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JULY 2012 ISSUE



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COVER STORY



COVER STORY DAYDREAMER

There are very few readers who have not built a model out of LEGO sometime in their life. It is common to build a LEGO model from a kit with parts designed for one particular model. When an 8-year-old youngster says to his Dad, I want to build a large radio controlled cruiser based on a picture of a full size cruiser seen on the Internet, how can you refuse? With most of the build work completed by the youngster and Dad helping with the technical parts this must be encouraged to sow the seeds of maritime modelling at an early age. Are there any more radio controlled LEGO boat builds around the world?

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MESSAGE FROM THE BRIDGE

GREETINGS ALL!

Now I don't want to start this month's sermon sounding too morbid but without being too explicit, even though I am trying very actively to encourage younger maritime modellers into our hobby, the facts are that the majority of readers are a little grey on top! After many years of model making many of us (me included) tend to fill our sheds and workshops with many 'useful' items that will come in use sometime in the future. I think you know what I mean, tins with misc screws, nuts and bolts etc., the odd bits of wood and metal, part built projects etc., etc. These items are all kept for many years as they may be required sometime, in reality when you are looking for something you know is stored somewhere you can never find it and end up purchasing the item only to find the original a few days later, and the pile of useful bits grows. Over the last month or so I have been actively involved with the sad job of disposing of two deceased modellers' workshops and it is a painful process as you are loathed to throw these useful items out but it must be done. Hence, the main message this month is to keep your workshops tidy, throw out unwanted bits that have not been used for years as sadly someone, sometime, may be doing the job I have been doing on your workshop!



**CHECK OUT
PAGE 54 FOR
OUR LATEST
SUBSCRIPTION
DEALS**

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.

Barrie Stevens

In this month's edition we have a Free Plan of a typical Spanish fishing boat with the very distinctive flared bows, as yet a model has not been built using the plans – who will be the first reader to send me a picture of a completed model using these plans? For the LEGO builders we have an article on a cruiser, which should inspire young and old. If you are on holiday in the darkest depths of Cornwall this summer the article on the E-Boat wreck should be of interest BUT you should be reasonably fit and agile to find the wreckage and keep an eye on the tide. With a scratch-build of a ketch, Japanese Transport Submarines, and the usual regular articles there should be something of interest to most modellers. Finally, as you can read in Airwaves it could be sound advice to survey the waterborne wildlife before you test a model!

Have a good month in the warm sunshine (rather lacking as I write this in late May!) and hopefully we will see some of you at the Torpoint Show on 14th July.

Happy sailing!

Barrie Stevens
MMI

LEFT: Picture of the month – care should be taken when sailing near nesting swans! (Image taken by R. Senior)

MARINE modelling INTERNATIONAL

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MASTHEAD

SOME OF THE LATEST MARITIME NEWS

R/C MODEL BOAT WORLD RECORD ATTEMPT

On Saturday 21st July an attempt will be made by Alan Noble and his team to break the Guinness World Record for the furthest distance covered in 24 hours by a radio controlled model boat. The present record was set 10 years ago by Francis MacHaughton when he and his team covered 121.589 miles held at the Bude Model Boat Festival, Cornwall from 4th-5th May 2002.



The hull and superstructure, which will be used for the World R/C Duration Record (Image K Belcher)

Alan and his team have been working many late hours to get the model completed in time which will be a Safe Haven Marine Wild Cat 53/16m twin deck at 1/12 scale with twin jet drive units. The hull and superstructure are manufactured by Models by Design and the motors used are 2x BL5045 900 kV 1400 watt brushless outrunners.

The record attempt will take place at Mote Park in Maidstone, Kent MS15 7SU – home water of The Cygnets MBC – starting at 10 am on Saturday 21st July and finishing at 10 am on Sunday 22nd July. During the record attempt there will be a collection for The British Legion.

On the Sunday the Cygnets MBC will be holding their Mote Day and all clubs are very welcome.

All at MMI wish Alan and his team success with the record attempt.

For further information you can email Alan or Debbie on debssnal@aol.com or visit the website www.atboatyard.co.uk



Freya Hart in the communal mess room below deck of Grayhound



Freya with trainee crewman, son Malachi

GRAYHOUND LUGGER LAUNCH DETAILS

In the January edition of MMI this year a report was published of the start of the build of a new revenue 3 masted lugger in Cornwall. In mid May the editor and Mrs S were privileged to be given permission to visit the build. To coin a much-overused word, 'stunning' was an understatement, having met Marcus and Freya who are managing this massive project, which when finished will be their home and place of work. The plans are to offer sailing holidays for around eight people on board Grayhound both in the UK and overseas. Freya showed me around the inside of the lugger while Marcus was busy caulking the many joints, the quality of workmanship



LEFT: Marcus Rowden caulking the seams of Grayhound



The huge stern of Grayhound

is excellent and the oak used for the frames are all sourced from trees in Devon and Cornwall. Marcus and Freya have six shipwrights who are helping with the build and the progress is on schedule for the launch to be held on 4th August. Standing under the stern of Grayhound you have a good indication of the huge size of this 108 foot overall boat. During the winter Freya will be making the sails ably assisted by young son Malachi. The launch is open to the public and festivities start at 14:30hrs with the launching ceremony to be held at 19:30hrs – there is plenty of car parking at the Southdown Quay, Millbrook, Cornwall PL10 1HG.

For further details visit www.grayhoundluggersailing.com

HMS PLYMOUTH

It appears that the long fight to keep one of the Falklands conflict warships is now destined for the scrapyard this year. The HMS Plymouth Association has been trying to keep the warship in preservation for a number of years but pressures have mounted and her present berth in Birkenhead is now required for another use and no other berth can be found. The Rothsay type 12 frigate was laid down in Devonport in 1958 and decommissioned in 1988.

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

NATIONAL MARITIME MUSEUM CORNWALL

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For further details visit www.nmmc.co.uk **MMI**

DIARY DATES

WHAT'S ON, WHERE AND WHEN?

If you know of any confirmed Maritime related events and you would like us to include them please let us know either by email mmi@traplet.com or post to The MMI Editor, PO Box 4239, Shepton Mallet BA4 9AQ. We need the Date, Venue, Organiser/who to contact and crucially an Email/Website address and/or a telephone number, a 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

JULY 2012

MMI DIARY DATES

JULY 7/8

The 5th National Warship Weekend

Hosted by Glasgow Richmond Model Boat Club, (opposite Shawfield Stadium), start 11 am. Car parking at pond side. Help to unload if needed. Toilet facilities. Open to all military related vessels. Come along and join in the fun. For more information contact Colin Miller: colinmiller1980@me.com or via the club email glasgow.richmond@gmail.com or club website www.glasgow.richmondmbc.co.uk

JULY 8

Heron Model Boat Club Open Sail Regatta

Herne Bay, Memorial Park Lake, 10 am to 4 pm. All classes of sail boats welcome. Further details from Alan Shelton (Sec), Tel: 01227 366571. Email: alanshelton@talktalk.net Website: www.heronmodelboatclub.org.uk

JULY 8

The Model Boat Association Dover is attending the Dover Regatta

We invite local model boat clubs to have a day on the water. For details contact the Dover MBA Secretary: Alan Poole on 01304 853242 or email poole438@btinternet.com

JULY 8

Kirklees Model Boat Club annual Open Day to include any Springer Tug Models

Fun day, static and sailing displays, lots of different models to be seen, free parking, refreshments, raffle. Start time 10 am to 4 pm at Wilton Park, Bradford Road, Birstall, Batley WF17 8JH. For further info contact Stan Reffin on 0113 2675790 or the club website at www.kirkleesmodelboatclub.org.uk



JULY 8

Broomfield MBC Open Day

Free sailing all day including a sailing boat regatta for all classes, all welcome. 10 am – 4 pm. The pond is a Victorian model yacht pond surrounded by willow trees in a lovely park with a depth of between 13" to 23" in various places. The pond is located in Broomfield park, Aldermans Hill, Palmers Green, North London N13 4PT. Contact Paul Chilcott on 07730667400

JULY 14

Torpoint Community College Charity Day

Trevol Road, Torpoint, Cornwall PL11 2NH. 10 am till 5 pm. Further info from Keith Richmond, Millbrook Model Mariners, Tel: 01752 812898, Email: orkneymund@aol.com

JULY 14/15

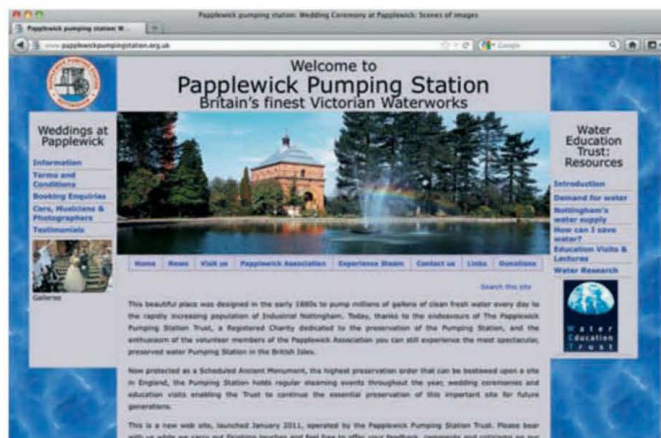
Cheddar Steam Club, Cream Teas Open Weekend

Sharpham Road, Cheddar BS27 3DR. Further details and opening times can be obtained from: Chairman Patrick Emmett, Tel: 01934 742149, Email patrick@emett.net or Secretary Jerry Watson, Tel: 01275 340327, Mob: 07818044648, Email: cleveland.steam@uwclub.net

JULY 15

Model Lifeboat Free Sailing Day

To be held at Papplewick Pumping Station, between Mansfield and Nottingham off the A60 or A614, (sat nav NG15 9AJ – Rigg Lane). A day out for all the family, either display, or sail your models on the ornamental Cooling Pond situated within these beautiful grounds. The Victorian built James Watt beam engine will be in steam along with many more attractions, refreshments available, gift shop, picnic area, ample car parking. Gates open at 9.30 am free entry for sailors and exhibitors. For more information contact Roger, mobile: 07860 775273, Email: j7rsh@aol.com or visit www.papplewickpumpingstation.org.uk



JULY 15

Dolphin Model Boat Club Charity Day

All meetings are at Orpington Pond just off of Kent Road by the A224 Cray Avenue BR5 4. 10:00 Start. There will be a £1.50 charge per boat for any non club members. Sorry no I/C or petrol boats. There is off road parking on club days but no food or toilet facilities. Web: www.dolphinmodelboatclub.com/ Email: dolphinmodelboatclub@live.co.uk Margaret, 01689 834896

JULY 21/22

Guinness World Record Attempt

The attempt will be taking place at Mote Park in Maidstone, Kent ME15 7SU (Home of the Cygnets Model Boat Club), and will commence at 10 am Saturday 21st until 10 am Sunday 22nd July 2012. For further information please contact Alan Noble or Debbie Smith on 01634 327645 or Email: debssnal@aol.com (see Masthead, page 5)

JULY 22

Toy Boat Regatta

Venue: The North London Society of Model Engineers, Church Lane, Colney Heath, near Hatfield. GPS: AL4 0NH, which is J.D. Stoneworks Ltd who are on the left of the road leading to NLSME site, just carry on a bit further. Gates open 9 am to play. Contact Trevor Smith, 01749 812406. Email: hsimthy@hotmail.com

JULY 22

Edinburgh Model Boat Club

Fast Electric Racing Team. Contact Tom Fraser for details: 0131 665 1192



JULY 22

Edinburgh MBC Submarine Day

Expect submarines of all shapes and sizes. Surface craft (targets) always welcome! Inverleith Pond 12 noon start.

www.edinburghmodelboatclub.org.uk

secretary@edinburghmodelboatclub.org.uk 0131 551 4637

JULY 22

Boats on the Mote 2012

The Cygnets Model Boat Club would like to invite fellow modellers and clubs to 'Boats on the Mote'. This event will take place on 10 am at Mote Park in Maidstone, Kent ME15 7SU. There will be a hog roast after the event. For further information please contact Debbie Smith or Alan Noble on 01634 327645 or Email: debssnal@aol.com

JULY 29

Scale Steering

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

JULY 29

Stevenage Model Boat Club, Lifeboat Fun Day

10 am to 4 pm. Fairlands Valley Park and Lakes SG2 0BL. There will be a small, timed course to navigate and maybe some boats and bodies to be rescued (plastic dolls!). You can offload near the water's edge with parking, café and toilets nearby and limited mains charging points also available. Lifeboat stations may be set up on the jetty, space permitting. A small charge of £1.00 will be made for each boat entered. All proceeds going to RNLI. Slower I/C and steam lifeboats also fire/rescue boats are also welcome. If you would like to come along please contact: Bill Warder on 07712 465863 or Email: unicornsound@hotmail.com Roland Duffett on 01438 362012 or Email: roland.l.duffett@btinternet.com **MMI**



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VINTAGE MOTOR SHED – 17

THREE GRAUPNER MOTORS



Nautocraft

Under examination here are three speciality motors that at one time appeared under the Graupner label – the dedicated marine Nautocraft, the exotic miniature Micro T03/15 and the Jumbo 2000, all German-made.

The Nautocraft made its appearance around 1960 and was advertised through to the early 1970s. Its fully enclosed steel case has a basic size of 60 mm x 44 mm x 44 mm and is fitted with adjustable mounting brackets each side for alignment with the stern tube. This marks it out as a true marine motor, but the feature is not as useful as it might seem as adjusting the angle results in the drive shaft swinging through a large arc and requires compensating height adjustment of the mounting. The case is held together by four long axial screws occupying its corner shoulders, and houses a permanent ring magnet tunnel, self-aligning sintered bearings and rugged carbon brushgear.

A double-ended driveshaft provides a choice of 3 mm or 4 mm nominal shaft diameters or allows two motors to drive in tandem.

The motor is nicely made and quite heavy at 330 g, but its maximum power output is only 8 watts, corresponding to a maximum current rating

of 3.3 amps on the intended 6 volts and an efficiency of around 45%. It is best suited to slow-speed scale models for it is quiet and low revving (4500 rpm off load), with torque enough to drive quite a large propeller without a gearbox. They don't appear very often for sale nowadays but I would suggest a maximum price of £20-£30 for a good boxed example.

The Micro T03/15 also appeared around 1960 and likewise was advertised into the 1970s. It measures only 20 mm diameter by 22 mm long inclusive of its integral 15:1 gearbox (other versions offered 3.9:1 or 59:1). Although this low-powered motor did not lend itself to marine drive applications, it has such a remarkable performance I could not resist including it in this series. Intended for 2 to 4 volt operation, the motor without its gearbox turns at 30,000 rpm with an efficiency of 70-80%! Achieving this performance in such a small motor required high precision manufacturing and the use of materials such as silver alloy for the commutator and gold

alloy for the brushes. As a result, the Micro T03/15 (also known as the Mikromax T03/15) was an expensive motor, but found its true modelling application in pioneering electric-powered free-flight model aircraft in the 1960s, right on the limit of battery and motor technology at that time. Today it is an almost-forgotten curiosity and yours for probably no more than £15-£20 boxed.

The appearance of the Jumbo 2000 is very much like that of the Marx family of motors, and it comes as no surprise when a close examination reveals it was in fact made by them. Of 35 mm basic diameter and 50 mm long, it sits between the 30 mm diameter Marx Monoperm and the 40 mm diameter Marx Decaperm in size and general performance, with a commendable maximum efficiency of 68% at 3.6 amps on its rated 6 volts. It was also available in a 12 volt version, the Jumbo 2000F, with a 5:1 pile gearbox. A 1980s unused Jumbo 2000 with its box is likely to fetch around £25 today, and may be put straight to work in a model. **MMI**



LEFT: 1960 advertisement for Graupner motors



Micro T03/15



Jumbo 2000

PLASTIC KIT SCENE

ROBIN LOOKS AT SOME RECENTLY RELEASED KITS AND SOME NEW PAINTS FROM HUMBROL

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

Dragon Models and Cyber-Hobby have recently released another three new models – the first two are 1/700 scale and the third 1/350 scale.

CYBER-HOBBY

HMS Dragon (D35) Type 45. Batch 2. Destroyer

Model No.: 7109

Scale: 1/700

Length: 21.5 cm

HMS Dragon is a Daring class destroyer and the fourth Type 45 Destroyer to enter service with the Royal Navy. She was only commissioned on 20th April 2012 and so is the latest warship in the Royal Navy to date. Her hull and superstructure has that distinctive stealth shape, and she is considered to be one of the most sophisticated and powerful air-defence warships in the world. She has many various types of radar systems and her armament is very impressive, it includes: Sea Viper air defence system, 1x BAE 4.5in Mk.8 gun, 2x 30 mm guns, 2x Phalanx guns, 2x mini guns, 6x general-purpose machine guns.

Also, she can carry one or two Lynx HMA8 helicopters armed with missiles or torpedoes, or one Westland Merlin HM1 helicopter armed with torpedoes.

The model reproduces many of the ship's radars and its armament – the detail of them is enhanced with many etched parts. The characteristic shape of the vessel is also well reproduced, also included is a miniature helicopter to go on the helicopter landing area on the stern. It is very apt for this Chinese company to

produce this model so soon after its commissioning, especially as this is the Chinese year of the Dragon.

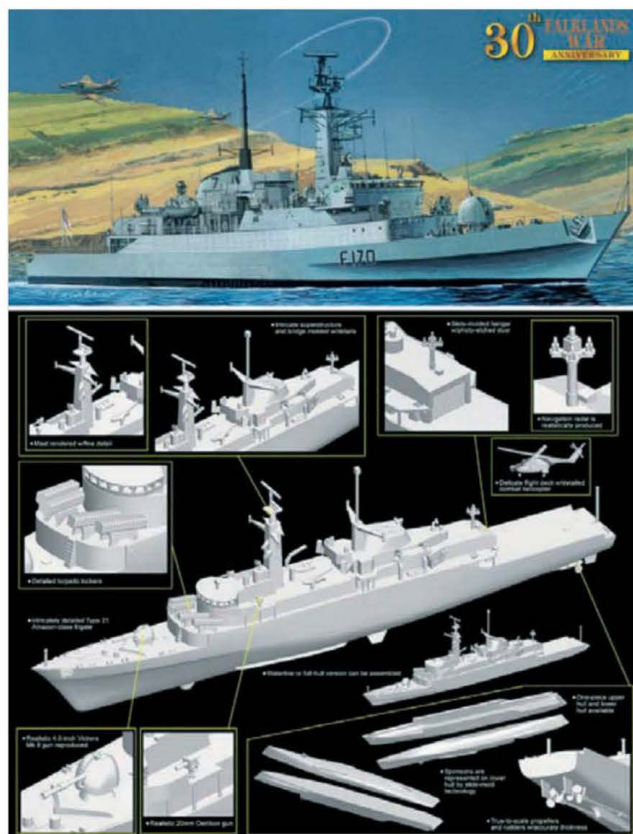
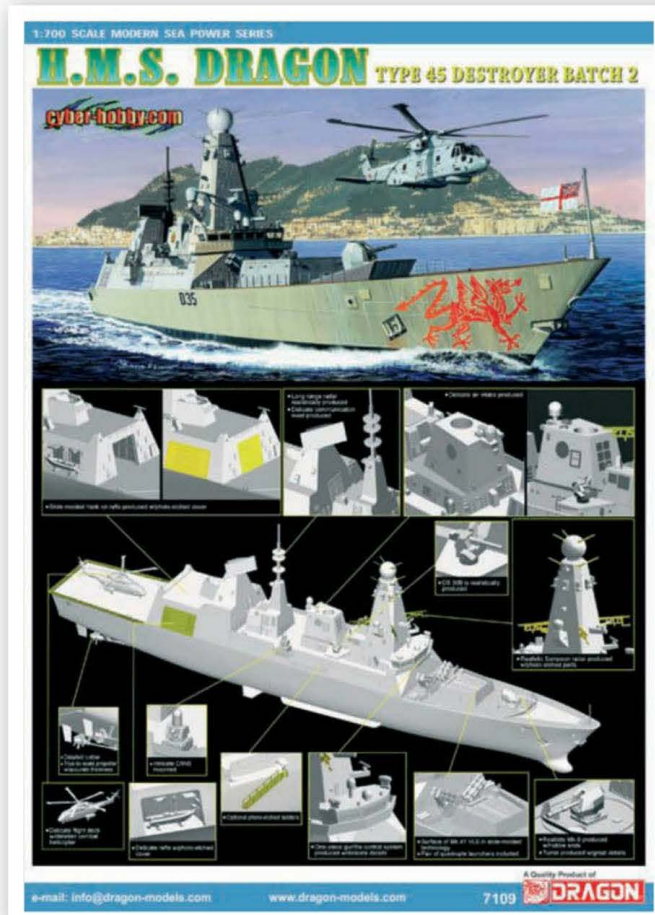
HMS Antelope (F170) Type 21 Frigate

Model No.: 7122

Scale: 1/700

Length: 16.5 cm

HMS Antelope was commissioned in July 1975, and was an Amazon class Type 21 frigate. She was one of the many ships sent to the Falklands, arriving there on the 21st May 1982. While on air-defence duty she was attacked by four Argentinean Skyhawk jets, one dropped a 1000 lb bomb which crashed into the starboard side but failed to explode, a second plane was hit by gunfire and hit the ship's mast, its bomb also crashed through the ship's hull and failed to explode. Bravely, engineers tried to deactivate the bombs, but were unsuccessful and one of the bombs exploded killing one of the engineers, the ship was ravaged in flames and the rest of the crew evacuated. The ship's missiles exploded breaking the ship in two and finally sinking her on the 24th May. The images of her exploding and sinking were seen around the world as it was filmed by news crews – an image that many will remember of the Falklands War.



This is another model to add to others that have been released by Dragon and Cyber-Hobby to commemorate the 30th anniversary of the Falklands War. The detail of the model is very good as is expected from this manufacturer. The model can be built as a waterline model or with full hull; etched parts are also included for further detail. Optional Exocet missile launchers are also included but these were not fitted to the Antelope so there is the option to build the model as one of the other ships in the Amazon class.

Full image of completed
USS Frank Knox



DRAGON MODELS

USS Frank Knox DD-742 Gearing Class Destroyer

Model No.: 1045

Scale: 1/350

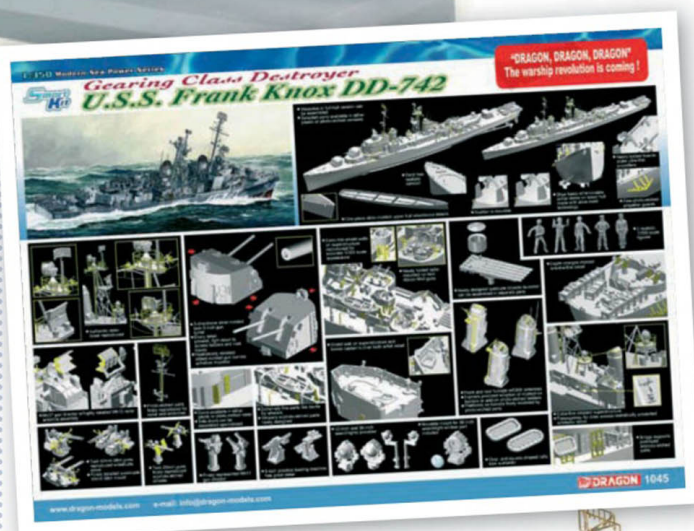
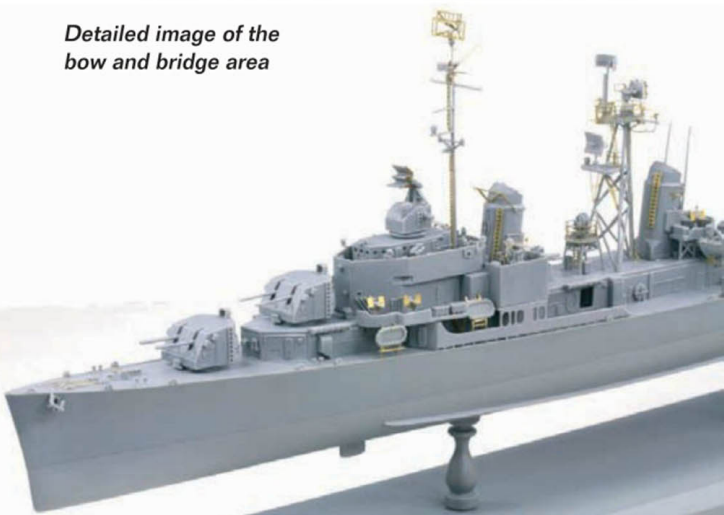
Length: 34 cm

This destroyer was launched in September 1944, and was immediately sent to the Pacific for operations against the Japanese forces. She was one of the warships present at the Japanese surrender in Tokyo in 1945. In 1950 she took part in the Korean War, which included supporting the Inchon engagement. In the early 1960s she was modernised in time to be deployed to the war in Vietnam for naval gunfire support and coastal patrols. After her final deployment in November 1970 she was decommissioned, in January 1971 she was transferred to the Greek Navy and renamed Themistoklis (D-210). After 20 years of service in the Greek Navy she was again decommissioned and was used as a torpedo target and sunk by the Greek submarine Nereus (S111) in September 2001. What a sad end for a ship with such a long service career.

The stern area



Detailed image of the
bow and bridge area



Close-up image
of the funnels and
radar tower – note
the detail of the
anti-aircraft guns



This model is fantastically well reproduced with outstanding detail of all parts; here are a few of the model's details: authentic radar tower, well detailed superstructure and hull, excellently reproduced main guns and anti-aircraft armament, depth charges and torpedo tubes, bridge detail is complete with captain's chair, five crew figures, and many etched parts. Definitely a must have model for modellers of US warships.

Details of these three models and all Dragon and Cyber-Hobby models can be found at: www.dragon-models.com and www.cyber-hobby.com

REVELL

This company is renowned for its vast range of plastic kits covering all aspects of models, but many may not know they also produce their own range of photo-etched parts to add extra detail to their kits. Here are two of their latest releases from the etched range.

Photo-etched Parts for Civilian Ships

Model No.: 00727

Scale: 1/400

This set contains three frets of detailed parts, which include figures, chairs, tables and sun loungers. These parts are already painted so there is no straining of the eyes trying to paint them, easy to follow assembly instructions are also included. Add this set to any model cruise liner and it will bring the model to life.

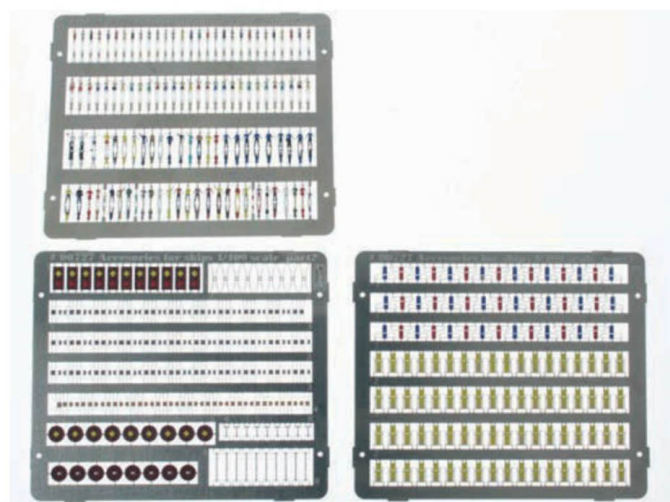


Photo-etched Parts for Aida Diva

Model No.: 00717

Scale: 1/400

These parts are for the Revell model Aida Diva (model no. 05200) and for any of the ship's sisters that can be produced from the kit. The set contains railings, banisters, handrail for swimming pools, ladders bar stools steel net for sports area and much more. This set will improve what is already a well-detailed model.

Revell models are available at all good toy and model retailers, further details can be found at: www.revell.de/en



HUMBROL

Humbrol have sent me samples of their latest additions to their range of acrylic spray paints.

Matt Beige Green, No. 90

Matt Olive Drab, No. 155

Satin Dark Green, No. 163

Satin Medium Sea Grey, No. 165

Gloss Arrow Red, No. 238

Gloss British Racing Green, No. 239

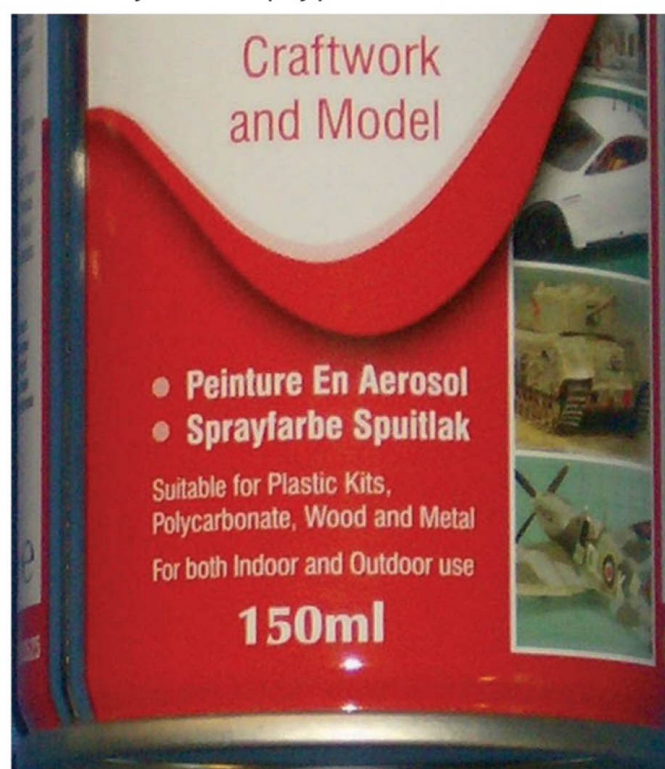
All of these paints are acrylic based and can be used on many surfaces not just plastic kits; these include wood, glass, ceramics, metal and MDF just to name a few. The paint is fast drying which is great if you're in a rush with building your model. They come in spray cans containing 150 ml of paint. These paints are first class and I found no difficulty in using them.

Details of all Humbrol products can be found at:

www.humbrol.com **MMI**



Humbrol acrylic aerosol spray paints



These acrylic spray paints can be used on many different surfaces

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Bluenose. Fishing Schooner 1:100 540mm £89.82
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Rainbow J Class Wood Hull 1:80 510mm £83.69
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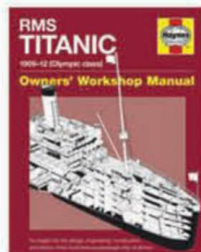
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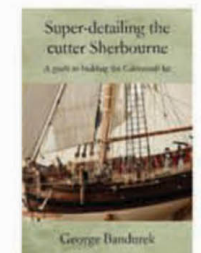
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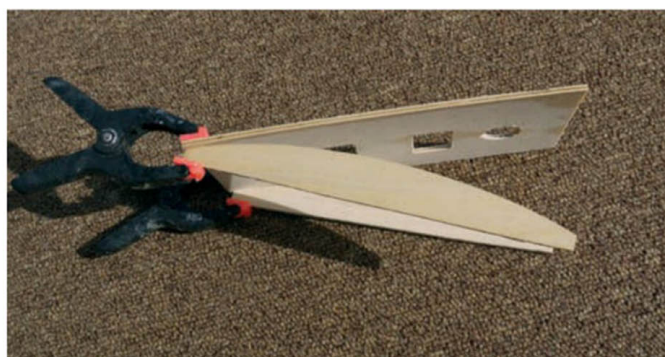
STEAM SCENE

CHRIS LOOKS AT A USEFUL STEAM GENERATOR, DISCUSSES WONKY THREADS AND HAS A CLOSE LOOK AT JOHN HANSON'S STEAMBOATS

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

STEAMING PLYWOOD

This time I am going to stretch the limits of my Steam Scene brief by describing a very effective piece of equipment for steaming plywood and planks. It all began when my wife decided to clean the UPVC windows in our home. After much 'elbow grease' a friend offered her a Karcher SC 952 steam cleaner, a device the size of a domestic kettle. This, she found, was extremely effective at cleaning out the green stuff which always seems to frequent window surrounds. Paying little attention to all this activity, (I was model building in our basement room), I was suddenly alerted by a loud 'thwack'. Thinking something terrible had happened above I rushed upstairs to find my wife looking despondently down into the garden. Moving her aside I looked out and there on the ground was a large wet patch with the water tank from the steamer in the middle. The tank had simply fallen off and smashed to pieces on the hard garden, as it had not been fully locked in place after refilling. What to do? We cannot give it back without a tank!



The curved front of the main cabin



A constant jet of steam can be directed where required



Nearly there after only a few minutes steaming

Having spent some time online searching for a replacement tank my wife decided the only solution was to buy a new one, and promptly ordered it. I was more tenacious and eventually found a website prepared to sell me a replacement tank at a very reasonable price, so I ordered that as well. Thus we ended up with two steam generators. The most interesting thing was that the new one came equipped with a very small nozzle, ideal for directing the steam at pieces of wood and planks. Telling my wife that we should keep the new steamer for ourselves, as she would need it again soon to keep the windows in good condition, I squirrelled the device away in my workroom and soon found it an almost indispensable tool for curving timbers. This was particularly true when it came to curving the 4 mm plywood for the front of the cabin on the Muimota tug I am building. It was impossible to get the correct curvature by simply bending the ply, however, once the ply had been heated and moistened by the steamer, shaping and clamping was no problem. What is more, the steam is almost instantaneous and so there is no waiting around for a kettle to boil, nor are there any problems like preventing the kettle from turning off as soon as it boils. Of course great care is still needed as the stream of hot steam can cause serious burns.

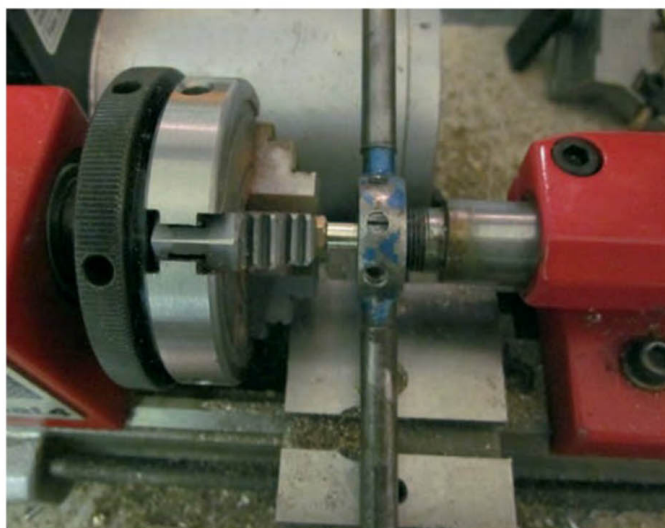
So the Karcher SC 952 steamer is the ultimate tool as it can be purchased as a domestic aid, with a clear conscience, and is an extremely useful tool in the model workshop at the same time (I wish I could justify all my modelling expenditure in the same way!!).

WONKY THREADS

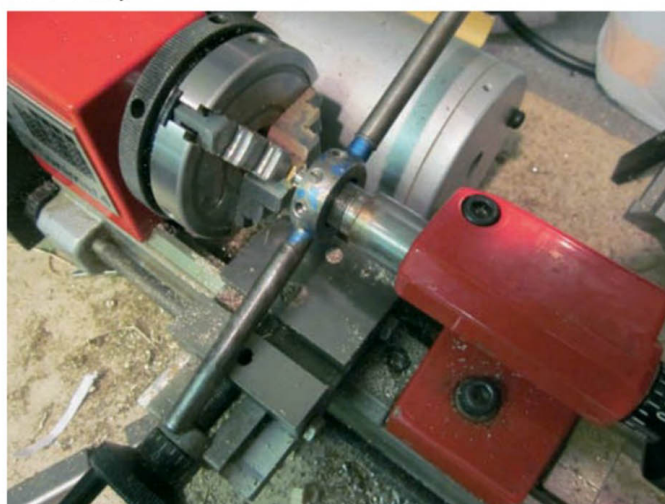
In the May Steam Scene I gave a number of pictures of the steam set-up within the Muimota tug I am presently building. The drive is given by two PM Research Oscillating Cylinder engines, which have inlet and outlet ports threaded 3/16" x 40tpi. A 3/16" brass tube threaded at both ends is also provided. I assume the design is to cut this tube in half and use it as inlet and outlet pipes, possibly using silicone tubing as the connector to the boiler or condenser. This set-up did not work in the limited space between the engine and the hull. Thus an adapter was needed to join the engines to the rest of the steam system using 5/32" pipe and 1/4" x 40tpi unions.



Extreme examples of wonky threads



The die and holder clamped between the chuck and the barrel of the end stop



The handle of the die holder rests on the carriage

A search of the web did not yield any suitable adapters and so I had no option but to make them on my Unimat lathe. I started with 5/16" hexagonal bar stock and soon shaped a short length of 3/16" diameter at one end and 1/4" at the other. Now it was just a matter of using the appropriate die to cut the threads. Setting everything up by eye I cut the 3/16" x 40tpi thread and tried the adapter into the engine's inlet port. To my annoyance the adapter was visibly crooked and did not seal at all well; I had produced a wonky thread! Despite a number of practice attempts I was unable to get perfectly straight thread, so I asked a friend, who is more versed in engineering than me, how to proceed. He suggested using the lathe to ensure everything was kept parallel. How this was done was by first removing the cutting tool and head and moving the carriage up close to the chuck. The centre tool or chuck was then removed from the tailstock leaving the face of the threaded tailstock barrel nose free. The die was then positioned onto the part to be threaded with the arm of the die-holder resting on the cutting tool carriage. The tail stock was then moved up and the barrel extended until the die was clamped in place. After removing the drive belts the chuck was rotated by hand and the first part of the thread was cut. As the die cut into the adapter the tailstock barrel was extended to keep the die clamped making sure it could not deviate from the vertical. With a bit of practice it was easy to both rotate the chuck and tighten the tailstock barrel at the same time producing a very accurate thread.

Having produced four adapters by this method, two inlet and two outlets, and tested the joints with high-pressure air I am confident the joints will not leak when live steam is applied.

JOHN HANSON'S STEAM BOATS

While visiting the South West Model Show at Shepton Mallet Show Ground I was particularly impressed by the range of steamboats that John Hanson had on display. Although John is probably best known for constructing models in aluminium, he is also very experienced with steam power and so, after some discussion he agreed to let me feature his steam boats in this article as they demonstrate an interesting variety of systems and layouts:

VELINHELI

This is a model of the longest serving Welsh Slate Coaster. Built in 1892 she was eventually scrapped in 1957. The model is powered by a twin cylinder slide valve Maxwell Hemmings Mk.2 engine connected to a return flue boiler having twin gas burners. The condenser is of particular interest as it is constructed from the pump of an old kerosene blowlamp. John tells me that despite the small size of this condenser it works perfectly well and helps maintain the scale appearance of the craft.

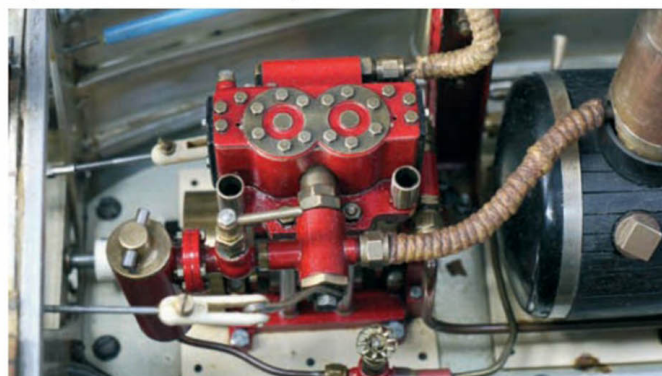
The boiler itself has a capacity of 250 ml, which gives only a short running time. To extend the range of the boat additional water is stored in a 200 ml reserve tank. A small pump on the rear of the engine constantly pumps the reserve water towards the boiler. A level control mechanism ensures that additional water enters the boiler via the clack valve, while any excess water is recycled back into the reserve tank.



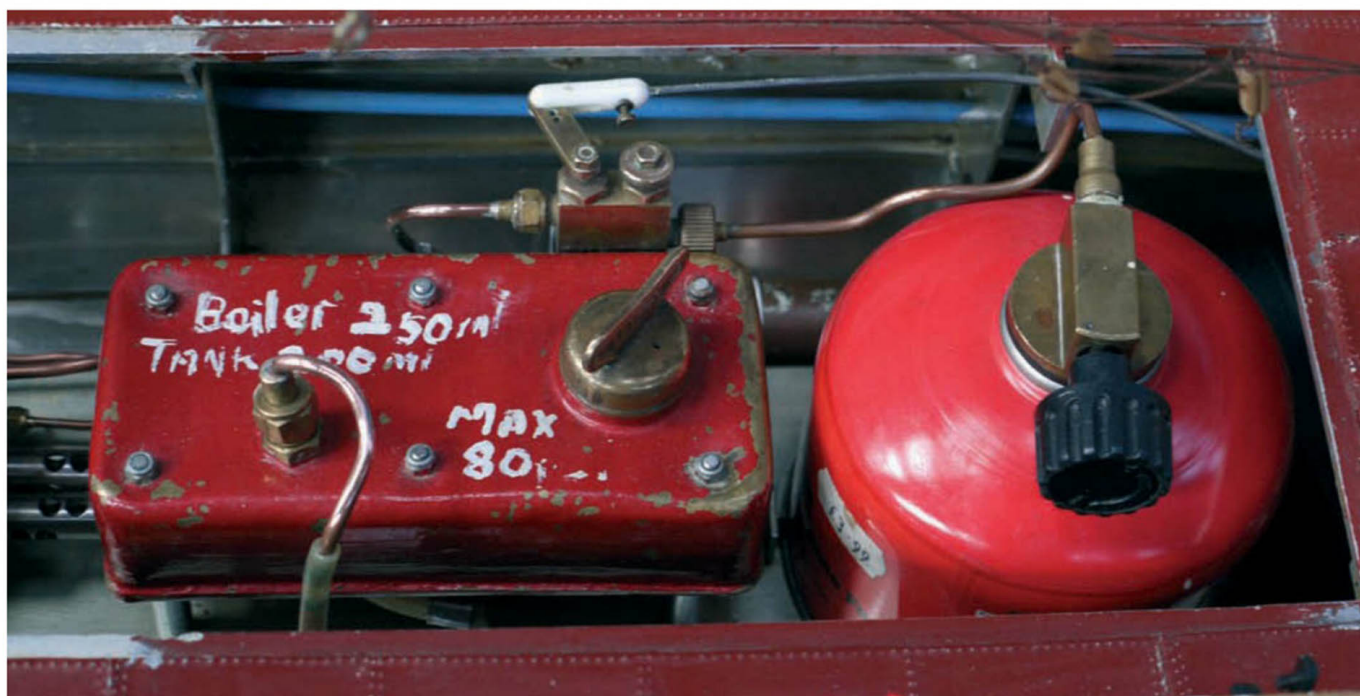
Velinheli with its superstructure in the background



A good view of the boiler, engine, fuel tank and reserve water tank



Steam engine, throttle and lubricator



Close-up of fuel tank with safety control valve and the reserve water tank

MARTHA

The Martha is a scratch-built model of a Milford Haven Estuary working boat. It is powered by a Stuart Turner ST engine with double acting cylinders driven by a gas fired boiler and the whole craft is constructed from welded aluminium. The engine is kept oiled by a displacement lubricator on the steam inlet.

The exhaust condenser consists of gauze onto which oil and water accumulates and drips onto a rag thus preventing unwanted material exiting from the funnel.



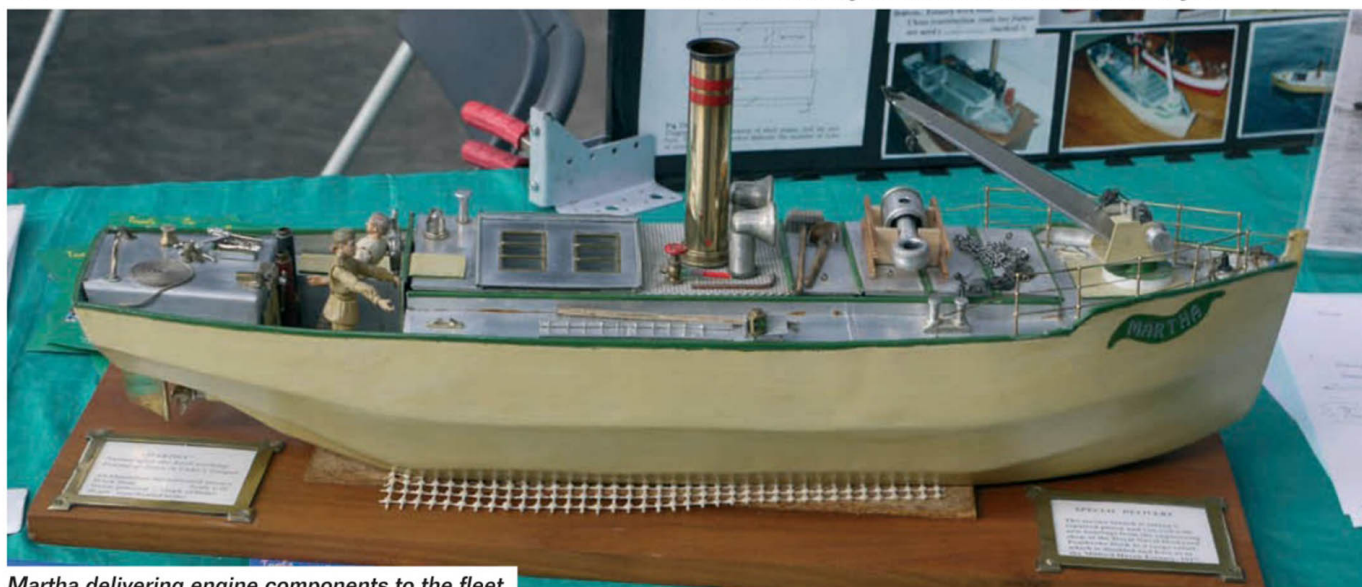
Steam plant layout. Note condenser gauze on the centre of the boiler

ARTHUR

This is a methylated spirits fired boiler driving a Stuart Turner ST1 engine. The whole steam plant fits into the craft on brass guides made from curtain rails. While I was at the show John fired up this



Arthur showing the meths fuelled boiler and engine



Martha delivering engine components to the fleet



Sailing well on the demonstration pond

model and sailed it on the pool. After the heating time, a single flick got the motor running and the model set off across the pond at a realistic speed. The crowded pond made navigation a real challenge, as the boat has no throttle or reverse, however, at no time was there any problem with the engine (which was fortunate due to its inability to restart automatically if stopped for any reason).

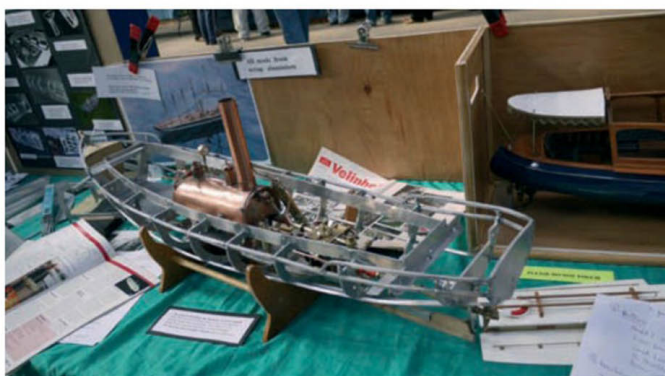
HARBOUR SERVICE LAUNCH

This is a 1/18 scale model of the Harbour Service Launch HSL296 originally built in Pembroke Dock.

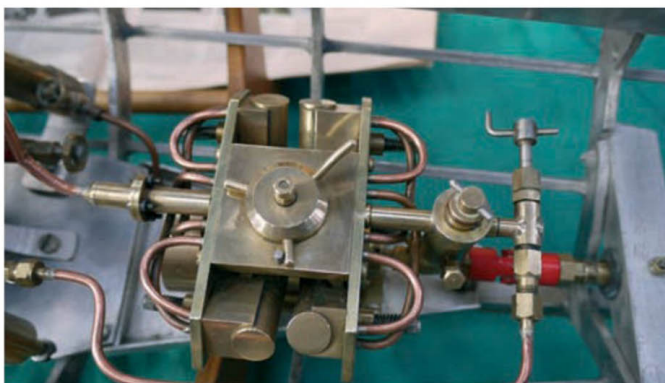
At present this boat is only a shell but has most of the running gear in place. The engine is one of three V4 single oscillators made by John Scofield and has the throttle and reverse system mounted on the top.

The boiler is home-made and sits inside an outer cladding. The steam passes through the space between the boiler and outer cladding in order to superheat it. The boiler is gas powered and the condenser is of the same blowlamp pump design as Velinheli.

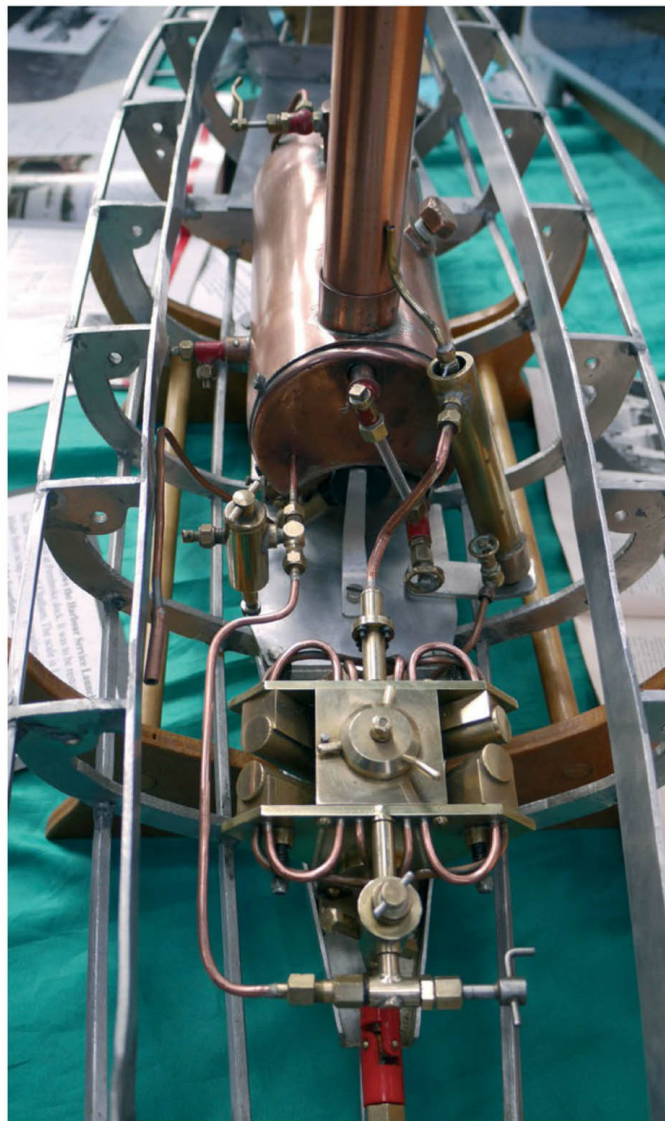
There are plans to restore the original craft at Pembroke Dock.



The aluminium skeleton of the HSL296



The engine with throttle and reversing gear on top



The complete steam layout also showing the 'blowlamp pump' condenser

OPAL

This is a Martin Howells and Baylis fibreglass and timber hull powered by a Cheddar Gemini steam plant.

I am very grateful to John for telling me about these interesting models and allowing me to include them in Steam Scene. **MMI**



Opal in its display case with superstructure



Superstructure removed to give access to the steam plant

WATERLINES

THE P&O STORY, PT 1 – KELVIN RECALLS 123 YEARS OF P&O

AUTHOR: KELVIN HOLMES  GREAT BRITAIN

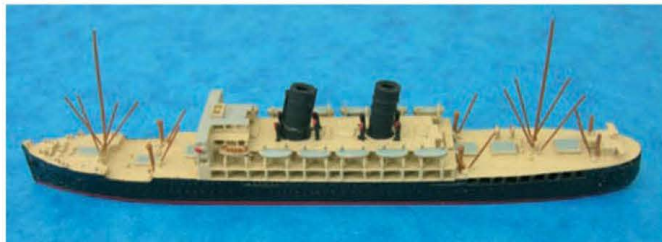
khwaterlines@btinternet.com

This month we look at the history of P&O from its inception in 1837 to the formation of the P&O-Orient Line in 1960; this dovetails in nicely with August 2009's article (Issue 269 & Revisited #6) which covered the company from the 1960s to 2009. The subsequent three years have seen for P&O Cruises the disposal of Artemis (ex Royal Princess, 1984) plus the arrival of Azura and a new Adonia (ex Royal Princess, ex R-8, 2001). This month sees my 175th article in MMI coinciding with P&O Cruises celebrating 175 years of P&O with all seven of their current cruise ships departing simultaneously from Southampton on 3rd July.

The collectors' tables this month and next provide a subset of P&O's liners from the China (built 1896) to the Cathay (ex Baudouinville, 1957) concentrating on those for which waterline models have been produced. It is impossible to list all P&O's ships here so can I recommend 'Merchant Fleets No 44 P&O Lines' by Norman Middlemiss. Where further names appear in brackets this indicates sister-ships, which could be represented by the same model so RG33a China can be used as the India in a collection rather like my displayed Dunera, which in fact is AL 95 Dilwara (this is a familiar approach for warship collectors). Those listed as produced by Bassett-Lowke are as per Wiedling's authoritative ship model register; numbering just relates to this article and is not a B-L catalogue number. Given their scarcity Bassett-Lowke has only been mentioned where no other source of a model exists. Derek Head's excellent book on Bassett-Lowke features on page 76 a picture of P&O and Orient liner models including Ranchi (1925), Viceroy of India (1929), Mooltan (1923) and Strathnaver (1931).



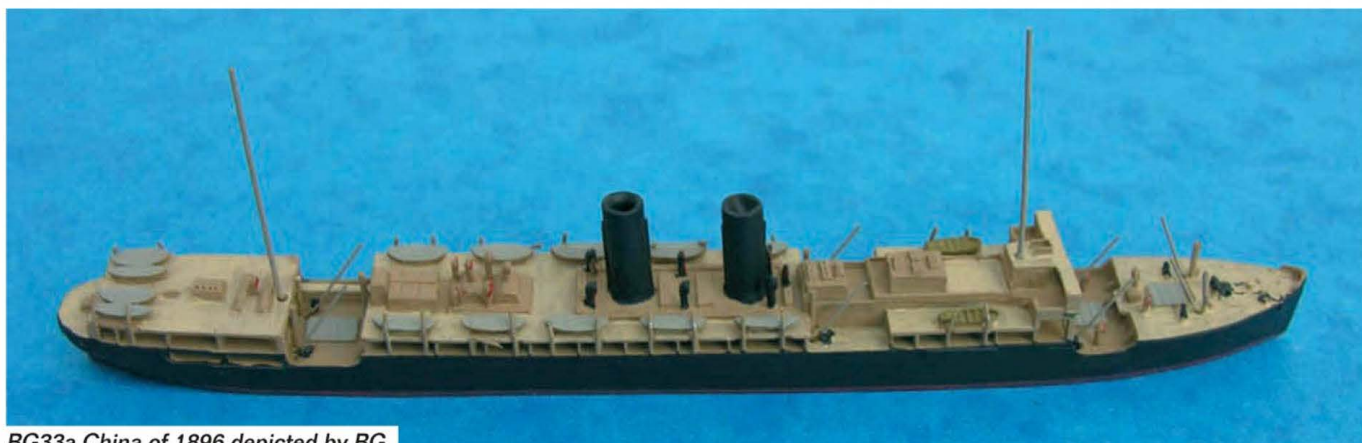
Ballarat was in the now discontinued Colonia series



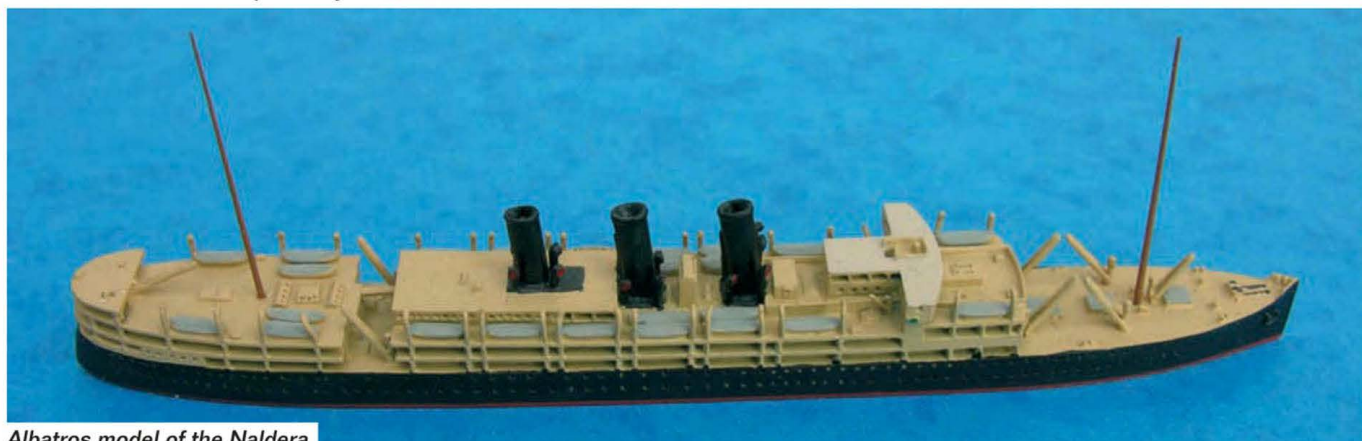
Albatros model of the Cormorin

EARLY HISTORY

The origins of the P&O lie in the late 1820s with mail services to Portugal and later Spain and Madeira using chartered ships of the City of Dublin Steam Packet Co. A government contract for mail to the Iberian Peninsular was secured in 1837 and this has now been accepted as the founding date of the Company. Operating initially under the name the Peninsular Steam Navigation Company this was changed on 31st December 1840 to the Peninsular and Oriental Steam Navigation Co. when the mail contract was extended to the Far East via Egypt. The service was launched with the paddle steamer Oriental where the mail would be delivered to Alexandria then transported overland prior to onward shipment to Calcutta in India on a second vessel. Within a few years mail services had been expanded to include Ceylon, Madras and China. In 1842 P&O's first liner reached the east, this being the paddle steamer Hindostan.



RG33a China of 1896 depicted by RG



Albatros model of the Naldera

Another Colonia model; this is Mongolia



Ship (Sister)	Date	Service Notes of First Named	Model (* = Illustrated)
China (India)	1896	– Served until 1928, scrapped Osaka	RG 33a*
Arabia (Egypt)	1898	– 1915, torpedoed/sunk in 1916	RG 33
Marmora (Macedonia)	1903 (04)	AMC in 1914, sunk by UB64 in 1918	Bassett-Lowke 1
Moldavia (Mongolia)	1903	AMC in 1915, sunk off Beachy Head in 1918	Bassett-Lowke 2
Naldera (Narkunda)	1920	Scrapped 1938	Albatros (AL) 127*
Ballarat (Balranald, Baradine, Bendigo, Barradol)	1921 (21-23)	All scrapped 1935 – 38	Colonia 25*
Mongolia (Moldavia)	1923 (22)	1938 to NZ Shipping Co as Rimutaka, sold 1950 becoming Europa; finally scrapped in 1965	Colonia 23*
Mooltan (Maloja)	1923 (24)	– 1954, scrapped Faslane 1954	Bassett-Lowke 3
Comorin (Cathay, Chitral)	1925	became AMC in 1939; accidental loss 1941	AL 30*, Skytrex-M932
Rawalpindi (Ranpura, Rajputana, Ranchi)	1925	– 1939, sunk when AMC	LJ L1, Colonia 121, G 15*

Liners Part 1 – Up to 1928 (selected)

In 1852 a mail service to Bombay was added and more significantly to Australia. The opening of the Suez Canal in 1869 caused P&O problems in that their investment in two fleets (one west of Suez and one to the east) gave them surplus shipping as through voyages were now possible. However, P&O made the changes needed (we'd call it rationalisation today) and soon began operating through voyages to India, the Far East and Australia. At this time P&O's livery was black hull, masts and funnels and buff superstructure. Celebrating Queen Victoria's Golden Jubilee in 1887, P&O acquired four new ships including their very first Arcadia and Oceana. In 1904 the company began cruises with the Vectis, this being the former Rome completed in 1881.



Model news: latest from Albatros is P&O's Himalaya

The company increased in size with the acquisitions in 1910 of the Blue Anchor Line, which became the P&O Branch Line, and a merger in 1914 with British India (BI) although the latter retained their own operating identity (an article on BI is planned for next year). On the outbreak of war in 1914 P&O/BI possessed about 200 ships many of which were requisitioned for example as AMCs or troopships. During the war the New Zealand Shipping Company, the Union Steamship Company of New Zealand, the Hain Steamship Company and the Nourse Line were acquired. Overall P&O lost 85 ships during the war, 34 as a result of enemy action. In 1919 the company bought a controlling interest in the Orient Line followed a year later by acquisition of the General Steam Navigation Company.

In 1925 the first of four 'R' class liners was completed all of which went on to serve in WWII as AMCs, two being lost (Rawalpindi and Rajputana), one converted to a repair ship and retained by the RN (Ranpura) and only one (Ranchi) being returned to P&O where she served until 1952 taking emigrants to Australia. The story continues next month. **MMI**



'G' model of Rawalpindi



P&O postcard of Ranpura



Ranpura in her final role as an RN repair ship seen here at Malta

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POWERPLUG

EYE BOAT COORDINATION – RICK GIVES US AN INSIGHT OF HOW WE CAN IMPROVE/ADD DECALS/PAINT TO SEE OUR POWERBOATS!

AUTHOR: RICK EYRICH ricic99@tampabay.rr.com  USA

Ever since mankind began to design, build and run machines capable of high velocity, many of them have been given identifying marks, letters, colours and other symbols to make them stand out at speed. Likely done to make the cars, boats, aircraft, etc. easier to keep track of their ever-increasing speeds these markings have carried-over to the present day and they can be adapted to help the IC boater maintain a constant, high level of control at all times.

Due to the recent improvements in R/C boat design and engines it's not uncommon to setup a powerboat easily capable of running over 50-60 mph and with their relatively low profile a fast-moving IC hull needs as many recognition points as possible. We'll now take a look at several simple techniques you can apply to your nitro/petrol marine craft to make it stand out at speed.

COLOUR TRACKING

Although it's obvious that painting your outer hull a bright colour will make it easier to spot out on the water, the actual colour (or colours) chosen for the boat can sometimes work against you under certain lake conditions. Due to the many ready-to-run boats that sport a replica paint and graphics package it's possible to see several identical power craft running at the same time. Unless you maintain your concentration, it's very easy to find yourself 'steering' someone else's hull while your actual marine craft wanders-off on its own.



This fiberglass catboat was made up with a bright yellow outer gelcoat finish and normally this colour will help the driver stay connected while the hull is at speed, running-in a pack or with limited sun levels on the water

A similar problem involving matching hulls can be if you find two or three hulls all with the same colour gelcoat colour and no real identifying markings to make any of them stand out from each other. This tracking glitch reaches its peak when you actually have both the same brand/design and outer finish and this has been witnessed at races by your lowly MMI scribe!

Breaking-up your boat's factory paint scheme with an additional colour finish or doing a complete revamping of the vessel's appearance can enable the boater to better track his/her hull. Yet, some thought will have to go into the actual paints and graphics you choose for the job to ensure they create the right look.

As you might expect some darker colours can act like camouflage on a fast powerboat especially under certain wave/cloud conditions your hull will encounter on a typical day at the lake. Let's start with the colour blue, which in a lighter shade will actually look like water.



On a bright sunny day keeping track of your IC boat amongst other hulls isn't usually a problem, but weather conditions, other boat colours and racing situations can all combine to make it tough to maintain eye contact with your marine craft



Using colour panels on the deck of your boat will help it standout better, as does the bright tablecloth it's sitting on!



With a typical IC offshore racecourse your boat will have to be able to turn well in either direction, plus adding some ID paint or graphics to both ends of the hull will make it easier to track at the far end of the course

Darker blues can also disappear in waves that the early/late sun is casting shadows onto; and, a blue-bottomed hull, once inverted and stalled can be very hard to avoid by other boats. Even a small white or yellow stripe anywhere on the hull's blue underside will give you a lot more contrast should you flip your vessel.

Similar hard-to-spot colours will include black, red and darker greens, so these will also benefit from some lighter paint or graphics placed on both the bottom and deck spaces of the hulls. One trick many modellers use to make it easier to pick out their dark-coloured boats is to apply a section of a chrome-like stick-on vinyl on a more visible space of their marine craft, as this will show up in even low-light pond conditions. This vinyl is available at hobby dealers who sell R/C aircraft trim sheets for decorating the iron-on covering used on model planes.

Getting back to the idea of relying-on contrasting colours to help identify your IC boat choosing a tri-colour scheme of your own design can be used especially if you're running a series of different hulls when you're racing. Multiple stripes or painting the vessel's bow or sponson tips all the same colour shade is one layout that's popular, plus you can also spray the hatch/canopy colour to make them show up better out on the lake.

For those folks who build wood IC boats and prefer to protect the hull's outer wood surfaces with a clear epoxy or polyurethane coating they too can be hard to track under certain water/light conditions. Likely suspects like three-point outriggers and classic shovelnose hydroplane hulls are more likely to be created from lite plywood and/or balsa and again their forward sponsons make a suitable location for bright tracking colours. Neon green, red or orange rattle-can paint or a similar vinyl material applied to the upper areas of the sponsons can add plenty for your eyes to key on and this trick is doable on a sharp-nosed mono or catboat as well.

Now if you own a pre-built nitro/petrol boat that's sold only in a single colour scheme and graphics package, you can personalise the outer hull with paint and decals to prevent losing your replica marine craft in a gaggle of similar RTR hulls. Adding new numbers in place of the scale OEM, changing the colour of the canopy windshield or any other prominent location can improve the vessel's ID levels.

If the stock decals on the boat aren't clear-coated you can peel-away the stock vinyl graphics and design your own custom look and again the R/C aircraft trim sheets (which are usually fuel-proof) are also suitable for this job.

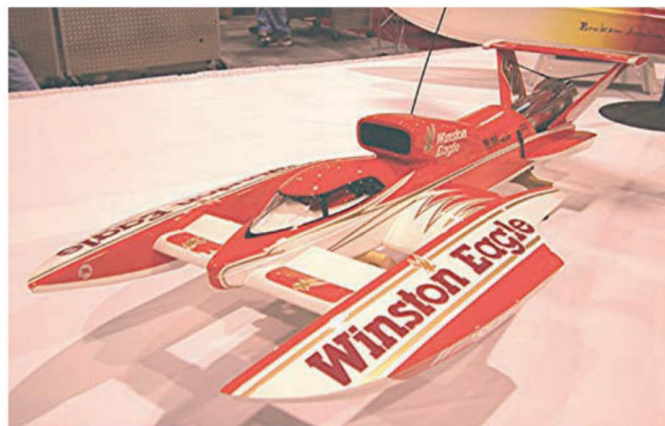
In extreme cases an IC boater has completely stripped his/her RTR marine craft and applied a totally new paint job, however, this will only be necessary if your local group of IC'ers has purchased the same brand/type boat in numbers, or if you just want something different! Again, regular rattle-can spray paints can be used for both the minor and major alterations to your outer hull, but a clear coating with a fuel-proof clear finish will be a good idea especially if you're running a high-ratio nitro fuel in your vessel.

SHORELINE HELP

Keeping track of an IC boat at speed can be greatly improved by situating yourself at the best possible vantage point you can along the banks of your lake. Any raised structure like a dock, seawall, or, if you're lucky enough, a driver's stand, will provide a bit of an angle to see your power craft. Even something as simple as a wood fruit crate can be used as a driver's platform; however, be sure it's a good sturdy box and that you can place it on a suitable patch of ground near the water. Being able to clearly detect that your boat as it's rounding a course buoy or another competitor's hull can lower lap times and help cut down on the number of contact shunts as well.



Although this large superhero painted on the hull's deck space looks great, it can't really help the driver to see his/her boat better any distance from the shoreline



When choosing a paint/graphics package for your hull using a scale/replica layout can make it standout more as long as nobody else shows up at the lake with the same theme!



A custom paint scheme like this racer used to make his fleet standout may work, but the green portions on the hulls could end up giving-off a 'camo' effect if cloudy skies move over the water

In the event you do have access to an elevated lakeside driver's stand you can further improve your eye/boat coordination by placing yourself and/or your race spotter at a point where you won't be in the way of the other drivers. Standing as far away from the platform's entry/exit stairs eliminates any big time "pardon mes" during a heat race and this trick may involve planning ahead a bit to ensure you get your spot every time. Having your boat fully prepped and only in need of a quick start up will help, as will scouting the stand before to determine your location for either an oval or offshore-style IC lake course.



You'd think that a white monohull like this Jersey Skiff would really shine bright on the water, but this image taken on an overcast day shows how it can lose its contrast when the weather changes

OFFSHORE SITUATIONS

Yes, you heard that right. In recent years offshore nitro/petrol boat racing classes have seen a big increase in popularity, so the racer will have to adapt both the hull and running stance to suit the average multi-turn offshore racecourse. Again, making your vessel as visible as possible, including its aft areas, can be helpful as you'll now be running farther away to the offshore layout's far turns.

The hull itself will have to pivot equally well in either direction as this can be a problem for many oval setup boats that prefer to angle in only one direction. A second turn fin and some practice running in the opposite way your oval marine craft may be enough to convert your boat for offshore racing and here again, having the best tracking angle for the boat's entire path on the lake will help you keep a close track on it at all times.

Finding yourself steering the wrong hull isn't anything unusual when running in a pack/at a distance, plus keeping your line to the next course marker will involve coordinating your boat with the space out in front of it as well.

LEADING YOUR VESSEL

Not unlike how a hunter must aim ahead of his/her target, a smart power boater must also be able to scan the water ahead of the marine craft to safely navigate the entire lake at speed. Whether



To help you avoid having the exact same colour/decaled hull this Aquacraft ARR nitro tunnelboat is sold with four colour schemes, plus it's easy to simply paint the hull's sponson tips a bright neon colour to make it easier to track on the lake



Decorated with the look of an older offshore race craft this RTR boat represents the boldest way to create a unique hull that you can always spot in relation to your location alongside the lake

in sport or racing situations, making that quick glance where you want your hull to be is just like leading a target which would be in your case a stalled vessel, debris on the water's surface, heading for a course marker or just staying out of another boat's wake or roostertail.

TIP OF THE MONTH

Although the bright yellow, Tygon brand fuel tubing that many petrol boaters use to pump their hull's fuel system is a great easy material, it does have one drawback for those who run an onboard water pump setup. Instead of connecting the diaphragm-type water pump to your engine's pressure fitting via a short length of Tygon tubing, relying on a section of a black neoprene hose will create a longer lasting and better joint between the engine and pump unit.

Better suited to handling the pulse charge pressure needed to activate the water pump, the thick synthetic neoprene tubing is also reinforced with nylon cord, so it won't flex under pressure, which could occur with the thinner wall Tygon hose. Available at most automotive and small engine parts houses, the neoprene tubing's inner diameter should be matched to fit snugly to your boat's pressure fitting and pump nipple and ty-wraps can secure the hose once it's in place.

Finally, keep the hose as short as you can, as this will ensure that the pump's diaphragm works quickly enough to provide plenty of cooling water to your hull's engine/exhaust combination.



Often overlooked a tall, long boat roostertail coming off the hull ahead of you cannot only block your view, but can also unsettle your boat enough to cause a rollover or back flip on certain hull designs. If you see a massive roostertail of water in your boat's path slightly altering course to either side of the 'tail' or easing-off the throttle a bit are your best options for avoiding that wall of H₂O.

Finally, as I've detailed in other Powerplug columns, have a friend 'spot' for your boat is always a good plan, as he/she can focus-in on both your driving and the boat's best path around whatever course you have at your pond or race event.

LOW LIGHT VISION

If you live in an area that has a high number of overcast days each year, it's sometimes possible to improve your ability to view your nitro/petrol hull by wearing a pair of yellow/amber-tinted sunglasses. Having personally tried this technique I can relay that the yellow-tinted lens do provide more contrast between colours

Adding a simple set of stripes to the side of an all-white deepvee can greatly improve its visibility, which in turn means other boaters will better see it as well

and on cloudy days this can help you maintain contact with most colour/graphics on your boat.

For those who wear corrective eye wear (like myself) there are DIY safety glasses available that can fit over your regular sunglasses, so you can improve your vessel's low-sun visibility via this type of eye wear. Even useful when you run either late or early in the day, the yellow sunglasses are a basic tool you can use to maintain a close eye with your marine craft.

WRAP UP

Just like keeping all of your power craft's onboard systems in tune, having your hull's outline on track will be important to maintaining its 'health' over the course of each season's worth of lake days. As always, if you have any questions regarding this subject matter or wish to ask about any IC boat-related topics please feel free to contact me via the email address at the top of this column. Talk to you next time!



Capable of folding-up into a small enough form to fit inside an equally minimal car boot, this canvas cart can both tote your cradled hull and required field gear to the shoreline and back with little effort

TRICK OF THE MONTH

Due to today's ever-increasing gasoline prices, many IC boaters have had to downsize their vehicles. However, I've noticed that some are also downsizing their IC hull-carrying carts to suit their cars. For years the standard metal children's play wagon was largely used to tote a large IC hull to a race's hot pit area, but now many have begun to use a lightweight folding wagon that will take up far less space in the boot of your auto.

Another side benefit of using this kind of tote is that its canvas 'bag' can handle your electric starter, fuel jug, etc. while the cradled hull can be secured to the top of the wagon with a pair of bungee cords. Look in your department store's camping or outdoors section for these folding carts, I think you'll like them for both sport and race days at the pond. **MMI**

LIVEWIRES

ALLAN ANSWERS SOME QUERIES, AND EXPLAINS CATAMARANS

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Just before we start there are three things that have cropped up as queries in the last couple of months:

The first is radio. I had a query from someone running a low cost 2.4 GHz radio set in an FE boat. The receiver had a single aerial that was very short and it was mounted fairly low in the boat. Under certain conditions control was lost and the boat stopped, after a short interval it re-armed and off it went again only to repeat the process. After some questioning it was determined that this happened at a fair distance from shore and with the spray masking the boat from the shore. Now many of the budget sets have a short range as they are targeted at cars, indoor flying etc. Even if the range is stated as 100 m then we still have the problem that water can and does mask 2.4 GHz radio fairly well. The solution is to ensure that you have a version that has twin receivers and at least one distant aerial. The Rx and the aerial should then be mounted as high in the boat as possible and with as great a separation as possible. Now I am not saying that budget 2.4 GHz radios are not suitable for boats but FE is an extreme use and you need to make sure that the set you use has sufficient range on the water and that the aerials provide compensation for one of the signals being masked. Simple.



Mayfields' F2 cat at Oulton Broad

The second thing is that I did say that I would finish my wire drive by replacing the central Teflon bearing with a 2.5 mm ball bearing but that I would have to remove the flange. I said I could not do it but actually I can, I have a set of collets for my lathe and they will grip the bearing admirably but having done that I still have the major problem that I have to fix the position somehow. I decided that I can do that with some sleeving from 1 mm² silicon wire, this stretches to be tight in the 2.5mm shaft. Having got that solution, it will do just as well with the original Teflon bearing so do I really need a ball bearing? Probably not, we will see.

Lastly, after a test run with the boat of just a few minutes I returned home with all good intentions and left the boat to dry out. This was quite an error as despite all the grease, when I came back to the boat the shaft was reasonably stiff. The water I ran in was brackish and I should have known better so just a heads up. Take the shaft out and dry everything before storing. In addition make sure the complete boat is dry, especially the cells and motor, you really do not want them damaged from corrosion!

Any more queries please do email me – the information is at the end of the article. Now, back to cats!

THE ORIGIN OF THE SPECIES

Catamarans, or cats for short, are a twin-hulled boat – the term comes from Tamil words kattu and maram or 'tied tree'. The originals consisted of two hulls joined together by beams and gave a very stable base for fishing in the Tamil Nadu area. Skip a bit, and about 200 years, and the American Nathanael Herreshoff started to build catamarans to his own design and because of their speed and stability the rest is history as they say, with pleasure, fishing and commercial versions. Of course, whenever you have something like this it is inevitable that they are raced and development of both sail and power cats is in evidence today. We will only concern ourselves with power and then models! So, the first cats were simple in structure and were effectively a mono cut lengthwise, sealed up and bolted together with a platform (rather simplistic but you get the idea). This gave a wide stable platform that had the same drag as a smaller mono. That means that you can carry more or apply more power. A split developed with inshore and offshore racing cats going slightly different ways. Let's deal with the inshore cats first.

INSHORE CATS

The real live Formula 2 inshore cat pictured close by was racing at Oulton Broad whilst I was there some years ago, at that time I built a model from a GRM hull and painted it similar to this and it was powered by an upgraded outboard leg for which I can no longer remember the source. The model lives on a friend's shelf now but I don't know if it still runs. I had upgraded the leg to take a 700BB turbo motor and it was quite exciting to run. It is not easy to see but the sponsons are very low profile, fairly wide

apart and the cab sits on a central platform. There is not a lot of clearance to the water, which makes this unsuitable for offshore work. The F2 is very like the F1 but was limited (I think) to a 2 litre engine which mounted vertically in the engine cover (i.e. on its end). The drive to the prop is via a gearbox. The steering is from a steering wheel with cables running back to the outboard, from memory there was a bit of play in them! The wheel had three 3-way switches (On-Off-On) and these allowed the strut to be jacked in and out. Jacking the strut out raised the nose and you went faster – until the air under the hull caused it to flip. The skill is to get enough air so that you get aero lift and reduce the drag, to increase the speed, and not flip! These things turn on a sixpence and then ran over a 100 mph in a straight line. If you search online there is some fair footage of races.

Have a look at www.youtube.com/watch?v=BU0MvjQ_jXI&feature=endscreen – this has about 10 minutes of film of inshore racing in Lancashire in a few sizes – small hydroplanes (Kneelers) and mono's – watching will give you an idea of what can happen to a boat at full size, and in model size.

A model inshore race cat from a Graupner kit



MODEL SIZE

This model inshore cat is from a Graupner kit and has a Graupner outboard unit (but other manufacturers are available such as Proboat, DPI, Hydro & Marine, KMB etc). You can clearly see the thin nature of the sponsons which have been thickened in this model. On the model the bottom is a plain flat half vee whereas in reality the sponsons are shaped differently on either side similar to the hydroplanes as was discussed in a previous article. The outboard was built to replicate full size and had a gearbox at the bottom of the strut, unfortunately the gearbox teeth stripped due to the power available and exact scale had to be given up in favour of a flexible wire drive. Graupner still make three sizes of outboard like this but they are also available from elsewhere such as REK, KMB, OS and Hyper performance to name a few. If you want the latter ones for electric then you will probably have to purchase an adapter plate or make one.

The OS outboard leg was originally meant for I/C use but electric fans modify it for electric and adapter plates are available. When looking for an outboard leg look for one that gives you adjustment both up and down (slots in the transom mount) and to jack the leg in and out (for set-up). Also make sure it has a robust cable and that spares are available.



An OS outboard leg

MODEL SET-UP

Now to the nitty gritty, setting one up! Well I started as I always do with the C of G at 30% – sorry I cannot remember where it landed up but this boat has a fair few adjustments so it may be that that is where it stayed. Initially the outboard leg was set so that the bottom of the prop boss was on the running waterline. Start high if in doubt as too low and the load will be immense. Also start with the outboard completely flat to the water. If the boat hooks then it is likely that the prop is set too high. Now you can start to push the rear of the strut out – which will give you some lift in the nose. Lift in the nose allows air under the hull, which is compressed and lifts the hull. Go too far and the boat will first start to porpoise and then flip. You can push the weight forward to counteract but too far and it will cause the bows to submarine at start up and can cause cornering problems with the back end lifting out and the model spinning. If the weight is too far rearwards the boat will hook.

So now we have three adjustments and a couple of reasons for each type of misbehaviour so please do follow the missive of one adjustment at a time, and keep records to make sure you can repeat what you have done, and/or get back to your starting point. Getting the best out of the hull will take time and patience. Please also note that the model in the picture had a symmetrical hull but even so it turns right better. If you look at the clip in the link you will see that full size run counterclockwise, so an exact scale boat is not going to work too well. For electric models it is best to flip the design and run anti-clockwise!

Jerry Dunlap has been designing, building and racing this type of model for a long, long time. He has probably forgotten more than I know so if you are still having problems do a quick Internet search for him and look for his set-ups. One thing that he does do is add a small wedge at the front of the wing area, which gives some lift as the bows come down and stops the boat from acting like a fish! The exact position and size is going to be dependent on the model. With an electric outboard this boat has a lot of internal room and a lot of weight on the back, the tendency is to put the internal weight too far back and that will not help the performance.

OFFSHORE CATS

Offshore cats are so called as they are extensively raced offshore, they are larger and less manoeuvrable than their inshore



My trusty old Apparition cat

cousins but carry much more power with UIM class 1 boats having twin engines of around 900 hp each and capable of speeds in excess of 200 kph. Models replicate the full size fairly closely but many have wider than scale tunnels. For a real feel of what these cats are like try the following link where you will be able to see and run with the 210 mph Miss Geico turbine driven cat: www.youtube.com/watch?v=5ORjZ8Dpa7k

BACK TO REALITY!

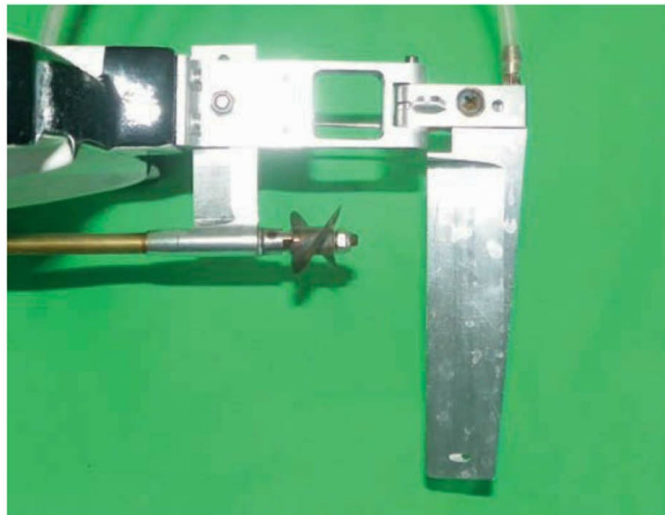
My old 32" Apparition cat is pictured above – from the picture you can see how like the full size UIM class 1 boats these are. A quick search on the Internet for 'UIM class 1' will get you lots of results and pictures to compare against. This one is 32" long but you can get models from as small as 12" to bigger than 6 feet long.



Apparition sponsons

Anyway down to business. There are a couple of major designs around. The Apparition above has flat bottoms to the sponsons and should be good for higher speeds but you could expect it to be more affected by waves. The flat bottoms may give it the edge in the turns also – you can clearly see this in another picture nearby. You can also see the steps in the hull, which are quite different to the mono's in that they are much smaller. If they were long as in the mono's then some of the trapped air would escape with a resultant loss of lift.

The picture of the rear of a boat shows a single drive hardware on the rear of the Apparition. The strut has a trailing rudder for better control and this makes the whole thing a little less scale like. Inside there is apparently plenty of room but after you get the



This shows the single prop drive hardware on the back of the model

weight distribution right and fit your 4S LiPos there is not a lot of room on the tunnel floor. Nor will the LiPos fit under the deck. The alternative is to put them in the sponsons – which works well but that is also where any water will land up, and the power cables will be longer so you will have to think about whether you need extra capacitors for the ESC. With a 40 mm prop and a 2770 kV 3674 class motor in it this set-up will pull in excess of 120 amps at start up but will run at well over 40 mph. You will note that in this picture the drive is exactly flat with the bottom of the sponsons, you can, as discussed earlier, play with the strut angle until you get the performance that you want. Not with this set-up but some rudder sets will allow you to tilt the rudder bottom forwards or backwards. Ideally it wants to be vertical to the running waterline (so with the nose up slightly maybe just a tad to the rear). Beware as too much rearward drag of the rudder will cause the rear to lift in corners, leading with the rudder bottom forwards may help keep the nose up in turns – but it will cost you speed.

Also pictured is an alternate sponson shape, this sponson has a noticeable dead-rise all the way across. The planing surface is now defined by lifting strakes of which there are two. The outer one works at start up and lower speeds and stops the water climbing the hull. The inner one narrows the planing surface at higher speeds. The deadrise means that the ride is softer but the hull is prone to rolling in high-speed turns. You can just see that the inside of the sponson has about a 1/4" drop before there is a step on the



This 935 mm cat looks the same as the smaller one from the top, but the bottom is quite 'different'

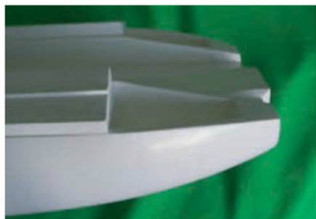
inner face of the sponson, which detaches water from the inner face. You cannot see from this picture but the tunnel has a dip in the centre. Often the tunnel is narrower at the rear than at the front, which causes the air to be compressed and lifts the heavier rear more. You can also see the small steps as per the first cat.

In full size the rear of the sponson overhang finishes over the top of the propeller blades so that the blades are in the overhanging pocket, then you cannot fall directly into them. At model size we want to use larger than scale props and this means that, as usual, we have to make some sacrifices, in this case the drive unit (Arnesson drives – but often referred to as a stinger) is somewhat longer than scale so that the props are out of the rear of the model – giving us the clearance that we need. A similar rudder to the one shown earlier fits directly off the transom.

The typical power trim or stinger unit used on cats is shown



Alternative sponson shape



This picture shows the arrangement at the rear of the sponsons which allows the dual drives to be attached

the hull will be a bit more stable, if you rotate them inward you will get a bit more lift, which translates to more speed but at the cost of a little stability.

here, this one is designed to fit the above hulls and that is reflected in the arrangement of the adjuster – to fit the available space! This unit takes a square drive flexi but that can easily be replaced with a solid shaft – which may well give a longer life. The flex is available in left and right lay so that contra-rotating props can be fitted. NB. The flex must be arranged so that the motor works to tighten it up. If not it WILL unravel.

There are many versions of these power trims even some that work under radio control. The way in which the props rotate can also provide different performance. If you have them rotate outwards (at the top) then



A stinger unit

IN CONCLUSION

I hope that this has given you a small insight into R/C cats, inshore or offshore they are both exciting and demanding to drive. I have seen the second and larger cat that is pictured here running twin drive 6S LiPo's at over 60 mph, making a mono 1 look very slow – I wish we had had a GPS on it! Just to leave you with this link to some videos of really large (92") R/C cats, electric, I/C and turbine driven to enjoy:

www.hpr-powerboats.com/videos/hpr-233-videos/

As always any questions or suggestions please do email me at allanshillitto@blueyonder.co.uk Also if you have any ideas for future articles do let me know... the ideas pot is running low. **MMI**

VIEW FROM THE BRIDGE

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

Images taken by Captain P. Anthony



HMS DRAGON (ABOVE)

Making her debut at Portsmouth on 31st August 2011 was the Royal Navy's latest Type 45 (Daring Class) Destroyer HMS Dragon, complete with a dragon motif on her bow.

She is pictured at anchor in Spithead 7 in the early hours of the morning prior to entering Portsmouth Harbour for the first time. HMS Dragon is the fourth of a six-ship order being built by BVT Surface Ships at Govan on the River Clyde. HM Ships Daring, Dauntless and Diamond are already in service, and Defender and Duncan are to follow.

She was still in builders' hands and flying the Blue Ensign in this view, but the writer saw her flying the White Ensign in the Dockyard the following morning, having been accepted by the Navy. Interestingly, her bow section, funnel and masts were built in Portsmouth and transported by barge up to Govan where the final assembly and fitting out took place. Viewed from the Bridge of St Faith.

SCALE SCENE

IAN LOOKS AT A WWII 'ICE SHIP' AND AN UNUSUAL MODERN DRIVE SYSTEM

AUTHOR: IAN WILLIAMS  GREAT BRITAIN

This month's article is a bit of a mishmash and came about when a close friend was enquiring about future articles for MMI and I mentioned a couple of things I'd put on the back burner for lack of detail or lack of decent pictures. Although I had not enough detail on either subject for a full article, he suggested that the two together would work even though the subjects were worlds apart. He had not heard about either of the subjects but was interested in both and pointed out that a reader may be able to fill in missing spaces. So here goes! The first subject concerns the proposed WWII Aircraft Carrier HMS Habbakuk.

HMS HABBAKUK

In the midst of the battle of the Atlantic, Britain was seeking solutions to the U-boat threat but, Anti Submarine Warfare still being fairly hit and miss, it was thought that air cover would be an answer. However, at the time land based aircraft did not have enough range. So it was thought that floating ice islands could be used as large airbases. The initial thought was to tow icebergs to the required areas but that idea was soon dropped as unfeasible. So came about the idea of an unsinkable aircraft carrier made out of ice! HMS Habbakuk was the brainchild of Geoffrey Pyke, often credited as the inventor of 'Pykrete', a mixture of ice and wood pulp (although some sources say it was simply named after him as the originator of the idea). Pykrete could be hammered and sawn like wood and was incredibly slow melting despite being 90% water. The 280,000 Pykrete cubes needed for construction would take eight months and 8,000 workers to make in Canada. The 2,000 foot carrier would displace two million tons and have an incredibly deep draft, keeping it out of most harbours. The hull sides would be 50 feet thick and the interior would have massive amounts of room for quarters, hangars, and a huge refrigeration plant to keep the hull frozen. Propulsion came from twenty-six electric motors, each in its own pod, a large generating plant would supply electricity. Speed was slow and manoeuvrability nearly non-existent, but Habbakuk



A rather fanciful (and modern) picture of Habbakuk showing Lancaster bombers taking off – the small warship on the starboard side appears to be a battleship!

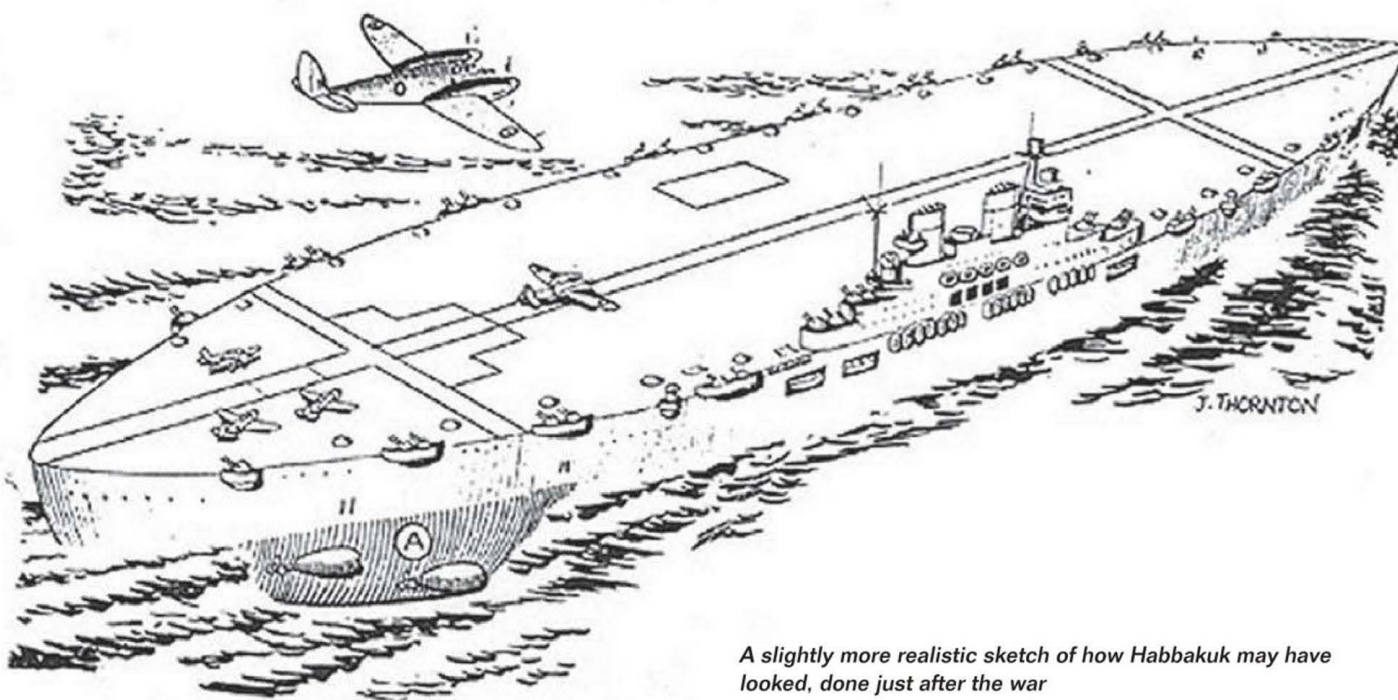
could provide an airbase capable of handling long-range, twin-engined land planes, and it could not 'sink' as it was already water! However, new land airbases and increased aircraft range, not to mention the high labour costs and difficulties of construction and breakthroughs in ASW apparatus significantly lessened the U-boat threat enough to melt away official interest in the 'iceberg carrier'.

The above is just a very brief outline of the Habbakuk saga and there is quite a lot of info out there on the Internet, well worth a read, just Google it. However, the reason I didn't think this would make a full article is that there is quite a shortage of pictures, just a few sketches and some quite fanciful drawings, most of which aren't suitable for printing in the magazine.

HYDRODYNAMIC FLUSHING PROPULSION

This subject really interested me when I came across it, but although there was quite a fuss made about it on the Internet in 2005/6, I can find nothing since. I would dearly love to find out more about it, so if anyone knows, please contact me.

Hydrodynamic flushing was pioneered by Norwegian naval architect Arne Kristiansen, managing director of Tyvik, and uses a pressure difference created over the fore part of the hull by flushing water away from the bow. A craft using the technique is thus moved in the direction of the reduced hydrodynamic pressure, which is obtained by fitting the rounded bow of the vessel with



A slightly more realistic sketch of how Habbakuk may have looked, done just after the war



A slab of Pykrete

equal on all sides, but if the pressure forward is lowered whilst the pressure aft remains the same, the craft is moved forward, drawn towards the area of lower pressure, just like a yacht sail or the lifting force produced by an aerofoil or wing. No prop or rudder is needed and the nature of the hydrodynamic flushing technique means that craft using it could be shorter, broader, and in some cases deeper than slender-hulled propeller driven types.

a number of nozzles from which water is expelled using a pump driven by a diesel engine. The technique is based on the fact that unequal streams of a fluid over opposite sides of a body lower the pressure unequally, producing a lifting or pushing force. Around a hull at rest, the water pressure is

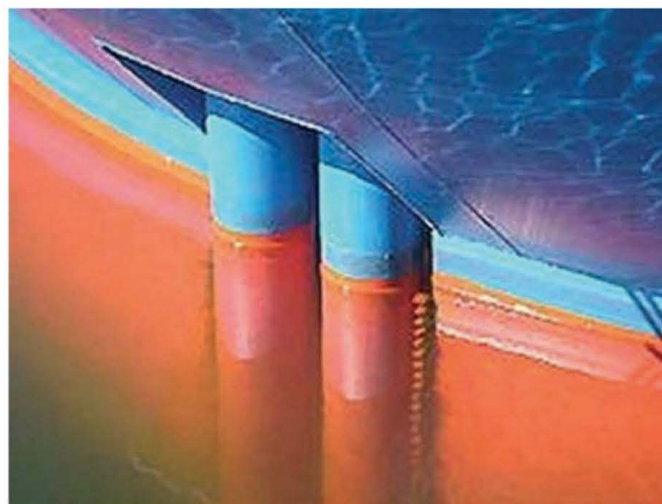


Hydrodynamic flushing test vessel – note pipes running to the rounded bow

Tyvik, builders of the test boat seen in the photo, believes the hydrodynamic flushing propulsion technique can provide displacement craft with a number of advantages. Such as the potential of reduced construction costs, reduced operating and maintenance costs, and exceptional manoeuvrability for certain types of craft such as riverboats or narrowboats, or other types of non-planing recreational craft. The 30 tonne, 14.5 m (48 ft) prototype shown was used for initial trials in the Oslo area in June 2005, trials that proved the system worked.

I don't know what happened, but I can find nothing more on the subject after 2006, but an interesting modelling project perhaps?

MMI



The pipes at the bow – unfortunately no details are available of the water outlet nozzles. Although I suspect the light dots that can be seen on the pipe may have something to do with it

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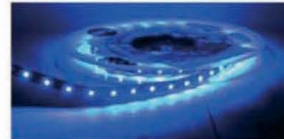
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AIRWAVES

THE FINAL FITTING OUT AND SEA TRIALS OF THE MULTI BRUSHLESS MOTOR INSTALLATION OF THE ITALERI VOSPER 72' MTB

AUTHOR: ALAN SENIOR  GREAT BRITAIN airwaves@anola.net

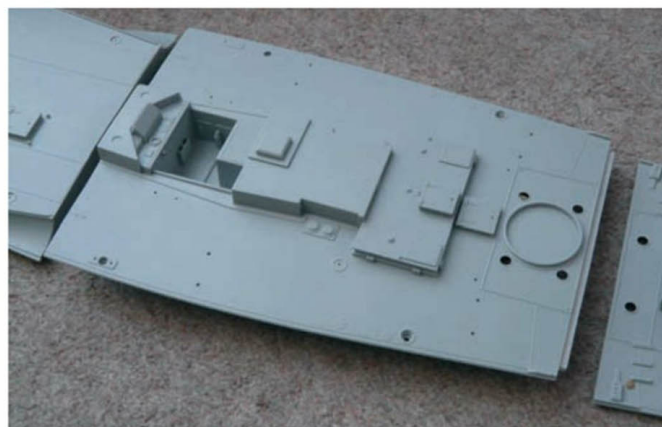
Last month the electrical and mechanical components were selected to convert the Italeri Vosper 72' MTB static plastic kit to a radio controlled (R/C) model. This month is the concluding part and details the fitting of these components into the model and the modifications needed to accommodate them.

GLUES

Working models suffer many knocks and operating stresses so it is important to use the right glues. For the styrene-to-styrene joints the normal plastic kit liquid glues can be employed but are no good for metal to plastic joints. I find normal epoxy does not work very well on the styrene plastics either. Effective glues are a little more expensive but worth it to avoid 'spoiling the ship for a ha'peth of tar'. I now only use UHU plus Acrylit to bond metal to plastic. Devcon Plastic Welder is an alternative strong two-part glue similar to epoxy that seems to work well for metal to plastic bonds; but I found the glue hardens in the tube nozzles after opening and so a lot of expensive glue then gets wasted.

DECK SPLIT

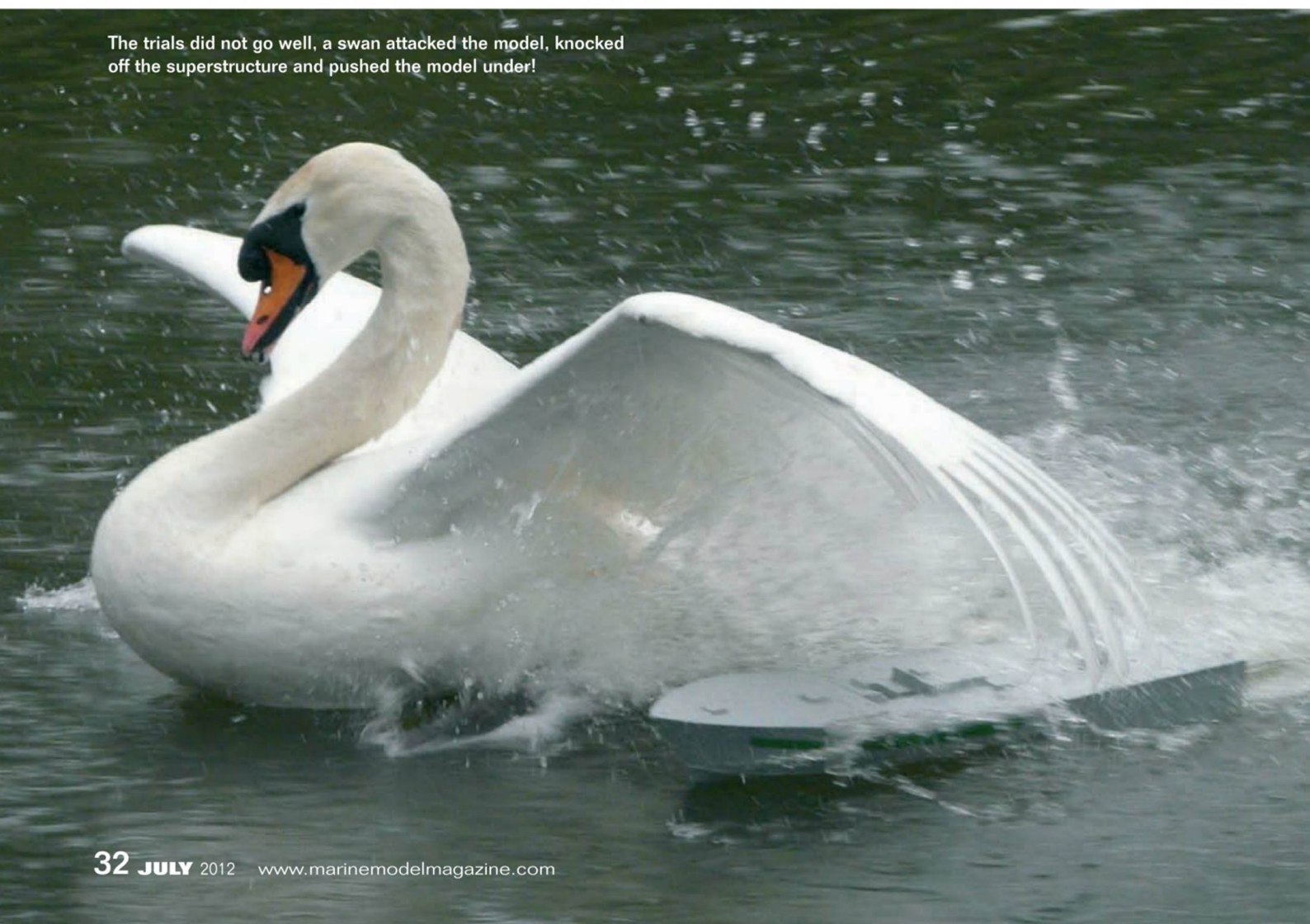
There is no need to remove the deck on a static model, but with an R/C one it is necessary to gain access to the insides for maintenance and battery changes. Unlike the Italeri Elco model,



The deck is split in two convenient locations

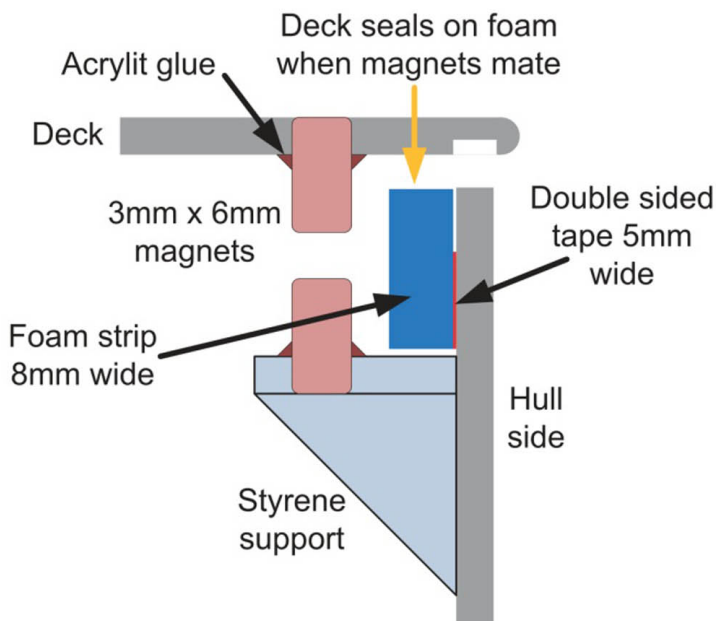
which has an access aperture, the MTB's deck is in one solid piece and this is rather inconvenient! After a lot of pondering I decided to split the deck using a fine razor saw in two places to permit access to the centre section of the model. The cut points were made at places where all the deck fittings would not interfere with the removal and replacement of a section, thus the breaks were made at the back end of the foredeck and along a convenient line just aft of the machine gun turret. This decision was based on the assumption that most of the R/C would be fitted towards the middle of the model, however during float tests it was found that only the rear end section had to be made removable since this is where all the R/C ended up being installed. Whether the centre section needs to be made removable will depend on the placement of the motors. If the centre section does need to be removable for access to the motor mount then it is necessary to alter the positions of the front hold down screws, or make the torpedo tubes removable to access the front screws.

The trials did not go well, a swan attacked the model, knocked off the superstructure and pushed the model under!



SEALING THE DECK TO HULL

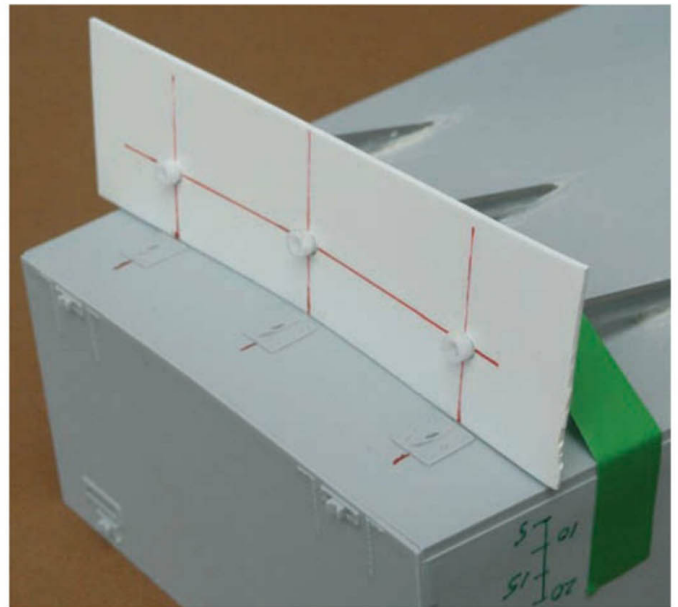
The deck in the kit is screwed down but the large spacing of the screws means the deck bows up in between, which is unsightly and besides there is then a route for water ingress. Since access to some of the screws is obstructed by deck fittings an alternative approach had to be devised. Screws on the deck are unsightly so in the end I decided to use small but powerful neodymium cylindrical magnets of 3 mm diameter and 6 mm long, these were fitted as a connecting pair and thus were 12 mm long when linked together. One magnet is glued flush in the deck and one glued to a small plastic bracket fitted 8 mm down from the lip inside of the hull. To guarantee the magnets are aligned a 3 mm hole is drilled straight through the fitted deck and then the bracket to a depth of 12 mm. Magnet pairs are then tacked into place in the bracket with Acrylit, a dab of glue applied to the uppermost magnet and then the deck refitted, aligned and taped down while the glue hardens. The glue starts to harden quite quickly, thus it is best to just fit just two pairs of magnets at a time. Magnet pairs are fitted every 75 to 90 mm and six were used for the rear deck section – these formed a surprisingly strong hold down force.



Hull to deck seal and retaining magnets

To keep water out I used 8 mm wide strips cut from laminate floor underlay off-cuts, this underlay is a soft, easily compressed 3 mm thick foam. This foam is stuck to the inside of the hull, flush with the top using a 5 mm wide strip of water-proof double-sided tape along the lower edge of the foam strip, this forms a flexible lip seal. The mating surface of the deck, which came into contact with the foam seal, was made flat by filing down and filling the depressions. This process took rather longer than I expected to complete, but I found this deck seal to be so good that the model could be completely immersed in water for 10 seconds and only a few small drips got past the hull to deck seal, afterwards the rear deck could easily be lifted off. The integrity of the seal proved rather more useful than expected during later on water trials...

Some water may well make its way into even a well-sealed model, for example via the prop or rudder shafts as well as through any small gaps, so make provision for this by fitting some absorbent cloth or foam low down in the model. If water does get in it will quickly get absorbed as the model rolls and pitches, the unwanted bilge water is then captured and is much less likely to migrate to the electronics where it could cause mischief and damage!



A guide made from scrap styrene helps keep the prop shafts aligned while gluing

PROP SHAFTS INSTALLATION

The installation of the prop shafts is probably the most critical modification to the model, so it is worth taking time to get it right and ensure the prop shafts are parallel. It is necessary to drill and file elliptical slots in the hull without stressing and cracking the plastic. I used the scale prop shaft exit locations, but with 25 mm prop clearance this leads to a relatively steep shaft angle, which with 150 mm shafts and couplings, places the motors higher than really desirable. Ideally the motors should be kept low down in the hull to improve stability of the model in turns.

Use guide plates inside and outside the hull, as shown in the picture, to keep the shafts parallel and aligned. The outer plate is shaped to fit the hull at the desired location and the hole positions are marked a fixed distance from the hull surface such that a 25 mm prop could be fitted to the shaft if needed whilst having a few mm clearance. Leave adequate space for the R/C rudder behind the centre prop. Duplicate the hole pattern for a similar internal alignment plate and use both to keep the shafts parallel. Do make sure the centre shaft is aligned with the centre line of the hull otherwise the model will not run straight without a correction from the rudder. Tape the shafts in place, then check the motor positions will be OK before filleting the shaft entry point in the hull with a more generous application of Acrylit.

MOTOR INSTALLATION

Though the Graupner couplings can accommodate a small misalignment between the motor and shaft it is best to get them aligned as accurately as possible. This takes care and time to get right, again tack the main motor mounting plate in position to check the alignment and ensure the location allows room for the couplings. If the alignment is wrong then it should be possible to break the tacked glue bond and try again, when happy with the position glue permanently in place.

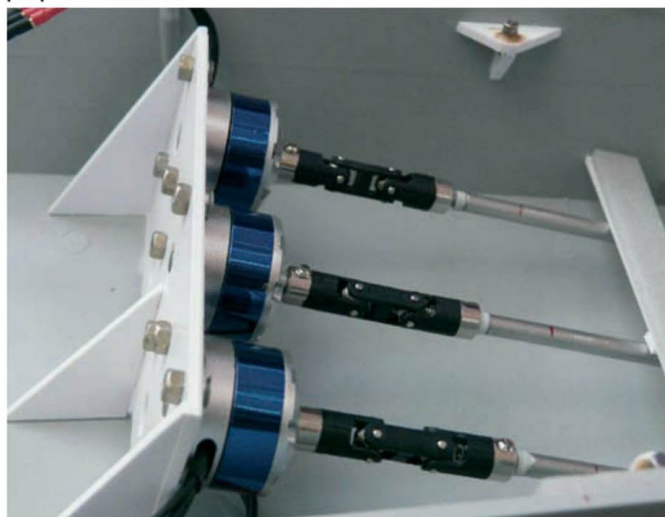
The inner prop shaft alignment plate can be used as a partial template for the motor locations on the motor mount. The motor itself can be used as a template for the screw positions. Make a clearance hole for the motor shaft at the back of the plastic motor mount if needed. When correctly aligned you should be able to sight up the barrel of the prop shaft and see the centre of the motor shaft. Fit the prop shaft motors and couplings for a trial fit and



Polyester cotton and a small 'O' ring are added to the rudder to provide a watertight seal



The rudder is installed close to the stern – leave room for propeller removal!



Motors are fitted to 2 mm thick braced styrene and carefully aligned with the prop shafts prior to gluing

visually check the alignment from different viewing angles. Enlarging the motor mount holes will let the motor positions be adjusted slightly to remove small alignment errors.

When the correct angle and position of the motor mount is verified then fit triangular braces as shown in the photos to stiffen the mount. A double jointed coupling such as the one suggested is a good choice for the model as these joints can cope with the alignment errors introduced by the plastic hull flexing when the model is in motion. Stiffening up the hull is an alternative but that will add a lot of unwanted weight. The Microflex couplings sold by Modelboatbits were considered, but these are quite heavy compared to the Graupner one and there is no significant cost saving. The robbe tube suggested in last month's *Airwaves* fitted well on the 2 mm prop shaft but had to be overstretched to fit on a 3 mm motor shaft, and so was not considered suitable.

I used the lowest weight motors but these are really designed to accept model plane props and do not have a proper shaft. As I have a small home workshop with a lathe I could turn down the aluminium boss to expose the 3 mm shaft so the motors could be used with the Graupner coupling. This is not a simple task, and hence I would not recommend this approach, it would be better to accept the small weight penalty and use the available motors that do not need to be modified.

RUDDER INSTALLATION

Position the axis of the rudder at least 8 mm from the stern, so that the tiller arm has clearance inside. Due to the close proximity of the tiller to the stern it is necessary to offset the rudder servo. Fit the servo at a 45 degree angle since this will allow the rudder to move up to 40 degrees each way and thus provide effective steering. The servo mount is made from 2 mm styrene strips 10 mm wide, small self-tapping screws hold the servo firmly in place. Don't make the mistake I did first – make sure the stern and hull sides are true and not bowed inwards when the servo mount is being glued in place, otherwise the bow may prevent the deck fitting properly!

The servo is connected to the rudder via two ball links, a short piece of 2 mm carbon fibre rod is superglued into the ball links. The ball link stems may need to be drilled out to 2 mm for the rod to fit. The ball links are then screwed to the tiller and servo arms with M2 screws. I find this set-up provides a slop free connection from the servo to the rudder and the ball joints accommodate any small angular misalignments in the horizontal plane as the servo and rudder move, these angular misalignments are not easily avoided due to the very short length of the linkage. Make sure the linkage does not snag or jam when the servo operates over the normal swing plus the full trim adjustment at the transmitter.

Leave the tube of the rudder shaft about 1 mm proud of the hull so it acts as the bearing surface rather than letting the rudder contact the hull or glue fillet. I did not shorten the rudder tube but reducing it in length by 5 mm would improve the clearance from the fitted deck to the servo linkage below it. Brace the top end of the rudder tube to the stern to relieve stress on the bottom glue joint should the model hit a submerged object like a stick or log.

The rudder shaft is not a very good fit in the shaft tube so I built a 'trough' at the top of the rudder shaft to catch the odd drip, however in the bathroom tests the water leak proved far too much for this. The problem is that on full throttle with the rudder hard over, the water from the propeller thrust is forced up the gap in the rudder tube. A solution needed to be devised... on full sized craft the waterproof seal with a rotating prop shaft often uses a 'stuffing box' that contains a coil of compressed rope and grease, though this method may seem crude compared to modern sealing methods it works well and we can employ a similar approach on the sloppy rudder shaft by wrapping a single layer of polyester cotton around the shaft top and bottom and tacking it in place with tiny spots of superglue, applied with a pin. The rudder shaft can then be gently eased into the tube, turning the rudder back and forth will 'polish' the polyester thread surface to reduce friction whilst giving zero

radial 'play' seal in the shaft. In my model an 'O' ring has also been fitted to form a seal at the bottom, this helps to contain the small amount of grease in the tube and further helps keep the water out. Even though in trials I had not greased the rudder shaft, no water at all came up the shaft proving this simple and repairable sealing method works really well on this Graupner rudder.

Don't put grease on the rudder shaft at first; wait until the model has been painted, as if any gets on the styrene hull it will reduce paint adhesion unless the surface is fully degreased with a plastic friendly solvent, such as isopropyl alcohol (IPA).

ESC PROGRAMMING

The ESC's are programmed according to the supplied manuals. Program the centre motor ESC first with the others disconnected from the receiver. Then program the ESCs for the outer motors together at the same time with the centre ESC disconnected.

The centre ESC is programmed to give ahead and astern normally with neutral at the centre stick position. The outer motor ESCs I used are much cheaper and do not have reverse, but this can be used to an advantage, they are programmed together at the same time so they start driving the propellers at about a quarter ahead on the stick rather than at the stick centre position.

Once all three ESCs are connected then only the centre motor will run astern when pulling the stick back, this works well as we don't want a lot of power in reverse anyway to avoid swamping the stern. When pushing the throttle forward the centre motor starts first giving nice, quiet low speed handling, then as the throttle stick is pushed further forwards the outer motors start running up, thus rapidly increasing the power and model speed.

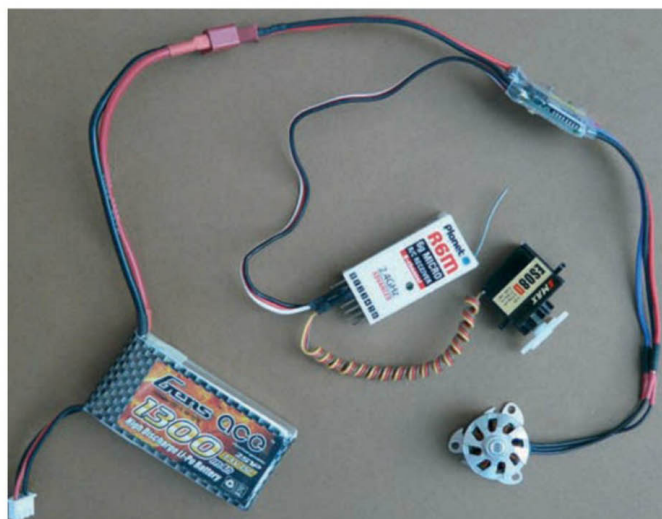
Though this set-up works really well, it is a prerequisite to have a rudder behind the centre prop to provide effective steering, this is because when the model is moving forwards the rudder deflects the water from the prop and this assists in turning the model.

FLOAT TESTS

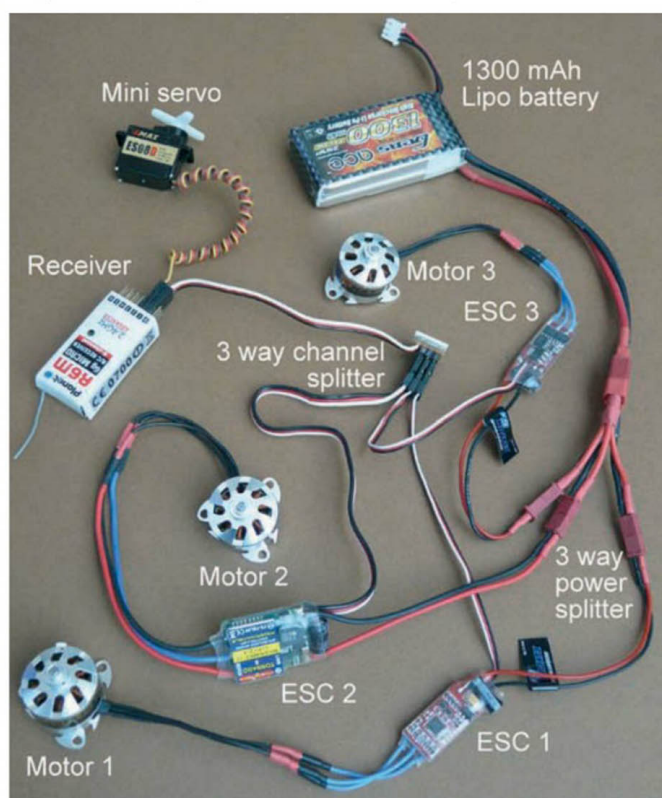
The initial flotation tests in the bath with all R/C fitted and all the heavier parts of the superstructure positioned on the deck made it clear that the R/C hardware has to be fitted right at the stern of the model, this is because the plastic kit itself is rather bow heavy. In practice this is quite convenient, albeit a little cramped, since a removable stern section would be needed anyway to give maintenance access to the rudder and servo. Since the LiPo battery is the heaviest part, this is positioned right at the stern; fortunately the servo in my model had been mounted high enough to place the battery underneath. It was also fortunate that the motors were already located quite near the stern too, thus improving the weight distribution. Using 5" (125 mm) prop shafts rather than 6" (150 mm) would permit the motors to be mounted even further back and also lower down in the hull.

ELECTRONICS INSTALLATION

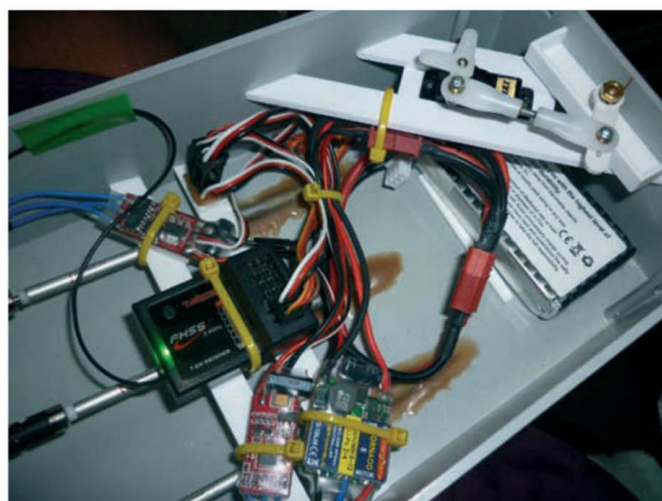
In a triple screw set-up there is quite a bit of electronics and wiring to be installed in a small space, don't forget to leave room to change and charge the battery. Strips of 1 mm styrene 10 mm wide were glued across the hull supported by the prop shafts to mount the electronics on. Thin 3 mm foam is stuck down on the supports and the ESCs and receiver then held in place using nylon tywraps, these tywraps are available from Maplins however, I found a pack of 100 in my local Poundland shop for only 49p. The foam helps protect the electronics from vibration and stop parts sliding around. This simple arrangement keeps the weight down as well as keeping the electronics up off the hull bottom, where any water would end up. Rubber bands could also be used to keep the electronics in place, or purpose built mounts made from styrene. Try not to add unnecessary weight just to make it all look 'neat and tidy'! The ESCs do tend to get quite warm, so make sure the air can circulate around them to keep them cool, do not wrap them up in foam blanket or they will overheat!



Single screw set-up of the model's R/C components



Triple screw set-up of the model's R/C components



Completed electronics installation ready to go!

The single throttle channel at the receiver needs to be split to the three ESCs whilst only letting one BEC power output from the ESCs to reach the receiver. Isolating the power from two ESCs can be achieved by cutting the +ve power lead (red in a white-red-black lead) as described in the February 2011 *Airwaves*. To keep things compact I made a 3-way splitter from bits out of my electronics store, however two 'Y' leads could also be used. The power lead from the LiPo battery needs to be split out to the three ESCs, I used Dean's Ultra and Dean's micro connectors from Giantcod for this.

As shown in the pictures, the triple screw set-up is much more complex so if this is a first R/C model or you are in doubt, then stick to the simpler single screw arrangement.

SHAFT LUBRICATION

I noticed in my Italeri Elco model that the 'spray shield' at the top of the prop shaft has become discoloured by the oil splatters. After a bit of research on the web it appears that mineral oils (motor oil, 3-in-1, WD-40 etc.) will attack the styrene plastic and hence should really be avoided. One solution would be to paint the areas where oil may come in contact with the plastic. Another option is to buy special 'plastic friendly' lubricants as used by the model railway fraternity, it may seem a little expensive but a small amount goes a long way. Labelle 106 PTFE grease works well, I bought mine from Ontracks (www.ontracks.co.uk) and now use it exclusively on my plastic models.

The PTFE bearing in the prop shafts I employed are lubricated quite well by water, which is convenient, so just a dab of grease on the top and bottom bearing surfaces occasionally is all that is needed.

SUN BLOCK

Another issue with the unprotected styrene to be considered is the UV damage from the sun. Despite the fact that my Elco has not been in direct sunlight, there are definite signs of the plastic discolouring in the unpainted areas exposed to the light. So this is a good reason to get the model painted quickly and keep the model away from the window!



Testing the model in the bath and checking weight distribution

BOUYANCY

If the worst happens and the model does get swamped then it will sink without trace so extra buoyancy must be added. Since the model will weigh about 1 kg it would be wise to add that much buoyancy, in practice this amount of buoyancy is only equivalent to a 10 cm cube of foam, and more can easily be fitted into the model. Use lightweight foam such as expanded polystyrene or scrap closed cell foam from unwanted packaging. A bread knife can be used with care to shape the foam blocks to fit. The styrene plastic used in the models does not float on its own, so add small pieces of foam to any removable parts of the superstructure – I wish I had done this before the on-water trials!

RUNNING TRIALS

The first trials were in the bath using the 20 mm Joysway propellers, these certainly produced a lot of thrust and with the model restrained the current consumption was about 6 amps – this is only 2 amps per motor; however this will drop when the model is allowed to move. Based on these tests I think a single motor installation would need to use a 25 mm propeller to produce the thrust needed. The bath trials also showed that the model was floating just a little lower in the water than the scale waterline, the weight as tested was 1011 g.

Do be careful in the bath as the model pulls quite hard, mine slipped out of my wet hand and hit the end of the bath hard, it looked quite good as the torpedoes were only a loose fit in the tubes and the shock launched them beautifully into the water!

The first trials were performed at the local pond to Shepton Mallet Drifters MBC. However, it was not a club day and there was no one there to help me photograph the model. The trials were very successful and she planed very nicely at half throttle, at what looked like scale speed, whilst consuming only 17 watts. This is less than 1 amp per motor on the 7.4 V LiPo battery, thus the model would probably run for half an hour at this speed.



Only on the water for a few minutes and things are not looking good, the model escapes after application of full throttle but the battle is not over

Full speed was faster than I expected, but the power consumption only went up to 35 watts (around 4 amps total, or 1.3 amps per motor). The model was a little too fast for tight turns and the bow tended to dig in; I think this is because the plastic model is a little top-heavy. On gentle turns and at lower speeds the model banked into the turns nicely and ran very cleanly through the water.

The second outing was to a local pond in Bristol with a camera-wife (!) this time. The superstructure held in place with double-sided tape and for safety tied down with cotton – just to be sure. The pond is large so I chose an area well away from the ducks and the solitary swan. After only a few minutes I noticed the swan on take-off run from the far side and my model was in the way! I turned but the swan followed – it was not a take-off run, it was an attack run! With the throttle open wide the model pulled away from the swan... but then two of the props picked up leaves and the swan caught up... that's the last I thought I would see of the model as it was pushed under. Fortunately it popped up again, albeit with the superstructure gone! Since I had not fitted buoyancy to the superstructure some parts sank. While waiting for the model to drift in with the swan watching it carefully I realised that the swan was a cob and that the pen was on a nest at the other side of the pond – so the cob was just doing his duty and keeping intruders away! Swan 1 vs MTB 0!

CONCLUSION

The model makes a good subject for an R/C conversion if the weight of the additional components is kept low, a triple screw version is viable, though a single screw version along the lines of the Elco MTB would be simpler. **MMI**

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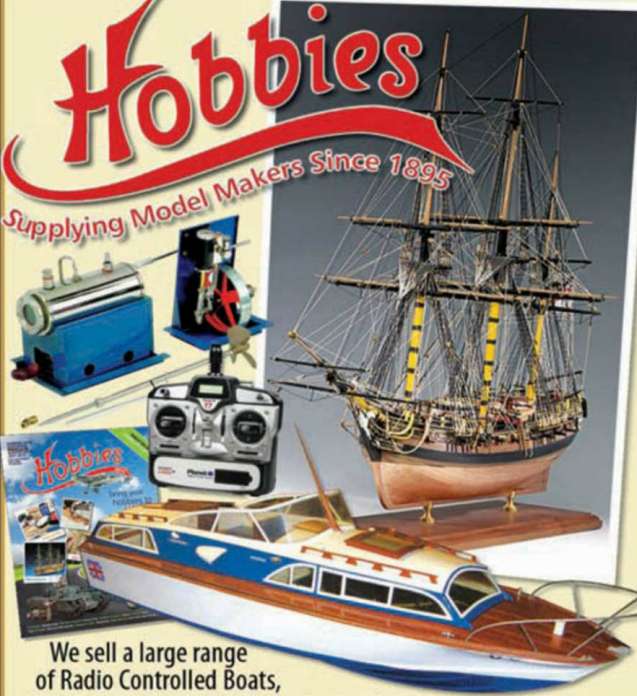

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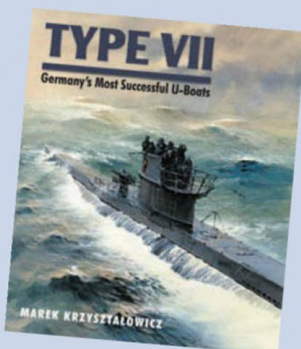


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View of fishing boat being constructed at Denia, just north of the peninsula jutting out at southern part of the Gulf of Valencia on the east coast of Spain. The double frame construction is evident, and a fairing batten has been fitted along the line of the bilge to help in setting up

SPANISH FISHING BOAT

JIM DESCRIBES HIS PLAN OF A SPANISH FISHING BOAT – FREE PLAN MAR3549

AUTHOR: JIM POTTINGER

Possibly the original inspiration for this plan was during 1977 when employed by a US oilfield equipment manufacturer I spent a couple of months at Puerto Santa Maria, just across the bay from Cadiz, overseeing the repair of some lengths of long drilling riser joints intended for use on the dynamically positioned drill ship Polly Bristol.

Just along the quayside was a local fish market, and had berths for fishing vessels there and also on the opposite side of the channel. As an aside it was noteworthy that there did not seem to be any restrictions on minimum fish landing sizes.

With my interest in fishing boats I was keen to record some of the varying types as they came and went, and a later holiday spent at Denia allowed me to photograph some boats being built by a local boat builder.

The characteristic shape of these Spanish boats was in stark contrast to the Scottish fishing boats I have been accustomed to, and whilst the hulls and standard of construction was impressive I have always felt that the overall appearance was let down by the rather rickety and cluttered outfit above decks, and the window glazing of the wheelhouses was more akin to a van or mobile home. Possibly these features were acceptable due to the more benign waters being fished in contrast to our boats fishing in the more boisterous northern waters.

The vessels I noted were either engaged in trawling or the others in some form of line fishing going by the lack of trawl winch or gallows and trawl boards but instead had a powered type of line drum disposed fore and aft on the starboard foredeck, with clusters of buoys and some ground anchors stowed over the bow rails.



Bow quarter view, showing the short derrick mounted high up on the mast with short crossrees, note the beam across the bow with fairleads at ends



Another trawler at Puerto de Santa Maria with rig more akin to British trawlers. She has hinged towing gallows mounted on aft end of deckhouse and trawl winch forward of the wheelhouse, it would appear that the wire span between fore and after mast is used to carry a hoist rope handy for the foredeck

Whilst the arrangement of gallows extending over the stern and trawl boards hanging from the trawl blocks attached to the gallows cross bar, with wide roller underneath, are fairly recognisable I am afraid I am not too sure about the operation of the rest of the gear, I assume the short derrick mounted high up the foremast is used to bring the net cod end aboard.

I have however shown the plan as depicting a trawler, with many details an amalgam of the boats I noted, but with rig peculiar to these types and depicting the popular and colourful colour schemes.

Thus I am pretty sure any model built from these plans will be seen as a change from the usual prototypes, the paint scheme in particular will catch the eye, and the voluminous hull will offer plenty of space for motors etc.

The feature of the hull that immediately strikes you is the fullness of the deckline fore and aft, quite large beam, and the long length of parallel sides at the deck level resulting in tremendous flare – especially at the bow.

This could make planking somewhat difficult, but the illustrations show the manner how this is overcome in full size practice.



Another view of the same boat, from aft completely planked this clearly shows the different run of planking aft referred to above. I am not sure what is the purpose of the cross beam on the stern, some boats have a similar fitting on the bow with fairleads at each outboard end



Another broadside view. The overhanging section of bulwark amidships is noteworthy, but do not know the reason. She has been fitted with a kort nozzle around the propeller, so I assume she is intended for trawling

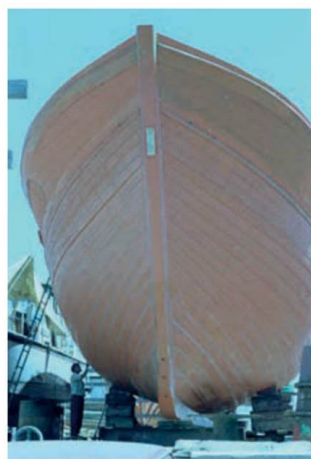
The upper hull sides over much of the length is planked with thicker planks, tapered at the ends, and shows a different run of planking in the lower half of the hull at the stern, note also that the bulwarks around the stern has vertical planks where the curve is greatest, the excellence of the carpentry is obvious.

The plans show a raised section of the deck forward, the outboard edge of the deck here will give some support to the section of bulwark forward having the extreme flare.

The fore stem in our model blends into the line of planking above the waterline gradually extending to more or less a half circle at the top of the bulwark.



Small trawler hauled up for repairs. This gives a clear view of the towing gantry with round bar cross beam and hanging blocks mounted on swivelling collars on the beam and stern roller



View of bow, this shows an arrangement of 'stealers' used in planking the upper section of the bulwarks where the planks do not follow the line of the top rail, the same arrangement can be seen in the view of the stern



Another trawler leaves port, the trawl winch and the towing gantry and trawl doors can be seen clearly at the stern



This shows the typical rig aft of the trawlers, with extending towing gantry with cross beam and round cross beam carrying the warp hanging blocks and stern roller

The tripod foremast is rigged with a short derrick near the top and a longer landing derrick resting in a crutch on the wheelhouse when not used. Another tackle hoist is attached to the short crossrees on the fore mast. The wheelhouse and galley are of steel construction and decks planked, I have indicated the margin planks around the bases of the deck erections, a common feature to take the butt ends of the planks and separate detail of the bulwark stanchion arrangements, the spacing of these stanchions along the deck edge is indicated on the plan where seen forward.

A small winch is shown aft of the mast and the larger trawl winch aft, the warps are guided evenly on the barrels by means of guiding on rollers contained in a cage which is oscillated alternatively laterally by means of a hydraulic ram.

The towing gantry aft is of rectangular box section, but on reflection the cross bar should be of round section with hanging block attached to collars which can swivel to allow alignment of the hanging blocks to suit lead of towing warps.

COLOUR SCHEME

I have indicated the colourful livery and boundaries on the hull on the profile view.

White: wheelhouse and galley guardrails, forward companion

Light blue: narrow strip along bottom edge of wheelhouse, masts, stern gantry, winches, wheelhouse window frames, visor on top of wheelhouse, lower half of funnel, net pound, bollards

Black: funnel top **MMI**



MAIN IMAGE: Harvey must be congratulated for his magnificent model
INSET: Proud Harvey with his completed Daydreamer motor yacht

DAYDREAMER

FULFILLING THE DREAMS OF AN 8-YEAR-OLD MARITIME MODELLER – THE BUILDING OF A MOTOR YACHT FROM LEGO

AUTHOR: GUY BAGLEY

Back in November 2011 my son Harvey and I set off for our long weekend in Leamington Spa, for the International Boat Show held at the Warwickshire Exhibition Centre. This is now a bit of a long standing tradition, the idea was to join the other members of Black Park Model Boat Club on our club display to stock up on the bits and pieces we needed for our winter projects and also to have a weekend of model boating fun...

We packed the car full of boats and travelled up the M40, when we arrived at the Warwickshire Exhibition Centre we arrived to find the club stand pretty full of boats already. My son was really keen that I display a large LEGO model of a fishing trawler which I built some 15 years ago but quite simply there was not enough space on the club stand, so it stayed in the boot of the car all weekend.

My son, Harvey who is only 8-years-old was disappointed, as he loves to pilot the big LEGO fishing boat on the water. This got him thinking: if there was not enough space for a big boat to be displayed then we should build a smaller one. All weekend my son wandered around looking at models of all shapes and sizes, he also knew we had planned to look for a kit to build together during the dark nights and the long winter months. As we settled into the local hotel for the night my son suggested we don't buy a kit to build over the winter, we make another LEGO model instead, a smaller

one that would fit on the club stand! I originally dismissed the idea thinking it was just an 8-year-old 'daydreaming' – I hoped the following day he would see a kit which took his eye on one of the trade stands and we work together to get the model built.

The following morning back at the Fosse Way my son piped up again about what kind of boat he could build in LEGO, and how he could make it radio controlled. Clearly the idea had not gone away, he was as keen as ever to build a model in LEGO bricks as I had done all those years ago. I suggested he go round the show and take a look at the type of boats he liked from there we could see if it's a viable option in little plastic bricks. Again I was hoping the idea would 'cool off' and he would find a kit he wanted for Christmas! Anyway, the Warwickshire show came and went and we didn't buy a kit to build over the winter months.

POTENTIAL DESIGN FOUND

So by now it's mid November, my son had spent several hours on the Internet looking at boat websites, full size boats, not models, suddenly I heard a shout from a very excited little boy, 'What about this one? That would be a good model.' He had pulled up the details of a 46 foot aft cabin motor yacht for sale in a Florida yacht brokers! The boat was offered for sale and there was some good images of

the real boat both inside and out, we printed off the pictures of the boat, and luckily for me the picture was taken pretty much 'side on' giving some idea of the lines of the model vessel. 46 feet of motor yacht and one very excited little boy, it looked like this might be our winter project after all.

The printed images were taken to a local copy shop and enlarged, I figured at 1 to 12th scale this would make for a good all weather model, but 46 inches in length and just over 13 inches in beam, this would make a fairly hefty boat to carry around, and the original idea was to make a smaller boat to take to the shows! But 1 to 12th seemed like a good scale for this model, and I guess my daughter's dolls may get kidnapped at some stage and put to work as crew!

I used some squared graph paper and overlaid this onto the enlarged photocopy images of the boat, the lines were traced onto the graph paper to create the hull outlines, this gave an idea of the overall length and beam of the model, the tricky bit was the images on the website only showed the vessel down to the waterline – I had no idea of the hull shape below the water surface.

THE HULL BUILD STARTS

But as my son pointed out to me 'It's LEGO, you can take bits off if it's not right!' Not quite that easy when you glue the parts together, but in principle we decided we could add or subtract pieces until I was entirely happy with the shape created. So I began to draw up the full build plan, lots of stepped curves on graph paper, lots of serrated hull lines and frames – this did not really mean a great deal at this stage, but my son poured over the drawings for several hours, and he looked on as I tried to guess the hull contours around the stern, the rudder and the propeller. By this time he was raiding his toy boxes and getting all the interesting bits of LEGO out, and he started to make various details ready to go on his boat!

We opted to create a hull with single screw and direct drive from a big motor. So now we had to estimate the model's overall displacement and plan at what level the waterline needed to be built into the model. We guessed at these crucial calculations hoping our estimates along with our LEGO hull design would work out in 3-D –

it looked like it would work on paper! Each line on the drawing was one row of bricks wider than its predecessor, so the build method is basically 'bread and butter' style, starting along the keel, moving outward and upwards along the hull, one row of bricks moves you 8 millimetres up the model's hull.

We were going to need a lot of bricks, a lot of white bricks and some other colours for the deck and detailing, but first of all lots of white. The following weekend we took a trip to the LEGO shop in Milton Keynes shopping centre, here it's a mecca for all things LEGO. The shop was really busy but with only four weeks to go until Christmas there were a lot of young faces looking longingly at the items on display. We bypassed all the boxed up kits, as we were to embark on our own 'daydream' project we were going to build a big boat. We had some rough calculations so we headed towards the pick 'n' mix section, here there are great big tubs of bricks on the wall and you could scoop out all the bits you needed, in the quantities you needed. So after filling several plastic buckets full of bricks we set off for home, we were hoping we had what we needed to get the job done. We also raided the toy box upstairs for some of the parts and we set to work on the kitchen table.

Out came a small bottle of solvent cement and my son and I started to put parts together, carefully bonding bits together to get a centre keel in place, from this we slowly worked up until the very outline of a boat hull started to form in bricks, the smile on my son's face was a joy to behold, it was actually starting to happen, his dream was becoming a reality, but we had spent 5 hours and we were just about done with the keel.

The hull plan we had drawn up was a little challenging at the keel stage especially when converted into three dimensions, but the build was underway. One thing was clear, it was going to be a very long build and by now we had pretty much taken over the whole of the kitchen table – we knew mum would not be happy!

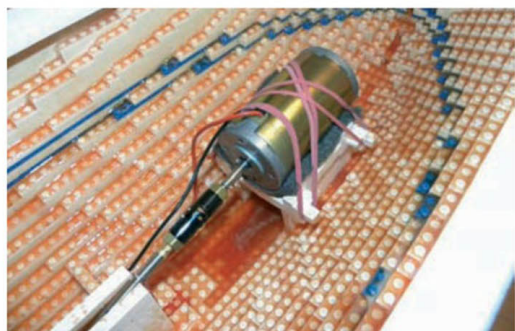
By now the layers to create the hull were becoming more defined on the squared paper, each 'ring' was placed on top of its predecessor and my son could easily follow the plan adding bricks onto the previous layer without too much help from Dad. Each 'ring'



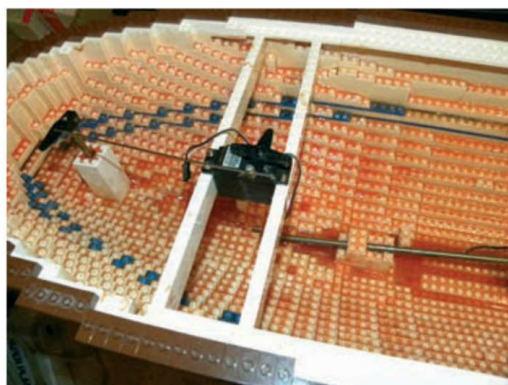
Harvey starts work on the hull



Each of the 9000 bricks were glued with solvent adhesive



The inside of the hull is coated in resin to make it 100% waterproof – motor and propshaft have now been fitted



Rudder servo fitted and connected to the rudder



Rudder and brass propeller

got wider and longer and a hollow hull shape started to appear layer by layer, once all homework was completed a little bit of boat building was done every night.

CHRISTMAS LIST

The Christmas list was drawn up and Santa Claus was tasked with delivering an electric motor and a 2.4 GHz radio set, along with a prop shaft, coupling, brass propeller and most importantly of all some fibreglass resin. The hull continued to grow and grow, getting longer and taller day by day, 25th December came and went and Santa delivered the goods however, boat building was relegated to the garage for several days as the kitchen table was required for the festivities.

The hull was getting close to needing a waterline installed, so two rows of blue plates (the thin bricks) were added at the estimated location on the hull, there was no going back from this point, the bricks are all pre coloured so no painting was required, the blue bricks were bonded in with the solvent cement and then the remainder of the hull above the waterline was completed in white bricks.

We were now up to deck level. It was soon time to drill into the hull to allow the prop shaft to be inserted, this was done and the coupling and motor were coupled up to test fit the whole drive line inside the hull. Due to the wide beam and the boat's displacement a fairly substantial Buhler motor and a 60 mm 3-bladed prop were selected, the rudder would need to be fabricated, so a template was drawn up in cardboard and test fitted against the hull contours, once happy with the fit a stainless steel rudder was fabricated (by

dad!) and then painted white. The prop shaft was looking to be quite long at 16 inches in length, but this allowed the correct angle for the driveline, whilst keeping the motor and the proposed batteries low in the hull to maintain a low centre of gravity. The prop shaft was held in place with a small blob of epoxy glue until the rudder and other components were finally installed.

As you may know LEGO is not 100% watertight, even when bonded with solvent cement, so the plan was to build the model in bricks and to then use fibreglass resin to coat the inner surface of the hull, creating a resin 'hull' within the brick hull, and hopefully making it watertight. Once all the components like the prop shaft and rudder stock were in place I took over and painted in a thick layer of resin over the entire hull, I had visions of my son getting the sticky resin everywhere!

Some GRP tissue was added on the inside of the hull, around the point at which the propshaft exits the hull and around the base of the rudder shaft, this was left to cure for several days – the cold temperatures at Christmas also meant we were not rushing to spend time in the garage either. Once the resin cured we fitted two beams across the hull upon which we would mount the rudder servo, and the speed control and eventually the radio receiver, a skeg was added from the lower section of the keel to protect the lower section of the rudderpost and the propeller.

The installation of the components progressed without a hitch, so now we had a boat with a motor, a rudder, a radio and an ESC fitted – next job was to get it wet. The hull was float tested in the bath, but at 46 inches long it was going to need a trip to the lake to test the model out 'under power'.



The theory of the position of the waterline was correct

FIRST SEA TRIALS

There was a plan for a new year sail at our club on 1st January, a great opportunity for my son to test his hull. The hull displacement and waterline calculations were based upon the boat having two 12 volt 7 Ah lead acid gell cells aboard, these were fitted and the boat was carefully lowered into the lake for trials with my son at the controls – he immediately opened up the throttle and the boat set off across the lake at full speed. There was certainly no problem with the driveline!

After about an hour of trials we were happy with the outcome, the boat still did not sit at the correct waterline but we still had a deck and cabin to build, if anything my concern was whether the waterline was going to be too low on the hull, and the displacement greater than my estimate. We returned home and worked out the remainder of the build, several bags of bricks were weighed on the kitchen scales, and we worked out it was possible to complete the boat and maintain the correct waterline, but it would need to be lightweight.

THE CABIN BUILD STARTS

The designs and drawings for the cabin section were drawn up and every night after school Harvey continued to add bricks to the deck and cabin, piece by piece. A large opening was planned under the main cabin to access the motor and batteries, and the steps up to the rear deck and aft cabin were added, a smaller lift off hatch was built into the rear deck to gain access to the rudder post if required, then slowly the cabin roof was constructed – this was done as a one piece 'lift off section'.

We were now well into January 2012, three months had passed since the build had started and somewhere in the region of 9000 individual bricks had been bonded together, the end was in sight for this junior boat builder, we were also looking forward to getting our kitchen table back too!

In late February the cabin was virtually complete all that was required was the fitting of the handrails and some glazing material in the window apertures. A frosted plastic sheet material was chosen at the DIY store to allow light out but so as not to allow viewers to see inside the model, several LEDs were fitted internally along with navigation lights, a masthead lamp and a stern light.



Navigation lights and searchlight can be seen on the cabin roof

FINAL SEA TRIALS

The model was again taken to the lake for trials and the waterline was perfect. The model handles really well considering the materials it's made from, the motor propels the model nicely and the rudder is big enough to turn the model swiftly if needed.

CONCLUSIONS

Was it a success? My son learnt a lot, it was a good project for dad and son to build together, it was a great construction for him to persevere with, and the resulting model sails very well, and he has great pride in what he has achieved, so in my book it ticks most of the boxes.

Is it a smaller boat for the club stand at the shows? NO! It's a big heavy lump of a boat. However, it's great fun and after all it was a bit of a 'daydream' of an idea.

It's unique, and something very different to sail and surprisingly the cost of the materials was only comparable to buying a kit of a model of similar dimensions. All in all, it's a bit of fun with my son.

MMI



First powered sea trials were a resounding success

JAPANESE TRANSPORT SUBMARINES

AUTHOR: MIKE WILLIAMS

MODELLING IMPERIAL JAPANESE ARMY AND NAVY TRANSPORT SUBMERSIBLES

INTRODUCTION

A routine visit to a hobby shop can sometimes have quite an unexpected influence on one's next modelling project. For myself I was recently confronted by a small but well presented package from Fujimi, their 1/350 scale rendition of a clandestine Yu-1 Imperial Japanese Army (IJA) submarine, which had totally escaped my notice in magazine and Internet sweeps. From this £19.99 purchase I was to embark upon a rather intriguing research and modelling undertaking, delving into an entire area of stealthy Japanese logistics that was so obscure and incorporating some truly bizarre craft, that I found this expanded final modelling exercise very rewarding on a number of levels.

A brief appraisal of this craft can be noted as my motivation for this evolved project, the Type 3 submergence transport vessel (3-Shiki Senko Yusotei), which the IJA was to commonly refer to as Maru-Yu craft, circle transport, a nondescript security designation, was produced when Japan effectively went onto the defensive following her overwhelming rout at Midway in June 1942, and steady decline after the Allied landings commencing at Guadalcanal two months later, as her widely deployed forces spread over thousands of miles on hundreds of islands, began to be cut-off and wither as the telling Allied offensive and effective blockade began.

The IJA held the belief, that Japan should now regard its far-flung island bases as 'unsinkable carriers' to hold back the American onslaught, and they adopted their own measures for coping with their vital re-supply and reinforcement needs separate from the 'rival' Imperial Japanese Navy (IJN), through the construction of not only these special transport submarines, but even hybrid convoy aircraft carrier escorts, and hurriedly build wartime standard vessels, along with an increase in IJA Shipping Units, dedicated ship engineer-soldiers to crew these motor vessels.

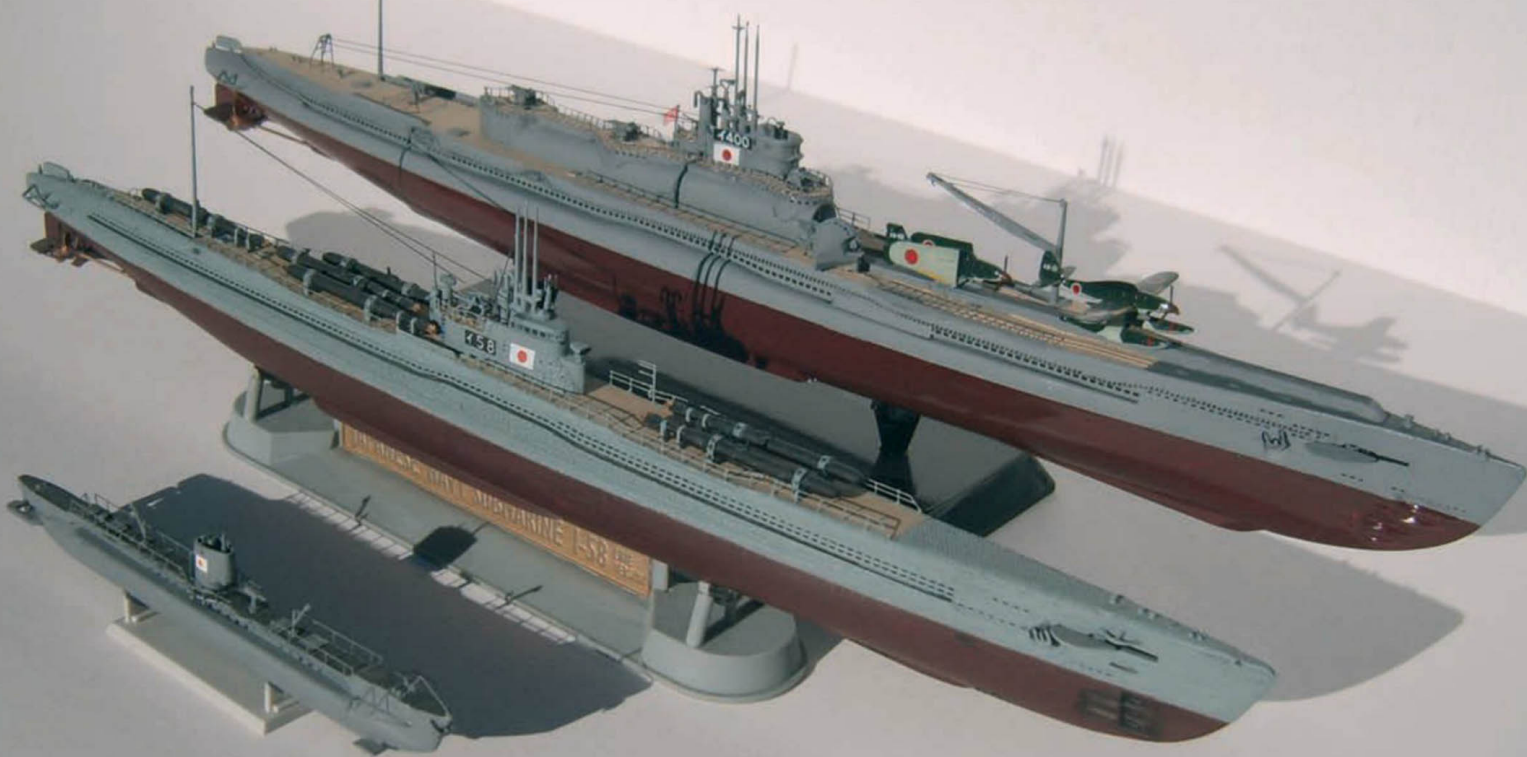
Originally over four-hundred such submersibles were planned, however only thirty-eight examples were actually completed by the IJA during the war. Precise and definitive particulars are difficult to fully ascertain, but a general consensus of opinions intimates that the original Yu-1 had a surface displacement of 273t, measuring 41.4 m overall with a 3.6 m beam and 2.9 m draft. Propulsion was through two diesel-electric motors rendering a practical 7.5kts, with a 2,400 km radius at an economical surface speed, also noted is a safe diving depth of 100 m, with a crew of thirteen, while for the all important transport capacity of such a craft, 24t of freight or up to forty fully equipped troops could be carried.

This Fujimi presentation of Yu-1 is actually several kits in one, since you get the principal components in a very workable light grey plastic to build one complete 1/350 scale submarine, which certainly possesses a fair degree of good sharp integral surface detailing, with well defined hull vents, deck fittings and discreet planking on the minimal deck, as pleasing an amount of detail one can expect from such a diminutive 118 mm long model in this scale. All complemented by the inclusion of a small photo-etched fret for the very delicate deck safety rails, dive plane guards, and ladder, along with a decal sheet with three minute but well defined Japanese national markings for the conning tower also provided.

Supporting this principal 1/350 kit there are extra clear hull parts included if you want to show off some very basic interior parts, but I considered this transparent display option to be extremely rudimentary and I did not even consider it. However, I was to find that this rather pleasing Fujimi presentation held one final significant treat, a twelve piece miniature 59 mm long full hull model in 1/700 scale, with some really small flag decals to complete, a 'secondary' model which was to evolve into the 'primary' piece in my follow-on exercise.



The instigation for this 1/700 scale project, Fujimi's slight IJA's Yu-1 alongside HobbyBoss's IJN's massive I-400, two extremes in Japanese submarine development



The three principle models in my optional 1/350 scale display: Tamiya's giant aircraft carrying I-400 and AVF's Kaiten equipped I-58 alongside Fujimi's diminutive Yu-1



The final submarine display, with both kits and scratch-built units presented together. The Yu-1 at the bottom is of a comparable size to some of the containers, which could be towed by the conventional fleet submarines

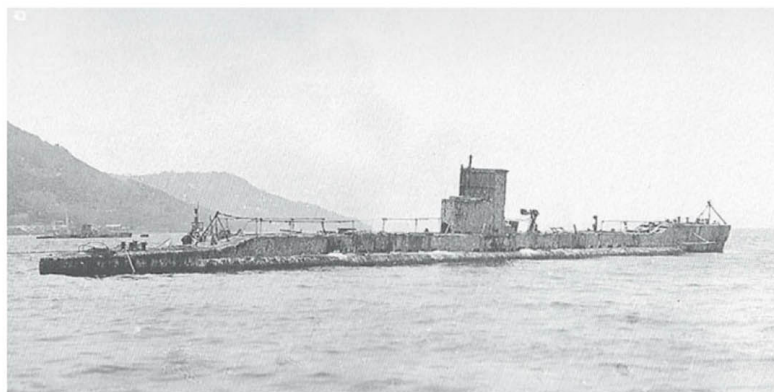


Another view of my final combined 1/700 scale Japanese submarine display, with its standard kit core now complemented by the scratch-built supporting pieces

EVOLUTION

It should be highlighted that the IJN had not been totally devoid of interest and commitment towards maintaining these outposts as the IJA's submarine programme might suggest. Besides employing a number of their valuable fleet destroyers as transports, they were extensively involved in this decisive area through committing a

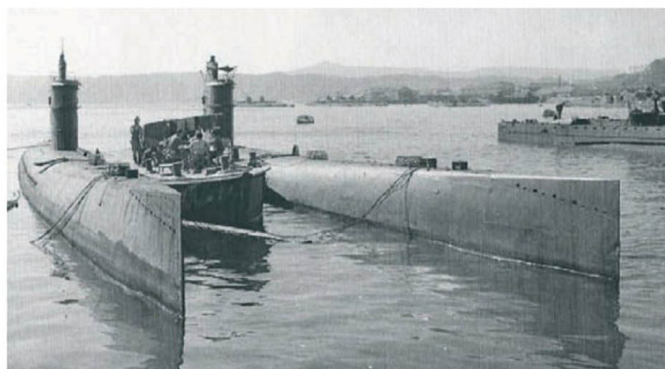
significant portion of its core submarine fleet towards such crucial transport duties, as well as through the fabrication of a number of specialist supply craft, some of an extremely novel and interesting character. Indeed, as early as 1942 the IJN had begun to build dedicated submersibles for the supply and transport role with its twelve strong I-361 (Type DI) design.



An evocative post-war view of the Yu-1003, with its modified conning tower over the Yu-1's, for which alternative parts have been provided by Fujimi (IJN Department of Naval Aeronautics)



The IJN's evolved consort to the IJA's efforts, the Ha-101. Although of a poor quality, it graphically captures a good comparison between the surfaced appearance of both craft (IJN Department of Naval Aeronautics)



Two Ha-201 craft, light 447t coastal defence submarines, are shown here to convey the overall utilitarian grey paint scheme possessed by all such small craft, with no lower hull red portion, the only contrast being black decking at this stage of the war (IJN Department of Naval Aeronautics)

In his book 'Sunk', Mochitsura Hashimoto outlined the gruelling underwater war in the Pacific from the IJN perspective, and the severe losses it sustained in carrying out these re-supply operations in support of isolated IJA garrisons. Each conventional fleet submarine chosen to undertake this role had its main deck gun removed, and was left with only two operational torpedo tubes, a significant reduction in their offensive qualities. All modifications designed to increase space for the maximum storage of provisions and material, in which figures of between 40t to 50t inside the boat, and 20t to 30t in sealed containers on deck have been quoted. The many radical and varied means to convey these desperately needed provisions has brought to light some truly bizarre schemes and proposals of mixed success, from wooden 'torpedoes' filled with stores fired towards beaches, to partially filled rubber bags and drums left to drift ashore on the tide.

But it was Hashimoto's brief tantalising mention that in the middle of January 1943 specially constructed freight 'Pipes' emerged which caught my interest. It appears that the first example of these was a 'Canon Carrying Pipe', a 21.5 m overall and 4.35 m beamed 'raft', displacing 36.7t, capable of carrying two 20 cm heavy guns or four field guns, or the equivalent in general stores, powered by two nacelle pods containing modified torpedo engines. A more advanced craft followed, the 'Special Type Cargo Carrying Pipe', its basic design was 23.5 m overall with a 1.8 m diameter hull, and submerged displacement of 43.9t, which could carry six dismantled 47 mm guns, or some 8t to 10t of cargo. Although it resembled a midget submarine, it had no offensive armament, its single crewman steering from a structure atop the hull, driven by a conventional torpedo motor.

It is to be emphasised here that these two types of craft were not true submersibles, although they were powered, and had sealed storage compartments, they could not dive and surface by themselves, they were securely attached to the deck of their mother submarine during transit, only crewed upon briefly surfacing and floated-off the awash decks of the parent craft, to make their final short powered surface passage to shore.

Hashimoto also interestingly notes evolved 'Cargo Carrying Containers' (Tankers), a family of un-powered towed submersibles, of which there appeared to be three principal variations. Large Type: 41.3 m overall, 4.9 m hull diameter, 544t displacement, 375t cargo capacity; Medium Type: 33.1 m overall, 2.45 m hull diameter, 280t displacement, 185t cargo; and Small Type: 24.5 m overall, 2.45 m hull diameter, 88.5t displacement, 58t cargo.

Further confirmation and intriguing details about these novel undersea craft was drawn from 'I-Boat Captain' by Zenji Orita, the Unpoto/Un ho-to (Raft) concept worked successfully during the Solomon and New Guinea campaigns, while Unkato/Toko un-te (Cylinder) operations as far a field as Kiska in the Aleutians to the South Seas were undertaken, despite the severe control and handling difficulties inherent in such an unusual and cumbersome



This overall grey finish is further confirmed in this post-war view of surrendered Kaiyu craft, alongside the carrier Katsuragi (IJN Department of Naval Aeronautics)

underwater towed configuration, which required special training to operate.

These un-manned 'containers' were intended to be towed by a large conventional submarine, with the provision of towing bits and stout wire cables carrying the vital lines for critical remote control to the parent submarine, adjusting the internal adjusting trim and buoyancy tanks fore and aft. Initial towing experiments in the Inland Sea conducted by the large 3,700t I-37 B1 Type fleet submarine off Kure in May 1943, discovered that such a bizarre combination could submerge at a speed of around 3kts and be towed at 5kts, to an operational depth of 30 m. A diagrammatic sketch of such a combination is presented here, note the length of the tow is unknown – it is shown close here for purely size comparison purposes, in which a Maru-Yu and I-400 (Sen Toku) are also included.



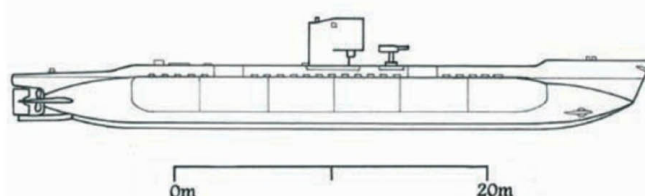
Poor in overall quality, but nevertheless high in detail, the central section of Yu-9 (IJN Department of Naval Aeronautics)

Why bring-up the truly massive I-400 ocean-going aircraft-carrying submarine class at this point in coverage of these diminutive supply craft? Well here lays the foundation of my final modelling and display exercise, concentrating upon the diminutive 'secondary' 1/700 Yu-1 kit over the 'primary' 1/350 example. Simply put, I had an example of the HobbyBoss 1/700

Sen Toku rendition in my collection, admittedly a rather basic kit, but one which perfectly conveys the overwhelming bulk of such a leviathan very successfully. Upon placing the minuscule Yu-1 against my I-400 the size differential was striking, the Maru-Yu's entire structure equalled just the Sen Toku's aircraft hangar and bridge structure. Even when placed against the two other Japanese submarine models in my 1/700 collection, Tamiya's excellent I-16 (with a nice little Kohyoteki 'Fly' midget submarine), and early I-58, the striking impression was that these IJN submersible cargo carrying efforts employed some really small and novel craft. I just had to develop this theme into a unique 1/700 display capturing these desperate supply efforts, utilising my existing HobbyBoss and Tamiya craft as a suitable comparison background.

ORIGINAL MODEL

Yu-1 (Maru-Yu Type 1)



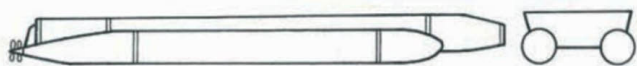
Line diagram of Yu-1

CARGO PIPES

Special Type Cargo Carrying Pipe (*Toko Un-te*)



Canon Carrying Pipe (*Un Ho-To*)



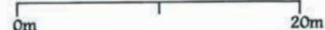
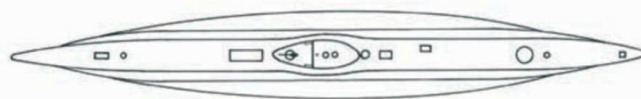
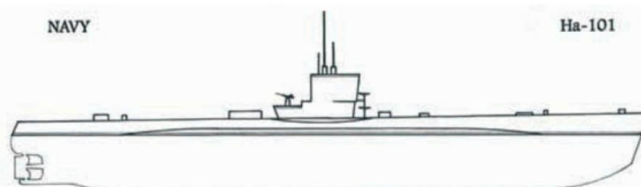
Line diagram of Cargo Pipes

In covering these appealing IJN transport and supply craft, it was obvious to me that here was the perfect opportunity to complement Fujimi's model of the unique Yu-1 submarine, with a set of these very easily fabricated contemporary IJN 'Pipe' and 'Container' craft. However, for a real match to the IJA's Yu-1, the IJN could cite its twelve Ha-101 (Type SS) craft laid-down from late 1944, displacing some 370t surfaced, measuring 44.5 m overall, with a beam of 6.1 m, and draft of 4.1 m, dimensions all significantly larger than the Yu-1, resulted in the Ha-101 capable of carrying 60t of cargo. Interestingly several were converted to radar-pickets, tankers, and even mother ships for 'Koryu' midget submarines, aspects of this small IJN transport submarine that might be evolved into other rather interesting little dioramas of considerable novelty if one so wished. But I wanted to just build what I consider to be good basic examples of all these innovative IJN supply craft for my collection.

This objective is quite achievable in 1/700 scale, with the scratch-building demands only being described as elemental as the actual subjects involved. Here I believe that my accompanying artwork (each with a 20 m bar scale, equating to 28.57 mm in 1/700 for reference) will successfully convey the extremely simplistic nature of the mainly cylindrical forms to build, principally from just suitable sections of basic plastic tube, rod, and card. It is really that simple, I can advance no words of modelling wisdom in this basic scratch-building exercise, everything is that uncomplicated, with reference to my drawings illustrating all that is required to now develop a

NAVY

Ha-101



Line diagram of Ha-101

CARGO CONTAINERS

Cargo Carrying Containers (*Unka-to*)



Large Type



Medium Type



Small Type

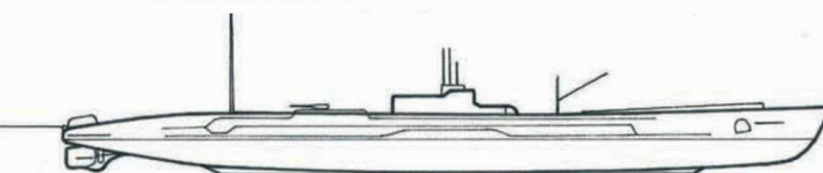
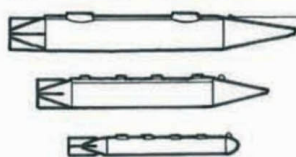


Line diagram of Cargo Carrying Pipes

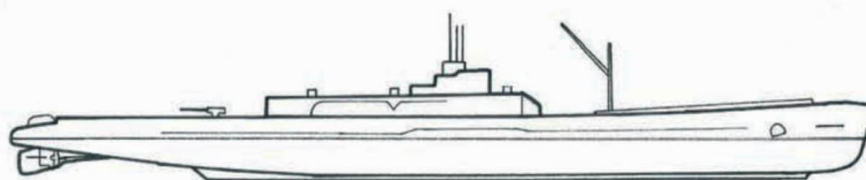
nice little set of IJA and IJN undersea transport and supply craft from the Pacific War. All finished-off, not as Fujimi have suggested for their Yu-1 in a dark grey upper casing, bare wooden decking and hull red lower portion, but a very simple overall utilitarian one of Tamiya TS66, IJN Grey (Kure) to represent the standard sonar absorbent tar and asbestos fibre finish, with Tamiya XF1 Flat Black for non-slip decks, which I believe is more accurate paint scheme to these diminutive underwater supply and transport craft.

COMPARISON

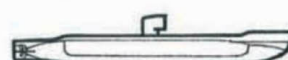
Cargo Carrying Containers



I-37



I-400



Yu-1

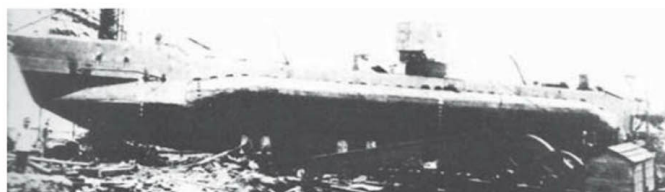
Line diagram comparing the sizes of the Cargo Pipes and the subs

CONCLUSION

As readers can appreciate, all my effort in this miniature display project have been dedicated towards this small set in 1/700 scale, primarily for ease of displaying such a diverse range of craft in a compact set, even being individually as small as they undoubtedly are in this range. However, if one would like to go up this presentation theme in the other direction, perhaps some readers might appreciate the most telling way of displaying the original 1/350 Yu-1 example and her scratch-built consorts (the 20 m bar scale, equating to 57.14 mm here), would be to place such models alongside perhaps one of the AFV Club Japanese fleet submarines in this large scale. My example in this scale looks good against my late-war Kaiten equipped I-58, or ideally if you have one in your collection, Tamiya's superlative I-400 rendition in this submarine theme, or even placed in the shadow of a mighty battleship like Yamato or another Japanese capital ship in this impressive scale. I found that the significant modelling benefit possessed by this larger scale is certainly in its obvious ability to carry and display a very pleasing degree of fine detailing, with Fujimi's incorporation of an etched set well able to show-off the very best features of their nice little Yu-1 in this scale to superb effect.



A Yu-1 craft at Lingayen Gulf in the Philippines, captured by American forces, undergoing inspection in February 1945. Well conveyed here in this 'silhouette' view is this craft's deck-edge guardrails

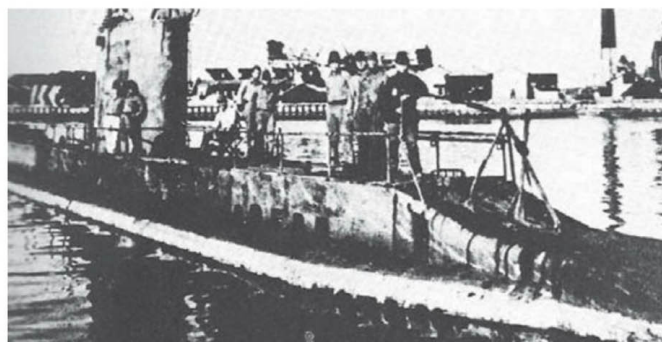


A Yu-1 Army supply submarine under construction. High and dry this unique image offers the opportunity to confirm the model's overall hull form in some detail

How accurate is this obscure and little documented principal 1/350 scale Fujimi subject, well from what I can perceive this kit's overall structure is a faithful rendition of this novel subject. In this package two different conning towers and propellers are included to enable modellers to presumably build the principal Kasado built Yu-1 as a representative of the largest group, with the alternative pieces intended for the follow-up next most numerous Kaita built Yu-1001, which is another nice example of Fujimi's attention to detail, and giving modellers as much as possible to work with.

Overall the quality of the twenty small plastic parts (used in my option) is good, with the binnacle, periscope, and helm provided for the open conning tower on the model quite acceptable, with the dive planes, rudder, and propeller all convincingly fashioned, if just a bit chunky, leaving the 37 mm deck gun sharp but rather featureless and a replacement might be warranted here. But all parts fit together effortlessly and the model assembles easily into an attractive and very pleasingly detailed little submarine, atop a secure three-piece stand.

Some nit-picking expert might find fault with the number of vents and openings in the casing, they appear fine to me, while I have noticed in one review that the model's ballast tanks and deck edges fore and aft are considered perhaps too squared off, but I could



This striking image gives an excellent impression of the Yu-1 type's overall diminutive size, with a high proportion of her crew on deck giving scale to this craft

not find any major or glaring imperfection in the nicely curving flow and general form of the Fujimi offering's lines. If I had to find fault (being pedantic), perhaps the omission of the single bow anchor and two small cargo handling derricks, both depicted prominently on the box art and indicated in photos can be raised, but these are easily fabricated. Overall the trace and features match available information very well, and the completed model 'looks' just right, a fine rendition of a Maru-Yu.

All-in-all apart from my 1/700 display conveyed here, there is certainly quite a striking number of alternative modelling options available, just showing how varied and interesting one can utilise this original extremely nice comprehensive Fujimi package, rendering excellent value for money not only in its modelling contents, but follow-up research, and its diverse display potential.

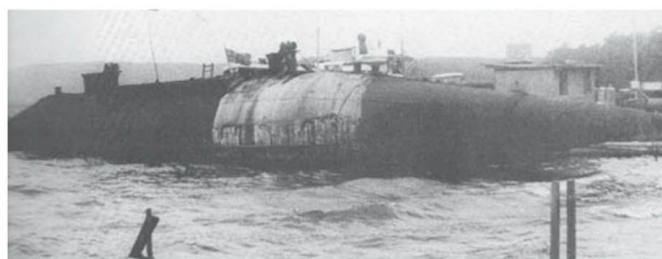
FURTHER READING

I-Boat Captain – By Zenji Orita, Major Books, California, 1976

Sunk – By Mochitsura Hashimoto, Panther Books (Hamilton & Co. Ltd), 1955 **MMI**

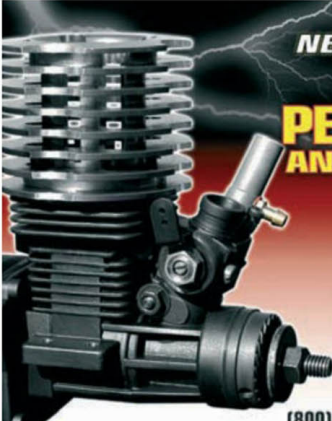


A captured (washed ashore?) Unkato supply canister. The Polynesian natives give scale to this craft, while this bow perspective confirms its very basic cylindrical form



Another image of the captured Unkato, here the extremely rudimentary constructional requirements of this simple craft (for ease of mass production) can readily be seen. Also worthy of note in this photograph has to be the rough external finish of this expendable craft, with obviously no consideration given towards a standard IJN submarine finish

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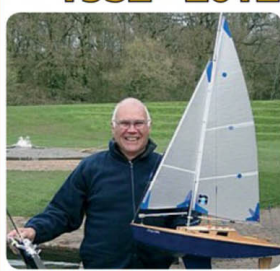
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FAST AND BONNIE

THE SCRATCH-BUILD OF A KETCH INSPIRED FROM A BOOK!

AUTHOR: GRAHAM HARVARD DAVIS **CONTACT:** gharvard21@hotmail.com

THE BOOK

Having read the book by May Fife-McAllum, *Fast and Bonnie*, which tells the history of William Fife who started building fishing smacks and yachts, I had a thought to build a model yacht and as a challenge it had to be able to reef and sail in twenty knots of wind. It was stated by W. Fife if you're going to build a yacht it has to be 'Fast and Bonnie', I also had a look at the Fife pictures in a book by Max Catto, where one may find some wonderful pictures of restored Fife yachts, some of which are over 100 years old.

THE IDEA

I browsed the web and finally decided on a ketch type design and it came down to two yachts. Belle Adventure or a more obscure yacht, one called Sincerity. I decided on the latter as she had a dark blue hull and a more modern sail plan. Now a charter yacht under a Norwegian flag. So having another browse I came across an advert by Orion Mouldings, a web-based company for a glass fibre hull. I was given this hull as a present by my daughter and it duly arrived smelling very fresh, it being the case that when ordered it is built fresh. A bargain at approx £40.

Having no plans I had to have a think about this and I can easily understand the phrase 'scratch-built'.

THE BUILD

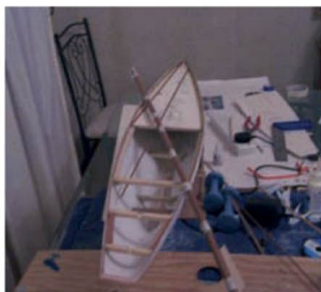
I ordered the wood from Cornwall Model Boats and was very impressed at the speed of delivery and additionally their vast range of goods that are offered online. Wow, comes to mind, as it has been a time since I had last built a kit model. The exponential growth of fittings for the modeller.

Having decided on a large cabin I decided on aliphatic glue, it being advertised for exotic woods, this I found to be very good. The yacht is 180 mm wide and as such I had to be careful with the ballast, I decided on fishing weights from a local shop. I put approx 2 kg into the keel with filler, proprietary for interior and exterior use and tested the yacht in the bath, a bit light so more weights and I settled with another 1.5 kg.

I then made a stand for the boat to make building easier. After a float test I marked the waterline, more thought was needed for the sail plan. The sizing of the sail plan was pure guesstimate, it was suggested that I use shower curtain as material for the sails. Okay I thought and put that to the back of my mind. My next task was how to put a smile (sweep) on her as the mould of the yacht was from an old pond yacht, as such, it was flat along the deck. I decided on 10 mm at the bow, decreasing to 1 mm mid section and raising to 5 mm to the stern. This was completed with beech glued with epoxy



Filler in and the start of the beam placement



More beams and beam shelf with part decking to forward and mast construction



Additional sheer to the bow looking forward to aft



Showing decking and rudder servo mounting

and left to set, built up with Milliput, two-part filler and sanded. The deck is 3 mm ply over planked, with 1 mm x 3 mm planks scribed to the edge with a pencil and cut in varying lengths. I attached the beams with superglue and Milliput, for strength leaving 4 mm below the beech, which was added to the yacht. The rudder came to mind and I was thinking about the angle and the function of the steering servo.

A club member came by, 'luckily', and said he could make the rudder for me, this he did from brass sheet. I placed and made the correct hole to the yacht. I thought the brass sheet to be a little thin so I overcoated it with the filler and sanded to shape. The rudder support at the bottom of the keel was made from a lollipop stick, metal from an umbrella and Milliput, sanded then attached to the bottom of the keel and smoothed out with cataloy filler and sanded to shape.

More beams were added for the servo and tested and found to be adequate. The next job was the foredeck and bowsprit. I laid in the ply deck and drilled out the bow to accept the bowsprit. This was made from mahogany wood, which was 1/4 round two bits glued and shaped to be circular. I drilled out at the tip to accept an end metal piece from the umbrella. At this stage it came to mind that I would have to have a plan of all the beams. I simply drew the deck shape by using the boat and drawing round it on lining paper, a very useful exercise as I had to judge by eye where the main and mizzen masts were to be placed. My thoughts on the strength of the hull lay in the 4 mm all up, thickness of the deck but decided to strengthen the beams with Milliput filler. Luckily I remembered the eyelet for the dolphin striker wire at the bow. Before the final placement of the ply decking I drilled two fine holes and bent 1 mm wire to fit and anchored in place with two-part epoxy.

I now turned my attention to the masts, height and area of the sail plan eh! 180 mm beam came to mind. I opted for 840 mm main mast and 740 mm for the mizzen, also thinking about the rake of the jibs that it would produce to the tip of the bowsprit. The masts had to be hollow, in order to achieve a reefing situation. These were

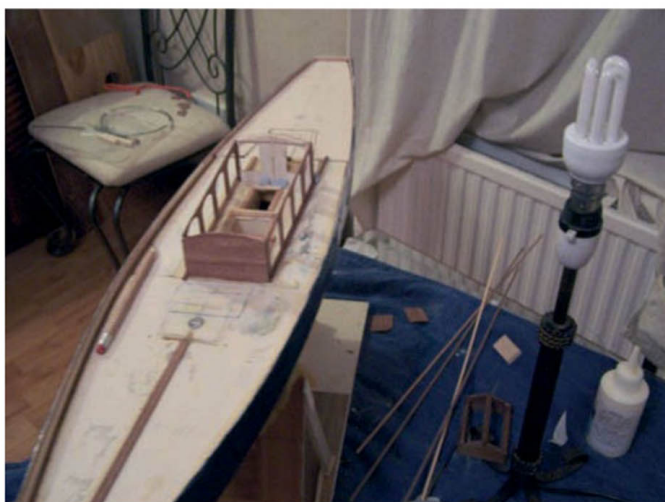
made from the 1/4 round mahogany ended grain against grain. I removed the square angle from the wood on all four parts thus making a hole in the mast. First attempt did not work so I re-sanded all edges and bored small holes and doweled in bits of cut off wood. Success. Given that the sails had to reef I got the sail material and glued in string to test the holes for the sails. Oops! Not enough space. I glued sandpaper to a fine bit of the alloy from the umbrella and sanded and sanded, finally I got both masts to accept the sails.

The spreaders are made from the alloy metal from the umbrella on the main mast and the lower spreaders, flattened with pliers glued and screwed, the others being laid into the masts and glued. This was the same procedure for the spars and striker to the bowsprit. Having checked all beams the deck was laid in four parts. This was overlaid in 3 mm by 1 mm planking. The king plank going on first and at the bottom of the bulwarks it was laid to mahogany. Dove tailed at the bow, to lessen the angle of cut, to the planks. The bulwarks were planked and the capping rail was glued in, this being also from mahogany.

PAINTING

The masts were sanded to shape and were coated with varnish. The first coat was 50/50 turpentine/varnish, ditto the second coat, the third coat was 75% varnish and the final coat 100% varnish. This gives the wood a chance to pull in the varnish coat and it ultimately gives good shine to the completed works.

The waterline was put on with tape and painted below with two coats of Humbrol matt. The actual waterline is gloss as is the yacht above the waterline. The topsides being rubbed down between coats and prior to the final coat, the gloss work was rubbed down with coarse brown paper. I would say that a good modelling brush is required for the gloss works keeping a wet edge as you go. The bowsprit was then put on the yacht and the wire put in place for the striker, this being 0.5 mm and brought back to the screw holding the bowsprit in place and wrapped round twice prior to screwing down.



Cabin layout and radio boxing prior to decking



Finished painter works, cabin and skylight



Masts, sails, and radio assemblies

Time to get on with placing the masts – it was jury rigged and the wire and bottle screws placed to fit abaft the masts using the same gauge wire. Thereafter the deadeyes were rigged. I put in lazy jacks, (the ropes holding the reefed main and mizzen when reefed) for the main and the mizzen again simply as it helps to hold the sail material once reefed. The kicker, installed to both booms using bottle screws. Some of the rigging is tied off as would be on a real yacht to the cleats as shown. I made bowsies from a CD acrylic case, for the halyards.

The sails are made from a very inexpensive shower curtain. A lot of trial and error here, as I decided to double the material using PVA – this was a failure. I then made another from one bit of material and this seemed OK.

The jib, foresail and the flying jib have 0.8 mm fishing hooks grinded to shape so as to represent what would be termed as piston hanks on a real yacht. I used cyno to put them on each jib and over taped with spinnaker repair tape, which is used on the real thing. Thus the jibs can be dropped to the deck. The main and mizzen was not dissimilar using the sail repair tape and brass washers inserted for the eyes to accept hooks, a length of string serving as the blot rope to hold the sail into the mast slot. This had to be only to the length of the reef point, from the top of the mast down. The actual holes for the hooks being made with a red-hot wire held by pliers for obvious reasons. I used split pins in the main for eyelets to accept the rigging, which is again from a real yacht. It is waxed and it can be found in most chandlers, it is actually whipping twine.

The cabin and skylight is made from sheet mahogany and the same varnish process as described previously. The alloy to the skylight from the umbrella again, which incidentally cost a few



Full sail and note wired boom inside the foot of, No.1 jib

pennies from a charity shop. The cabin sides were measured, the windows measured in width and from memory I used a two pence piece for the upper curve. The cabin being a one piece top was soaked in tepid water for ten minutes and attached to a glass with elastic bands and prior to being fully dry was laid with a weight to the forward end as this was sloping and as such wider at that end.

The model has a Planet 5 2.4 GHz transmitter and receiver radio system, an excellent bit of kit albeit the instructions are for planes. I used one servo for two jibs and one to the GWS sail winch operating the main and mizzen, the third channel for the rudder. The jib servo being placed upside down. I removed the spring from the rudder and jib control stick – this gives fully 120 mm of travel for the jib. The foresail is linked both sides to the jib via a swivel, which came with the fishing hooks. The process here is that the boom is IN the jib sail and with models being worked from windward the actual sheet holds the jib down via the internal boom. The flying jib (Yankee) is hooked both sides to the spreader. This system had kept me awake on more than one occasion. I personally think that this is an option that gives a more authentic look to the jib. It also does not need a topping lift as the sail fills and lifts automatically. On a real yacht the jib normally only sheets to the shrouds anyway working from the lee side. Suffice to say when the jib is sheeted in it is approx 15 degrees off the fore and aft centre. Using the sail winch the main and the mizzen are sheeted to the fore and aft and centred when fully sheeted. All the radio gear with the exception of the rudder servo, are located in the main hatch. The sheets for the main and mizzen come out at the fore end of the cabin and the jib sheet from the sail arm below decks. The capstan winch feeding these sheets acts as a turning block and were made from the capstan drums found in old cassette tapes, rounded at the top with



Reaching with the flying jib tacked to the bowsprit and a reefed mainsail and mizzen



From astern, note the sweet curve of the cabin top



Sheeting in, ready to tack to starboard. Sweet as a nut, and well balanced

Milliput; and drilled for the dummy handle which is 1 mm rod and painted with Plasticote, chrome colour. The mizzen sheet is worked with a block as it travels less than that of the main when the sheets are let out – thus half the travel to that of the main sheet. Finally the cavita line, the gold line on to the topsides, is Trimline gold tape. The model is approx 1005 mm long.

SAILING

The yacht was launched on 2nd February 2011 – it was a grey day on the pond, approx 100 metres from the beach on the river Clyde. It was about 10 knots of wind and I was delighted to see the yacht take off on a reach across the pond with her beam ends on the water as she heeled under full sail. The yacht sails well on all points of wind very well. The pond at Largs lies some 3 miles north of Fairlie. It was in Fairlie that the Fife yard started all those years ago and it was at this time that yacht keels really came to the fore in design terms.

On her second outing I placed a set of power speakers in the bow with an iPod mp3 player. That was fun, watching strollers walk past and looking about to find where the music was coming from, finally



Ready for another tack. Note the two windows to starboard part down, this is to help the sounds of music when at anchor, all sails down for the club open day

having a giggle when I told them it was from the yacht.

The model has achieved what I set out to do with the flying jib removed and the main and mizzen reefed she did in fact sail in 20 knot gusts of wind. I would not be perturbed sailing her in stronger winds with the main fully reefed. I left off the famous dragon, a kind of hallmark for Fife yachts from the bow as the yacht was originally built in Italy for the then owner of Fiat to a Fife design, circa 1930s.

There has been Fife regattas on the Clyde recently and it has been said that they are jaw dropping beautiful yachts, priced tagged for oil tycoons, Lottery winners and millionaires. Well done, Mr Fife!

As a model yes, she is fast, is she bonnie? I think so!

I enjoyed the book, it was fascinating and the project of building the yacht just from a few pictures.

Ref. yacht Sincerity, found on the web by typing in 'Fife yachts Sincerity'. She is a charter yacht with the rig updated and is presently for sale at approx 1.4 m.

1.4 What? Zloties, Bucks, Pesetas, well to me it is fairly academic after the first million! Time to go and dream up the next project.

MMI



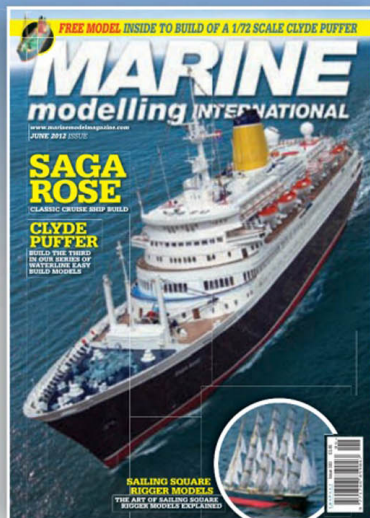
First day out, heeling to port, ah! At last and no worries



The high gloss paintwork on the hull can be seen from the reflections of the water

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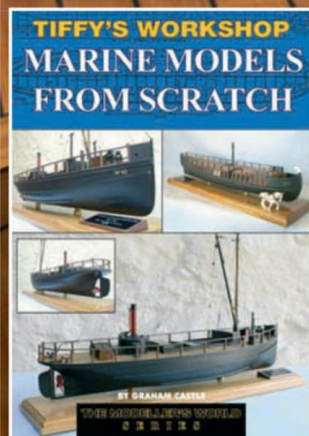
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E-BOAT ARCHAEOLOGY

S-89 WRECKAGE IN CORNWALL – THE HISTORY OF A WWII GERMAN E-BOAT

AUTHOR: CHRIS KOENIG

Within just a decade, DKM's S-100 class e-boats have been made accessible to the public. At first Revell issued a 1/72 scale kit, followed by Italeri with their giant scale model in 1/35. The latter is relatively cheap but may be built into a great R/C model. While there is currently no such boat in operational status any more (although a British expert team has an e-boat under restoration), the 'wreck chaser' in the UK may visit the remains of S-89 in Cornwall.



View across the MG 34 twin towards the bow aboard S-89. Author's collection via Winde

THE BUILD

By 3rd November 1941, the German Empire asked Fried. Lürssen yards of Bremen-Vegesack to build to order 16 S-Boote (e-boats) of the S-38 type. DKM already operated a variety of e-boats in virtually all theatres of operation and was in a constant need for new boats to either replace existing ones or those lost in action. Lürssen was well engaged in delivering these e-boats (as did other yards, too), but their effectiveness was at question. Rather recently aircraft numbers had increased in the UK and Coastal Command eagerly attacked e-boats wherever they met. Ranging in at low level and unleashing hell fire, many DKM officers and men got killed while operating their e-boats. Especially those men manning battle

stations had been subject to fatalities. At first, a special deflector shield made from 8 mm perspex was added, reducing the silhouette of the craft and providing some protection from spray. Painted in dull grey the deflector shield however gleamed in the sunlight – and drastically increased the e-boat's visibility. S-68 therefore received the same construction, but made from metal. This worked reasonably well, but the multifaceted construction was difficult to build.

Protecting the crews from spray and mist and enemy weapons provoked Lürssen to build a calotte from a bulletproof hard-facing material called Wotan. About 8 – 12 mm thick, Wotan material withstood direct fire and thus assured the safety of the crew taking cover behind it. Made from Wotan, the calottes increased the e-boat's weight, however their decrease in terms of speed was hardly noticeable. While ordinary e-boats achieved 42 knots, the armour-protected prototype did run at 39.5 knots. Original orders were hastily modified and the majority of boats built after S-68 were designated S-38 b-class and fitted with a calotte.

S-89 ENTERS SERVICE

Roughly one year down the road S-89 entered service by 28th November 1942. First lieutenant Braune assumed command and the boat and her crew successfully completed their training and shakedown cruise by spring 1943. In an operational status the boat received orders to join the 2nd e-boat flotilla back then patrolling the Channel and the North Sea on their search for prey. Main harbours had been Ijmuiden, Netherlands; Oostende, Belgium and the French port of Cherbourg.

Although they had been depicted as the greyhounds of the North Sea, operational sorties did not any more resemble the pictures shown by propaganda. Allied aircraft dominated the skies, and moonlight attacks had become rare occasions. Radar and low flying interceptors had forced the e-boats to hide in huge concrete bunkers, and any mission was a highly risky task. Mine warfare off the British coast became rather daily business, until DKM noticed an augmentation in coastal traffic by fall 1943. Since supply was carried to the UK elsewhere DKM intelligence took a guess – and indicated an occupation of Northern France could be the reason for the traffic. D-Day was obviously anticipated by DKM. An attack was planned, combining e-boats of several flotillas by establishing a new combat flotilla called 4th e-boat flotilla.

Tremoutha Haven, Cornwall



The crankcase rotted away and thus allows us to inspect the interior of the engines





E-boats of newly formed 10th flotilla gather at Swinemuende in this summer 1944 shot. Author's collection via Winde



Prior to a mission off Hull a crew gathers aboard an e-boat inside the Ijmuiden bunker. Note the two twin MG 34 mounts combined to form a quadruple AA! Author's collection via Winde



The Schnellbootbunker (e-boat pen) at Dutch Ijmuiden by fall 1944. Shortly after No. 617 Dambuster Sqdr. RAF would destroy most of the structure. Author's collection via Winde



This e-boat is serviced prior to a mine laying operation off the English coast. Author's collection via Winde

Leaving their ports on 24th October 1943, the e-boat flotilla met the Allied convoy FN160 off Cromer. HMS Worcester defended the convoy and e-boats S-87, S-89, S-120 and S-122 were badly damaged. Two more Motor Gun Boats (MGB 439 and 442) had been on the scene as well, causing further damage in what later was described as a drive by shooting by those DKM sailors surviving the bash. By 5th November 1943, S-89 joined a task force comprising the 2nd, 8th and 9th e-boat flotillas assigned to lay mines off the Humber and Smiths Knoll. Rather by chance an e-boat crew spotted convoy FN1170. The boats ended their mine operation and then attacked the convoy off Cromer and Yarmouth. HMS Eglinton and HMS Fearney – both destroyers – repulsed the e-boats, but could not prevent two merchantmen from being struck by torpedoes. After returning to their bases the weather went from bad to worse, and kept a substantial amount of the e-boats in their respective bunkers.

DKM started to evaluate whether the German forces in the Black Sea theatre of operations could be assisted in their frantic struggle with Soviet forces. One idea that popped up was the detachment of six e-boats although the CO of e-boats, Petersen made clear that any withdrawal in the North Sea would weaken the German position there. An Allied landing in Northern France was still expected. The naval high command however decided to send four old and three new e-boats to the Black Sea, although the new ones still had to be built!

SECRET ORDERS

By early spring of 1944 a secret order was delivered to the e-boat pen at Ijmuiden, commanding S-86, S-89, S-92 and S-98 to join No.



German e-boat at dawn. Author's collection

10 e-boat flotilla by 21st March 1944. Shortly after first lieutenant Braune was tasked to leave Ijmuiden and sail for Kiel and the Baltics, intended to join 1st e-boat flotilla. Braune left Ijmuiden and stopped at Wilhelmshaven for refuelling, when another special order was delivered to S-89 by 7th April 1944, asking Braune to approach Hamburg. Curiosity may have risen under way, but hardly anybody could imagine the next destination: S-86, S-89, S-92 and S-98 were to be sent to Dresden (Saxony) to be lifted out of the water. All weapons and the 20 cylinder Daimler-Benz MB 501-power plants were removed from the boats. Several Autobahns had been cleared of traffic to allow for Kuhlmeier-wide load lorries to transfer the e-boats to Ingolstadt, situated in Bavaria! Once they reached Ingolstadt, the boats were partially re-assembled and towed to Linz in Austria.

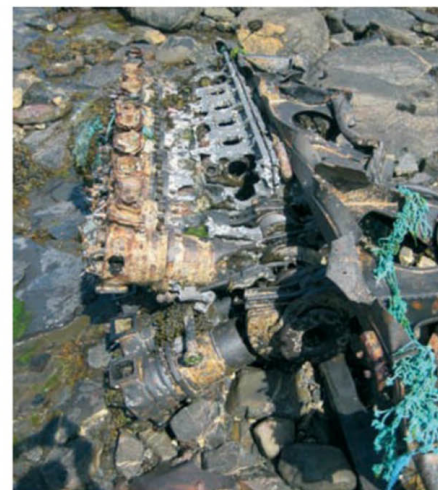
Outer shafts are eroded daily by the elements

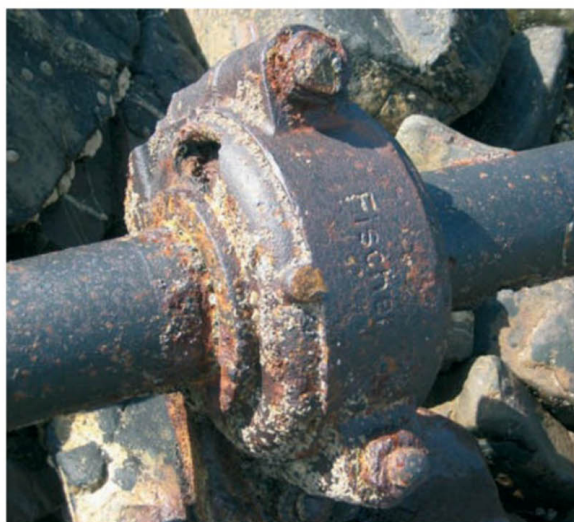


These would make fine decorations for your office desk, but all of them are way too heavy to take home!



Three of these 20-cylinder diesel Daimler-Benz DB (MB) 501s powered S-89





Bearings made by Fischer



A wonderful Cornish coastline provides with the scenery for S-89's final rest



Shafts and engine positions reveal the position of the boat when running aground

The Danube River may be navigated all the way from Ingolstadt to Linz, but the repair facilities at Ingolstadt did not allow the fit of the boats with engines. Therefore this was done in Linz by June 1944.

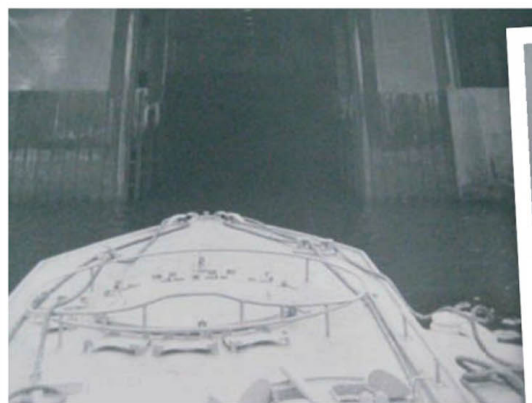
By July 1944 S-86 and S-89 sailed for Sulina (Black Sea), a voyage of 1,250 kilometres. The Danube River was a frequent RAF target and some 1,382 mines were dropped in 18 missions by RAF bombers. In addition, the Soviet offensive launched on 20th August 1944, made travelling dangerous. Romania surrendered by 24th August 1944, and DKM realised their boats were about to fall victim to Soviet attack. S-86 had already sustained some damage, but S-89 reached the Austrian port of Linz, also towing S-86! By November 1944 the boat reached Hamburg and Braune handed over command to first lieutenant (Oberleutnant) Osterloh. Allocated to the 1st e-boat flotilla and based at Swinemunde, Osterloh trained young crews until the war ended. By May 1945 S-89 was at Egersund, Norway, and her skipper surrendered the boat to Allied forces.

157 e-boats had vanished during WWII, only 92 e-boats happened to be in the drawer when the Allies started to divide the haul. Under the terms of the Tripartite Naval Commission Agreement the United Kingdom received 33 boats. S-89 was one of them and sailed for the UK in the winter of 1945/46. A few years ago the British historian J. Putney of Highnam pointed out that Special Military Branch Acquaint of 11th September 1946 directed S-89 and 22 additional e-boats to become parts of the Ship Target Trials Committee. It has not been established whether this committee actually wanted to use all of the boats as targets. S-89 was to be transferred from HMS Hornet to a location in Wales, but unfortunately experienced a heavy storm around the 4th and 5th October 1946. Escorted by a tug the e-boat was beached

near Tremoutha Haven in the Bude region. Trying to re-float the boat at full tide a few days later was a big mishap: the boat was successfully turned around 180° but beached again. Two days later the violent storm punctured the boat's hull and made it a total loss.

LOOKING FOR WRECKAGE

Nearly 59 years passed, until some British gentlemen thought about restoring a former e-boat – S-97 – into operational status. Among the many things they had been looking for was a calotte. The Lürssen yard that built the e-boats in WWII is still in existence, and a retired historian who used to work at Vegesack for nearly five decades asked me whether I could possibly assist. We came to agree that sunken e-boats might be a good source for a calotte and other spares and started to investigate all known and accessible e-boat wrecks in the North Sea and the Baltics. While friends of mine launched diving expeditions, we noticed J. Putney was examining the wreckage of S-89 at Tremoutha Haven. Tremoutha is in the vicinity of Crackington Haven, to the south west of Bude, Cornwall. Putney did write a first hand account in 2003 and identified fourteen different parts of S-89 that had withstood the ocean's forces – at least partially that was. His records included the boat's diesel engines, gearboxes, shafts, crank shafts of smaller engines, a bended exhaust pipe and a crippled cylinder head, and an object that resembled a fuel tank measuring ca. 200 x 50 cm. Within the surf zone he estimated further parts but was unable to locate any, although searching thoroughly and even mapping the site with great care. Putney definitely did a great job! Unable to restore S-97 the initial project failed a few years ago. We did detect numerous wrecks and some very nice calottes, but ended this project as well.

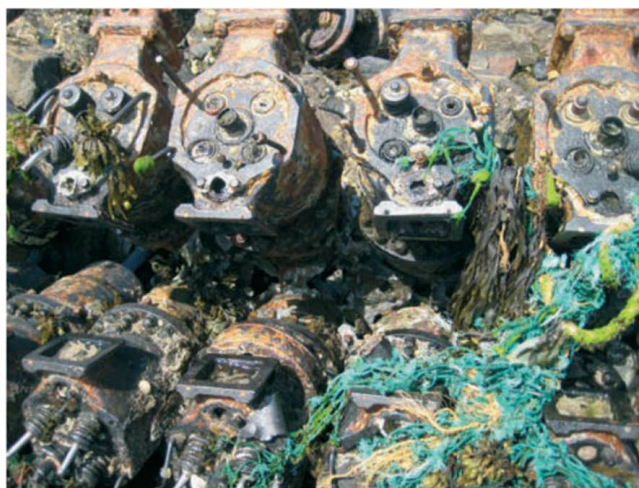


Skipper's perspective when approaching a box of Ijmuiden's e-boat pen. Author's collection



This is what a type S-38 boat looked like at high speed. Author's collection





Four valves per cylinder and the exhaust collector at the top of the picture

Remains of S-89's transmission, originally belonging to the centre prop



Seen within the pub Coombe Barton Inn: S-89 by 5th October 1946

By the summer of 2010 a fellow historian whom I had met during my studies at the University of East London asked whether we would like to inspect the remains of S-89 (50° 45,6'N, 04°38,3'W). At best the starting point for such a tour is Coombe Barton Inn, a pub situated at Crackington Haven. At low tide it is just a 20-minute walk from the pub to the wreckage site within what used to be Tremoutha Haven. It's a nice walk, but a good physical condition, sturdy shoes, reasonable dry weather and low tide are prerequisites. Don't bring your kids along, as the tour does not lack danger! Check the tide at easytide.ukho.gov.uk and tell the

resident drunk and the lovely waitress at the Coombe Barton Inn where you are heading for. A few years ago you could possibly access and leave Tremoutha using a coastal footpath. Since then erosion has destroyed the footpath, and the haven itself does not offer too much safe space unless the tide is low.

We detected all the debris Putney recorded, but also many armour plates, tubing of various metals, compression glands, bearings, engine oiler parts, the huge remains of the diesels and other smaller parts. The size of the diesels is impressive, as are the other finds. On the way back it makes sense to report to the Coombe Barton Inn that you returned safe and sound – and to enjoy an ale and a hamburger opposite an engine telegraph retrieved from the S-89 wreck in the 1940s!

Personal suggestion for fellow modellers: Italeri's S-100 may be easily converted into S-89. The main differences between Italeri's S-100 and S-89 are the reduced engine skylights, another position of the compass and the utilisation of 2 cm Flak 38 in twin mounts, while S-89 sported a twin 7.92 mm MG 34 in twin swivel mount mark 36. **MMI**



The German e-boat type S-30 led to the development of S-38, which gave way to types S-38 b and S-100. Author's collection

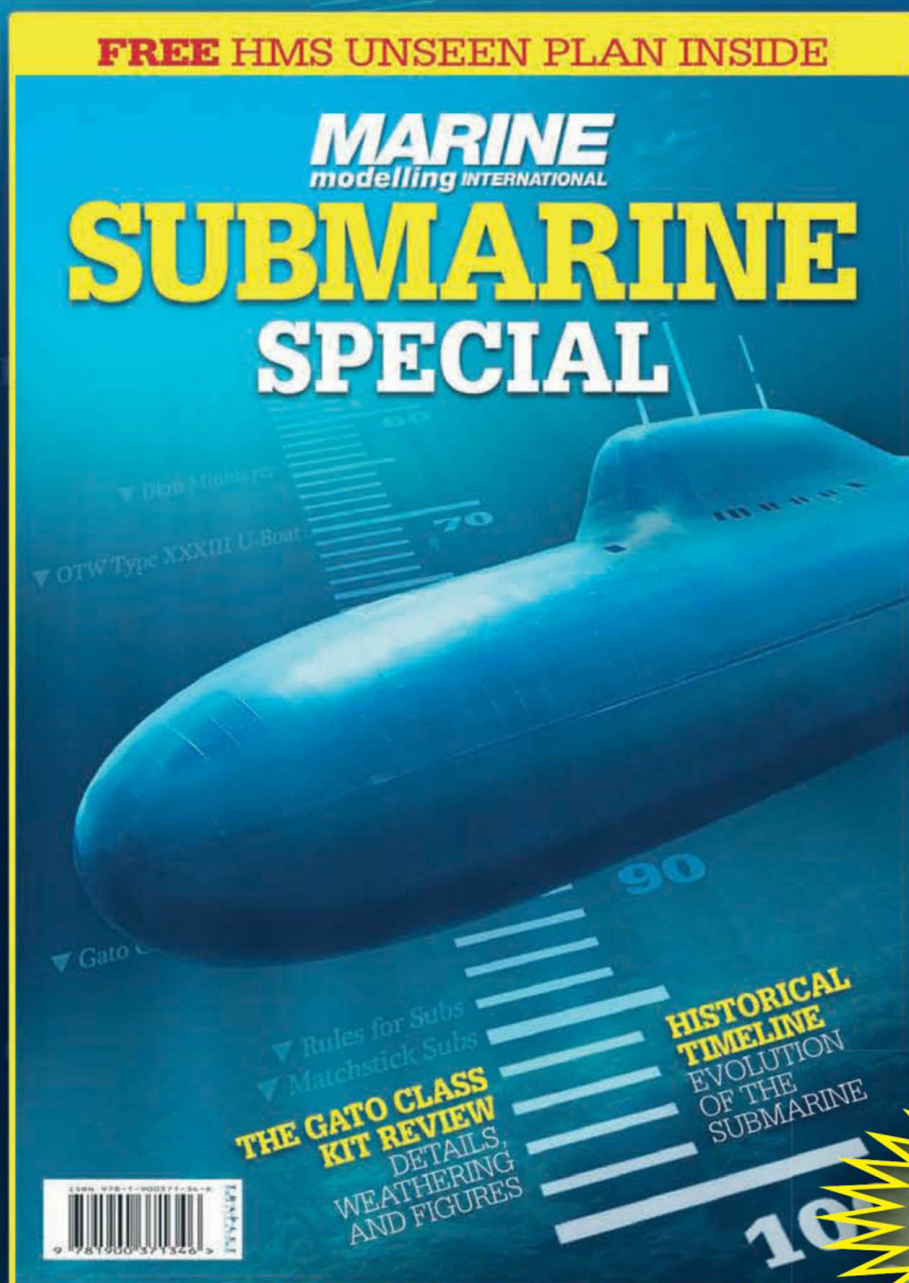


Much sought after debris today: the engine telegraph of S-89 is an eye-catcher at Coombe Barton Inn, Crackington Haven, Cornwall

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RHUM

Designed by James Green

A near scale Islands Class Ferry at 500mm long by 150mm beam. For twin motors and two function RC. Ramp can be motorised.



Featured in: **MM**
SEPTEMBER 1994

Ref: **MAR 2429**

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RITALEA

Designed by Eric Leadley

Freelance Windermere style open launch simple chine hull design built in plywood. Model is 920mm in length and 235mm beam. Original used electric motor but could easily be converted to small steam unit. Two sheet plans fully detailed.



Featured in: **MMI JANUARY**
2002

Ref: **MAR 2919**

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MARIE JOSEPH

Designed by Andre Moreau

Freelance Brittany Coast Fishing boat, drawn to 1:16 scale. Model size is 87 cm length and 15 cm beam. Fully detailed over three issues, in a series showing how to plank timber hulls.



Featured in: **MM AUG/**
SEPT/OCT 1992

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LUEMBE

Designed by Jim Pottinger

Single sheet plan for a chine hull harbour tug built in Angola in 1962. Drawn at 1:24th scale with hull length 545mm and beam 160mm for electric motor. No model construction data.



Featured in: **FREE PLAN in**
April 2003 MMI

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MV EARL OF ZETLAND

Designed by Jim Pottinger

A two-sheet detailed plan of a Shetland Isles ferry. The original ferry was built in 1938 and a model has been built of her, details covered in the article. Scale 1:50. Length 80.4 cm, beam 10.5 cm.



Ref: **MAR 3409**

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BLOODHOUND

Designed by Barrie Griffin

A double-sheet plan of a Motor Torpedo Development Vessel. Built in 1937 for the Royal Navy by Vosper, for short-range work due to her limited accommodation. An ideal relatively quick build project. Scale 1:38. Length 55cm, beam 10.5cm. Balsa and ply construction.



Ref: **MAR 3382**

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SCAFFIE ROSE

Designed by Jim Pottinger

Two sheet plans for 1:12 scale Moray Firth scaffie full details of original but no model construction. Model size 648 mm length 220 mm beam.



Featured in: **MMI**
December 2006

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POCAHONTAS

Designed by A Team.

Reconstructed lines of the classic 1936 Mclass design by W.J. Daniels. Body sections shown full-size with reduced lines for planking and building notes.



Featured in: **MM AUGUST/SEPTEMBER 1995**

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MEETING POINT

REPORTS ON EVENTS FROM THE
LAST FEW MONTHS



NORTHERN MODELLING EXHIBITION, 2ND TO 4TH MARCH

Meridienne Exhibitions' first show at EventCity, Manchester was hailed as a great success. The Northern Modelling Exhibition was set up as a sister show to the well established London Model Engineering Exhibition and the Midlands Model Engineering Exhibition.

Visitors to the exhibition were treated to a vast array of steam engines, model boats, planes, trucks, Meccano and model

railways with the Manchester Model Railway Society presenting several layouts and demonstrations. There was a varied array of stands selling a range of modelling necessities.

Over 35 clubs and societies were in attendance displaying over 1,100 skilfully built models. These enthusiastic experts were willing to explain the inner workings, construction and operation of their models, ranging from scale radio control trucks to the magnificent display of model lifeboats – the Royal National Lifeboat Institute were delighted to have raised over £500 at the event.



The organisers, Meridienne Exhibitions, were pleased that as well as the experienced modellers the exhibition attracted a large number of people new to the hobby including families who enjoyed the interactive displays and demonstrations. These included a passenger carrying miniature railway, live steam, electric model railways, remote control cars, trucks and a large scale Vulcan bomber alongside a Dakota DC3 – plenty to see and do for all ages.

Meridienne Exhibitions organise a number of exhibitions for hobbyists, for further information on upcoming events please see www.meridienneexhibitions.co.uk or call 01926 614101.

SOUTH SHIELDS MODEL BOAT SHOW, 24TH AND 25TH MARCH 2012, BY MALCOLM SLATER

The third annual North East Model Boat Show was held over the weekend of the 24th and 25th March. Held in the Temple Park Leisure Centre, South Shields the show has a good mix of both traders and exhibitors alike.

Exhibiting clubs tend to be from the local North Eastern area. Several cups and trophies were on offer and many of the models on display were entered in the competitions. Peter Dryden of the Tynemouth Model Boat Club had entered his semi scratch-built tug based on a Cory vessel, named Holmesider. Ian Roberts displayed his model of 1930's style paddle steamer Saltwell Queen. John Wilson's paddle tug is based on the former Wear tug, Eppleton Hall, which was operated by the France Fenwick company. The full size vessel was preserved at a museum in San Diego, the tug crossing the Atlantic under her own power.

Robert Scrafton's scratch-built anchor handling and oil rig support Vessel was much admired by all who saw it. The model semi kits produced by Models By Design have been well received by model boaters, especially the range of fishing vessels. One of which caught my eye at the show was that of Bob Johnson whose model of the MFV Mary J looked very smart and well turned out.



Peter Dryden's semi scratch-built tug Holmesider was one of many models entered in the competitions



Ian Roberts' model of the pleasure steamer Saltwell Queen



Robert Scrafton's scratch-built anchor handling tug Star Polaris



The display of Heaton & District Model Power Boat Club



Bob Johnson's fine MFV Mary J made from a Models by Design semi kit



A small-scale model of an Atlantic 75 Lifeboat exhibited by Jnr model boater Master J. A. Chambers



The Sea Span trailer ferry scratch-built by Gordon Bottomley



Model boating is fun as this airboat with cargo of well-known passengers depicts

There were many warships and naval vessels to be seen, Bob Henderson had his MTB PT596, a motor torpedo boat, which saw service with the US Navy serving in the Pacific in 1945. Edmund Foster displayed his model of the MTB boat 494. The full size vessel was built by the British Power Boat Company and served with the 22nd Flotilla, seeing action with the D-Day landings – the vessel, whilst on night-time action, was lost on 7th April 1945.

Saltwell Park Model Boat Club member Gordon Bottomley displayed his scratch-built model of a Trailer Ferry, the Sea Span Express Freight Link 1. Eye-catching was D. Chambers' model of a tank landing craft. Made from coloured woods the model was built from pictures to an approximate scale of 1/4 to the foot.

Whilst viewing the trade stands the stand of A Model World had on display one of the latest models from Graupner, this was of the ill-fated RMS Titanic. The model is one of Graupner's Premium Line

models and comes in at a scale of 1/150, which gives the model an impressive length of 1760 mm approx. The model is almost ready to run and comes complete with three motors and all the hard work done, as the modeller only needs to fit the radio gear and batteries. The model can be purchased for around the £900 mark.

The many people who know me will know that I have a fondness for the old Billings model Mercantile coaster, in fact I have three such models in my fleet. The model was one of the first models to be sold by Billings in the UK. The model when available was of plank on frame construction, the modeller could also purchase a complete accessory kit which itself included many brass parts, also available was a set of ready made masts again in brass. The model was deleted from the Billings catalogue in the 1980s, which to me was a great shame as it was a lovely model that in my opinion enhanced the Billings range of models.



D. Chambers' attractive and unusually finished Tank Landing Craft in near 1/4 inch scale



Douglas Chambers' superb scratch-built model of a Roman War Galley



A. Thompson's scratch-built barge Paddy

Models do appear from time to time on Internet auction sites and it is also possible with a little bit of searching to find a ready made fibreglass hull so it was with great delight that exhibited on the Tynemouth Model Boat Club's display was a Mercantic model – the model was built in 2011 by member Bill Carpenter.



John Wilson's model of the former Wear tug Lewis George. The full size vessel was preserved in a maritime museum in San Diego



Bill Carpenter and his model of the Mercandia built from an old Billings Mercantic kit

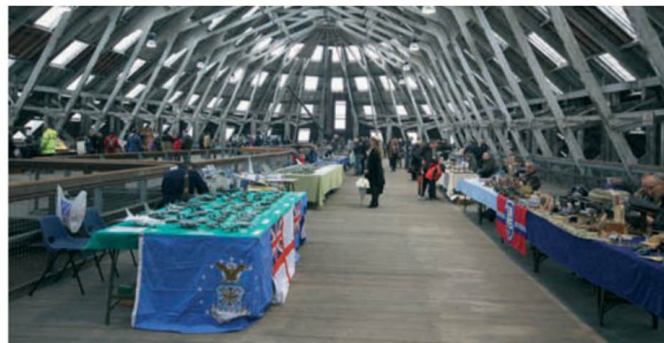


Bob Henderson's model of Chant tanker No 23. The full size vessel was hit in the engine room by a bomb but was repaired and survived the war

MODEL BOATS AT STEAM AND TRANSPORT SHOW, BY PATRICK BONIFACE

Over the Easter Bank Holiday weekend the doors of Chatham Dockyard in Kent were opened for their annual Steam and Transport Show. During this, the 10th anniversary show, the historic surroundings were also home to a modelling exhibition in the stunning surroundings of one of the dockyard's former slipways where battleships, cruisers and more common than not submarines were launched into the River Medway.

Most of the exhibitors were railway and aircraft enthusiasts, but appropriately enough for such a maritime setting, Medway Marine Model Society put on a great show with a wide variety of R/C models on display. Nearby the Gravesham Military Modelling Society's stand showed off a number of intricately fashioned submarines.



Looking down through the museum



Medway Marine Model Society stand



Dark Rover based on the Royal Navy's Dark class patrol boats of the 1950s



Tug Smit Nederland and the Royal Yacht Britannia



German pocket battleship Graf Spee



Royal Navy frigate HMS Loch Alvie



MTA 315



Gravesham Military Modelling Society's stand with WWII U-Boat and a post war British A class submarine under construction

THE NATIONAL MODEL BOAT SHOW, 21ST – 22ND APRIL 2012, BY STEVE DEAN

The National Model Boat Show organised by Mark Williams of well known retailer A Model World was a new event on the calendar and therefore was of an unknown quantity in every respect – new show, new location, new venue and even a brand new trader. The venue, The Hermitage Leisure Centre, Coalville, Leicestershire, was about 10 minutes on the western side of Junction 22 of the M1 and made travelling for exhibitors/visitors from the north and south an easy proposition. The large sports hall used for the show had easy access and the venue's cafeteria with seating was a well-used and welcome facility.



Some of the unusual craft to be seen on the Nottingham MBC display



Alan Horne of J Class Hulls (Nottingham) displayed some examples of his new hull, which has beautiful lines



ABOVE: The Best in Show Shield was awarded to Mark Hawkins, Chairman of the Burton & District MBC for his 1/96th HMS Dreadnought. Adrian Clutterbuck (L) and Mark Williams (Show Organiser) do the honours

LEFT: Look at the detail on Admiral Chabanenko and be inspired to raise your game on your next project

Trade support for the show was very good (23 stands) and alongside the regulars including: Action R/C Electronics, Component Shop, Mac's Mouldings, Metcalf Mouldings, Miskin Models, Mobile Marine Models, Models By Design and SHG Model Supplies there were some others not seen at all the shows. Among these were: A1 Downunder Subs (Jim Horobin), A Model World, Clyde Model Boats, J Class Hulls (Alan Horne) and Adrian's Marine Figures. For those of you who are unaware, Adrian and Sue Clutterbuck have taken over the figure side of the George Turner Models business and thus are ensuring the continued availability of this excellent product range.

The mix of traders was such that it was possible to purchase complete kits right down to a single strip of wood and everything in between. A tour round all the stands revealed a number of new items worthy of examination. Andy Griggs of Models By Design had a new 1/12th boat in the form of the Wildcat 53, a catamaran Windfarm Support Vessel. The full size boat is produced by Safehaven Marine of Co Cork, Ireland and is available with water jet propulsion or conventional stern gear and the model can replicate



'Working on the crane gang' – Martin and Mel of Mac's Mouldings show their latest products on a stand that was brimming with items to enhance your next build



Kingsbury Park Model Boat Club ready for the show doors to open



Andy Griggs of Models By Design with the new 1/12th scale Wildcat 53, a wind-farm support vessel

either of these drive systems. As always Mac's Mouldings was displaying some new parts and one item in particular caught the writer's eye. This was a 1/12th scale hydraulic deck crane that would be ideal for use on a modern fishing boat or one of the myriad of work boats that can now be found around our coast supporting the off-shore gas, oil and wind farm installations.

For those who like to build yachts a great deal of interest was generated by the Canterbury 'J' Class model kit that was being shown by Alan Horne. The 1.2 metre long fibreglass hull of this yacht has beautiful lines and the laser cut wood parts appeared to be very well produced. The detachable 1.6 metre mast allows for the yacht to be an easy fit in the average car.



A full size Adrian and Sue Clutterbuck with a selection of miniature figures now being marketed by Adrian's Marine Figures



Getting ready for another day of Action are Liz and Dave Milbourn. As always there was lots to examine on their well-presented stand



A general view across the hall before the doors opened to the public. In the foreground are some of the constantly changing models on the Bring & Buy stall

Around the hall there was a good mix of club and individual stands displaying just about anything that would float including an interesting selection of novelty craft. The author is always amused by some of the 'wacky' vessels that ingenious modellers come up with. A floating Henry vacuum cleaner seen on the Nottingham MBC stand was certainly a smile generator and Yellow Peril a hot water powered tug and barges on the Daventry MBC stand was a very clever adaptation of food tins.

With so many superb models on display it is somewhat invidious to single out any particular model for special mention however, everyone who studied the 1/72nd Russian Destroyer Admiral Chabanenko built by Richard Motyka agreed that it was truly magnificent. It was a real shame that it was only shown on the Saturday and therefore Sunday visitors did not get to see it.



Adrian and Mark congratulate Nottingham MBC for being awarded the shield for Best Club Stand



The superb HMS Dreadnought built by Mark Hawkins of Burton & District MBC

Trophies were awarded in a wide range of classes and also for Best in Show and Best Club Stand. At the Saturday morning briefing to the judges, Mark Williams asked them to not get bogged down in the minutiae of judging criteria but to give wide ranging consideration in the broad sense, i.e. if a model had been built by someone with disabilities or of a very young age. Also he wanted due note to be taken of models that were good crowd pleasers without 'nit-picking' at tiny bits of detail. The warm applause that was given to all the winners when they were announced on Sunday afternoon was testimony to how well this judging methodology had worked in practise. Best in Show went to Mark Hawkins, Chairman of Burton & District MBC for his 1/96th HMS Dreadnought and Nottingham MBC took the gong for Best Club Stand.

Organising a new show does not come without its problems and in his letter to exhibitors Mark Williams stated that he hoped to get it 90% right in the first year. The fact that he received enquiries from clubs who visited the show expressing an interest in taking part next year, indicates they liked what they saw. All round it was a good first effort and your writer is already looking forward to hearing the date for 2013. **MMI**



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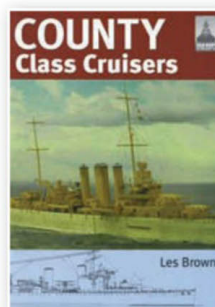
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WARSHIPS OF THE ANGLO-DUTCH WARS 1652-74 – NEW VANGUARD 183

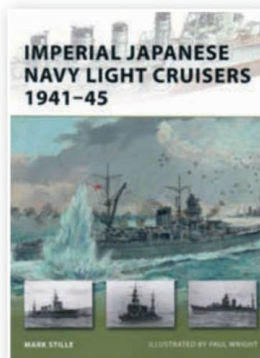
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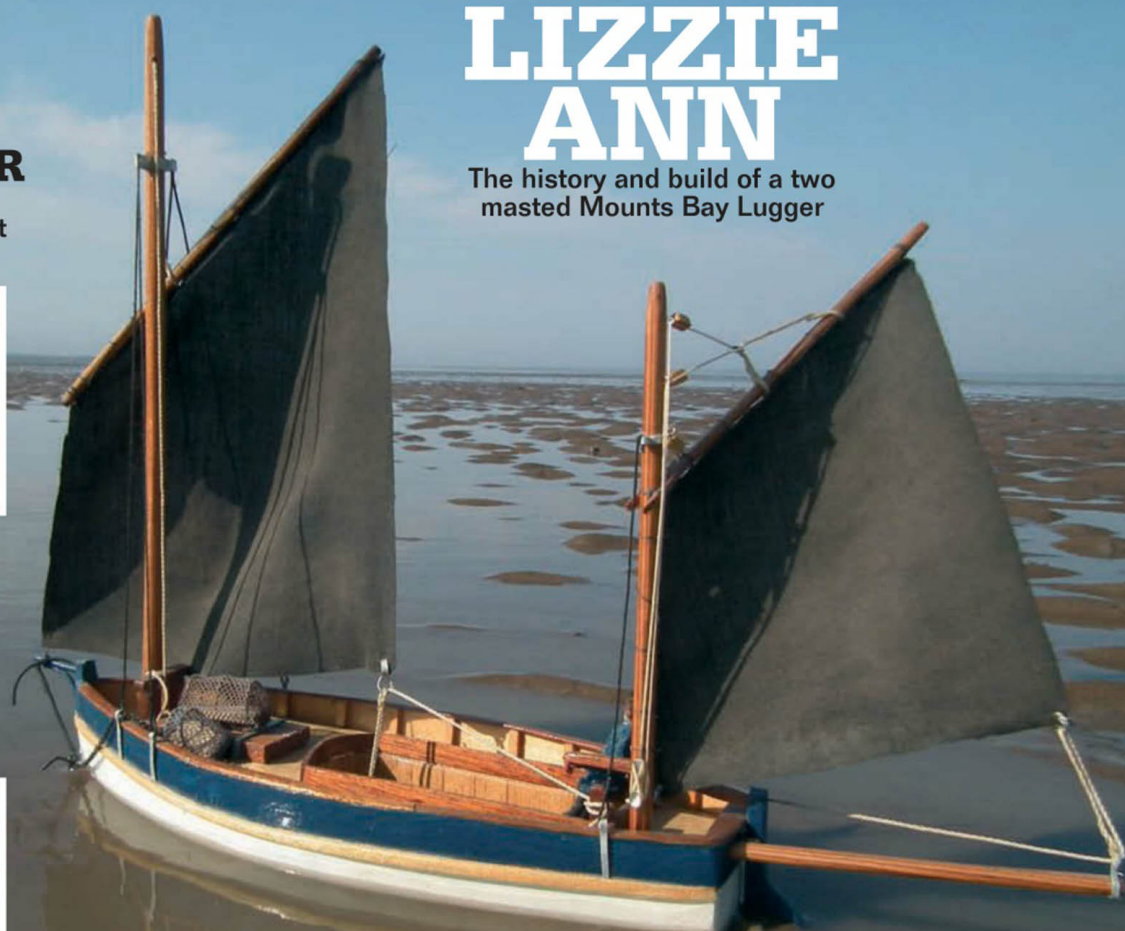
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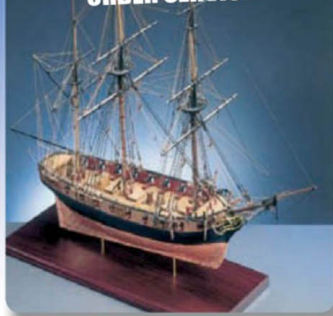
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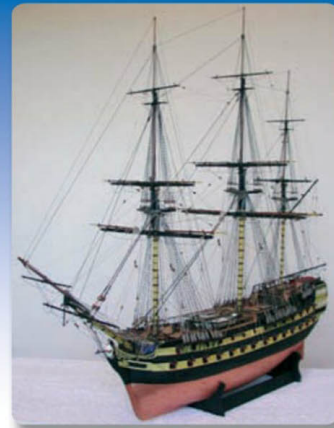
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COREL, GRAUPNER,
PANART, KRICK,
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