet on a large sailing ship you will recognise what the struggle is all about. Responsibility and responsiveness, discipline and courage are among the things young men and women learn aboard tall ships. Acting within a team, caring about others, being tolerant and reducing one's own pretensions to a minimum, if not literally taking the back seat are central values aboard these sail training ships. It's more than simply practical seamanship.

Humans depend on nature, aboard a sailing ship the crew's life is regulated by currents, tides and the wind, despite the fact that there is so much technology installed. Sailing ship crews often display a sense of patience and are rather unassuming. From a more pedagogical point of view personalities are cultivated in a tightly arranged format hardly to be found ashore or anywhere else.



The sailing vessel designed during the course of a Master thesis by Tobias

#### HOW THE CALLIOPE PROJECT CAME ABOUT

When 27-year-old student Tobias Bender of Bremen, Germany, thought about his Masters thesis back in 1999, he reflected on these ideas. Tobias was to major in naval architecture and did spend quite some time of his years at university with rather rare extracurricular activities: he was a crew member of sail training ships like Alexander Von Humboldt and Thor Heyerdahl (both German vessels) and gathered experiences when being a trainee

aboard the Russian Sedov. Crossing the Atlantic Ocean may be an eight-hour flight, or a journey that lasts for several weeks. Tobias had done it. A keen student he analysed his mounts in depth and tried to identify potential areas for optimization. Just a few international sail training ships have been built to order, while the majority of them were converted from other craft. Alexander Von Humboldt used to be a light vessel, while Thor Heyerdahl started her career as a freighter. Sedov gets close to a perfect sail training vessel, although she was originally built

A conversion rather seldom leads to a perfect solution, but tends to end at middle ground. Tobias challenged compromises, but was forced to accept that there is always something one could do better - next time.

as a cargo carrying ship, too.



Sail training ship Calliope was designed as a barquentine

In the end he settled for the idea of designing a sail training ship from point zero. This is his story, and the story of the Calliope project.

Within his Masters thesis Tobias drew up some basic demands from an imaginary charitable owner who asked him to develop a sail training vessel measuring approximately 50 m in length, sport traditional square rigging and suitable for worldwide cruises. A permanent crew of 12 men should be able to operate the vessel, while accommodation for a total complement of 42+ people was to be expected

Through comparisons of 50 traditional sail training vessels Tobias created a first data pool. The underlying idea was to compare vessels built on purpose or constructed through conversions for sail training tasks. A statistical database management program allowed the evaluation of dimensions (length, width, draught), spaces for

accommodations of crew and supplies, engines, navigational areas etc. Based upon amicable settlements first potential lines can be designed. Bremen University's faculty for naval architecture and marine engineering had all the software necessary to calculate the shape of frames and bulkheads, as well as stability curves and critical levels for various hull models.

#### THE FINAL DESIGN

Eventually Tobias designed a hull that was to be built entirely from steel and that measured 56.00 m in length, 9.50 m in width and 4.20 m in draught. Standard displacement of the design was 643 tons. The interior design of the vessel realised a strict division into trainees and standing crew's accommodations. While the first were to be placed in cabins for four people, the latter had quite comfortable quarters. All cabins came with air conditioning to

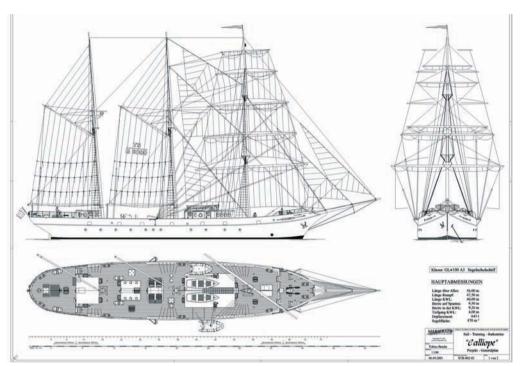
> allow for worldwide operations, while classrooms, scientific research and shop areas were also separated from the living area. After a while the Calliope project received the nickname 'classroom beneath sails', which quite exactly described her intended role.

The project also included two wooden dinghies, which could be sailed, rowed or operated using an outboard engine. Besides the dinghies the ship would have carried two motor launches and safety and life preserving material for up to a complement of more than 50 people.

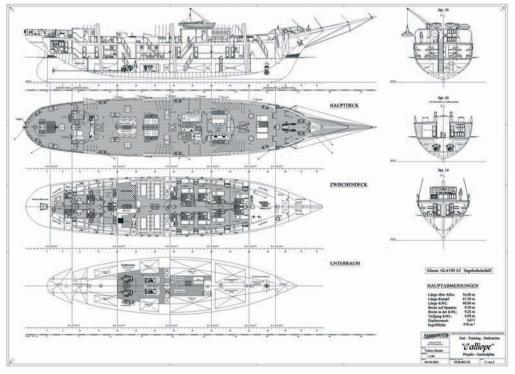
A hull made from steel, superstructures welded from aluminium and decks covered with shiny wood - a beautiful sailing vessel? Well, yes of course, but there are some striking ideas hidden inside. Two water-cooled eight-cylinder MTU 8V 183 TE62 each rated at 365 kW propel the vessel forward, which also has a generator station with two 104 kW/130 kVA liquid cooled Northern Lights generators and a 40 kW/50 kVA emergency generator. Fuel tanks aboard are designed quite large to allow for 2,470 NMs range at 10 knots. Tobias calculated the amount of diesel fuel for such a long voyage and planned a 54.90 m<sup>3</sup> container for diesel and another one for lubricants (1.17 m<sup>3</sup>). A bow thruster assists the ship's twin props to be independent from tugboats.

Reversible osmosis desalination devices produce enough fresh water for the whole crew, while toilets operate on a vacuum basis and all wastewaters are collected and conditioned according to MARPOL standards.

Sail training vessels need a multi-functional rigging that



General arrangement plan of Calliope



Cross-sectional views of sail training vessel Calliope



allows sailing under virtually all conditions. Tobias Bender analyzed the findings of the naval architect and author F. L. Middendorf, who published his book 'Bemastung und Takelung der Schiffe' (Masts and Rigs Aboard Ships) in 1903 – and made use of them. According to directions of the German Lloyd, all spars, shrouds and stays were designed to be produced from steel. Under certain conditions wood could have been chosen as well, which would have reduced the diameters of these items by 5 - 10%, according to German Lloyd officials. All architectural issues had to be cross checked and evaluated to ensure five dimensions were properly assessed: price, ability to be repaired while underway, points of risk from corrosion, weight and labour intensiveness for maintenance. The rig incorporates a combination of square sails and jiggers, and designates Calliope as a barquentine.

Eventually Tobias finished the design phase and decided on the following master data for his master thesis Calliope project:

The windlass positioned on the foredeck of Calliope

Length (Total): 56.00 m Length (Hull): 47.50 m

Length (Waterline, 50% load capacity): 40.00 m

Width (Bulkheads): 9.50 m

Draught (Waterline, 50% load capacity): 4.00 m

Draught (Total): 4.20 m

Mast Height: 37.20 m Sail Area: 870 m<sup>2</sup>

Crew (Permanent): 13 people Crew (Trainees): 32 people Fresh Water Tank: 40.60 m<sup>3</sup> Waste Tank: 3.02 m<sup>3</sup>



Superstructures and dinghies aboard the training ship



The aft deck of Calliope with the helm. Note the engine control instruments and hand throttles positioned at the back of the hut



Detailed view of the forward section of Calliope

The project design was created to meet the requirements for German Lloyd GL+100 A5 classification as a sail training ship. A GL+100 is the highest possible certificate such a vessel could achieve when inspected by German Lloyd.

After graduating from Bremen University in 2000 Tobias started his own business and established himself as a successful naval architect. His venture is called Marigraph Design & Solutions



Trainees' mess room amidships Calliope



Her relative small size predestines Calliope for a rather small

(www.marigraph.com) and Tobias Bender offers a wide range of design and construction services, which include 3-D and animations.

I owe thanks to Dipl-Ing. Tobias Bender for his support while writing this article! All pictures and plans are courtesy of Marigraph. If you are interested in large-scale plans of Calliope in order to produce a R/C model, please do not hesitate in contacting me.



Trainees would enjoy 4-bed-cabins, if the design would take to the sea



Sectional views like this one allow for insights into the project



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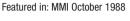
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## **TROJAN**

Designed by Hal Harrison, this semi-scale modern Tug is 510mm long by 150mm beam and features balsa/card construction. It is designed for two-function RC



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## **MISTRAL**

Difficulty Rating This 1:32 scale model for a semi-scale

French Customs launch, designed by Barrie Griffin, is presented on two plans sheets showing full details for build in balsa and ply. The model is 725 mm in length and 200 mm beam.

Free plan in: MMI July 2006

Plan Ref: MAR3205

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Difficulty Rating Designed by Paul Williams, this seven-cell V mono racing boat has a semi-scale appearance and timber construction. Model length: 600mm; beam: 210mm. It uses a 540 stock motor and flexible shaft surface drive. Featured in: MMI May 1996



Plan Ref: MAR2524

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## **GRAND BANKS MOTOR YACHT**

Difficulty Rating Jim Pottinger has designed this modern

motor yacht along traditional lines, using a hard chine design. Its 595 mm length and 185mm beam makes for easy construction. The plan shows visible internal layout but no model construction.

Free Plan in MMI April 2004

Plan Ref: MAR3088

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## **SANTA AUDREY**

Difficulty Rating Designer David Heaps' Mediterranean style fishing boat has a typical flared bow and can be built in timber and styrene blocks, but can also be planked. The model size is 540 mm length and 150 mm beam; it weighs 2.5 kg. The plans show model construction and iigs. Featured in: MMI August 2006



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## TURBINIA

Difficulty Rating



Charles Sells' 1:24 scale model is of the historic, experimental vessel, which was in 1984 the fastest ship in the world. The

model is of wood construction and electric power; it is shown on a single sheet and is length: 13.5cm; beam: 12cm.

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# MEETING POIN

REPORTS ON SHOWS HELD OVER THE LAST FEW MONTHS

## FLEETWOOD CLASSIC POWERBOATS, 8TH & 9TH **JUNE 2013. BY WILL MURRAY**

I am not a model power boater or yacht sailor so I was not sure what to expect from the day as I set out for Fleetwood on a fine summer morning. I had not been to the Fleetwood model boat lake before, though I had heard much about it in the past, but nothing ventured nothing gained is my motto.



A collection of original Aerokits Sea Queens and Sea



Cigarette - G. Taylor



Not everything was I/C powered, sail boat by John Plant

In many ways the lake is ideal for this kind of activity, being guite long and wide and well away from any potential cause of interference from those who object to noisy activities such as this. However, what sets the lake out from most others is the large, well-fitted clubhouse.

Anyway, matters were just getting under way as I arrived, with a few models being made ready for running with many examples of old and new on display. One of the problems (some dastardly persons might say amusing problems) with I/C models is the antics their owners have to undertake



Sea Queen - Graham Taylor and Tony Bollard



Spearfish - Mike Beasley

to get them to start. That of course was on display here, however, there is a more modern way of doing things. That is to employ an electric motor and belt to spin the motor over more efficiently than is otherwise possible by just using a cord and muscle power. Some runs were undertaken during the morning with some of the boats producing the loud noise I remembered from my younger days.

Retiring to the clubhouse for lunch I was able to further look around and examine some of the models that were not running. One of the craft was dated from the 1950s and was complete with its original valve radio and GPO licence. Hidden away at the back was a room full of large yachts, workshop facilities and testing areas. All this indicated to me that the Fleetwood club is still a thriving entity mainly yacht based organisation but with various

> sections for powerboats and some scale.

Also in attendance was The Vintage Model Boat Company. This is a new company but run by an owner who has a wide experience in producing models of this sort. In this instance they are attempting to revive some of the old Aerokits models using many of the old designs but producing them using modern materials and laser cutting. This has made a tremendous difference to the quality of the model produced and the ease of construction, gone is the day of balsa and balsa cement!



Swordsman - Allan Shaw



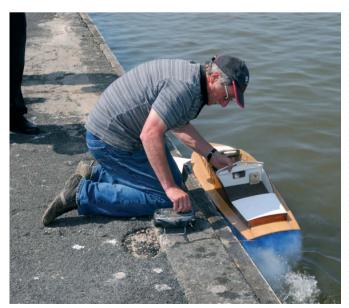
One of the early Wavemasters - Mike Varley



One of the modern set-ups - big and fast

Add to this a modern electric motor and battery and you have the perfect entry model or school project for a young person wanting to build his or her first model boat.

Rather more boats had appeared after lunch, one or two of which were of the fast electric variety. These needed rather more dexterity than I have been blessed with to operate successfully. All in all it had been an interesting day, which took me back more years than I care to remember. It was nice to see though that there appears to be a rather more even spread of ages in this side of the hobby which does bode well for the future.



Ramora - Pete Desoer



A Fast Electric



Sea Commander - Brian Carruthers



This is one of the new models from the Vintage Model Boat Company



Vintage Model Boat Company



Wavemaster - Ivan Prior. This is one of the resurrected kits by the Vintage Model Boat Company

## **BROOMFIELD PARK MBC OPEN REGATTA, 21ST** JULY 2013, PALMERS GREEN, NORTH LONDON BY KIM BELCHER

The usual suspects turned out for another day of entertaining the cosmopolitan residents of Palmers Green, and others visiting Broomfield Park, with their model boats. This park buzzes with those fitness fanatics who like to jog, use the supplied apparatus in a designated area and play tennis on the large section of courts. whilst at the same time 'showing off' their finely honed physiques. Alas, a sign of the times, the bowling green and related pavilion appear to have fallen into neglect since last year's visit and this could also be said regarding the physiques of a number of the model boaters!

Broomfield Park MBC had invited a number of clubs and friends to this, their annual event of showcasing our hobby. There were representatives from MBA Dover, Black Park, Cygnets and Watermeads - Aylesbury MBCs, alongside a representation of the Lifeboat Enthusiasts' Society.

The day started overcast – however, not the rain of last year – but by lunchtime the sun had come out and so too the local residents. Just like two years ago there were adults and children from a vast array of different nationalities, Iranian, Pakistani, Belgian, Italian, German and Hungarians, to name just a few.

Most modellers ventured onto the water and entertained the public at length, among them Arthur Carr and Mick Wood from the host club with their two 1/20th scale Robbe Atlantis yachts - a wonderful sight. Arthur had been treated to his by one of his sons as a birthday present, whilst Mick had made his from the kit over a nine month period, lime planking the deck and using mahogany



Happy families! Well not quite - the young lad in the baseball cap is just about to remove the Sea Lynx from HMS Manchester (unbeknown to Paul Chilcott), then his father shouts - damage averted!



Charlie Scott-Finnigan prepares his 1/24th scale Fairmile RAF Rescue launch, watched by our 'adopted' brother and sister, while Arthur Carr sails his Robbe Atlantis

veneer to cover the wheelhouse and deck hatches. Figures were resin types acquired from eBay.

Also from the same club Charlie Scott-Finnigan pleased young and old alike with his 57 inch 1/24th scale Fairmile RAF Rescue launch. The sheer speed and the assorted array of noises - V8 twin engines, sonar 'ping', anti-sub 'hedge hog' launch, general quarters, air-raid and a ship's bell - from its sound module were what caught the attention! He used two E-Max BL40-30 brushless motors (a total of 2 hp!) controlled by two Sea King 120 Amp water cooled ESCs. This could lift 60% of the boat out of the water. Out of the four propeller shafts only two were driven and these have Prop Shop 55 mm cast propellers.



Modellers regale recent stories and the visitors look on as Lee Dickinson entertains the public on the water



Mum and daughter appreciate the building skills demonstrated in Lee's Trent and Brede Class lifeboats display



Catch them young! Mum and son watch on as Lee's Brede Class lifeboat entertains again!

Another model that intrigued old and young alike was Alan Poole's (MBA-Dover) German SeeHund XXVIIb U-boat, as it surfaced and dived its way across and around this wonderful Victorian oval yachting pond, visible at all times.

Lee Dickenson (Watermead MBC and LBES member) had a superb individual gazebo display of lifeboats and other assorted model boats. His Brede Class lifeboat and Vosper RAF Crash Tender were always on the water! The latter was a George Turner model kit to 1/28th scale and coming in at 510 mm (20 inches), she was powered by two Graupner 280 brushed motors running off 7.2 volts of NiMH Sub-C cell batteries. The ESC was a 15 Amp Mtronics one and a Hitec micro servo and 40 MHz receiver were



Yes, you've guessed it, Lee's Brede Class lifeboat being put through its paces



Neither belong to Lee! Here Arthur Carr and Mick Wood, from the host club, sail their very attractive Robbe Atlantis yachts - an unusual sight to see two of these models together

added. The whole build and paint job were completed in one month (author makes a mental note!).

All of this appeared to keep some children engrossed for most of the day, for which we duly invoiced two mums for six hours of child minding duties! Seriously, one large Hungarian group behind our stands came and offered a large plate of the most exquisite fruit patisseries for entertaining their group for the afternoon - we had not realised! This was a very kind gesture and the first such one I can remember. The perfect end to a perfect model boating day thanks Broomfield Park.



Dive, dive, dive! But not far as the pond depth only varies from one to two-foot in places. However, Alan Poole's SeeHund U-boat could always be seen



Yes, always on the water, this time Lee Dickinson's Vosper RAF Crash Tender - perfect at this size on this type of water



Real or model? Jeff Carter from Black Park MBC puts his 1/12th scale Lesro Atlantic 21 lifeboat and crew through their Sunday morning training exercise

## WEST WALES MODEL SHOW, SCOLTON MANOR. 27TH AND 28TH JULY 2013 BY CHRIS SAUNDERS

Despite living in Pembrokeshire for five years I had never been able to attend the West Wales Model Show and so it was a real pleasure to have the opportunity to see what the show was



Al's Hobbies's pile of returned models attracted a great deal of



George Kirkland with his beautiful model LT 22 Joan



All scratch-built, including the steam plant and engine



The large temporary pond took almost three days to fill but had boats on it throughout the show



Chris Parr's display of the Tenby and Cardigan lifeboats and RNLI iet ski



Alan Simms with his Veron hulled Saga powered by an Aquastar inrunner and NiMH 4300 batteries

all about. On arrival the organisers identified my car and directed me to the exhibitors parking area, very close to all the displays. The immediate impression was of beautiful parkland with a jamboree of tents and bunting, giving a very welcoming atmosphere.

This show is best known for model aircraft flying and I was soon impressed by the skill of the pilots. With jet engines featuring in many models I could do nothing else than stand in awe of the small red jet aircraft zooming down the field and then doing acrobatics, which left me giddy. How does the pilot work out which way up and in what direction it was heading at that speed? Grass cutting with a helicopter was also very well worth watching.

The model boat display was also impressive with a large temporary pond to show off the craft on the water. Most of the exhibits were from the West Wales Model Boat group but there were visitors from Barry, Brynbach, and Swindon. The exhibitors had boats on the water throughout the two-day show and attracted a lot of attention. There were many excellent models on display and I have only managed to capture a small sample with this article.

There were a number of traders at the show, mostly catering for the aircraft side of modelling. However, there are always a lot of interesting bits and pieces to peruse. Near the Al's Hobbies stall was a pile of models that had been returned to various shops as damaged. Each had the reason for return stated and were being sold off at 'rock bottom' prices for spares or repair. It was interesting to see a model helicopter with broken rotors and tail, clearly from a serious crash, with the reason for return, as 'it doesn't fly'! The BMFA, Raising the



Empire tug built by Terry Maher (Boson's Models) and owned by John Mailling (Llanelli/Brynbach)



Ian Povey, from Brynbach MBC, with his Forley Tug Sea Fax, based upon the hull and deck of the Mobile Marine FTX tug



Mike Sheppard's experimental water jet model with butterfly valves for speed and steering. To be developed into a rescue craft for stranded models



Ian McCaffrey with his beautifully prepared model of the survey ship Shannon



One of Mike Sheppard's many paddle driven models on the water, he has achieved a very realistic action to the figures

Sunderland Group and Wales Air Ambulance also had information tents.

George Kirkham of Swindon Model Boat and Engineering Club had a fascinating display of scratchbuilt models and steam engines. The steam driven Lowestoft drifter LT 22 Joan was of particular interest to me. At 3/4" to 1ft and named after his wife it had achieved a bronze award at the London Model Engineering Exhibition. There was also an impressive display of mechanically driven paddle boats by Mike Sheppard who was also my host for the weekend.

Overall, this was an excellent show that was well worth the long journey to visit. Due to the rather remote location I fear that the visitor numbers, although good, did not reflect either the quality of the display, nor the effort put in by the organisers.

## NORWICH MODEL BOAT CLUB SUBMARINE WEEKEND, 27TH AND 28TH JULY 2013, BY PAUL

This year was the 20th year that the Norwich Model Boat Club has held these 'Submarine Days', I remember starting them back in 1993 as a bit of fun, just for model submariners to meet up. The meeting at Norwich's Eaton Park has now become somewhat of a yearly pilgrimage for model submariners here in the UK. Like many things its popularity has grown thanks to social media and forums on the Internet, whereas back in 1993 we had not yet heard the word 'Internet', well I certainly had not!

The Norwich Model Boat Club as you can see has superb facilities with a purpose-built model boat pond and clubhouse, with upstairs clubroom and balcony. We have workrooms and a toilet downstairs. We also have full mains power for battery charging and the all-important kettle! The pond itself is one of the finest in the UK in which to sail model submarines, the last few years we have had a few blanket weed problems, but this year the weed issue seems to have cleared thanks to volunteers in the club physically dragging the pond several weeks ahead. The pond had also been treated.

This year's event was held over two days, with model submariners coming from all over the UK, the Saturday was well attended. On the Sunday we had a full house of cars in the park next to the pond, this makes the use of the submarines very easy with no more having to park outside the park as we used to do. The weather as you can see by the pictures was very kind to us, in fact some said it was too hot - just can't win can you?

I had my own USS Lionfish there; this was its second season of operation. The hull is the 32nd Parallel Gato hull at 9 ft 9" long, I hardly actually used it, so left my now 11-year-old son Harry at the helm. Many visitors were impressed with his handling of such a large and complex boat to run. I was too busy 'socialising', taking

notes and pictures for this superb magazine.

The bulk of the visitors there were from the Association of Model Submariners, with the AMS holding their AGM here on the Sunday, testament to the facilities at the Norwich Club. The Chairman of the AMS Nigel Edmonds had his absolutely superb scratch-built model of David Bushnell's 1776 Turtle in action.

Mick Higgot from Hinckly in Leicestershire made the trip down with a nice array of boats such as an Engel Typhoon, Darnell X Craft, Darnell S Class and U-Boat, along with an OTW Vanguard.

An interesting and fairly rare to see boat on the submarine circuit was Ken McCloud's Engel Nautilus, this was lurking around in the pond, he had made the long trip down from Wallasev on the Wirral. Along with Ken came Mark Rogerson from Cheshire with another Engel boat, this one was the more commonly seen Gato SS212.

Paul Brassington of the AMS was present with his models, this year I managed to get a close-up photo of one of his homemade transmitters that he uses. Paul is one of the gents who likes to hand his transmitter around for people to have a play with his models. I saw many a happy person with one of his Tx's in their

Local trader, based here in Norfolk and fellow model submariner, Chris Cloke of Sheerline Model Submarines was also present. He was there as himself and not actually trading, he's got to have some time off to enjoy playing with what he builds.

All in all it was a great submarine weekend, superb weather and a great bunch of people to make it a success. There will be another meeting in the summer of 2014, celebrating its 21st Birthday! See you there. For those of you interested you can catch up with most of the people, present at these meetings, on Facebook by joining the Association of Model Submariners group and the Dive Into Model Submarines group.



Chris Cloke enjoying some stick time



Harry and Lionfish



Harry at the helm of the Lionfish



Ken McCloud's Engel Nautilus



Mark Rogerson with his Engel Typhoon



Mick Higgot and boats



Nigel's boats



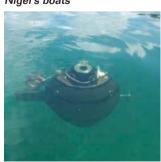
One of Paul Brassington's homemade Tx's



Overall venue shot



Turtle underwater



Another shot of the turtle underwater

## CYGNETS MBC 'BOATS ON THE MOTE' REGATTA. MOTE PARK, MAIDSTONE, 28TH JULY 2013, BY KIM BELCHER

Mote Park is a beautiful location and the home water of the Cygnets MBC, just outside Maidstone. When some fifty cars, vans and motor-homes had disgorged their occupants, one hundred and nine models, gazebos, tables and packed lunches there was a feast for all! Not least the visiting public who came in their hundreds for an afternoon out and were treated to a free show - they left full of information, memories and were well entertained.

There were fast electric, very fast I/C mono and twin hull 'noisv things', vachts, submarines, amphibious craft, canoes, tugs, lifeboats, a fleet of 'grey funnels', motor boat cruisers, dive boats, fishing boats and trawlers, wind farm support vessels, ferries, floating cranes and paddle steamers. The host club put out a series of buoys that could be used as a course for both yachts and the fast 'noisy things'. A few members also constructed a floating harbour. The Cygnets had put out invites and were mainly supported by the Model Boat Association - Dover, the Heron, Capstan and Dolphin MBCs and Tugs-R-Us.

A few technical bits of feedback for those that like to have some facts and details of what is in what. Richard Stringer from the Cygnets had a single shaft Pro-Boat Black Jack 29 (29"/74 cm) driven by a 1,800 kV brushless motor and powered from two 3S LiPos in series (25.2 volts). This model comes fully built and can be taken out of the box, charged and raced - phenomenal!

Elwyn Baker had his Models by Design 1/12th scale RNLI Mersey Class lifeboat, based on the Dungeness boat 12-27 RNLB Pride and Spirit. This was powered by two Model Motors Direct 777s using a 12 volt sealed lead acid battery supply. Elwyn built this over some eighteen months with many visits to RNLS Dungeness to measure and photograph the actual boat for the required accurate detail that all his models display - meticulously finished and a real award winner! He also had his wife Linda, a Rother Class lifeboat and an RNLI collecting box - this accumulated £25.57 during the afternoon.

MBA Dover member Kelvin Castle had his Archer Class XSV Explorer. This had been constructed plank on frame from a set of MMI plans, with a styrene sheet wheelhouse. She had gained a Highly Commended award at the Sandown Model Engineering Show



Cygnets members and public alike watch the entertainment, with the fast boats using the circuit in the background. There were more supporting club gazebos with models just out of picture on the right



Another totally scratch-built model, this time to 1/6th scale and by MBA-Dover member Derrick Rudge - the model's working mechanism was totally to Derrick's design



Like father like son! Adam explains the boat's workings to more visitors, whilst other Cygnets members race their yachts from their enclosure behind



The floating harbour constructed by Cygnets members Paul and Matt, which was enjoyed by many model boaters, especially those from Tugs-R-Us



Elwyn Baker's meticulously detailed and finished 1/12th scale Mersey Class lifeboat 12-27 RNLB Pride and Spirit from Dungeness



Kelvin Castle's award-winning Archer Class XSV Explorer showing a fair turn of speed

last December and has been on the water at the Beale Park Show in May and Alfold in June. From the same club Derrick Rudge had a totally scratch-built Commando canoe. Others have been seen up and down the country, but this one resides in the South East and is 'totally out of Derrick's head'! She is ply sheet on frame to 1/6th scale using an Action Man with his arms reduced in length to allow the mechanism to work. The drive is off a servo motor and gearing using 12 volts. There is steering by a rudder at the stern. He completed it in four weeks. It always attracts attention and questions on its build are forthcoming.

A Cygnets member, Dave Richardson, had a totally scratchbuilt Sea Link ferry St. Columba to a scale of 1/100th. This was built from 2000 through to 2002, off and on. It had twin shafts, is propelled by two geared 11:1 ratio motors, was 'tank steering' controlled and used a 12 volt power supply. There was also a working bow thruster to aid manoeuvrability.

A young man, Matthew Burley, attended the show with his parents and a Sea Queen, which his grandfather had made some 60 years ago for another grandson. It had been dusted off and cleaned and was powered by a 6 volt motor and a sealed lead acid battery. He was clearly enjoying the experience and went away with membership forms to join the Cygnets in the near future! By a quirk of fate another Cygnets member, Mike Potter, had been given one of the new 'retro' Aerokit Sea Queen kits as a Christmas present. This was duly built and completed by April and was on display too - ancient and modern together!

Matt Mock, the Cygnets Chairman, made his way round during the day, talking to those visiting and thanking them for their support - a nice touch. The whole

day was a success, with plenty of youngsters involved and viewing always a healthy sign. There was of course plenty of banter amongst the various club members and help for those requesting it, whether it was boat or personal related! If you want to see more photos of the day please go to the Gallery at www.cygnetsmbc.co.uk Thanks Cygnets!

PS - I subsequently found out that while Elwyn Baker and I were doing a photo-shoot of his Mersey Class lifeboat on the water a squall of wind broke off a new 12 foot sapling tree, which fell straight across his display, exactly where the Mersey lifeboat would have been! One very relieved Cygnets member!

J class Endeavour by John Dowed - a proper sized J class in my view



Lining up at the start of a demonstration race



Not immune to some 'hardgie bargie'

## J CLASS YACHTS AT NOTTINGHAM, 28TH JULY 2013. BY WILL MURRAY

Although scale modelling is my main interest, the post on a certain modelling forum caught my eye. I thought it was aimed at the owners of J class yachts or similar sized yachts. Now the sight of an enormous number of J class yachts under sail was very enticing. So it was that I resolved to pay a visit to this event, the venue being held at Colwick Country Park in Nottingham, an area of large lakes and green spaces.



Robbe Atlantis



It wasn't all serious

Not really knowing what to expect. I entered the car park, which was almost completely full, and made my way down to the side of the water passing as I did several large yachts. On the water there were a fair few yachts sailing around but, few of them were the great big yachts I had been expecting. Indeed, many were J class yachts in design, but not as large as I thought they would be. To me, something as graceful as this class, should also be large if they are going to reach their full potential, not a little over three feet long as these were. Apparently, they were based on a New Zealand design called the Canterbury and the Nottingham, the latter being essentially the same as the former. From what I could see there were only two really large examples of the class present, one of which had a hull made from mahogany. This example is a beautifully built model,

however, what made this model stand out was that the method of controlling the jib sheets and main boom were as per the original. That is to say that the two jibs are controlled individually as is the main sail. This, as you may imagine, requires a complex series of sail winches, three in all, and copious lengths of line. It was here the model's Achilles heel lay, for the winches were just not fast or perhaps strong enough to control the sails properly, resulting in the model almost being compromised when turning or tacking.

Although it was a fine day with a fairly light breeze, the direction was unpredictable, made so by the large number of trees which are in quite close proximity. This gives sailing a bit more of an edge as a yacht could be blown flat, and yet thirty or so feet away it was

As I had arrived close on lunch time, skippers were taking a break and it was time to sample the burgers and sausages which, I have to say, were indeed a cut above the average. After which a series of small demonstration racing took place over a marked course, though the course for each race was changed slightly. At the conclusion of the racing a meeting took place at which it was proposed that a J class group be formed within the MYA. The reaction appeared to be positive. The rest of the discussions involved regulations regarding length, sizes of sails etc. (an administrator's delight), which was of little interest to me as a nonracer.

I was very warmly received by those present, the venue is very good, ideal for model sailing of every sort; indeed, it would be an ideal place for the Scale Championships, for example, in my view. MMI



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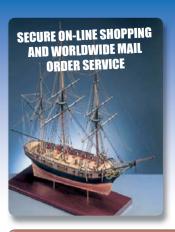
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