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MARINE modelling INTERNATIONAL

OCTOBER 2016

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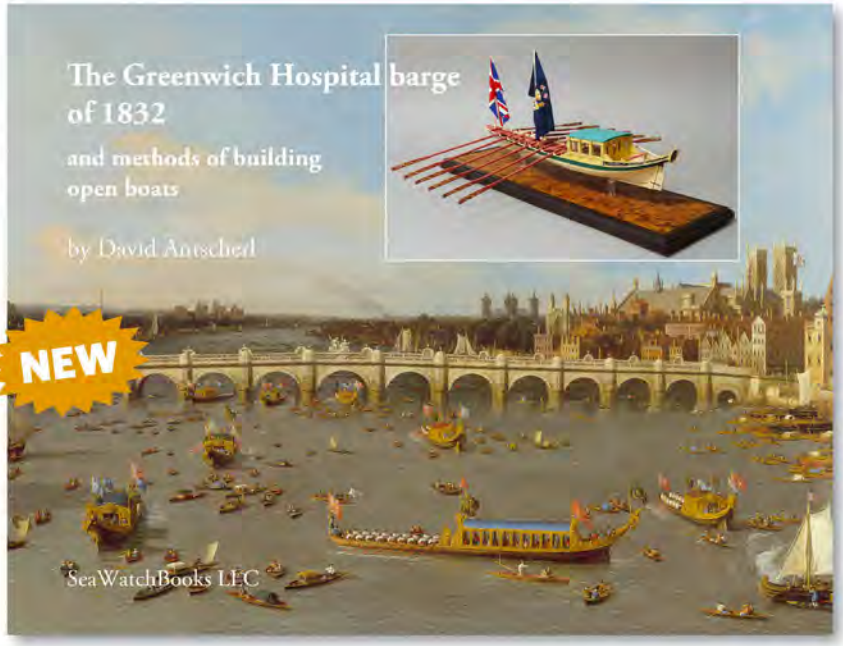

THIS BOOK DESCRIBES the step-by-step construction of the scale model of a ceremonial Thames barge, built clinker fashion. It also describes how to construct scale models of carvel-built open boats.

It has been many years since the last book on this subject was published and will fill a need for anyone faced with the challenge of miniature boat-building.

FEATURES

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Volume I, First and Second Rates
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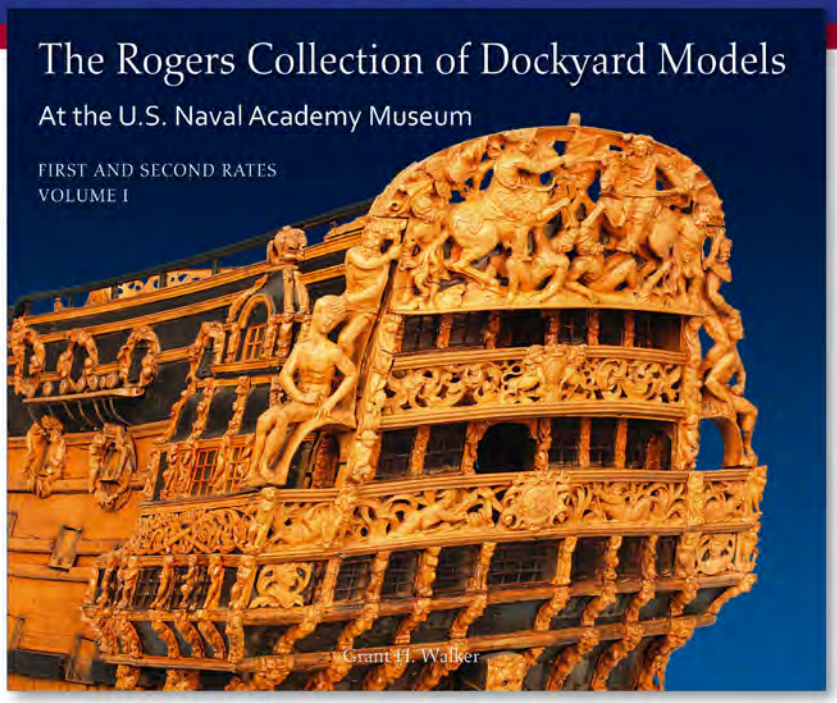

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CONTENTS

OCTOBER 2016 - ISSUE 355

COVER STORY

Model yacht racing is still one of the most popular aspects of our hobby. The review of this new RTR RG65 class yacht Affinity should encourage new R/C skippers to explore this competitive aspect of our hobby. One of the main advantages of this class is that as the hull length is limited to 65 cm it makes transporting easy when fully rigged. Initial trials with this yacht compared with others in the RG65 range of yachts showed Affinity should be very competitive.

Regulars

Features

MESSAGE FROM THE ENGINE ROOM

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.

HI EVERYONE,

Some time ago our local model club had a 'Bring and Buy' sale. As it is years since the last one all the members had a good clear-out of unwanted modelling bits and hulls. It turned into a very animated event, as it seems that one man's junk is another man's prize possession! After much 'horse trading' a few items were left unsold. One of these was an old Ripmax Futaba Medallion (M Series) two channel receiver and two servo combination, affectionately known as the 'Brick Receiver'. I could not let this be binned so offered a small amount for it.

Once at home I could not wait to see if the old system still functioned. All that was required was a 27 MHz AM crystal and a connection to a battery. The latter proved a little problematic as I had no connector to fit with the one on the Rx. Luckily the plug had been removed in the past and then reconnected by twisting the copper together. This joint had seriously deteriorated with time and would not have worked had I a connector to fit the plug.

So contact was made with the bare wires and the system sprang into life. Using an old 27 MHz AM Tx both servos worked and the whole system functioned well giving a good range. I must say, however, that the servos seemed quite slow when compared to modern versions.

So, what should I do with it now? Being a fast electric fan I do not have any use for it, but it is too good to just throw away. Is there a reader who collects these old components, or does someone wish to equip a boat with vintage radio equipment? If so then Email me at my Traplet address (chris.saunders@traplet.com) with the reason you would like it and I will post it to the best home (as judged by me). I will make the decision on Friday 16th December; there may be a small charge for postage if long distance.

This month the Free Plan has a different model on each side. The Super Card Drifter continues our collection of card models by offering a Steam Drifter from around 1900. On the other side is an easy build model of a little known sea-going torpedo boat called Tarret. Both models are designed to encourage young or inexperienced modellers to have a go.

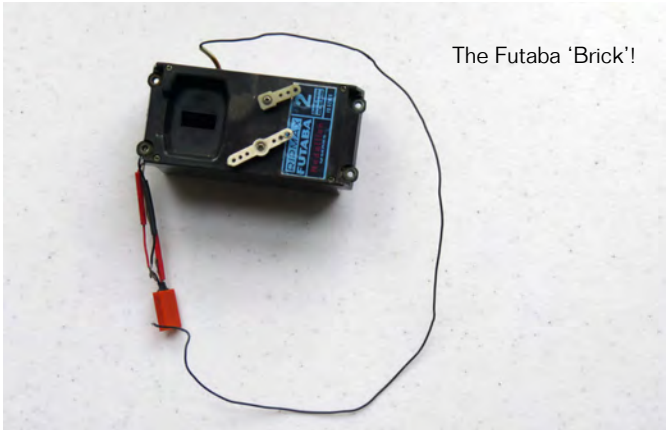
This latter theme continues with an article on 'Photo Etched Modelling for Beginners' in which Robin Trott explains the techniques necessary to get the best results. On a more general interest note the article on HMS Bluebell discusses the crew and fittings needed to make this popular Flower Class Corvette look very lifelike.

The second part on the Quentin Roosevelt gives details of a 1cm³ steam engine, which was used to power the craft, and there is also a very interesting set of drawings and constructional details for a portable boat launcher. The Gotheburg gives the history of a tall ship with some useful pictures if you wish to model this type of craft.

Among the regular articles Waterlines begins to look at the ESSO tanker fleet, Scale Scene gives advice on authentic rusting, Plastic Kit Scene gives details of all the new models released by the manufacturers, and Vintage Chatter looks at the Super Pro seven channel R/C system.

I hope you enjoy the wide variety of articles.

Chris Saunders
MMI



The Futaba 'Brick'!

MARINE modelling INTERNATIONAL

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MASTHEAD

INTERESTING NEWS FOR THE MARITIME MODELLER

SEARCH FOR SHIELD AND TROPHIES

The last International Model Lifeboat Rally was held in 2012 at Ethrow Model Boat Club. Plans are being made to organise another IMLR in the future but a search is on for all the official shields and trophies, which were awarded in 2012. If any MMI reader has any of these trophies or know where they are could you contact Adrian Clutterbuck at the Lifeboat Enthusiasts Society please? Adrian's contact details are: telephone 01604 846461 or Email: adriansfigures@gmail.com

The model harbour used by CMBC proved very popular with people watching during the club's anniversary event

CARLISLE MODEL BOAT CLUB

This year marks a significant milestone in the history of the CMBC as they are celebrating their 25th anniversary. To mark this event the club held an event at Talkin Tarn Country Park near Brampton CA8 1HN. The club usually sails on Wednesday afternoons and caters for all specialities apart from I/C powdered models. For further information on the club contact the secretary 01228 810916 or Email: carlislembcsecretary@outlook.com

PADDLE STEAMER PRESERVATION SOCIETY

The PSPS was set up to support full size paddle steamers in Great Britain. There are at present only two paddle steamers operational around the coast namely the PS Waverley, which is based in Scotland but can be seen around the UK coast during the sailing season and the only coal fired paddle steamer PS Kingswear Castle based at Dartmouth in South Devon. The society also supports other paddle steamers in the course of preservation including PS Medway Queen, and PS Maid of the Loch.

In the early part of this year the steam engine of the sister ship of PS Kingswear Castle, PS Compton Castle (now a static restaurant in Truro) was moved from Blackgang Chime on the Isle of Wight to Kingswear South Devon where she will be on display to the public sometime in the future. If any modeller has any pictures of models built of PS Kingswear Castle could you please forward to the editor. For up to date information of the society please visit www.paddlesteamers.org

NATIONAL MARITIME MUSEUM GREENWICH

On October 11th The Queens House reopens after over a year of extensive refurbishments. This house is classed as the jewel in Greenwich's crown and the reopening celebrates its 400th anniversary and showcases new displays, including over 450 works of art from the National Maritime Museum's art collections.

As October 21st is Trafalgar Day the museum will be commemorating the famous Battle of Trafalgar at which Admiral Lord Nelson was wounded and killed, join the curators as they give 'live' updates of the battle throughout the day. Learn about the experience of ordinary sailors and the representation of the battle in art through short talks and tours around the Museum. Finally, give remembrance during a reading of Nelson's last diary entry and prayer.

An adults only event will be held on October 29th and is titled Museums at Night: Mystery at the Museum Late: Something spooky is afoot at the National Maritime Museum; its Director has disappeared along with one of the Museum's most precious objects! If you think you can handle the Museum after hours, grab a tot of rum to steady your nerves and help us solve the mystery.

For further information on events at the NMM Greenwich, including opening times etc., visit: www.rmg.co.uk or telephone 020 8858 4422. ***MMI***

BELOW: PS Kingswear Castle at work on the River Dart very little exhaust and only using half a ton of coal a day!

DIARY DATES

NEWS OF INTEREST TO THE MARITIME MODELLER

DATES FOR YOUR DIARY

If you know of any confirmed Maritime related events and you would like us to include them please let us know either by e-mail mmi@traplet.com or post to MMI Editor, Traplet Publications Ltd, Traplet House, Willow End Park, Blackmore Park Road, Malvern. WR13 6NN. England. 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 http://thehobbyhub.com/water/ we do need at least 8 weeks notice to include in the printed magazine.

OCTOBER 2016 MMI DIARY DATES

OCTOBER 1

Extreme Footy Series ACT 8

Sandwell MBC, Dartmouth Park, West Bromwich, West Midlands. 9 am until 4 pm. The final round of the XFS and the last chance to get up close and personal with these fantastic little yachts and their dedicated skippers in 2016. Email: peter.shepherd@sailfootyuk.com Website: www.sailfootyuk.com

OCTOBER 1

North West Ship Show

The venue will be: Old Christ Church, Waterloo Road, Waterloo, Liverpool L32 1RE. 10 am till 4 pm. Tel: 01275 846178 or visit the website: www.coastalshipping.co.uk

OCTOBER 7

MYA Midlands District Six Metre Championship

Two Islands RYC, Furzton Water, Lynmouth Crescent, Milton Keynes MK4 1JP. 9 am until 4 pm. Great venue for these classic and most beautiful class of yacht. Email: mikeewart@btinternet.com Website: www.sixmetresailing.weebly.com/

OCTOBER 8

Tankmod 2016 Show

The Tank Museum, Bovington, Dorset BH20 6JG 10 am until 4:30 pm. See the website for more information www.tankmuseum.org/whats-on/events

OCTOBER 9

Mini Ship (1/1200-1250 scale) Show

Theale Village Hall (near Reading RG7 5AS) 10:30 am – 2:30 pm. Call Waterline Ship Enthusiasts (Dave) on 02392 352383 or Email: dreadnought9@hotmail.co.uk

OCTOBER 13 TO16

The Midlands Model Engineering Exhibition

Now in its 39th year a show not to be missed, covering engineering, trains, boats etc. There are a selection of club and society stands, plus plenty of trade stands. Warwickshire Exhibition Centre, Fosseway, Nr Leamington Spa CV31 1XN. For further details: Tel: 01926 614101 or visit the website: www.meridienneexhibitions.co.uk

OCTOBER 22

Bournville Footy Open

Bournville MY & PBC, The Boat House, Valley Parkway off Bournville Lane, B30 1QS. 9 am until 4 pm. Historic Model Yacht & Powerboat Club steeped in history, great venue for all sizes of model yachts. Email: peter.shpeherd@sailfootyuk.com Website: www.sailfootyuk.com

NOVEMBER 2016 MMI DIARY DATES

NOVEMBER 11 TO 13

International Model Boat Show

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

NOVEMBER 12/13

IPMS Scale ModelWorld

Telford International Centre, Telford, Shropshire, TF3 4JH. The world's greatest model show presented by IPMS (UK). Car parking, disabled access, refreshments, club displays, trade stands, model competition (IPMS members only), demonstrations, talks and full-scale exhibits. Email: scalemodelworld@ipms-uk.co.uk Website: www.smwshow.com

NOVEMBER 26

Mobile Marine Models Christmas Cracker

10 am start. Held at the factory of Mobile Marine Models, LN1 2YQ. The popular British Manufacturers Show. This Christmas market gives you, the boat modeller the opportunity to 'get' those last minute items for the festive seasons. No admission or car park charges! For further details call 01522 730731/689209 or visit www.mobilemarinemodels.com

NOVEMBER 27

Mini Ship (1/1200-1250 scale) Show

Wellow Village Hall (Hampshire SO51 6BR). 10:30 am – 2:30 pm. Call Waterline Ship Enthusiasts (Dave) on 02392 352383 or Email: dreadnought9@hotmail.co.uk ***MMI***

On those days when your lake/race course has great surface/wind conditions you should remember that the weather can change quickly and you'll have to adapt your hull to keep running smoothly

AUTHOR: RICK EYRICH CONTACT: reyrich99@gmail.com

POWERPLUG

THE IN'S AND OUT'S OF IC BOAT RACING MAKES-UP THIS MONTH'S COLUMN

Not unlike most movie plots, everyone who owns an IC boat hopes that their time at the lake will have a happy ending. Whether it's a day just enjoying some runtime with his/her boating friends or a full-blown multi-day race event, we all want to have zero hull glitches and be able to load up an undamaged power craft, but sometimes you just end up scratching your head a lot and wondering if you should have just stayed at home and worked in the garden!

Having personally suffered many days like this with my own nitro/petrol boats, I know in the long run these problems did teach your lowly scribe some very important lessons about dealing with the conditions any power boater must deal with, especially the negative ones. To this writer one particular competitor's day at the races stands-out, both for its extreme situations and how he and his fellow racers handled them that day.

Adapting to adverse water conditions and/or hull setup glitches in the short periods between race heats will be the main topic of this Powerplug column, so let's begin by detailing what the competitors encountered that day.

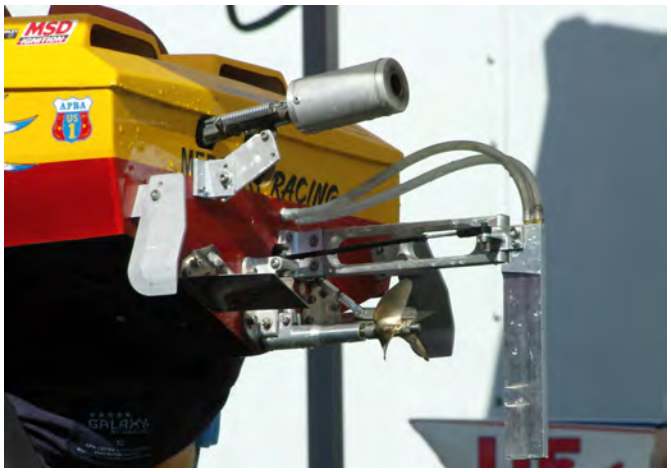
EARLY AM

Not long after the sun had risen over the horizon, our racer saw that the race pond was almost completely flat with no wind over the entire race site. As his small outboard-equipped tunnel hull was setup for just these conditions he hadn't made any handling changes to the vessel prior to his first scheduled race.

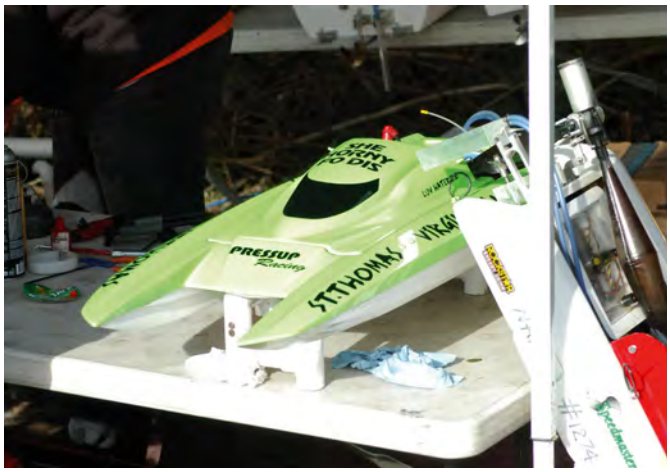
At the earlier driver's meeting, the race director had indicated that the day's weather would likely get tougher with increased wind speeds, plus the air itself would tend to switch its compass heading throughout the day.

NOTE: this all occurred WAY before the advent of cell phones and tablets that could give you instant weather updates; so, these boaters could only lookup and hope Mother Nature didn't get angry with R/C boats!

Concentrating on only the initial heat race, our modeller did nothing more than fill the boat's main tank/hopper cell with fresh nitro fuel and double-check the vessel's control/radio range before heading to the site's hot pit/staging area for his turn on the course. With a good field of eight tunnel boats the start of the race had



One of the main areas to help combat rough water will be the hull's adjustable transom gear, which can be tweaked for wind/wave actions



Left unchanged in the pits, many IC boats end up in need of a recovery boat due to a sudden change in wind speed/direction on your average racecourse

With more weight in place, your launcher should be aware of the change so he/she won't dunk the boat as it goes in the lake

plenty of action, plus all the tunnel hulls were able to easily maintain their lanes and setup a good passing spot either entering or exiting each end of the oval race layout. Smooth water conditions always bring out the best in these small glow outboard-powered marine craft as mild weather allows them to perform like their full sized cousins.

Ending-up with a good third-place finish, our racer was very happy with his first heat run, so he only did a quick re-fuel and water check on his boat prior to the next set of heat races. This meant that instead of paying close attention to the lake's surface conditions he swapped war stories with fellow tunnel boaters in the pit area.

TRICK OF THE MONTH

If you're considering changing to an alcohol-free fuel for use in your boat engine, there is another positive point to using non-ethanol petrol in any R/C boat. Ethanol, which is considered an 'oxygenate', will always decrease the overall mileage of your hull as it burns faster than a total-gasoline base fuel. This means you'll need a slightly larger fuel tank to maintain your vessel's on water runtime.

Since there is a move to increase the total ethanol content in most pump gasoline's, you could end up having to place an even larger tank in your hull to maintain the boat's on water time.

My thoughts go this way; if at all possible find a good source of non-ethanol petrol and always use it for your gas R/C boats. Besides having the improved runtime/burn rates, you'll have fewer spoilage problems and their related water/clogging gremlins in your engine's carburettor/tank layout.

Powered by a stout petrol marine engine, this shovelnose hydro's fuel cell may need upgrading if it runs high-ethanol content fuel on a regular basis

Due to its size this gas hydro is capable of holding extra ballast as long as the weight is placed on the hull's correct C of G point

With a downtime of just over 90 minutes between his first and second racer, our boater had little idea that he was about to encounter a very different set of water conditions which included winds that were not very compatible with small, lightweight dual-sponson nitro hulls.

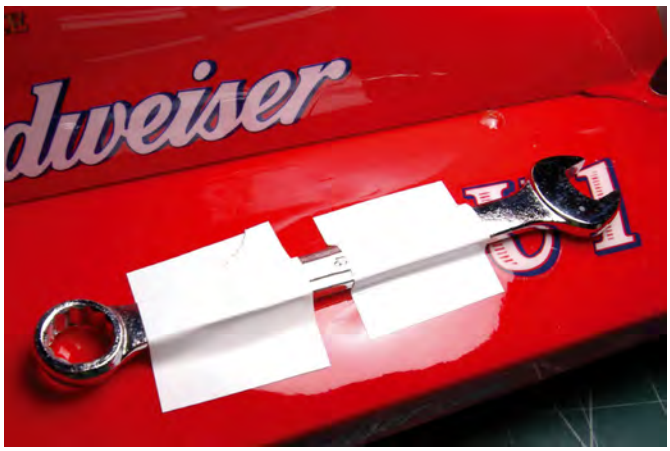
Again featuring eight race-ready power craft, the heat's start was a lot more uneven as two hulls were quickly eliminated due to too much throttle input/wind speed that quickly flipped both boats as they ran down the course's front straight. What they had encountered was the sudden presence of a typical Florida Wintertime cold front, which can appear without any warning in the 'Sunshine State'.

Instead of the early morning's buffy clouds and slight breezes, the weather was now clear-blue skies and a North wind that was pushing very low along the ground and water with increasing intensity. The sudden loss of the two boats was the first indication of the incoming weather system which in turn ended-up causing many non-finishes in those classes featuring the smaller IC hulls.

Now basically 'surfing' from wave top to wave top, our tunnel boat racer was running at only half-throttle at best, but at least he was able to complete his second race without the need for the recovery boat coming to his rescue. Well over half of his competitors had wave-related shunts, so the actual results for the first two heats would be broken-down into their lap counts instead of their race-finishing positions! This meant that with still two more heats yet to run that day, the O/B tunnel boat racers would have to adapt their vessels to the increasing/worsening pond conditions.

At this point I should mention that a couple of the images that are to be found in this article are enactments of what your scribe actually saw done to a multitude of the IC boats to help them deal with the wind and waves out on the oval course. Various sizes of open/closed-end wrenches were taped both inside and outside of a number of the marine craft, including ones with very-limited extra space in their designs. Other ballast agents seen were lead strips and wheel weights, large sockets, fishing sinkers, bags of lead/metal shot and even spare fuel tanks (filled with either fuel or water) situated inside several of the larger hulls as well.

Adding a simple vinyl arrow at your boat's C of G point will make quick work of checking it with extra ballast on board for tackling big waves



Believe it or not, your scribe actually saw this ballast attachment method on some boats and some of these weights are still on the course's muddy bottom

TIP OF THE MONTH

As a link to this Powerplug's theme, I should mention that you can create a simple ballast tube or two that can usually fit inside most IC boats should you encounter rough water conditions.

Back in the October, 2010 edition of this fine publication I detailed how you can combine regular PVC plastic plumbing pipe and fittings with lead or metal shot to produce any size/weight ballast tube for your particular hull. These can be held in place with heavy-duty Velcro material or small nylon ty-wraps. The tube weights can be located in wood/composite trays installed on your boat, as long as they don't upset either the vessel's centre of gravity or interfere with its various on board systems.

Any R/C boat could benefit from this basic ballast idea, so if your vessel needs a bit more running weight checkout this PVC pipe/tube system.

NOTE: please don't attempt to affix these tubes using vinyl or cloth tapes – it only takes one sudden/sharp turn to have a loosely-taped ballast weight bounce around inside your hull, wrecking everything it comes into contact with.

Made up from regular PVC pipe/fittings, a ballast tube (or two) can be secured in your hull using Velcro or nylon ty-wraps

Properly re-trimmed this hull is capable of running in high-wave water and helps you avoid a big shunt/high blood pressure situations at the races

When affixing extra ballast the minimal mounting technique should be a heavy-duty Velcro to avoid a loose weight damaging the boat's inside components

Most of these rough-water helpers didn't take into consideration that they would all greatly upset their boat's centre of gravity settings, which in turn would make them even more difficult to pilot around the rough watercourse.

A further glitch with this type of wave-killing weight gain was that many of the simply taped-on ballast pieces came adrift out on the water which meant a big loss of hobby budget money and a really unstable boat. As for our driver, he managed to keep his add-on weight in place and with using a very limited amount of steering and power input, he was just able to navigate the course and record a second-place finish in the third heat race.

This meant that while many of his fellow racers had to retrieve their hulls via the over-worked recovery boat he was able to clear his tunnel craft's on board water quickly and was very happy to see none of the water had found its way into the on board radio box.

Knowing that an equally-rough final run was still to come, our IC modeller added more securing tape to his ballast and hoped that the current level of hull weight would help him finish the final round of the event's first race day. At its call to the launching area the race's total boat count was now only three as the rest of the O/B nitro tunnel owners had decided not to compete.

Fearing more water damage to their engines and on board radio gear, the non-starters knew they'd most likely given-up any chance of a good overall finish in the standings and our boater was still in the running for a spot on the podium.

White caps now greeted the three racers when the milling tape recording was started, so it was a given that this final four-lap run would be no fun whatsoever!

This outlook came to a sharp focus before the race even began, as one of the trio of tunnel boats performed a series of barrel rolls just attempting to circle the course before the start buzzer had sounded. Sitting idle and inverted at the exit of the second buoy turn, the stalled hull would be a serious obstacle for the two remaining runners, so our racer knew that wide exits would be required on that end of the pond.

I should mention that before he had someone launch his nitro tunnel, the outboard's glow was new, the main fuel tank had received a new inline fuel strainer, the radio receiver battery pack was both new and protected with a heavy-duty balloon and the radio box lid had been secured/sealed with both a sealing layer of petroleum jelly under the box lid and a double-layer of thick vinyl tape around the container's outer lid junction – just in case.

Although the small glow outboard motor was unable to really help push the hull through the really high waves the vessel itself could handle the constant flow of water over/around it as the tunnel motored around the entire four-lap contest. Basically in full survival mode, our modeller was a mental wreck, yet he made his four laps and took the overall class win.

AFTER FACTS

Back safe in the pits, our competitor did find a bit of water inside both the inner hull and its radio box enclosure, so it's sometimes impossible to keep water out, especially when running in very extreme water conditions. In discussing the day, the racer told this scribe that he would be doing a total tear down of the boat's control, fuel and power systems once he got home to ensure no components would cause a gremlin in the boat's racing future. Many, many IC boats have suffered locked-up motors, servos, etc. if they failed to receive a rough-water post servicing and this can occur on ones that weren't even involved in the multiple shunts.

In hindsight our boater said he should have just sat-out the final two heat races as between the costs of virtually rebuilding his nitro tunnel and the stress levels/blood pressure readings caused a lot of pain in both his head and his wallet. Like any hobby, there are times when you should say, "okay, enough; pack it up!" Talk to you next time. ***MMI***

SILLY SEGMENT OF THE MONTH

Until the major R/C boat manufacturers became 'happy' with the mass-production of IC boats that used composite/fibreglass hulls it was quite normal to buy a nitro boat in either kit form or as a ready-to-run unit with each built-around a moulded plastic hull. These hulls were normally formed from a thick, white ABS plastic material. These boats made excellent beginner glow power craft that would hold up pretty well in the hands of a novice IC modeller.

Thousands of these kits were used a few times and then ended-up being left in attics, sheds and on the mantelpiece, but sometimes a new modeller will attempt to restore one to a full-running status.

Toting a large cardboard box, one such restorer carried a moulded-plastic nitro mono hull into his local hobby dealer. Explaining to the shop owner that he'd simply cleaned-up the all-white deep vee with a spray cleaner, he wanted to see if the owner could help him get the old boat running again. Removed from the box, the boat looked to be in excellent condition, so he first checked the engine's compression level by pulling-over the motor's rope starter.

After only a couple of pulls, both men could actually see small cracks developing along the boat's length, and then, the engine itself began to come free of the inner hull, only held in place via its fuel line and throttle control rod! Only a slight touch saw the deck begin to breakup into small pieces then the transom broke free still holding the propeller/rudder hardware slightly in place. In less than five minutes, the entire mono hull resembled an old fossil just dug up and in real need of cataloguing by its discoverer.

Asking what type of cleaner had been employed on the all-plastic mono hull, the modeller indicated he'd used automotive brake cleaner on both the inside/outside of the entire boat. Most auto brake cleaners are very strong solvents designed for use on aluminium or steel parts and are not suitable for old, dry plastics. Regular alcohol, soap and water and some of the milder citrus-based spray cleaners can be used on these older plastic glow boats. Testing your chosen cleaner on a small scrap piece of the hull material could help you avoid the meltdown mentioned here.

Different chemicals can produce extreme negative reactions to many plastics especially the kind found on many older nitro boats sold in kit form

PLASTIC KIT SCENE

HERE ARE SOME OF THE LATEST RELEASES FOR THE PLASTIC SCALE MODELLER

AUTHOR: ROBIN TROTT CONTACT: robin.trott@yahoo.co.uk

Revell Cutty Sark (courtesy Revell)

REVELL MODELS

Cutty Sark

Model No.	05422
Scale	1/96
Length	91.4 cm
Height	55.8 cm
Parts	350

This famous clipper sailing ship was built in Scotland in 1870. Her speed and elegance brought her fame and fortune and she became a well-known ship. Still sailing in the 1920s the growth of the steamship made her eventually redundant. Saved from the breakers she was restored and became a museum ship dry berthed at Greenwich in London's dockland. A fire in 2007 nearly destroyed her but she was saved once again and after several years of painstaking restoration she rose from the ashes to become a landmark museum once again.

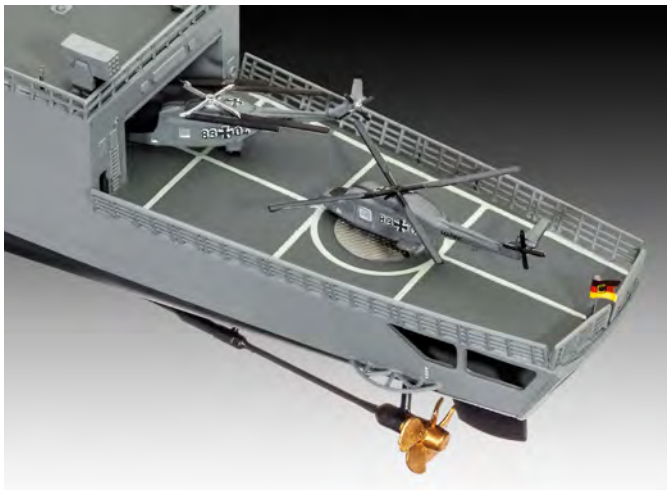
I can remember seeing this large scale Revell model back in the 1960s and 70s and here it is back again for a new generation of marine modellers to build. It is a fantastic kit with accurately moulded plating, decking and features. It comes complete with vac-formed sails and rigging thread to bring this model to life. But remember this is a huge model so think of how and where you are going to display such a graceful and unique model once built.

German Frigate Class F122

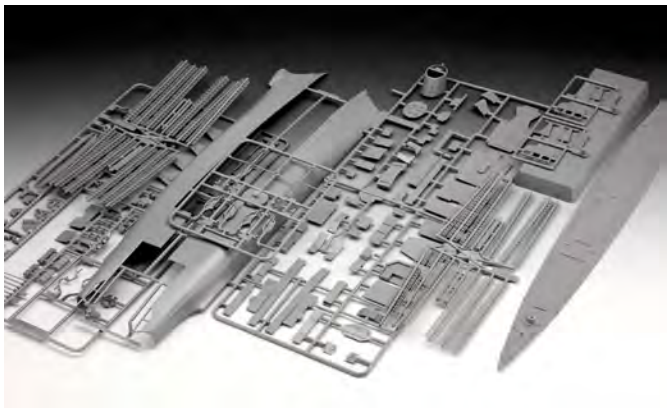
Model No.	05143
Scale	1/300
Length	43.3cm
Parts	235

The F122 class of frigate was started with the commissioning of the lead ship in the class Bremen on the 7th May 1982. This class proved to be very versatile as they were a multi-purpose warship that could be used for attacking surface targets and for anti-submarine warfare. It also carried anti-aircraft and anti-missile weapons for defence. A total of eight frigates of this class were built some of which are still used for active service.

This kit builds into a very detailed model of a warship that is not normally seen in the modelling world, an interesting addition to any collection. The scale is unusual 1/300; but would not look out of place alongside models in 1/350 scale.



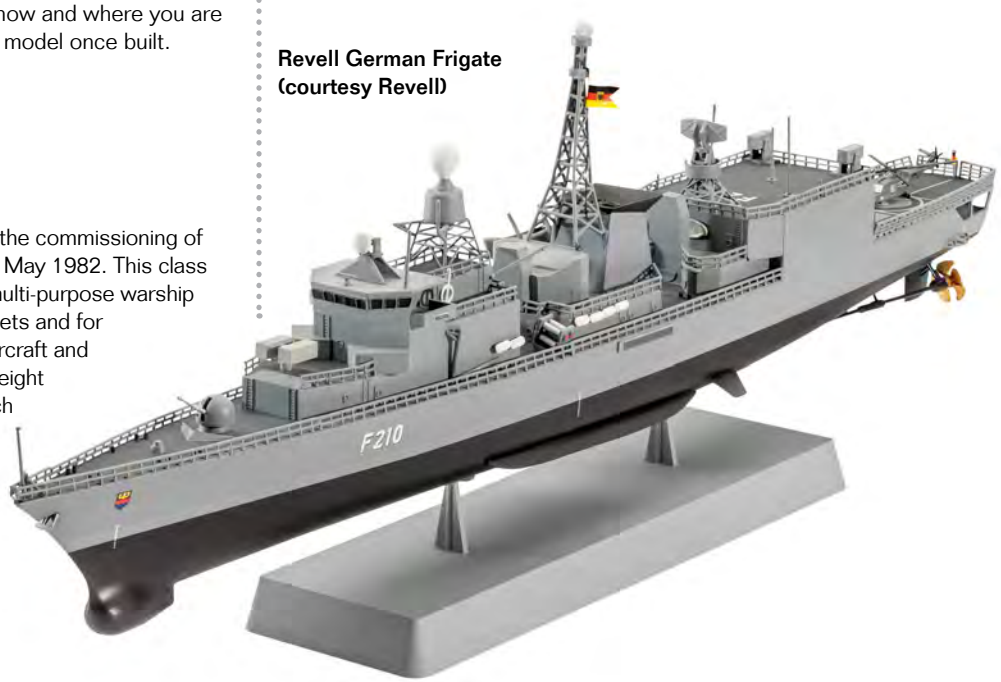
Helicopters come with the kit (courtesy Revell)



All these parts for the frigate (courtesy Revell)

Revell models are available from all good toy and model retailers. For details visit www.revell.de/en, @Revell Germany or facebook.com/revell.

Revell German Frigate (courtesy Revell)



The new Zvezda sail training ship

ZVEZDA MODELS

Russian Four Masted Barque 'Kruzenshtern

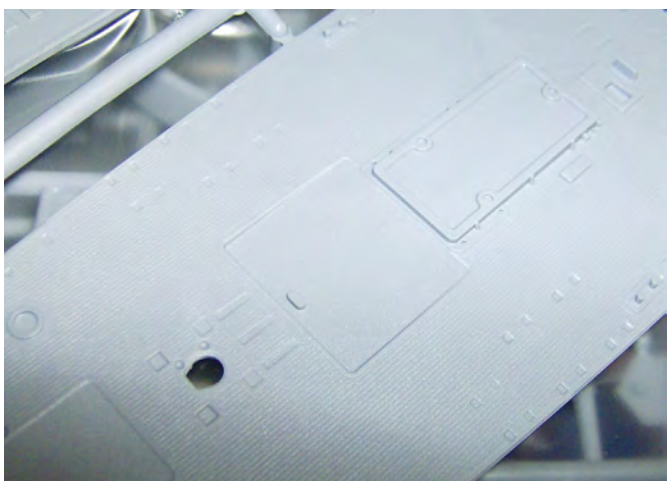
Model No.	9046
Scale	1/200
Length	57.5 cm
Parts	474

Built in 1926 in Bremerhaven, Germany the Padua was a cargo ship criss-crossing the world carrying all sorts of cargos to and from Germany. During this period of her career she broke and set many records for the speed of her voyages up until the start of the 2nd World War. After the war she was surrendered to the Russians as war reparation and renamed. She was now named after the famous Russian Admiral and explorer Ivan Fyodorovich Kruzenshtern.

It was the Russians that installed her first engines during a major refit in 1961, which completely modernised her. She was now used as a survey and training ship used by the 'State Baltic Academy of the Fisheries'. She is regularly seen at many festivals of the sea and tall ship gatherings around the world.

The model is of her as she is seen nowadays in her modern fit complete with propellers and modern deck fittings. This is a fantastic kit moulded in three colours of plastic; hull, deck and all fittings in grey, sails in white and ratlines in black. The detail of the moulding is outstanding and well reproduced; the deck planking moulding is very fine and looks to scale as are the rest of the parts.

The kit has a high part count and all come on thirteen sprues together with two spools of black rigging thread and decals. The instructions are very comprehensive but easy to follow after studying the 28 steps beforehand; it includes a rigging plan and painting guide.



Well reproduced wooden deck moulding

Images of the completed model

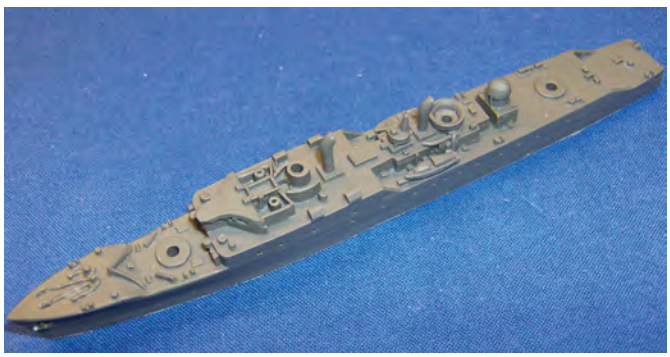
Many thanks to Hobby-pro for supplying the review sample, more details of this kit and the complete Zvezda range of kits can be found at www.zvezda.org.ru/.

MT MINIATURES

HMS Lynx

Model No.	MTM041
Scale	1/700
Length	14.4 cm
Parts	1 resin, 6 white metal plus P/E fret

Commissioned in March 1957 she was one of the Type 41 Cat or Leopard Class of frigates. This class was armed with two twin



The great moulded detail of the HMS Lynx model

HMS Lynx from MT

mounted 4.5 in MK6 guns the last Royal Navy ships to mount two turrets. They were based in South Africa and the South Atlantic; when they were withdrawn in 1967 they were placed in reserve.

She was the leader of the 7th frigate squadron and attended the 1977 Silver Jubilee Fleet review at Spithead. When the Falklands conflict started in 1982 they were not reactivated for active service and in that year HMS Lynx was sold and transferred to the Bangladeshi Navy and renamed BNS Abu Bakar.

Another great model from MT the detail and the quality of the resin casting seems to improve with every new release. The hull and superstructure is cast in one piece and is very detailed, white metal fittings are included for the gun turrets, masts and other parts. A P/E fret is included to add additional detail to the model; decals are also included.

At the time of this article going to the publishers another two new kits are to be released but unfortunately no pictures or details of the parts were available.

Cathedral Class Frigate
Model No. MTM042
Scale 1/700

Type 42 Batch1 Destroyer
Model No. MTM043
Scale 1/700

I have seen the masters for the models and they look superb; both will comprise of a one-piece waterline resin hull and superstructure with white metal fittings, P/E fret and pennant number decals. By the time this issue of MMI goes on sale the models will be available, so full details and pictures of the kits will be in a future issue of the magazine.

For more details of these models and the complete MT range visit www.mtminiatures.com

So lots to look forward to from MT Miniatures growing range of models.

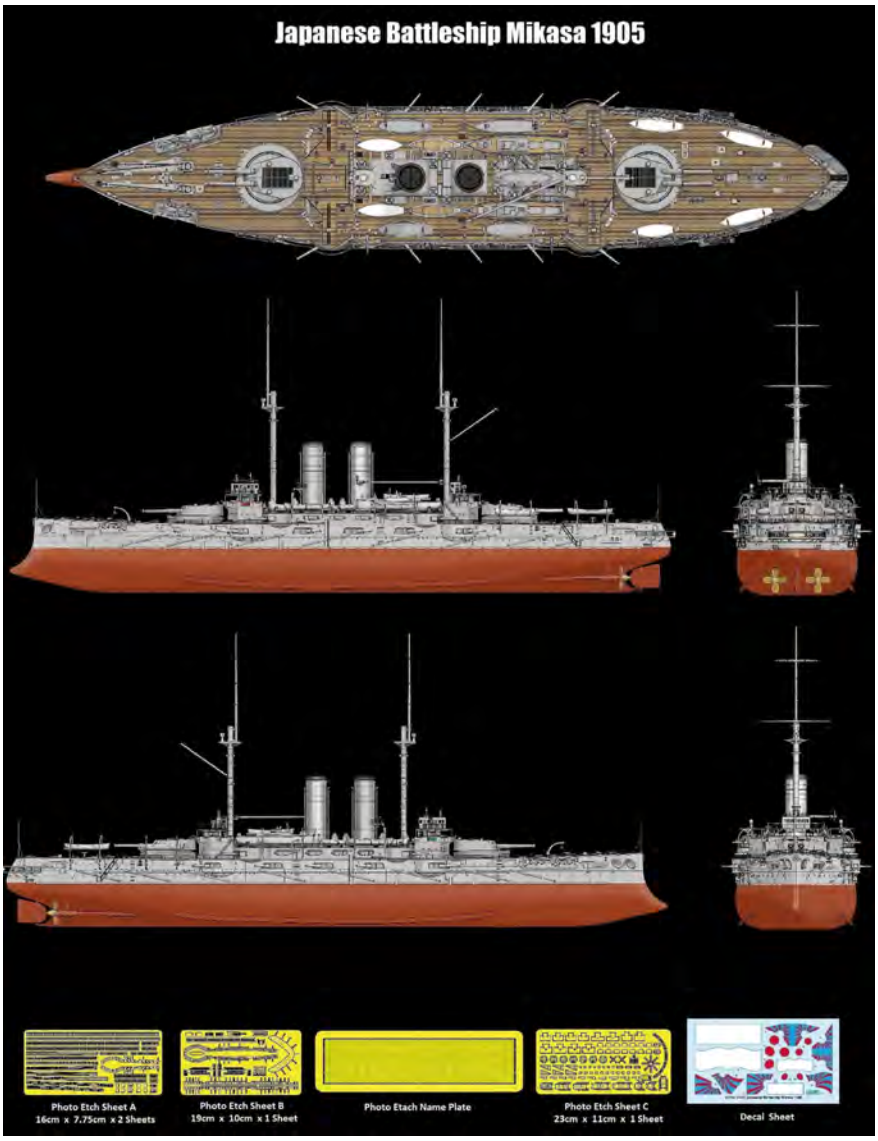
MERIT MODELS

IJN Battleship Mikasa
Model No. 62004
Scale 1/200
Length 65.8 cm
Beam 12.4 cm
Parts 930+

The Mikasa was a pre-dreadnought battleship built by the British company Vickers and was commissioned in March 1902. She was flagship to the Japanese Admiral Togo during the Russo-Japanese war of 1904-05. She was engaged in many actions during this period including the battles of the Yellow Sea, Port Arthur and of course the famous battle of Tsushima where the Russian fleet was destroyed. After the war there was an accident on board the Mikasa which caused the magazine to explode and sinking her. She was raised and completely repaired and was used for coastal defence during the 1st World War. Now she is preserved as a museum ship in Japan.

This is a large scale model of her in her 1905 fit with all the parts contained on 20 sprues, also included are four P/E frets and a full colour painting guide. It has many very detailed deck fittings and boats and well reproduced armament. As a large model conversion to R/C is possible and no doubt many modellers will be eager to get this new kit.

More details of this kit can be found at www.merit-intl.com and www.deansmarine.co.uk who are producing a running gear set to convert the model to R/C. ***MMI***



RIGHT: Merit Mikasa (courtesy Merit)

WATERLINES

ESSO TANKERS PART 1 – KELVIN RECOUNTS THE STORY OF STANDARD OIL/ESSO IN THE UK

AUTHOR: KELVIN HOLMES (khwaterlines@btinternet.com)

This issue and the next we take a look at Standard Oil's British subsidiary the Anglo-American Oil Co. Ltd, which for management purposes became the Esso Transportation Co Ltd in 1947 and eventually the somewhat anonymous International Marine Transportation Ltd.

It was back in 1863 when Americans John D. Rockefeller and Maurice Clark, and Englishman Samuel Andrews invested a few thousand dollars in a Cleveland kerosene refinery. Within a few years Clark was bought out and in 1870 the Standard Oil Company (Ohio) was formed. From an initial 10% by 1878 the company owned 94% of the USA's oil refining capacity.

The Standard Oil Trust was set up in 1882, which was the parent company of various state based oil companies including Standard Oil of New Jersey. With a huge excess of kerosene available for export Anglo-American Oil Co. Ltd. was formed in London in 1888 and two (later five) tankers ordered mainly from Clydeside shipbuilders. The first, the Bayonne built by A&J Inglis Ltd Glasgow, was completed in August 1889 followed a month later by the Manhattan built by D.J. Dunlop & Co. also of Glasgow. With a grt of 3290 tons these 330 ft long vessels could transport 4000 tons of oil.

Another subsidiary, the Hamburg based Deutsch-Amerikanische Petroleum Gesellschaft, possessed an eight strong fleet by 1889 including the 2307 grt Gluckauf, which on completion at Armstrong, Mitchells & Co's yard on the Tyne in 1886 was the first true oil tanker and able to carry 3,020 tons of oil. Rather short-lived she ran aground and was wrecked in 1893 just off New York.

To clarify, various definitions of tonnage are used for merchant ships. Originally used was Gross Registered Tonnage (grt) although latterly tankers and other bulk-carriers more often use Deadweight Tonnage (dwt). Grt was nothing to do with weight but represented the volume of all enclosed space in a ship with 100 cubic feet equalling 1 gross ton. Net Register Tonnage (nrt) represented the volume of all cargo space.

The word 'Register' was dropped in 1994 at which point volume went metric using cubic metres adjusted by a 'fiddle factor' ensuring that the gt figure (in tons) was approximately the same but certainly not less than the original grt (1 cubic metre = 35.3 cubic feet).

Deadweight Tonnage (dwt) is a measure of the weight able to be carried including cargo, fuel, freshwater, ballast water, provisions, crew and passengers. Before metrification the shipping world used the long ton of 2240 lb; most of the world now uses the 'metric tonne' of 1000 kilograms (2200 lb).

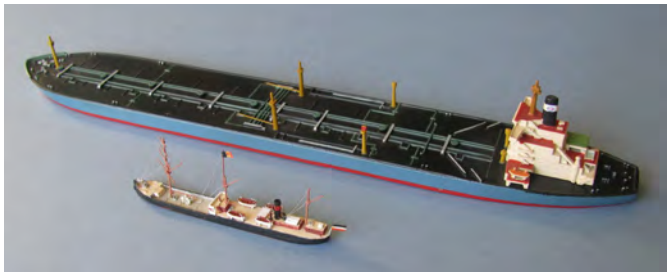
The rarely used term Lightweight Tonnage is the actual weight of an empty ship. Warships use Displacement Tonnage being the actual weight of the ship often expressed as light or loaded, the latter adding fuel, shells, water etc. My thanks to Roy Shaw (Master Mariner) for explaining the varied aspects of ships tonnage.

In 1898 the Canadian company Imperial Oil was acquired whose fleet eventually included the 1926 German built Canadolite (11,309 dwt). This ship, which has been represented in 1/1250, was captured by the German Navy in 1941 and despatched to Bordeaux with prisoners; arriving safely she was later converted to a blockade-runner and re-named the Sudetenland. She was finally scuttled at Brest in 1944.

By 1906 the huge US monopoly represented by Standard Oil was challenged and after a five year legal battle the trust was dissolved, the founding company ending up as the Standard Oil Company (New Jersey). Standard Oil of New York was later to become Mobil, whilst 'of California' became Chevron, these two companies also receiving

Esso Chelsea, 1945 (5,374 dwt) ex-Amacuro served Esso from 1956 until 1969

Imperial Oil's Canadolite (11,309 dwt) depicted by Mercator



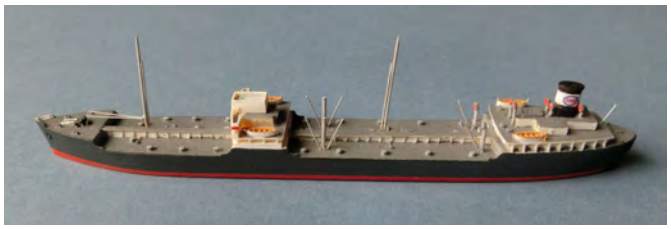
Esso Scotia by Hansa in company with a scratch-built 1/1200 Gluckauf, the first tanker (Nigel Robinson)

Esso Dusseldorf (1954) was built to the same design as the Oxford class; model by Hansa

Seminole one of the pre-war tankers, which became Esso Hull in 1950

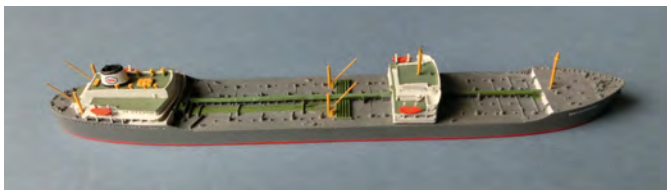
Esso Oxford (26,700 dwt) first of six Oxford class was completed in 1953

Esso York, 1955 (26,700 dwt), of Esso Petroleum Co. Ltd was one of six Oxford class



Len Jordan model of the T2 type Esso Glasgow (Nigel Robinson)

Esso Saranac (12,000 dwt) was a war built Ocean type



Albatros model of the Esso Stuttgart, 1959 (Nigel Robinson)

the entire US tanker fleet and half of the British Anglo-American fleet, the latter comprising sixteen ships.

Remaining in the hands of the original owners as Standard Oil of New Jersey were refineries and production facilities but initially no ships. By 1914 the Anglo-American steamship fleet was twenty-six strong plus eight sailing ships, and the full fleet list for the period 1889 to 1914 may be found in the 1987 book by Mitchell & Sawyer (see below).

War losses and disposals during WW1 reduced the British fleet to 16 tankers and a barge. During the mid-1920s the Esso brand began to feature and included in a substantial ship-building programme in the 1930s was the Swan Hunter built Pan Bolivar of 12,000 dwt, which in 1936 was renamed Esso Aruba – the first deep sea tanker with an Esso name.

In 1925 Anglo-American Oil acquired the British Mexican Petroleum Company and its fleet of eight 10,000 dwt oil tankers. By 1939 Anglo-American owned fourteen tankers with a further five, for example the Seminole, operated by British Mexican Co. Ltd. Nine were lost during WW2 and two older vessels scrapped in 1946 after which the remainder, operating under Esso Transportation Co. Ltd management, were gradually given Esso names between 1947 and 1950.

Like BP (see Waterlines January/February 2016) Esso acquired several war built Ocean Empire tankers re-naming them Esso Cadillac (483 ft), Esso Saranac (479 ft), Esso Appalachee and Esso Cheyenne (both of the Norwegian type. 504 ft), plus initially nine ex-US T2 type, for example the Santiago which became Esso Manchester. A tenth T2, the Fort Massiac, was initially acquired by the Standard Oil Company, as the Panamanian flagged Esso Valparaiso until 1955 when she was switched to British registry/flag as the Esso Avonmouth.

The Ocean 'Empires' were built to a pre-war Shell design known as the 'D' class' and were also called 'Three Twelves' being of 12,000 dwt, 12 knots speed and fuel consumption of 12 tons a day. Thirty-four were built of which 11 were lost during the war. Post-war Shell bought three, BP four and Esso two as mentioned above. Twenty-one of the slightly larger 14,000 dwt 'Norwegian' type were built of which two were lost; again post-war Shell acquired one, BP three and Esso two.

The final British war-building programme was for the 'superfast' type (12,000 dwt, 15 kts) all thirteen of which were taken over by the Admiralty and given 'Wave' names. The US equivalent of these ships was the T2, 481 being built by American yards such as Sun Shipbuilding and Kaiser Co, 18 were lost in enemy action or broken up, 244 were either sold off or returned to their US owners with the US Navy acquiring 18. The remaining 203 were sold overseas with British companies purchasing 52 including 19 for Shell, 10 for BP and Esso's pair.

Next month we will cover 1/1200-1250 waterlines and the story from 1945 to the present day.

In order to feature as many pictures as possible over the two articles some ships from the 1950s are included this month. ***MMI***

Esso Guildford (36,000 dwt) first of the twelve City Class was completed in 1957

Esso Lambeth 1943 (5,374 dwt) ex-Caripito served Esso from 1956 until 1965

Esso Glasgow ex-Wauhatchie (1944) the last T2 tanker was finally scrapped in 1971

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SCALE SCENE

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IAN LOOKS AT MAKING AND USING REAL RUST TO MAKE YOUR MODEL LOOK WELL USED

In the August Scale Scene I said that if enough people were interested I would explain my methods of making rust and as I have had several emails on the subject, your wish is my command. I should just mention that the techniques I am about to explain only really work on open grained and porous matt paints. Humbrol enamels work just fine (other matt paints are available).

Making rust. Quick examples for this article: On left is wire wool in water after 2 days. Middle is wire wool in vinegar overnight. Small pot on right is mild steel nuts in vinegar after one day. Note colour differences

This is what you are after, rust powder. Nice orange colour

THERE IS NO SUBSTITUTE FOR THE REAL THING!

As I mentioned in the final paragraph of August's Scale Scene, real rust doesn't come in only one shade! It can vary from a bright orange to a deep rich red/brown and although some of the modern paints and 'weathering powders' have improved, I don't think that many of them are totally convincing. They may work fine on static models but on operational model ships can still look a trifle false. So the answer is to use the real thing.

There are a couple of methods of producing differing shades of rust which I have picked up over the years which work quite well but strangely enough rust doesn't appear overnight (at least not in sufficient quantities)! You have to plan ahead and have a little patience.

The first method is to use wire wool, this should produce an orange colour initially, but can be induced to produce a mid to dark brown coloured rust. The method is to get a small amount of wire wool, about grape sized, and tease it out loosely. Then place it into a shallow tray and add a small amount of water. As the water starts to evaporate, keep topping it up to its original level.

Keep this up for about a week or so until the remaining water is very rusty and the wire wool has started to disintegrate. At this point allow the water to evaporate until there is only a rusty sludge remaining, this can then be applied directly to the model if you like (more on application later). I prefer to let the rust dry out completely and then scrape it into an airtight container where it can be then be mixed into a paste with a small amount of water on a paintbrush and used at a later date.

The remaining wire wool can be put through the same process until almost gone. Neither this nor the next method will produce large amounts of rust at any one time, but not much is needed, and a continuous regime of rust making can result in good selection of different coloured rusts which can be stored in powder form as long as they are kept dry.

The second method can take two or three weeks but will provide at least two different shades of rust; a very light red/orange and a deep browny red. This method uses nails to provide the rust. Use cheap wire nails (carpet tacks also rust well) and try to get hold of some used nails if you can as they rust more quickly. If you can only obtain new nails abrade them well with a file or coarse emery cloth.

You will need quite a few nails, about 20 or 30 should do, then place them in a shallow tray or dish and add water until the nails are just covered with water (rain water is probably best, but tap water works OK). Leave the nails until the water has evaporated and everything is completely dry The nails should have a light covering of red/orange rust, carefully brush this into the bottom of the container with a stiff brush, then put the nails back in and again add water. Repeat this operation 3 or 4 times.

The light coloured rust on the bottom of the container shouldn't change colour appreciably. After about the third time you should be able to remove some of the 'light' rust from the container and store it. Don't forget to make sure everything is completely dry. Continue adding water and letting it evaporate until eventually at least some of the nails will develop areas of the dark red/brown rust. This should then be allowed to dry off and can be brushed off the nails and stored. If you use both methods you should have at least three different shades of rust.

An alternative to using water to rust whatever metal you are using is to use vinegar. This speeds up the process but produces a much darker colouration (see photo).

SOME THOUGHTS ON RUST AND WHERE TO APPLY IT

Rust (oxidisation) forms on metal which is in direct contact with the oxygen in air (water helps too). But this doesn't necessarily mean that you have to be able to see the bare metal to see rust. Naturally items which through constant use have their paint worn away to the metal will show signs of rust. Likely candidates are winch drums, cleats, bollards, fairleads, anchors and chains, hawse pipes etc.

However, many items such as winch drums, bollards etc., will be used frequently enough so that the bare metal will become quite polished and shiny. Any rust which forms is likely to be only a few days old and will be light surface rust which is usually of the orange/red type. The rust from anchors, freeing ports etc. will usually be much darker red/brown.

A more interesting type of rust which is not often depicted on models is the type which seems to appear from nowhere, usually in the middle of a vertical surface. This is often where the paint has localised damage or where the metal has not been correctly prepared before painting.

At the point the rust appears, the colour will usually be dark brown/red, gradually lightening as it runs down the vertical surface, surrounding the point of origin. The rust will be lighter in tone where the surface of the paint has been stained or even where it has bled through paint from underneath. One of the photos shows this type

Very nice rusting effect on static U-Boat model

of rusting quite clearly.

Areas of rust staining on the hull from around the freeing ports etc. will start out fairly wide and taper as the rust runs down the hull, giving a roughly triangular type stain. Rust streaks from smaller ports in the hull will do the opposite.

Don't forget that even though wood and GRP won't rust, metal items attached to them might. So you may still see rust streaking and staining on hulls made from these materials, although this is usually more subtle than on ferrous metal hulls. The best advice I can give you is, if possible, take yourself and your camera off to see some real ships and spend a day examining the various ways rust can affect them. A good trawl through the Internet will also give many examples.

APPLYING THE RUST

The first method I usually use allows me to simulate fairly light rusting in the usual places, anchors etc., and to give the impression of the previously mentioned 'cared for but well used' vessel. Simply load up a good quality fine to medium artists brush with clean water and add to a small amount of the powdered rust, then mix to form a paste. Then carefully paint on lightly in the required place. Allow to dry thoroughly, and then take a small semi stiff bristle brush and carefully rub the rust into the 'pores' of the matt paint and blow off the excess.

At first you will probably remove most of the rust, but repeated applications should give the required effect. Until you have finished you should handle the hull carefully so as not to smudge the rust until it is well worked into the paint. It is probably advisable to do one side of the hull at a time.

Superb job of rusting and weathering on this Prinz Eugen Model

In the August Scale Scene I showed you a heavily weathered and rusted model of the Maggie M. This is the real thing

Note the formation of the rust runs on this hull

When you are satisfied with the result you have a decision to make, you can either spray the hull with lacquer to seal in the rust, or leave it unsealed. The reason for not sealing the rust is that real rust changes colour when it gets wet, so will the rust on your model. How's that for total realism?

However, over the course of a season much of the rust on the hull will probably wash off so you will need to reapply it during the winter. One way to partially get round this problem is to seal the original application with MATT lacquer. Although this is not as porous as matt paint, it should still retain enough rust to give the varying wet/dry shades. Of course you have to apply it to correspond with the original areas of rust application. By the time it washes off it probably will have left a faint spreading stain which will also be totally realistic, so you can't lose.

I tend to use both methods, sealing the hull and applying extra rust over the top, but on areas such as deck machinery or selected superstructure parts, I will apply rust but not seal it. Areas such as these get damp enough to display the colour change, but there won't be enough water to wash the rust off. With items such as anchor chains, I just usually apply a couple of rust application initially then let time and nature take its course.

Use the following method if you want a real tatty rust bucket of a ship! Mix the water and rust to a wettish paste as before and apply with a soft brush, but this time apply it thickly and allow to dry completely. Don't try to simulate the rust running down the hull, but just 'paint' the source of the rusting.

This of course depends a lot on the origin and type of rust, but as an example: rust from the anchor or a freeing port will take the form of an inverted triangle, base uppermost once the rust has completely dried, you can start to simulate the run of the rust down the hull using the following method, which I must admit I read in another modelling magazine many years ago and which has proved to be very effective.

Instead of using a brush to work the rust into the paint, use a paper handkerchief and very gently 'drag' the rust down the hull with a corner of the tissue, Use long downward strokes until you have achieved the desired effect. Dust from this operation will have settled over large areas of the hull in a realistic fashion. DON'T blow it off this time.

As before have the hull lying on its side for this operation and complete the entire side in one go before going onto the other side. At this stage with all the loose dust lying on the hull, you must be very careful not to disturb it. Don't forget that rust can spread along horizontal surfaces as well as vertical ones, rubbing strips and the top edges of the out strake plates on a plated hull are good candidates.

Once you have achieved the required effect you MUST fix and seal the loose rust with sprayed on lacquer as it is not embedded, unlike the previous method. You must use a spray on lacquer as using a brush will remove the rust. Spray the first coat VERY lightly from a distance so as not to disturb the thin layer of rust. Once this has dried you can spray normally as before. If you use matt lacquer, you can reapply rust to those areas you want to change colour when wet. You should now have one very rusty and scruffy ship!

One final little thing you can reproduce to improve the appearance of the hull is to add any water outlets from the hull, such as engine room heat exchanger outlets. First add any rust or other staining you require. Then when dry use Gloss lacquer to simulate the water flow. Build up the layers until a realistic result is obtained.

Well there you go? I hope I've unravelled some of the so called mysteries of weathering and that the accompanying photos have given you some idea of what to look for. As I mentioned previously, I prefer the subtly weathered look to the floating scrap heap, but the choice is yours. ***MMI***

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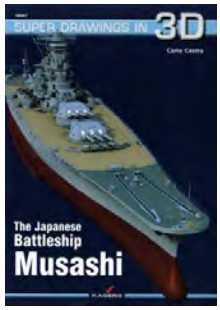

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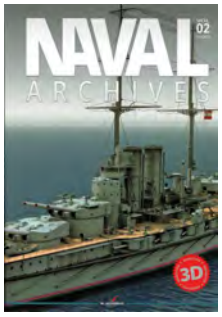

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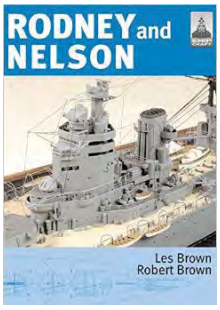
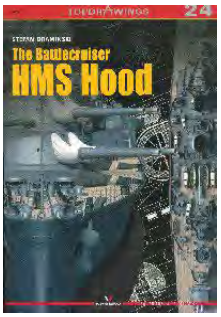
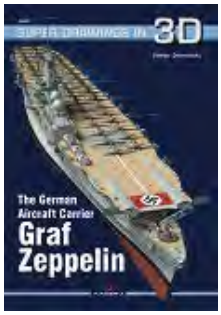


ShipCraft 23: Rodney and Nelson.
The 'ShipCraft' series provides in-depth information about building and modifying model kits of famous warship types. Lavishly illustrated, each book takes the modeller through a brief history of the subject class, highlighting differences between sisterships and changes in their appearance over their careers. This includes paint schemes and camouflage, featuring colour profiles and highly-detailed line drawings and scale plans. £14.99



Top Drawings 24. The Battlecruiser HMS Hood.
Hood, launched in 1918 was the last battlecruiser built in Great Britain. She was named in honor of Admiral Samuel Hood and was to be the first of the Admiral-class battlecruisers, but further three vessels were never completed. Colour photos, black/white plans £15.99



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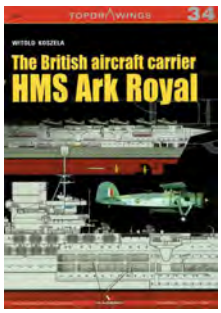

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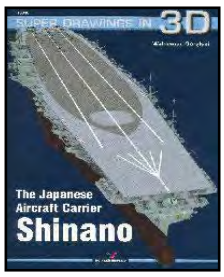

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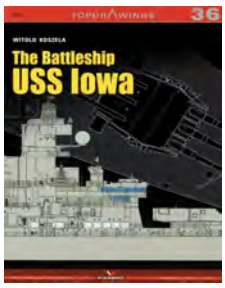

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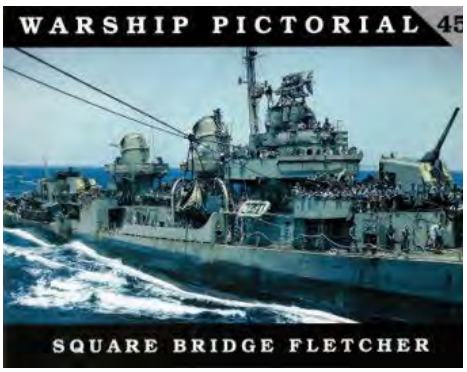

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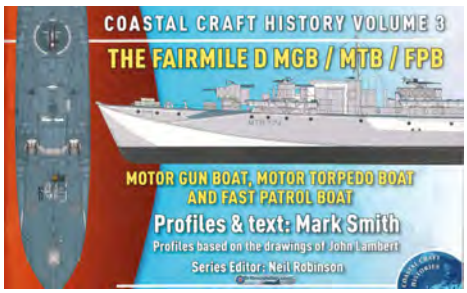

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VINTAGE CHATTER (PART 38)

AUTHOR: DAVID WIGGINS

SUPER PRO!

HELLO DEAR READERS, THIS AUTUMNAL MONTH

E/K 'Logictrol', headed up by Bob Elliot and Gerry Krause, were one of America's more significant digital innovators. Beginning with high end ideas like open gimbal, all metal sticks on expensive 5 and 7 channel 'pro' radios at a quite early stage the duo decided to change tack somewhat to go after the mass market (more on that next issue), and they were very successful in that respect.

For some years the brand was not widely available in Britain though sets were always obtainable to order from leading retailer Henry J. Nicholls in London. I will make a start by briefly sharing with readers a picture of my own example of one of these early (though not the first), high-end 'Logictrol' radios as available from H.J. Nicholls.

This set represented an advance for its time being the first in the World to introduce Bob Elliots more reliable 3 wire 'bridge' servo amplifier – a genuine advance now used by all – inside their then brand new linear servo. The Tx is typical of early American design with its all metal control columns, 'electric' trimmers, linear servos and crimped connectors. On the debit side there is, perhaps, still just a touch of the 'home-made look' – something that soon went as Elliot and Krause went all out for the big time and into genuine mass production with modern sets like this month's Super Pro.

An earlier Logictrol radio – a restored 1960s E/K Series III 5 channel

BACKGROUND AND A CONNECTION WITH MEXICO

The seven channel 'Super Pro' that is this month's feature is quite different being from the mid-seventies. It was then at the head of a popular range (7 ch Super Pro, 5 ch Champion and 3-4 ch LRB), that were imported into Britain by Crescent Products of Essex and made widely available to the UK model trade.

The 'Super Pro' was then EK's top-flight product but it was not hugely expensive by the standards of the time and thus, significant numbers were sold. The reason for its 'reasonable' pricing – considering that it was a US import – is simple. These radios, while designed and engineered in the USA, were not assembled there but at a plant in Mexico. This concern traded as 'RC de Mexico'. I have no idea if they were an independent company or just an overseas trading arm of EK.

The mid-1970s Super Pro 7 channel transmitter being rebuilt in 2015

Even though I once both used and serviced EK sets I do not know how much of the manufacturing operation was carried out in Mexico. It's possible that the final test and shipping was done at EK's Texas plant as all sets carry plates marked 'EK-Logictrol, 3322 Stovall St. Irving Texas 75061'. That said, some items also carry little gold 'RC de Mexico' stickers as well so it's hard to be sure. Maybe one of our US readers might advise?

THE 'SUPER PRO' IN DETAIL

Let's look at a Super Pro transmitter in detail. First, why seven channels? Although American digital innovators like Bob Elliot and Howard Bonner had made 7 and even 8 channel sets from the very earliest days of digital proportional by 1970 or so, a 5 channel radio was considered adequate for most flying. But then 'extras' like retracting under-carts started to creep in and the modeller needed more.

Even boaters began to desire more than a basic 2 channels and it became common to find 3 and even 4 channel gear by the pond side, especially once the Japanese entered the arena. By 1970 or so the model flyers 'norm' was a 6-ch set and I suppose E-K thought that they would go 'one better' than their competitors by offering customers one extra channel.

To today's 'bells and whistles' accustomed user I expect that

The E/K RF board. The same board was employed for many years

a Super Pro will look positively antique – there are no 'rates', no 'reversers' and no mixers – just a basic 7 channels of which the main 4 had trim and with the 7th channel an up-down toggle switch.

Peeking inside the box we see the two main electronic circuit boards the larger of which is a 7-ch encoder and the smaller the R.F. (27, 53 or 72-75 MHz to choice), deck with a wired quartz crystal. Wherever they were made the two plain copper circuit boards are of fair quality in fibreglass with good quality components well soldered onto them. In short, it's nicely enough made equipment but not quite top end.

Two smaller pcb's serve the retract switch and an expanded scale voltmeter (ESV). To my surprise, for the mid 1970s, the transmitter electronics are wholly discrete – there's not an integrated circuit in sight.

STICKS, SERVOS AND POTS

The EK 'mono ball' sticks (one pictured), used are interesting. They are out of the ordinary in that they permit, by cam action, adjustment of tension, which is to say that the owner could determine how 'snappy' he wished his spring return to be – soft or hard. The vital potentiometers come in two types. Early sticks were fitted with ceramic tracks as fitted to the servos of the era. These have gold pads and contacts which work well even after 40 years.

During the late 70s however 'conductive plastic' tracks become fashionable and, along with others, E/K switched to them both for sticks and servos. These have silver (pos' rhodium), plated pads which tarnish and pit badly. I dislike them and will be swapping mine for the 'cermet' types when I rebuild the set. I'm going to pass on a spot of personal bias here as I don't like the EK stick much.

EK Inc's 'mono ball' adjustable tension stick

A view inside the tiny EK 'super-mini' servo

US Logictrol advertising

Actually, I don't care for any stick that uses miniature servo tracks and there were lots. Give me proper radio potentiometers any day – even cheap ones. Their carbon or wire-wound tracks are 2-3 times the diameter of a servo track, they are more linear and they are simply a better choice.

Along with their Super Pro/ Champion/LRB line EK Inc. introduced smaller receivers and the truly tiny 'super-mini' servo, which was, for a while, the smallest in the world. The Super Mini used a Texas Instruments chip + 2 transistors on a minute circuit board with a 16 mm motor and a conductive plastic pot to achieve the size reduction.

The EK Super Mini was probably the first R/C servo to be virtually unserviceable (in my opinion), by anyone outside of the factory and is not a nice thing to work on having contact cement smeared over some of the components. One's impression is of a quart wedged into a pint pot. I've had the one pictured in bits on my bench (for a simple cable change), for a fair while but I'm afraid my eyes aren't up to the job anymore. Once – maybe – and I'm not even sure about that. I'll be looking at servo maintenance in detail next year.

British themed – 1975 RCM magazine cover

The Super Pro tested by RCM magazine (USA) in 1975

My intention is to adapt this set (from 72 MHz) to 27 AM and to totally rebuild another for 2.4 GHz using all modern electronics. Well guys, we'll be staying with Elliot and Krause next month with a bit of a surprise for British readers. See you all here next month then, bye for now. ***MMI***

Contents of the box, one transmitter and one receiver plus instructions

AIRWAVES

A REVIEW OF A NEW 2.4 GHZ TX AND RX; THE TURNIGY TGY-I6

AUTHOR: BARRIE STEVENS

Manufacturer: Turnigy
TGY-i6
Channels: 6
2.4 GHz system: AFHDS (Automatic Frequency Hopping Digital System)
Transmitter weight: 392 g
Receiver weight: 6.4 g
Computerized digital control system
Batteries: Tx 4 x AA, Rx 4 x AA
Price (at time of going to print): £38 for Tx and Rx plus p&p
Available from Hobby King www.hobbyking.co.uk

With the advent of the 2.4 GHz band being made available for R/C modellers a few years ago our hobby has been totally transformed. With the old crystal controlled system a peg board was required to make sure people were not transmitting on the same frequency, thus limiting the number of models on the water, ground or in the air at the same time. As the 2.4 GHz system allows the transmitter to select a spare frequency automatically the need for a bank of plug in crystals and a peg board is eliminated.

The technology is similar to the mobile phone network, and there have been many different types of R/C 2.4 GHz systems and manufacturers. They can be based on two basic systems, the single model use, and the computer-based system where different models can be programmed to be controlled from the same transmitter. Sadly, most of the 2.4 GHz manufacturers cater for the model aircraft and model helicopter enthusiasts with terminology for controls relating to these models, but it does not stop them being used for maritime models.

We have managed to obtain a new 2.4 GHz system for review that at present stands out from many of the other manufacturers. It is, we believe, the first to have as standard a telemetry link from the receiver to the transmitter. This type of system has been around for some time but required additional modules in the receiver and transmitter to allow the operator to monitor various functions in the receiver/model such as battery condition, temperature, rpm of motors etc. from his or her transmitter.

TURNIGY I6

The Turnigy i6 is a 6 channel, computer-based system that can be programmed to control up to 20 different models (NOT at the same time!), plus as standard with the matching receiver (and no extra modules) you can monitor the receiver voltage on the transmitter via the telemetry link. There are other modules in the Turnigy range that can be used to monitor other functions on the model like temperature, rpm etc., but these need to be plugged into the receiver.

TRANSMITTER

After unpacking the transmitter it is very noticeable how VERY slim and lightweight it is compared to other 2.4 GHz transmitters. It comfortably fits into the hands with all the controls easily reached. The low weight can be attributed partially to the need for only 4 x AA cells which can be dry cells or rechargeable.

The transmitter fits in your hands easily and is very lightweight

For modellers who may be a little cautious and hesitant in using a computer based transmitter for the first time you only have 4 buttons to press and it is fairly idiot proof…well I managed to master it after a few minutes!

The instructions that come with the set are in various languages and cover the basic functions but can (to me) appear a little complicated. After you have inserted the batteries and switched on and start to press the buttons all the instructions become clear.

The first screen you will see is a warning to place all switches in their up position and lower the throttle, then the main screen is displayed showing a picture of a model aircraft and the model number and name if you have programmed this in, also it shows the transmitter voltage.

If you are using the receiver supplied with the set it should already be bound to the transmitter but if you are using another receiver there is a binding button on the front of the transmitter that can be used to bind (details explained in the instructions). You will note that if you do not move any of the switches or control sticks for a few minutes the transmitter will give out a bleep to let you know it is still switched on, an excellent feature we found.

The rear of the Tx showing the battery compartment

A switch on a warning screen is shown if the switches are not in the up position and the control stick down

The receiver with the two antennas which should be set 90 degrees apart

RECEIVER

The TGY-1AG receiver supplied measures 40 mm x 21 mm x 7.5 mm and has two antennas that ideally should be placed in the model at 90 degrees from each other to achieve maximum range. There is also the connector block, which will accommodate up to six servos and a connection for the battery pack. A battery pack and switch is NOT included.

The voltage listed for the receiver is between 4.0 and 6.5 V DC and is ideal for 4 x AA dry or rechargeable batteries.

Please note the receiver does not include a BEC (Battery Eliminating Circuit) hence any voltage over 6.5 V could damage the receiver. There is a red LED in the receiver that illuminates when switched on indicating it is bound to the transmitter.

SWITCH ON

As with most R/C systems it is good practice to switch on the transmitter before the receiver and with this system Turnigy recommends this. If you look at the transmitter main menu on the screen after switching on and then switch on the receiver you will note that the receiver voltage is shown on the screen confirming you have contact with the receiver ... very clever!

I found that to understand the functions it is best to plug a servo into a channel of the receiver and experiment with the functions, i.e. reverse and end stops. You can also program the fail-safe, so that if you lose control from the transmitter the model will set the speed controller/rudder setting to what you want and if the receiver falls to a set voltage it will give an alarm on the transmitter.

With the Rx switched on the voltage of both Tx and Rx can easily be seen

The first menu screen is reached by pressing the OK button then you can go to the system or set up

Four channels are controlled using the sticks and the two other channels controlled by the knobs at the top part of the transmitter or the on/off switches. Again these can be programmed individually. The range was checked and was comparable with all other 2.4 GHz systems.

CONCLUSION

As mentioned at the start of this report to our knowledge this is the first manufacturer to provide a basic telemetry link from the receiver to the transmitter as standard. This set represents excellent value for money for a beginner to our hobby or for an experienced modeller wishing to upgrade from 27 or 40 MHz to 2.4 GHz. It is very difficult to find anything negative to say about this set apart from all the instructions and icons on the main screen assume it will be used for model aircraft and helicopters but it can be used for maritime models, cars, trucks etc. ***MMI***

In the set up you can reach the reverse function and set as required

The end stops can also be set

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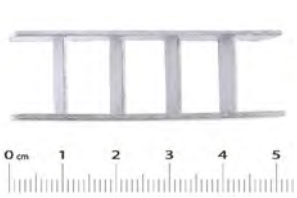
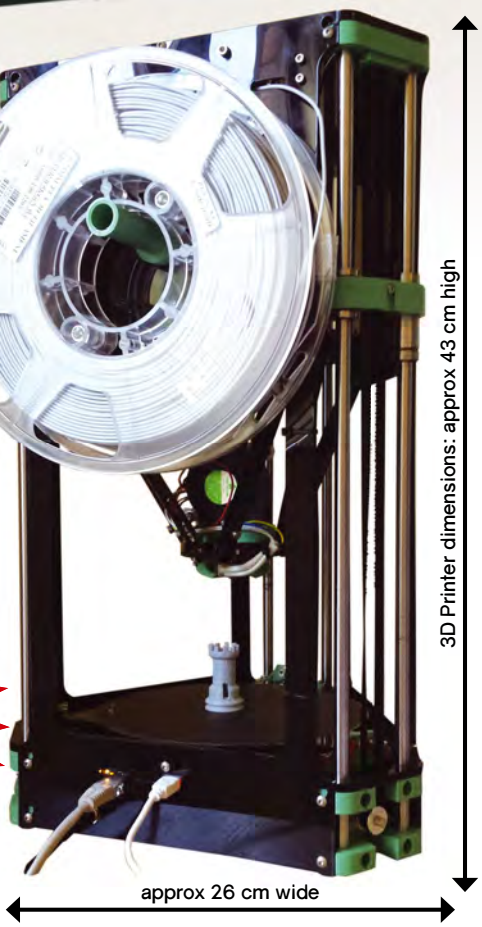


White Metal Short Steps

Roller Fairlead x 2



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MEETING POINT

REPORTS FROM RECENT EVENTS

2016 M&S DISTRICT MARBLEHEAD INTERCLUB 3, GAMES 7 FOR THE ARCADIA TROPHY – 10TH JULY 2016 BY PETER STOLLERY

Eight competitors from three clubs met at the Guildford Model Yacht Club's Abbey Meads Lake to take part in the Arcadia Trophy. Despite a drizzly start the wind conditions gave some fast planing and exciting racing, particularly when gusts drove bows down and rudders into the air.

The morning's racing was dominated by the Stollery family with Peter winning seven races and Roger the eighth. Both were testing a new variation of the offset pivot swing rig. Five second places gave John Shorrock second place at lunch, 7 points behind Peter.

UPROAR 15 sailed by Peter Stollery

Peter Stollery with the Arcadia Trophy

With the sunnier conditions after lunch the wind picked up which signalled a change to B rigs for most of the competitors. In Race 9 John Shorrock managed to beat both the UPROARS but this was his only win of the day. The rest of the afternoon races were then won by the UPROARS with Peter Stollery winning the Arcadia Trophy. Everyone enjoyed the incredible speed that can be reached by these fast lightweight Marbleheads off the wind.

Overall it was a very enjoyable meeting, although the number of competitors was rather lower than expected; perhaps this was due to the closeness of next week's MYA National Championship at Datchet?

Results:
1st Peter Stollery, Guildford, UPROAR 15
2nd Roger Stollery, Guildford, UPROAR 27
3rd John Shorrock, Datchet, QUARK 30

LLANCAIACH FAWR MANOR MODEL SHOW, SOUTH WALES – 16TH & 17TH JULY 2016 BY ROGER BAGSTAFF

Llancaiach Fawr Manor is situated near Nelson in South Wales. It was built in the mid-16th century and is now used as a museum of living history. Every year they hold the Welsh Model Show – a World in Miniature. This show caters for modellers of all descriptions, so there were model aircraft flying, stationary steam engines, model railway layouts and of course the model boat displays. A small pool was available for children to use the 'have a go' boats and a larger pool allowed some model boats to take to the water. Many general craft stands were also present.

Model boat displays were provided by Barry MBC, Margam Park MBC, Bryn Bach Park MBC, Cardiff Marine Modellers and a relatively new club to the area Taff Bargoed Parc MBC. Vince Martell of Barry MBC displayed his Clyde Puffer in a diorama setting, which gave added interest to the model. It's not always easy to get the public to stop and take a good look at the static display models but this kind of detail certainly helps to achieve that.

John Hanson of Margam MBC had two very interesting models at the show. The first was his aluminium built model of Velinheli, the longest serving Welsh slate boat. It is powered by a gas fired, twin cylinder, sleeve valve, steam engine operating at 80 psi.

His next model, also built entirely from aluminium, was 'Evergreen'. This model is powered by a Stirling hot air engine and the electrical supply comes from two solar panels on the roof of the deckhouse.

Another method of attracting the interest of the visitors was to give a model building demonstration. John Gittins of Cardiff Marine

Evergreen, by John Hanson of Margam Park MBC, powered by a Sterling hot air engine and solar panels

John Bennett of Barry MBC with his Fairmile B

Children on the 'have a go' boats

John Gittins of Cardiff Marine Modellers demonstrating the building of a 164 scale frigate, H.M.S. Diana (1764)

The Sterling hot air engine in John Hanson's Evergreen

Modellers demonstrated the building of HMS Diana, a 1/64 scale frigate from the 'Nelsons Navy' era circa 1794.

From scale frigates to fast electrics, it doesn't get much more diverse than that. Dave Heath, also of Cardiff Marine Modellers displayed his 'Team Xtreme' powered by an Aquastar T20 brushless motor which can handle 11 cells LiPo battery (40.7 volts) and is controlled by a brushless speed controller rated at 300 A. This model can reach speeds of 70 mph. Serious stuff!

A model of Eldergarth under construction by Peter Davies of Taff Bargoed Parc MBC

R.N.L.B. Alice Upjohn, 72" Rother class lifeboat by Ian Povey of Bryn Bach Park MBC

Taff Bargoed Parc MBC display

Clyde Puffer in diorama by Vince Martell of Barry MBC

Team Xtreme built by Dave Heath of Cardiff Marine Modellers

PLYMOUTH'S MILLFIELDS MODEL EXPO 23RD & 24TH JULY BY BARRIE STEVENS

The show was located in a gymnasium on the former Royal Naval Hospital grounds in Plymouth. The complex was huge and took some time to find the location for the show but after spotting some full size military vehicles outside all became clear.

On entering the gym there was a selection of model groups from different specialities with plenty of operational action from the three floor layouts for 1/14 model trucks, buggy racing and an area for self drive model cars. We met some of the City of Plymouth Model Boat club members who had a selection of large-scale model warships on display.

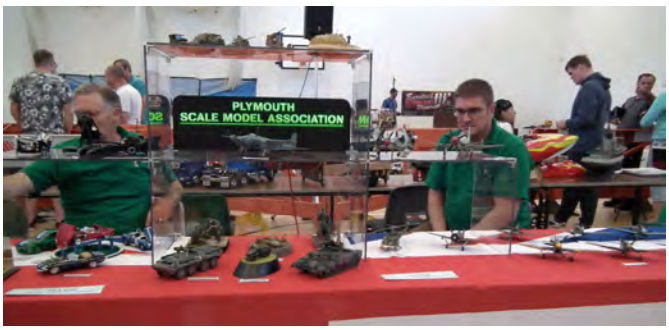
The Plymouth Scale Model Association had some stunning static models including the LSM (Landing Ship Madium) 201 which only had a short operational life towards the end of WW2. Other models on display included model aircraft, powerboats etc, and the organiser informed us that on the Sunday there would be operational model aircraft on the outside field.

Starting a new show in a new venue proved quite a challenge for organiser Ray Lee, but as this is the first show he said it was a 'steep learning curve' and many lessons have been learnt for another possible show next year. ***MMI***

Landing craft including LSM – 201

Impressive display on the City of Plymouth MBC stand

Alan with his operational Titanic supported by many plans and diagrams



Detail was the name of the game on the Plymouth Scale Model Association stand

Organiser Ray Lee with his RC Everything trade stand

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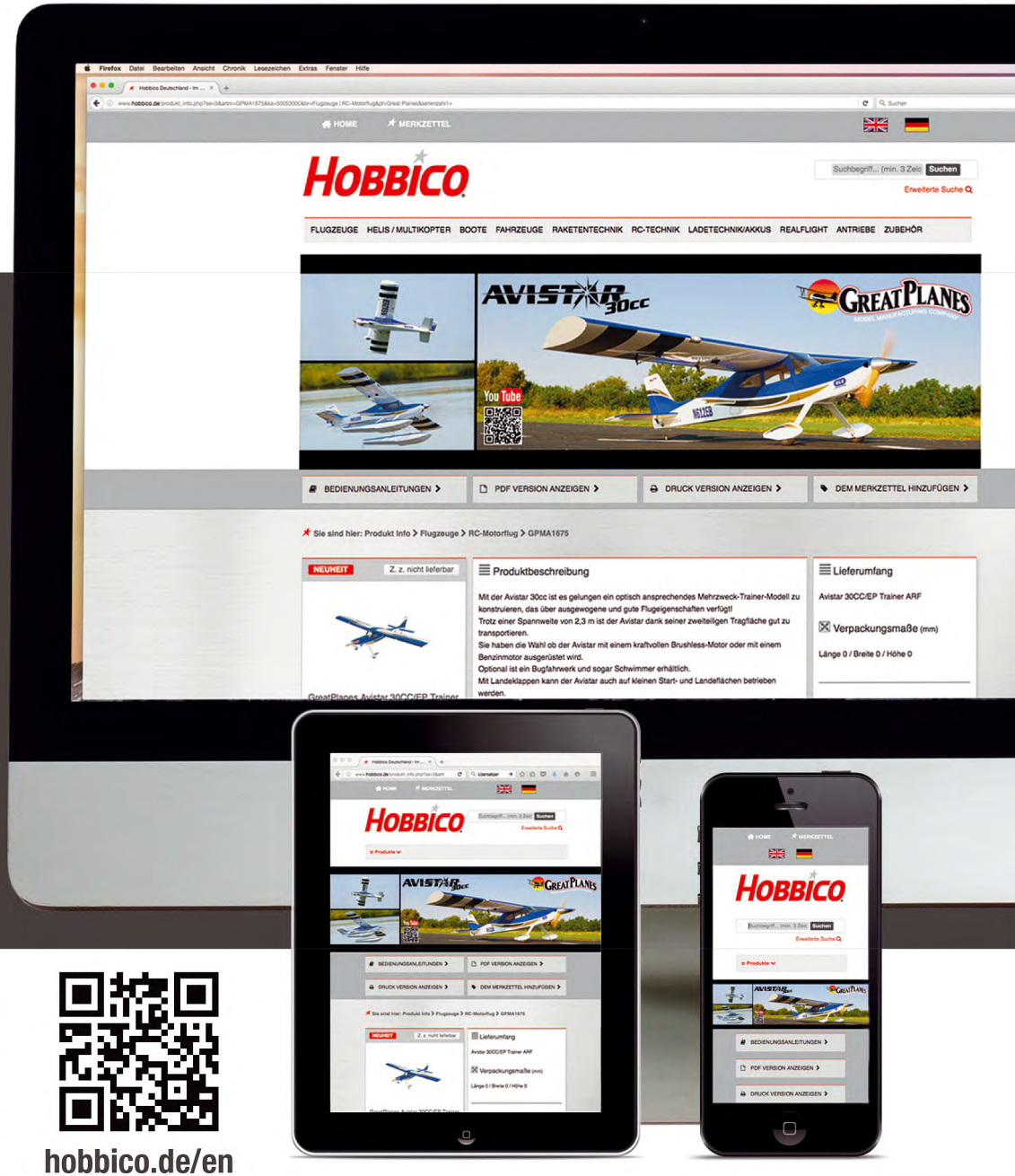

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TARRET MASB (OR MTB)

A FREE PLAN (MAR 3749) OF AN EASY-BUILD MODEL OF THIS LITTLE KNOWN CRAFT

AUTHOR: CLIVE HALLIWELL

A BRIEF HISTORY

There seems to be little information about this vessel. She was built on the Tyne in 1939 by Swan, Hunter & Wigham Richardson. Designed by F. Gordon Pratt of Cox & King she was 110 feet (33 m) long, and built of welded steel. The idea was to produce a sea-going torpedo boat. Powered by two Davey Paxman V16 diesels she could make 30 knots (55.5 kph) even in rough weather, but this was a trial speed when unarmed and the Admiralty considered higher speeds desirable. She would eventually be commissioned in 1940 as a Motor Anti-Submarine Boat.

The design, perhaps, looks a little naïve at first, large funnel, with davits and ships boats, a couple of simple pole masts, but by the end of WWII there were several very successful classes. These all had a similar hull size and design, the Fairmile 'D' was perhaps the most famous, but Camper & Nicholson built similar boats and even the successful 'short' MTB builder, Vosper, had produced an experimental 100 foot (30.5 m) MGB 510.

The only view I have found of Tarret, from my library

EXACT SCALE?

There was no chance of modelling this as my only information was the grainy photo shown and the length of the boat. However, even this was confusing as the length in the caption gave 100 feet whilst the associated article gave 110 ft! I knew it had a two diesels/props layout, but that was all I had. As I had seen the article and photo many times and was intrigued, I decided to build a model of something, mainly to get it, sort of, out of my system. With so little in the way of information I decided to simply build an 'easy-build' model that could be tackled by the novice and/or younger modeller; not difficult or expensive!

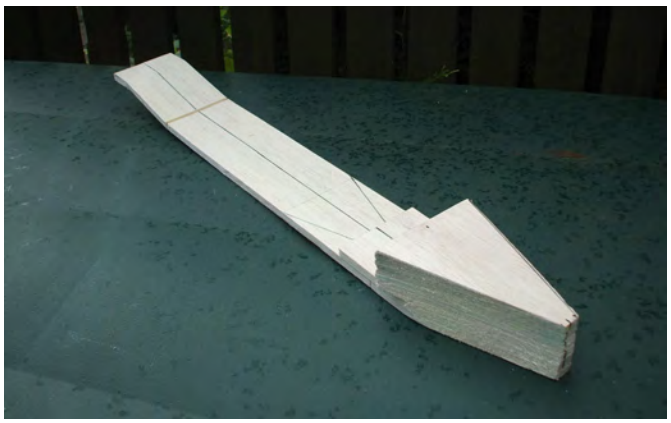
THE MODEL

The hull bottom is the usual starting point. Take the size from the plan. The bottom needs to be canted up aft to facilitate the fitting of the two props and shafts (a single configuration would suffice). Right aft, I level the hull bottom horizontal again, to make fitting the rudder assembly easier, but like all these easy-build, standoff models nothing is mandatory.

The bow was to be built 'bread & butter' style with a top deck using the same thickness as the hull bottom, and the same sections as the 'b&b' at the bow (see plan and photos).

I fixed the top deck down with a couple of screws, to the block at the bow, and with a rubber band right aft, with a block of scrap balsa between the top deck and the hull bottom, a sort of temporary transom! This allowed me to sort out cutting, shaving and sanding to get the right profiles before final fixing etc.

At this stage it is recommended to fit the propeller assemblies, before the hull sides are fixed in place. It is much easier to line up the propshafts parallel and at the same angle. One photo shows this, with the two motors and mounts also being installed. Everything but the shafts can be removed until later if you require.



The hull section with the 'bread & butter' bow section

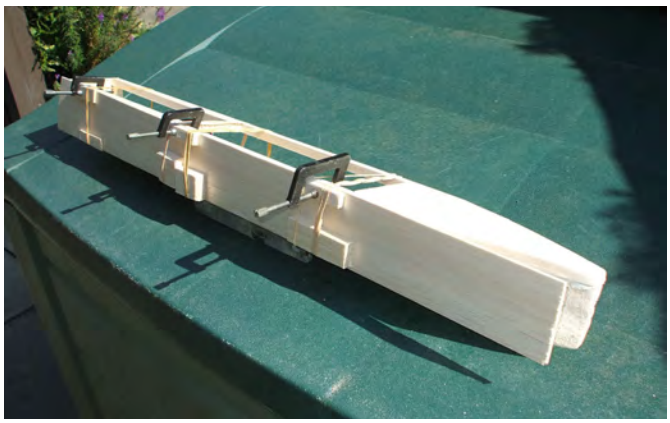
The top deck screwed to the 'b&b' section for cutting, shaping etc

The hull bottom with motors/propshafts installed. The top deck with access opening and upper deck

The top deck was removed and two rectangles were cut out to provide access to the hull (see the plan). The one cut out from amidships was used to provide a 'plug' under the upper deck (more later). A second cut out, in the after deck, gives access to the rudder servo and tiller. This material can then be utilised as part of the deck or put on the spares shelf.

Note: Nothing has to be done as I did. For an easy-build option, sections of 1/8th (3 mm) balsa can be used for decks etc.

At this point the top deck was finally glued in place and a small rectangle of 1/8th (3 mm) was cut to fit for a transom (note: cut the transom to match your hull bottom and top deck, just in case your measurements are slightly different, mine are always slightly different to my own plan!).



Beginning aft, the hull sides being fitted

THE HULL SIDES

With the hull 'skeleton' on a flat surface, and upside down, over size lengths of 1/8th (3 mm) balsa can be offered up and checked. Starting at the transom the sides can be glued to it and the hull bottom and the topsides, as far as the 'b&b' block at the bow. With both sides securely fixed in place leave for up to twenty-four hours, depending on the adhesive you are using, for the adhesive to set thoroughly. Then the remaining sections of the hull sides need to be pulled in to the curved bow section and glued in place.

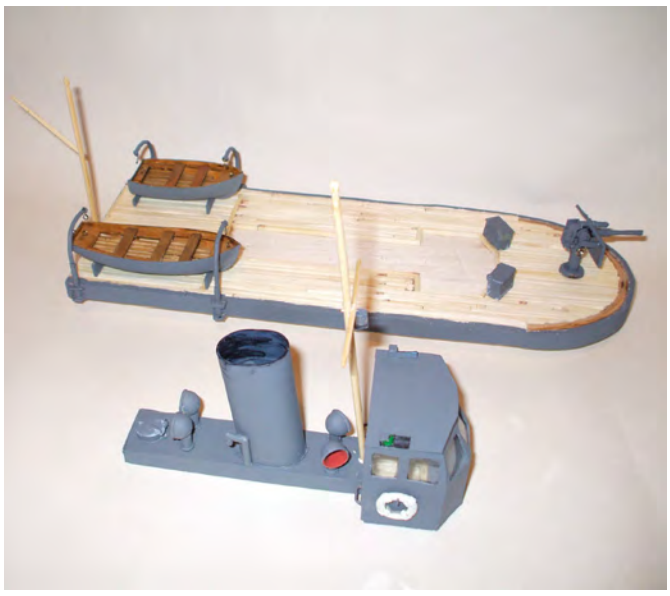
I did one side at a time, using pins, rubber bands, tape etc. Once completed any excess material can be cut away. Usually some filler is required at this point and any further shaping and sanding can be done.

The prototype hull has a prominent chine hull arrangement, designed as early as 1912 by Gordon Pratt, with the chine running from the waterline amidships to the top of the stem. To replicate this (easily) I glued long triangle shaped lengths of balsa to either hull to match the general shape of the chine, sanding the top and end edges into the hull profile (see plan).

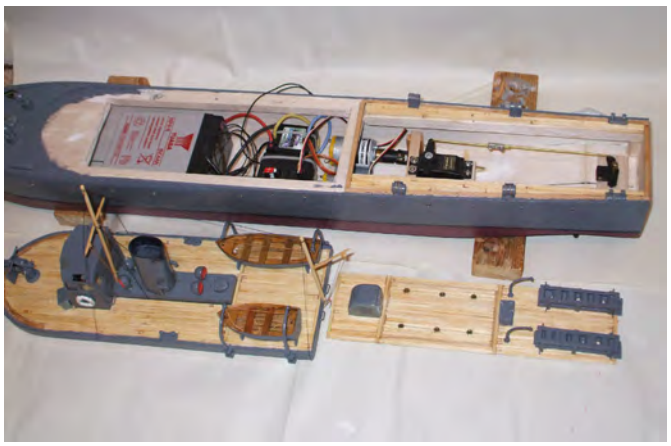
To build an easier model, miss out this step altogether!

UPPER DECK

This deck is not full height, but seems to contain most of the important items, bridge, funnel and ships boats. It runs for almost half the length of the hull and stretches across the full width. It was made using the same 100 x 10 mm balsa sheet as the hull bottom and top deck (see plan). The plan also shows a low superstructure or engine casing (10 mm) on which I mounted the funnel, four cowl vents, a couple of swan-neck vents and an escape hatch.



The upper deck and the wheelhouse/superstructure etc



Upper deck and quarterdeck access openings, with battery and R/C equipment being installed

PLANKING

I decided to plank most of the decks using long cook's matches, a sort of a masochistic therapy of mine! I buy a couple boxes at a time as I wonder around the supermarket, but using sheet balsa would be much, much easier! I used balsa sheet for the fo'c'sle.

'Planking' the decks (long cook's matches). In front is the small superstructure and the 'footprint' for the wheelhouse

THE WHEELHOUSE

It appears to be fully enclosed, without an open bridge, and once more is more conjecture than exact scale. The plan shows the shape and sizes etc. I constructed mine with thin ply and card and having decided to 'glaze' the windows, planked the wheelhouse floor and added a simple console and steering wheel. Thin clear plastic (food packaging) was used for the windows. The original photo shows rather prominent navigation lights atop the wheelhouse. Small red and green beads were obtained from my granddaughter, I did ask! The boxes are built with card.

A simpler option for the windows themselves would be to just draw or paint them. The low superstructure, or engine casing, was butted to the rear bulkhead of the wheelhouse and formed a separate 'mini project' for painting and finishing until late in the build.

THE MASTS

The two masts are fitted as shown on the plan and the simple rigging kept within the bounds of the 'upper deck' so that it could be removed without too much trouble. You, of course, could add more rigging if you wish, but I am erring on the 'easy-build' format.

WEAPONS

Bit difficult here! Conceived as a torpedo vessel, it was eventually commissioned as an anti-submarine boat, but I do not know what weapons were shipped; so I settled on a single gun and depth charge chutes and racks (a different modeller may wish to produce a MBT).

I built the gun myself, something like a 3 or 4 inch (75 or 100 mm) from scrap, but as we are building to a standard marine scale, 1/48th, such weapons are available commercially.

Similarly depth charges etc. are available (torpedo tubes also, if wanted) but they are not difficult to fabricate yourself. My depth charge bodies were cut from the bodies of redundant ballpoint pens, using a mini tube cutter. Each body was filled with children's play clay, and circles of thin card the size of a standard paper hole-punch, glued to each one (see relevant photo).

Making the depth charges (see text)

The chutes were constructed from right-angled plastic strip and the racks from card. A couple of davits were added at the rear of the chutes for loading etc.

Here I go again (!), for a simpler option, just use lengths of dowel for the depth charges themselves, card for the chutes and racks, and if well painted they should look OK on an easy, 'stand-off' model.

PORTHOLES

A prominent line of portholes is visible in the photo. I purchased the simple unglazed type (like eyelets), quite inexpensive, and filled each one with white PVA glue, as it dries clear. A simple jig was made constructed from two bits of scrap wood in a 'T' configuration with a hole at the correct level along the upper edge of the hull sides. This produced a nice horizontal line (see photo). I used the same portholes for the various deck lights.

Portholes being installed using a simple jig (also some fittings being temporarily fitted)

FITTINGS

Apart from the weapons detailed above, the majority of fittings shown on the completed model are commercial items. The plan shows the layout I installed, but this is not mandatory, or even correct! My winch, cowl vents, various lockers and hatches, the two ships boats and davits (fitted prominently to the outsides of the hull sides) had all been at one time or another on other models, and removed as the hulls themselves became redundant.

As stated, many commercial fittings are available, at shows, mail order, Internet etc. But most of the items are not 'too' difficult to construct if you to prefer, though I confess I find cowl vents much easier to buy than make!

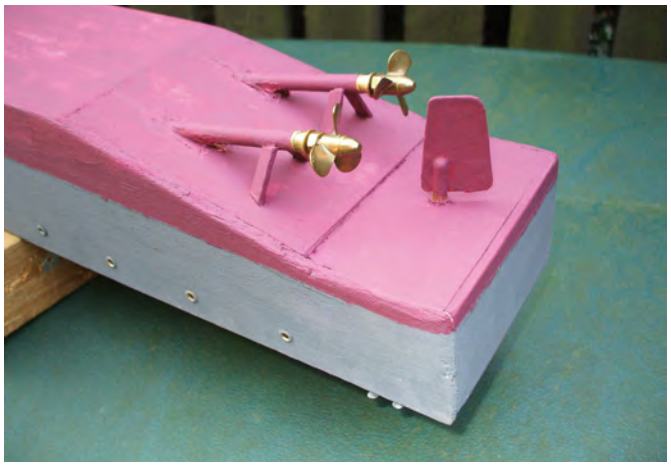
I made the CQR anchor with chain from an old necklace. The funnel was cut from those plastic containers that hold a toothbrush when travelling.

GUARD RAILS/STANCHIONS

These are, of course, optional for an easy build model, but perhaps a quick explanation of those that can be seen on my completed model would be useful. The guard rails around the gun was made up using domestic copper wiring with top rail bent to shape and soldered to the uprights (a strong adhesive could be used if you are not into soldering). The stanchions seen around the hull are merely dressmaking pins fitted in place with black cotton wound, and glued, to the top of each pin and then painted. See below for a commercial option.

MY HARDWARE

I installed two 385 motors with couplings, 2 x 150 mm propshafts and 2 x 25 mm props. A 6 V, 4 Ahr SLA (sealed lead acid) battery, powered the motors ESC (electronic speed controller) and the Rx (receiver) but this set up is by no means mandatory!



Twin shafts/props with single rudder

PAINTING

Talking of painting, most warships are grey, with, in the era of my model, dark red on the bottom of the hulls and a boot topping line; the photo should show a black line. After two or three coats of paint, varnish should be applied. I know the newcomer will tend to skimp here, wanting to get their model into the water, but of course, time taken at this stage will match the result commensurate to the effort put in!

THE APPROACH

This sort of approach, using a simple 'easy-build' hull and buying various small, inexpensive fittings (of the correct scale) can produce a reasonable model fairly easily; of course, not 'exact scale' as stated earlier, but reasonable on the water. Nor does it have to be 'grey with guns', a single hatch coaster, one funnel, one prop, one rudder could be within the scope of a patient newcomer.

And don't forget, you do not have to follow my plan exactly, use it more as a guide, and have a go! ***MMI***

Completed model from bow view

Completed model from stern view

On the water

SOURCES:

Portholes (and most of the materials required)
www.model-dockyard.com
Tel: 01872 261755
Stanchions
James Lane (Display Models), Tel: 0167 352051
Photo in my library
Fast Attack Craft ISBN 356 04192 4 (via Motor Boat and Yachting Magazine)

'SUPER' CARD MODELLING

THE FREE PLAN OF A STEAM DRIFTER CIRCA 1900

AUTHOR: CLIVE HALLIWELL

THE IDEA

The term 'super' is merely my own idea, and really only means completing a card model utilizing other items around the home that can enhance the final result. Rather than the general 'cut out and stick' models the idea is to utilise the card found in most people's homes using the small plan as a basis (it could be doubled up of course).

The beauty of card is that it is free (cereal packets etc.) and is easy to use. Mistakes can just be recycled, and try again to build the hull, superstructures and the decks. But here I am suggesting that decks could easily be laid using 'real' wood, balsa, and long cook's matches etc. to produce a better result.

Masts and spars can be wood too, cocktail sticks, kebab skewers and the like. Old jewellery (ask if they are not yours! Charity shops are another idea) can yield chain, beads (fishing floats, fenders) and the like.

Another trick to improve a model is to glaze the windows. Simply cutting out the apertures and backing them with clear plastic (many food packages have it) gives a much better appearance than a simple printed image. Though, if you do this, you may need to install a few bits and pieces inside the wheelhouse, e.g. a steering console or similar (youngsters have a habit of peering through the windows, and an empty space does not look 'super'!).

MAIL ORDER

Commercial items; I know, I know, I'm moving away from the idea of building by card, but some things, cowl vents, davits etc. are examples I find difficult to replicate and are not expensive if purchased. Likewise small fittings like fairleads, bollards, small anchors (in plastic) are not expensive and really enhance the final outcome (lots of mail order firms are listed in this magazine). The scale is given on the plan and commercial fittings are generally available.

FINALLY

The article is aimed mainly at newcomers, maybe school projects, a grandparent/grandchild undertaking; but possibly for anyone who wants a quick, inexpensive project.

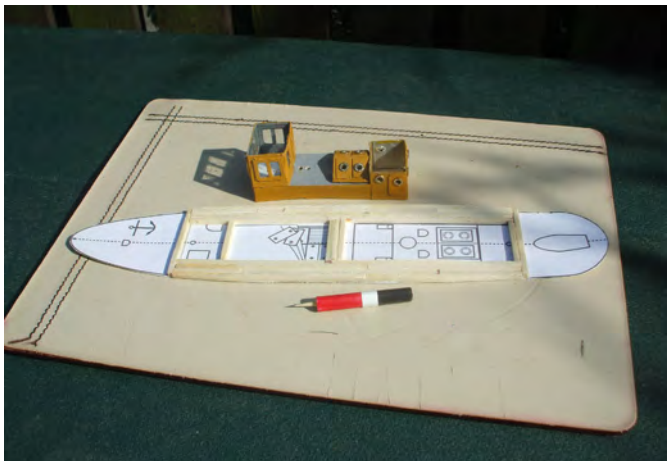
BUILDING THE MODEL
THE DECK

I began with the deck. A photocopy, or tracing, was pasted down onto card and cut out. Having decided to 'plank' the deck, around the central section first, I did this leaving clear the areas where the superstructure and hold would go. These two items would fit 'inside' the planking, and the plan's layout was still visible.

THE SUPERSTRUCTURE

This is simply a collection of boxes. First I made up the galley/head (toilet) section, second was the long rectangular area covering the machinery with the wheelhouse assembly sitting on top of its for'd end. Seems 'back to front' I know, but there is no mandatory order, do your own thing!

I glazed the bridge area (see above). I made up some window frames using good, thin card (greeting cards); once painted they were glued on to clear plastic and fixed over the areas cut out to represent the windows. The bridge door had a simple window rectangle cut out and glazed. All the windows can be completed the same way if you want to avoid making the fiddly window frames.



Copy of the plan glued to card and planking being applied

The hold is just a rectangular coaming fitted around the hole and covered by a canvas cover. Sometimes you can find that one side of card is 'textured' giving the appearance of canvas, use that. For a more complicated build, show the canvas cover pulled back and the wooden cover planks shown (see plan) and fill with herring!

The funnel was made by wrapping paper around a drinking straw and then painting it. The fo'c'sle and quarterdeck were not planked, but had another layer of card fitted over them to reduce the 'step' at either end of the planking (if you simply use card, or balsa, for your deck this is not necessary).

The engine room skylight was built separately and fixed in place; this could be built very simply or made up with opening hatches (for a very easy-build, miss it off!).

THE HULL SIDES

Before fitting the hull sides I built bulkheads across, and beneath, the deck, at the required height to support it and give the sides something to fix to. I arranged them to coincide with the 'joints' of the hull side sections (see plan). I fitted my hull sides in three sections, one around the bow, then the rounded stern (actually in two parts to create the slightly complex shape). Finally, the port and starboard sides were fixed to fill in the other two areas; having cut out freeing ports, hawseholes etc. before gluing.

Hull sides being applied (see text)

Whichever approach you choose always 'dry fit' everything first. Finally, thin strips of card were glued around the hull sides as rubbing strakes.

MASTS AND YARDS

As stated above, masts and yards were made from cocktail sticks and skewers, slightly taper them if you can. If they are securely fixed you could omit the rigging but any fitted will enhance the final appearance.

THE SAILS

These are made from paper, rather than card. The shape was cut to fit, and then doubled, butterfly type, with the fold along the leech (the rear edge of the sail). Lengths of sewing cotton were glued in pairs to the inside face of one side, to facilitate fixing to the mast, gaff and boom, before folding and gluing the second half to the other side. Paint a reddish-brown.

TOOLS

Nothing very complicated or expensive is needed: craft knife, steel rule, scissors and sandpaper for the wooden items.

PAINTING

The lower hull was painted in red oxide, or similar, with the upper hull in black. Regular shots of these types of vessels are often to be found in this magazine, try the Internet or just do your own thing.

COMMERCIAL ITEMS (THAT I UTILIZED)

The cowl vents, the small ship's boat, chain and anchor, a davit (at the bow) and portholes (the simple unglazed type).

Starboard view of finished model

Shot from above, port bow

HAVE A GO!

You can build the minimum amount to get it to look like a passable fishing boat and/or go on and fully detail it, it is up to you; have a go! ***MMI***

The completed model

HMS Bluebell takes to the water

AUTHOR: KEITH JARDINE

HMS BLUEBELL
FITTINGS & CREW TALES

FLOWER CLASS CORVETTES SEEM TO BE AN EVER POPULAR SUBJECT. KEITH GIVES A BRIEF OUTLINE OF HIS MODEL

INTRODUCTION

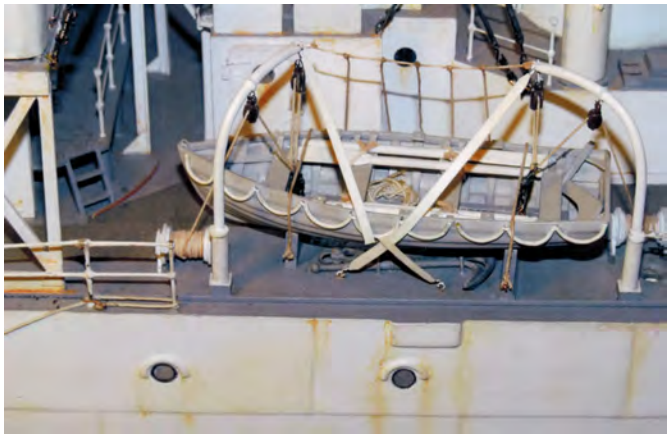
My 1/48 scale K80 was scratch built by constructing a wooden plug and fibre glass moulding of the hull, complete with portholes and all plating detail. From the stem and along the keel, I moulded-in a 3 mm x 3 mm iron bar to act as ballast. Should I catch a U-boat on the surface, I should be able to ram and roll it!

INSPIRATION

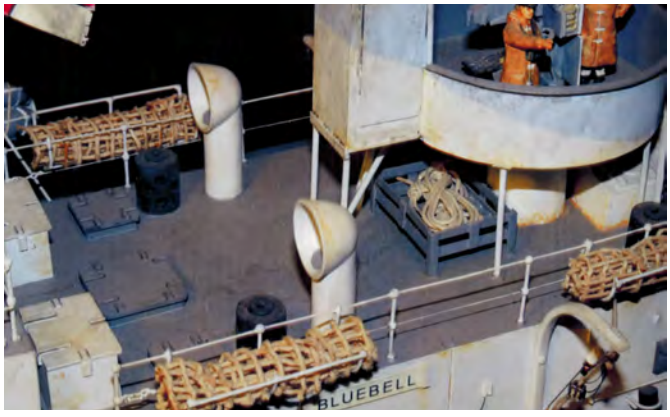
Years ago, I read Nicholas Monsarrat's books 'The Cruel Sea' and 'Three Corvettes'. I was impressed by the sterling work of the little corvettes and, after seeing 'The Cruel Sea' film, I was hooked!

I built the 1/72 plastic kit by Matchbox (now Revell) and put radio-controlled gear into it. It seemed to me that a larger version would be fantastic, so I took measurements from the plastic model, adjusted the measurements up to 1/48 and prepared my own drawings. Some corrections were made by examining photos in various books. The scale drawings in the AGASSIZ book in the Anatomy of The Ship series were very useful. I also gained much information via the Flower Class Corvette Association during my research of Flowers (of which more later).

The research and build on my model spanned three years, 90% of the model being scratch built.



Kedge Anchor shackled to deck under portside whaler



Rope stowage under pom pom platform beef screen at right just visible

DETAILS

The funnel was formed from an ant-powder tin! The decks were marine ply and the non-slip walkways were made from fine emery cloth. The superstructure was marine-ply and plastic card. A Decaperm motor runs from a 6 V 10 Ahr lead acid battery. The radio is an Acoms 27 MHz. The depth-charge racks were from brass angle soldered into shape. The two racks and the depth-charge throwers, with spare reloads, had 40 plus charges made from plastic rod, the ends being concave and with lifting rings fitted. Appropriate lockers were from plastic card, some of which had wire-mesh sides. The anchor windlass was constructed using wheels, etc. donated by a friend whose hobby is repairing clocks!

FINALLY

Bluebell was one of several corvettes equipped for towing, therefore, twin towing-arches were fitted over the stern depth-charge racks to prevent the tow fouling the racks. The entire model was hand-painted using Humbrol enamels. I believe the signal-hoist reads "Stay clear – am manoeuvring with difficulty". Enough said, so please enjoy the main article.

MY RESEARCH

This article is intended to assist you to update your Flower Class Corvette in several ways, and will enable you to have a more accurate model.

During research for my 1/48 scale K80, I was honoured to become a member of the Flower Class Corvette Association at whose meetings I met many ex-corvette men and heard many interesting tales. I met several gentlemen who had served on K80 and had been posted away to other duties before the loss of Bluebell. These men gave me information and photos, including a photo of K80 as a short forecastle ship – perhaps the only such photo in existence.

MISSING BITS

I list several items of equipment which Bluebell carried on her decks but are rarely seen on models. You could say this is 'rivet counting', but these items were as much part of a corvette as, say, a chimney stack! See photos to, hopefully, understand the text. On several photos can be seen the dark non-slip walkways.

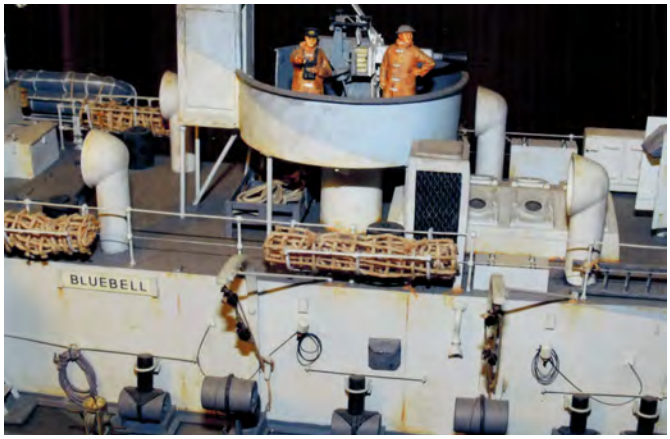
The first item which is often not modelled is the stopper chains to the main anchor winch. These chains took the strain off the main winch when anchors were 'up'. Note: at rear of winch, the white asbestos wrapping on the steam pipes. At the step-down of foredeck, and just aft of the port and starboard whalers, were two wire mesh potato lockers. These were situated here due to lack of storage space below decks. At the portside of the 2 pounder pom-pom gun platform, was a tall, wire-meshed locker for meat storage. This was known as the beef screen. Under the portside whaler was a kedge anchor shackled to the deck.

Timber was stored under the stern depth charge racks; this was carried for shoring-up battle damage and would act as floatation aids in the event of a sinking. A pair of towing-arch rails ran over these racks to prevent a tow line fouling the racks. On top of these racks, wood pallets were carried, again as floatation aids. Note: degaussing cable to neutralise magnetic mines. On the deck, just aft of the Carley float supports, portside, the Kelvin sounding device was situated.

Rope scramble nets, to assist survivors climb up the side of the ship, were stowed as shown in several photos. The rolled nets were also used as anti-collision fenders. There were also raised platforms for the 20 mm Oerlikon positions on the bridge wings. If the ammunition drum was fitted, ready for use, a canvas catch-bag was fitted to catch ejected empty casings.

At the 4 inch gun on the foredeck, the ready-for-use ammunition was protected by canvas bags. If the ammo was exposed to salt spray, the loading process would be fouled. Near the 4 inch gun platform, ammo davits were situated port and starboard. These were near the armour plated side panels. The davits folded down

Potato Lockers Port locker showing decaperm motor and kelvin sounding device



Beef screen (at side of pom pom bandstand) with black mesh. Depth charge davits, tool-bag and lead lamps on engine casing sides

Raised platforms at 20 mm positions

Kelvin sounding device

when not in use. A canvas cover fitted over the hinged joint. The rope hanging over the ship's side ran from the anchor winch to the bow of the whaler (see picture).

On several photos of my model, an over-scale bilge keel is seen. This helps dampen any rolling motion, but is non-scale. It was said that a corvette could roll on wet grass!

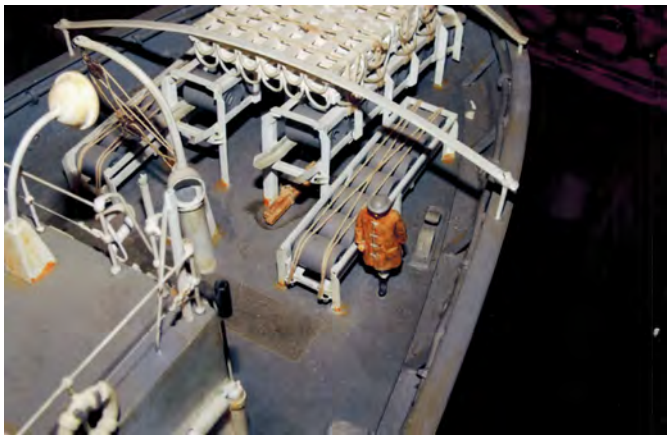
Either side, on the engine casing are the re-load depth charge davits. Near the davits are wandering lead lamps and a toolbag. Ropes are stowed under the platform. The mast ladder did not have solid sides as a normal ladder, the sides were ropes which passed through rings at each rung end. Presumably this was for weight saving purposes. This set up was known as a Jacob's ladder (note: these details would be common to most long forecastle Flowers).

During WW1 there was a class of corvette, one of which was Bluebell, which carried a ding-dong bell as its emblem. However, in WW2, the corvettes were Flower class. The title is a bit of a give-away! The plaque for Bluebell is indeed a bluebell flower. Canadian corvettes sometimes carried their emblem on the 4 inch gun-shield, but Royal Navy ships did not.

THE CREW

Brief notes regarding ex-K80 men which will add interest to your model. The crew members mentioned here survived the war because they left Bluebell before her loss. One rating was working on the anchor winch and was swept overboard by a large wave. K80 slewed around as a wind break and he was rescued. He was charged with losing his sea-boots which he kicked off while in the water. Boots full of water are heavy!

Another rating certainly had a charmed life. He served on HMS Hood but was posted away before the KM-Bismarck sank Hood, leaving but three survivors. He then came to Bluebell, but yet again, he was posted away before the loss of Bluebell on 17th February 1945 in the Kola Inlet, from which there was but one survivor.

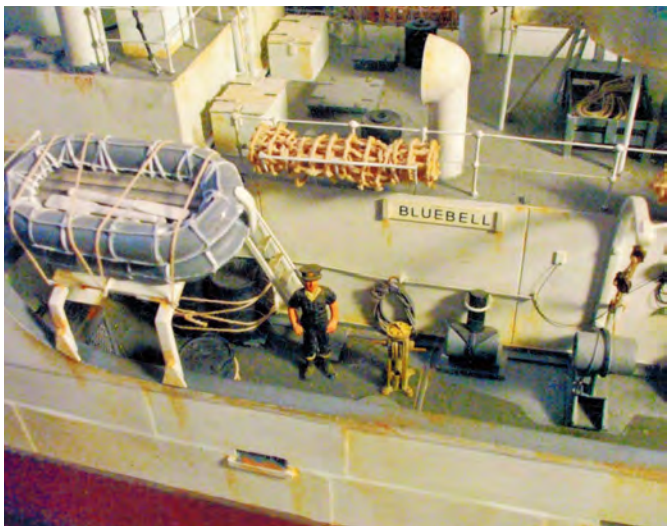


Stern towing arches and wood pallets and degaussing cable

Non slip matting at 4" bagged Ammo

Author with part built K80 1/48 scale is an impressive size

Folded ammo davit near the armour plate side panel. Note oil scum at waterline. When picking up survivors, K80 often wallowed in fuel oil



Carley float supports

On the outward convoy to Russia, one crew man was taken ill and transferred to a shore based hospital, hence missing the homebound convoy in which Bluebell was torpedoed by U711. I have met this survivor who was picked up by a destroyer.

The ship's cook was nicknamed The Assassinator – I wonder why!

I have a photo of Bluebell's mascot, a black cat lying in its own little hammock. It was said that, on rough seas when the ship was rolling badly, the cat usually sat (retching) in the sand filled fire buckets below deck. I have the crew list at the time of the sinking,

Ships plaque. Made by Lt Shean and presented to the author at FCCA meeting

but the cat is un-named on the list. Sadly, most of these corvette heroes have now 'crossed the bar'. May they rest in peace.

HONOURS

The battle honours for Bluebell are listed as Atlantic, Mediterranean, Sicily, Arctic/ Russia, and Normandy. As a point of interest, Bluebell claimed to have sunk U208 but it was not credited by the Admiralty. I have read elsewhere that the Kriegs Marine records do credit the sinking to Bluebell. I have correspondence from the ex-Captain of U711 including photos of his ship, complete with icicles on the rigging in Arctic waters. The tower shows a logo of a bath tub duck.

CORVETTE TO X-CRAFT

This final crew note concerns Lt. Max Shean DSO and bar. This officer of K80, being a young, hot-blooded Australian, eventually became bored with convoy duties and volunteered for 'hazardous duties' – not knowing what this would entail. It is difficult to know what could be more hazardous than being on a convoy escort ship on the hellish journey to Russia! He obviously ignored the old sailors golden rule – Keep your mouth shut, your bowels open and volunteer for nothing.

General view starboard side

General view of K80 and Jacob's ladder

Anchor stopper chains. Bagged ammo at 4" gun. Canvas covers kept salt grime off ammo

General view of the stern

The hazardous duty put Lt. Shean in X-craft, the mini-submarines. He was one of the attack crew for X9 heading for the attack on KM Tirpitz, but the mini-sub was lost with its three man passage crew during the tow to Norway. He transferred to Reserve X24 and sank the 7,500 ton ammunition ship, Berenfels at Bergen.

Later in the war, Lt Shean worked on the sea-bed, cutting undersea telephone links between Japanese held islands. He finished the war with the DSO and bar; a wonderful ex-Bluebell sailor.

FCCA

The Flower Class Corvette Association insignia carries the motto 'Unhasting but unresting'. Sums it up nicely – not very fast but always busy.

NAVY HUMOUR

Finally, the light-hearted legend regarding an un-named Flower during working-up trials in Scotland. At the end of training, a senior officer and his staff examined every aspect of the ship: fire drill, gun drill, everything. The senior officer approached a sailor on deck, then threw his own peaked cap on deck exclaiming "unexploded bomb!". Quick as a flash, the sailor kicked the hat overboard. The officer praised the sailor's quick action, then pushed him overboard with the shout of "man overboard!" Who said the navy has no sense of humour?

Flower Class Corvettes – little ships with a big heart. They make attractive models and I hope these notes help give your flower a bit of personality. ***MMI***

GREAT BRITAIN

THE TALL SHIP GOTHEBURG

SOME VERY USEFUL INFORMATION AND PICTURES OF THIS REPLICA OF AN 18TH CENTAURY EAST INDIAMAN

AUTHOR: PATRICK BONIFACE

The skies above Dover had been threatening rain all morning, but as the Swedish tall ship Gotheburg entered the historic ferry port in Kent the clouds parted and a brilliant blue sky appeared to welcome this wonderful replica of a 18th Century East Indiaman.

Gotheburg is the world's largest operational wooden sailing ship and many of the items onboard were recovered from the wreck of the original Gotheburg, of which the modern day vessel is a replica. Indeed the young men and women who make up her crew take their job of being accurate to the nth degree dressing in period costume as they carry out their roles on the magnificent ship.

The modern day Gotheburg was in Dover to take part in the port's annual regatta and attracted thousands of visitors who clambered around her tightly packed decks.

On 12th September 1745 the original Gotheburg was on the last leg of her trek back from China; she was approaching her home port of Gothenburg when tragedy struck and she slowly sank into the soft mud at the bottom of the harbour but not before her precious cargo of tea had been salvaged from the holds. There the ship remained until 1984 when a team of scientists and enthusiasts dived onto the wreck and recovered a great many artefacts; many of these have been preserved and are now in use on her modern day replica vessel.

Gotheburg's crew man the main sail

Ship's anchor

Side details on starboard side amidships looking aft

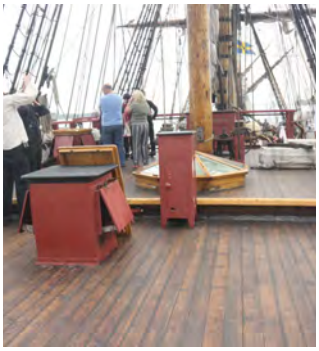
Starboard side main deck looking forward

Bowsprit details

Starboard side featuring three of Gotheburg's gunports

The port side gun deck

Ship's bell



Upper deck details

Ship's wheel

Looking forward port side

Looking forward

The decision to build such a complicated and complex replica took many years to come to fruition with appeals for funds to raise the 240 million Swedish Kronor necessary to build her and the not inconsequential problems of finding and understanding the original plans. Added to this was the almost insurmountable problem of finding skilled tradespeople who understood the plans and could fashion the wooden parts necessary for such a large ship as the Gotheburg.

Once all these considerations had been overcome construction of the modern day vessel began on 11th June 1995 at the disused Eriksbergs Wharf in Gothenburg. Some idea of the complexity can be gauged by the fact that it took eight years before Gotheburg was ready for launch on 6th June 2003 and a further two before her rig was fully tested for the first time in 2005. Much of this time was spent on rebuilding the construction wharf as it had been left to deteriorate over time. The organisers built new buildings that contained ancient techniques including a timber workshop, a forge, rigging workshops and sail lofts.

The new ship does differ in one major aspect from the original upon which she is based her decks are 10 cm higher as modern day sailors are considerably taller than their 18th Century predecessors. She also benefits from having diesel engines and propellers, as well as modern satellite navigation, radar systems and life preservers, all things that were absent on the original Gotheburg.

In the years since her commissioning into service Gotheburg has been all over the world including South Africa, South America, Hong Kong, Singapore and Shanghai. ***MMI***

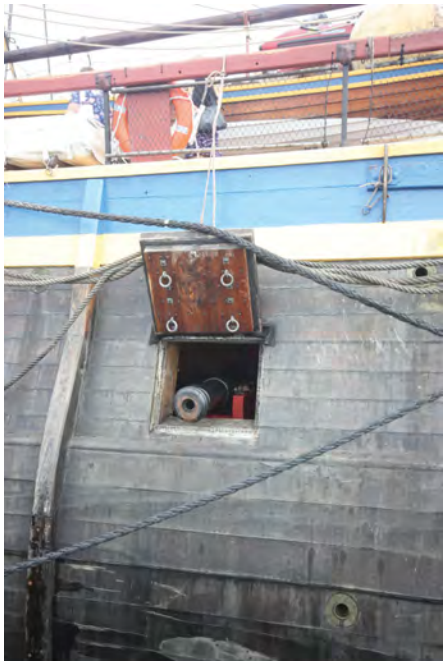
Foremast details

Glass covered hatch looking down

Looking up through the ship's glass covered hatch

Stern details

Stern board details



Starboard side gun ports

Mainmast details

One of Gotheburg's two boats

Starboard side gun ports

Mainmast details

Impressive figurehead of Gotheburg

Stern details

The intricate and ornate stern details of Gotheburg

Rounding buoy 2

HYDROPRO AFFINITY REVIEW

ASSEMBLING AND SAILING THE LATEST RTR RG65 CLASS RACING YACHT

AUTHOR: BARRIE STEVENS

RG65 CLASS

This class of racing yacht was first developed in Argentina in the 1950s and then in the 1970s radio was fitted and the class became very popular worldwide. As the length of the hull is limited to 65 cm (hence the name of the class) this yacht is very easy to transport fully rigged.

Our late MMI editor Chris Jackson was one of the main people to develop and promote this class in the UK with the first models being made from balsa wood, but later use of GRP for the hulls was adopted.

Most countries model yachting associations have a race series for RG65 and the UK is no exception with the MYA organising the Traveller series for RG65 racing around the country. For further details of dates and venues visit www.rg65.org.uk/.

Over recent years the size of the RG 65 yacht has encouraged manufacturers to produce virtually ready to run racing yachts with DF RG65 leading the way again; Chris was one of the consultant designers of this boat. Since then HydroPro has also produced a new RG65 class yacht called the Affinity, which we will test and sail here.

AFFINITY

The attractive box in which the model is packaged is complete with everything you require to start racing, apart from the radio control system. You will, however, need to spend some time in assembling items like the rudder, keel, balance weight and fitting the rigging (which takes the most time). The main hull has the rudder servo, the sail winch and on/off switch factory fitted. A battery pack (to take 4 x AA cells) is also included.

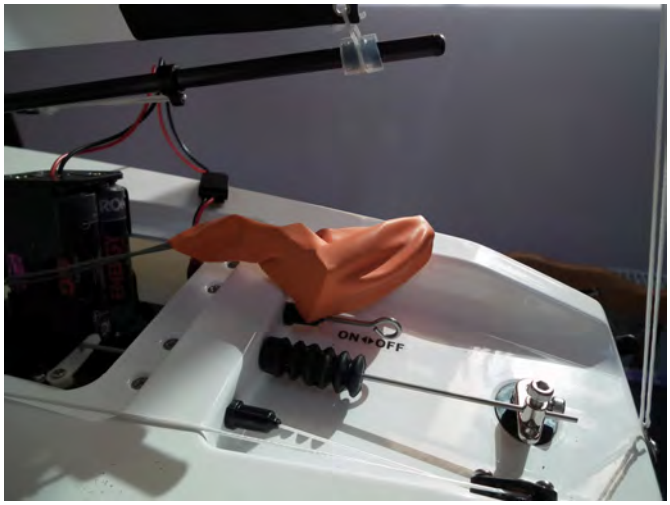
The attractive box as it arrives

The simple stand; note one horizontal bar at the top

The underwater parts (keel, balance weight and rudder)

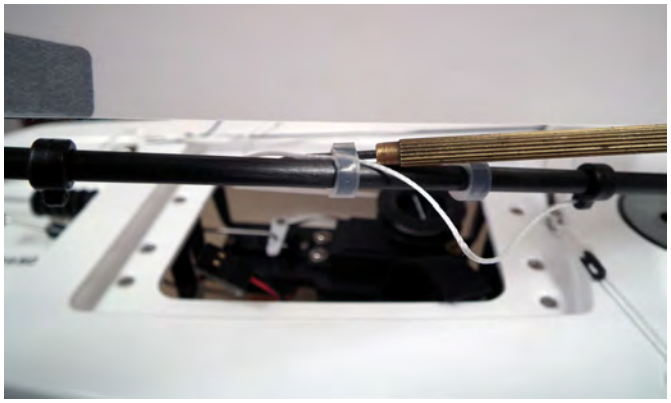
The stern well area with fittings and adjustment for the rudder and push/pull on/off switch

The bow deck area showing deck eyes and winch tension elastic cord



It is a good idea to place the receiver in a rubber balloon to make it waterproof

A cosy fit but easy access for the servos, batteries and receiver



When threading the rigging line through some of the silicone rings a small watchmaker's screwdriver can help

The first job is to assemble the stand which just pushes together, and is secured with some nuts and bolts. Looking at the 15 page instruction manual the black and white pictures of the stand assembly gave the initial impression that the stand consisted of 4 rods between the vertical supports but, in fact, there are only 3; picture 8 of the instructions shows a shadow on the wall behind (which looks like a horizontal rod!).

A small drop of superglue will help the knots not to undo but be careful not to block the bowsie holes

Threading rigging through bowsies can be helped by using a sewing needle threader

The next job is to screw in the keel and balance weight with the Allen keys supplied and then the rudder. The next task is the longest; it is the rigging, two suits of sails are provided as standard, an A rig and a smaller B rig with their respective carbon masts. The instructions give good pictures and a clear description of how to rig, but do use the Dyneema rigging cord sparingly. This cord is very light, strong and thin but cutting it can be a challenge. I found that a small new bladed thin scalpel blade worked well.

There are 15 small bowsies supplied. I found that threading the cord through the bowsies was quite difficult; it is like threading a needle. This gave me the idea to raid my wife's sewing bag for a simple needle threader,

The two suites of sails completed

The main boom adjuster

To seal the hatch a single waterproof patch can be used or as shown a piece of plastic can be made and sealed with adhesive tape

which worked a treat. It is also an idea to put a spot of superglue on the knots to secure them BUT care should be taken with bowsies as the glue can easily block the holes. All the exact positions for the adjusters on the booms are marked on the instructions.

Some of the sheeting goes under the silicone rings on the booms, again this can be a little difficult but the use of a thin bladed watchmaker's screwdriver helped in threading through, but be careful not to damage the ring.

When the rigging is completed, it is time to install your own R/C system, for our review we used the new Turnigy-i6 but the principle is the same for any R/C system as you only have to plug in the rudder servo, winch servo and battery lead. After powering up you can then check that the rudder is central, and adjust if required, and the winch servo is operating in the correct direction.

It can be fiddly but an insurance policy against water ingress is to place the receiver in a rubber balloon and zip strap down the neck. This can now be placed inside the boat and the battery pack is zipped down with the supplied straps. The open hatch can now be sealed either with the supplied deck cloth patch or as we have done by cutting a 6 mm piece of plastic sheet to fit inside the recessed hatch and heavy duty clear tape covering the join to make waterproof.

The first time on the water and all looks good in a light breeze

ON THE WATER TRIALS?

As this is a class racing yacht, how is the best way to test sail it… yes correct... race it! As our local lake is too shallow for the deep keel of the Affinity I contacted our neighbouring club the Sedgemoor MBC. They race RG65 yachts so I asked if we could have a low key race on a non-club racing day/evening with perhaps one or two other members, as any more would be a tad embarrassing if the Affinity did not come up to scratch or needed some readjustments to the rig.

On arriving at the lake I was a little taken back when obviously word had got around and there were eight members with RG65's and the course buoys laid out. It was a very pleasant summer's evening with light winds and it was going to be a bit of a baptism of fire for Affinity. After checking all systems were working she was placed in the water. Everything looked level and not leaning over to one side and she sailed away under the light wind at a steady pace.

Affinity with a DF RG65

Affinity leading the pack

Control was very responsive and we managed to capture some reasonable pictures with other RG65 yachts. OOD of the evening was Russ Chilcott who called for a race to start and I handed him the transmitter for Affinity as it is some time since I had actually raced a R/C yacht.

In the first two lap race she did not embarrass herself and came fourth out of a fleet of eight boats, than as the evening went on we had another five races with different RG65 experienced skippers on the transmitter and the lowest placing was fourth, the best was first! The skippers were very impressed with many saying how responsive and forgiving she was. I think a great success for the first sailing.

Naturally for a full assessment Affinity needs to be raced in all wind conditions and both suits of sails used. It was light winds on the first sailing and so only the larger A rig sails were used. I think the buzzwords of the evening were, "watch out there's an Affinity about!"

CONCLUSION

For anyone wishing to start in the exciting world of R/C yacht racing the Affinity should not be overlooked. She sails well, is easy to assemble, easy to transport and easy to store. The current cost of the model is just less than £100 this is with two complete suits of sails and spares are available for any part that either wears out or suffers from race damage! I am sure we will see many of these on the RG65 racing scene in the near future. ***MMI***

DATA FILE

HydrPro Affinity Racing Yacht

RG65 class

Length:	650 mm
Beam:	150 mm
Mast Height:	1338 mm
Total weight:	1290 g
Hull:	plastic
Sail material:	Mylar (2 x suites of sail included)

Hull factory fitted with rudder servo, winch servo, battery box and switch

Stand included with keel weight and rudder

Available from Hobby King www.hobbyking.co.uk

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THAMES LIGHTER

Designed by: B. Griffin
This model is a scale version of the full size and makes an ideal towage partner to the MMI plans of a Tid Tug.
BEAM: 19.5cm LENGTH: 76.5cm SCALE: 1:24 RADIO FUNCTIONS: 2 channel
Plan Product Code: MAR3552
£13.50 + p&p
Woodpack Product Code: WP3552
£21.99 + p&p

WOODPACK AND PLAN AVAILABLE

TID TUG

Designed by: Adrian Brewer
The wartime chine hulled tug ever popular as a model drawn to 1:24th scale.
BEAM: 220mm LENGTH: 890mm SCALE 1:24
Plan Product Code: MAR2447 £13.50 + p&p
Woodpack Product Code: WP2447 £45.99 + p&p

WOODPACK AND PLAN AVAILABLE

RIVA AQUARAMA CNC

Designed by: K.J. Laugere
Shown on a two sheet plan, giving all frames, templates and some construction data. Powered by twin 400 motors driving twin shafts. Scale appearance with sparkling performance!
BEAM: 21cm LENGTH: 73cm POWER SOURCE: Twin 400 motors
Plan Product Code: MAR2552 £16.50 + p&p
Woodpack Product Code: WP2552 £55.99 + p&p

WOODPACK AND PLAN AVAILABLE

PILOT BOAT

Designed by: Richard Webb
Semi scale river patrol boat. Designed for construction from styrene sheet.
BEAM: 190mm LENGTH: 630mm
Plan Product Code: MAR3062 £16.50 + p&p
Woodpack Product Code: WP3062 £53.00 + p&p

WOODPACK AND PLAN AVAILABLE

WEE NIP

Designed by: Graham Bantock
Beginner's simple chine hull design. Fits Strathclyde 70 Class. Modest cost and simple rig makes it ideal club or school project.
Plan Product Code: MAR2966 £16.50 + p&p
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TRAPLET BEST-SELLER

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VOSPER MTB 379

Designed by: Barrie Griffin
A three sheet plan of the Vosper Motor Torpedo Boat 379. Built for the Royal Navy by Vosper in 1942 these heavily armed and fast patrol boats were very active during and after WW2.. An ideal relatively quick build project.
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HMS BRUSH

Designed by: Hal Harrison
A small minesweeper type 510mm by 100mm 1.25kg weight for single 380 electric motor and two function RC. Balsa and card construction A super starting point for beginners.
Difficulty ●○○○
Product code: MAR2441
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HMS KILBURY

Designed by: Clive Halliwell
Balsa and card semi-scale model of a KIL class patrol boat. Length 760mm and beam 140mm. Simple superstructure and easy access to motor and gear.
Difficulty ●○○○
Product code: MAR2802
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FERRY PAX SERVO

Designed by: E. Kennedy
A small, lightweight semi-scale ferry driven by a modified servo motor. Balsa construction, ideal for sheltered waters and swimming pools. Length 29cm, beam 6cm.
Difficulty ●○○○
Product code: MAR3322
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FANATIC

Designed by: Roger Clark
Roger Clark's winning 12 cell fast electric outrigger 600mm loa by 400mm beam over sponsons designed round the ubiquitous Graupner 700 BB powerplant. Superbly fast and stable yet fairly easy to make.
Difficulty ●●○○
Product code: MAR2451
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NOW: £12.15 + p&p

PIBROCH

Designed by: Sandy Cousins
A 1:50th scale Clyde Puffer of the Scotts of Bowling built ship. The model is 400mm loa and 112mm beam and fully detailed over two extensive sheets. A short feature in March 1997 MMI gives a little more information.
Difficulty ●●○○
Product code: MAR2562
~~RRP: £18.99 + p&p~~
NOW: £17.09 + p&p

RAVENNA

Designed by: Jim Pottinger
Two sheet plans for a sport fishing fast motor cruiser 1:12 scale length 736 mm and beam 230 mm. Plans show some internal details for either single or twin electric motor drive.
Difficulty ●●●○
Product code: MAR3148
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MV ANTARIES

Designed by: Jim Pottinger
A 3 sheet detailed plan of a modern fishing trawler, with a bulbous hull. Drawn at 1:25 scale from the original shipyard plans for the experienced modeler as no model construction shown.
Difficulty ●●●○
Product code: MAR3432
~~RRP: £18.99 + p&p~~
NOW: £17.09 + p&p

CROWLEY 19

Designed by: Bryant Thompson
Three sheet plans at 1:24th scale for a vintage gas powered San Francisco tugboat built 1913. Full model data including hull frames and deck details for a planked timber hull single screw electric powered. Length 810mm and beam 220mm.
Difficulty ●○○○
Product code: MAR2753
~~RRP: £16.50 + p&p~~
NOW: £14.85 + p&p

PIERRE BROUSSE

Designed by: J. Pottinger
A two sheet detailed plan of an attractive Rhine pusher tug. This is for the experienced modeller, as yet a model has not been built of these plans.
Difficulty ●●●●
Product code: MAR3408
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FIREBLADE

Designed by: Charles Detriche
A simple multichine IOM class design. Based on Fireball dinghy. Single sheet plan gives hull lines and frames no construction info and rig size data.
Difficulty ●●○○
Product code: MAR3024
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NOW: £10.35 + p&p

FIJI MAGIC

Designed by: John Spencer
A variation of John Spencer's Why Not hull to produce an original una-sail schooner rigged model for fun sailing. Plans drawn by Henry Farley on two fully detailed sheets with rig and sail data.
Difficulty ●●○○
Product code: MAR2425
~~RRP: £18.99 + p&p~~
NOW: £17.09 +p&p

UNDINE

Designed by: Hal Harrison
Dynamic dive semi-scale submarine. Practical and simple model with water tight radio and motor compartment. Uses only two function standard RC and forward speed to achieve dive mode. Length 760mm and beam 60mm ply and balsa with some plastic sheet.
Difficulty ●●○○
Product code: MAR2901
~~RRP: £11.50 + p&p~~
NOW: £10.35 + p&p

*Prices subject to change. Offer ends 27.10.16

KEY TO DIFFICULTY RATING

To help you choose the right plan, we have rated each one from one to four, which reflect the difficulty or the amount of experience you will need to understand the drawings.

●○○○ One rating means that the plan is an elementary design suitable for the beginner or first time plan builder.
●●○○ Two ratings mean that some previous experience with kit or plans is desirable, or if you are a novice, some advice from an experienced modeller will be required.
●●●○ Three ratings mean that the plan involves methods that require a lot of knowledge and several previous models should have been completed before tackling this one.
●●●● Four ratings mean that the plans are for the most experienced modellers only and that advanced techniques will be required to complete the model.

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Kit includes:
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Approx size: 24" x 7" 1/35th scale
Product code: TW31

£24.95 + p&p

US MIAMI CLASS CRASH TENDER BOAT KIT

This kit is based on a Miami Class Rescue Tender and is formed of High Impact Styrene for you to add your own hardware and detail.
Kit includes:
Hull, deck, superstructure, spray deflection, boat stands, servo & motor mount and instructions.
Approx size: 24" x 6" 1/35th scale
Product code:TW30

£24.95 + p&p

WW2 BRITISH AIR SEA RESCUE LAUNCH BOAT KIT

This kit is based on an RAF ASRL Boat and is formed of High Impact Styrene for you to add your own hardware and detail.
Kit includes:
Hull, deck, superstructure, windowscreen, clear gun covers, dinghy, boat stand, servo & motor mount and instructions.
Approx size: 24" x 7" 1/35th scale
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Quentin Roosevelt under full power

QUENTIN ROOSEVELT 1918 (PART 2) – A 1 CM³ STEAM ENGINE

RENÉ LEFÈVRE EXPLAINS HOW HE BUILT A STEAM PROPULSION PLANT TO EQUIP HIS FRENCH AVISO QUENTIN ROOSEVELT FROM 1918 DESCRIBED IN PART 1 OF THE ARTICLE

AUTHOR: ERIC BAUTHIER

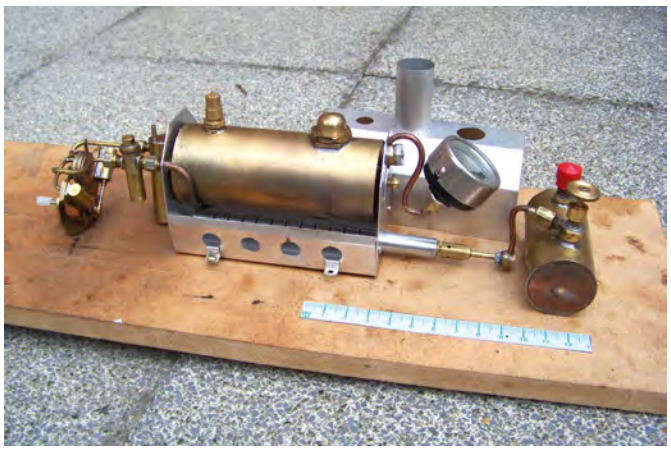
The engine in question is a two-cylinder dual acting oscillating V engine equipped with a reversing mechanism. Everything, including the engine, boiler, and additional equipment was built on a removable tray and weighed 600 g in total. The cylinders have a bore of 6 mm with a stroke of 9 mm giving a geometry of 6:9.

It is perhaps useful to remember that the volume of a cylinder is calculated as follows: Volume = Pi x (Radius)² x height, or $V = \pi \times r^2 \times h$, which in our case is: $V = 3.14 \times 3^2 \times 9 = 250$ mm³ (actually 254,343 mm), or a displacement of 0.25 cm³, for a single cylinder. Because this engine has two cylinders, we assume we have a 0.50 cm³ engine. However, the system is double acting, i.e. each cylinder receives two pulses of steam, one to push the cylinder up, and the other to push it down. Thus, for one full turn of the flywheel wheel (or the crankshaft), four pulses of steam are necessary, making the engine equivalent to four times 0.25 cm³, i.e. a cubic centimetre.

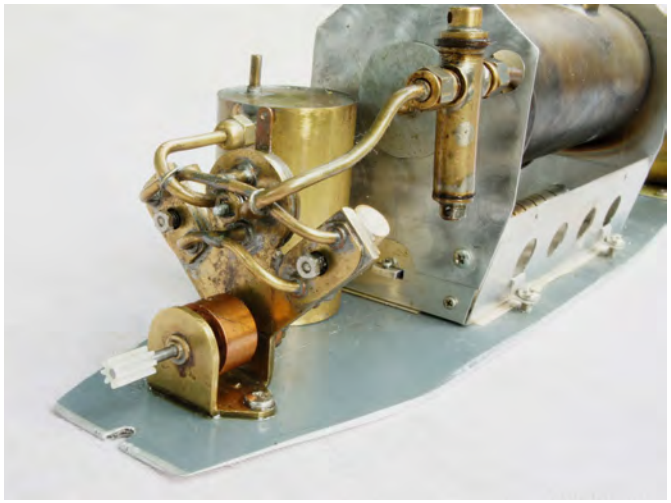
As for the volume of the boiler, the operational period of the model depends upon the motor speed, the steam pressure and the volume of water contained in the boiler. If the water can be drawn directly from the lake, for example through a mechanical pump driven by the motor, only the quantity of gas on board would determine the sailing duration.

SOME NOTES ON THE CONSTRUCTION OF THE ENGINE

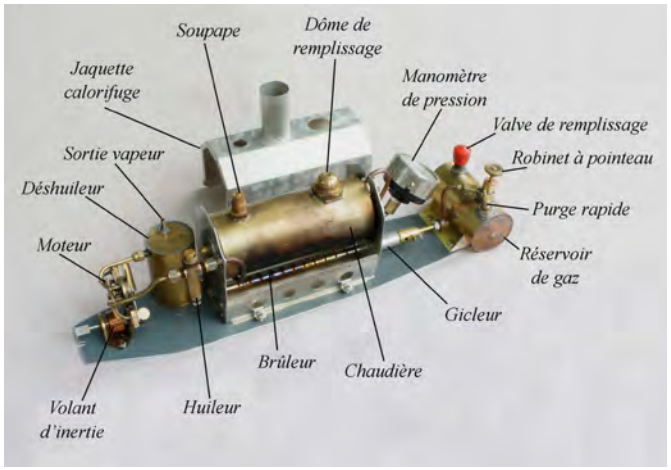
René Lefèvre designed the engine and boiler and drew the plans himself. The measurements can be multiplied to obtain a larger engine or boiler. Apart from the steel axles, the engine was made entirely in copper and brass, using sheets, tubes and bars. All these parts were soldered with tin only the 'T'-shaped steam connectors are brazed, in order to give them greater strength when under bending strain. After this operation and adjustment the tubes, which were the steam intake and exhaust tubes, have their tips soldered



The entire engine on the test bench. All built on a removable tray



The engine with its output, which will be geared down by 2:1

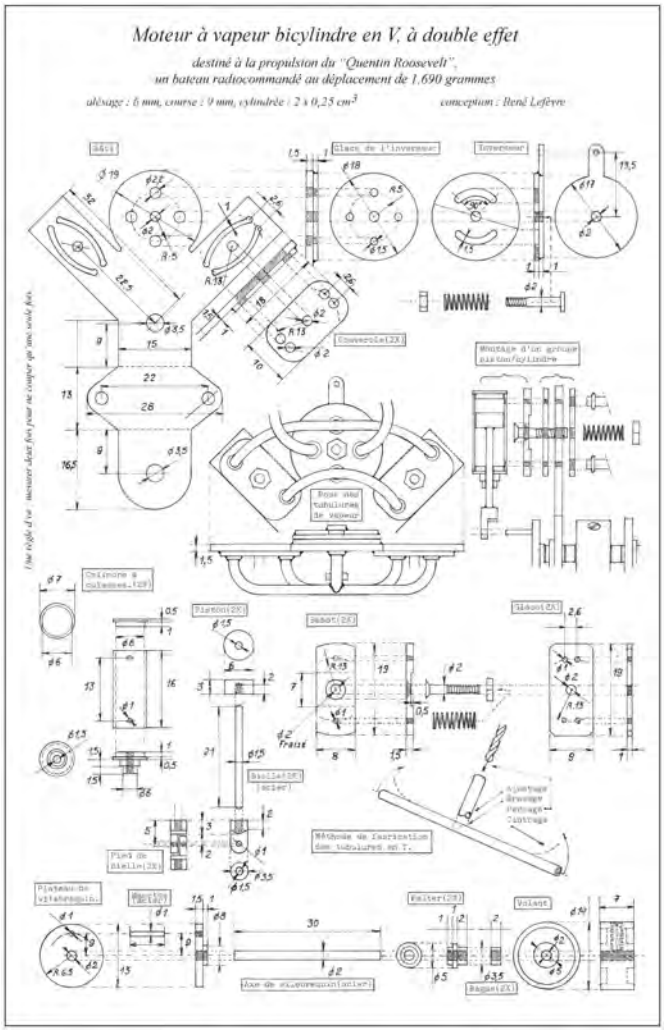


The steam engine components.

into their respective holes. Small copper rings, a kind of washer, reinforce these solder joints.

To simplify the piping, slits were made in the thickness of the frame and they connect, in pairs, the intake and exhaust openings located on the steam pipe cover. These four slots then became steam passages when the outer and inner cover plates were soldered on either side of the frame.

The engine was connected to the propeller shaft in a semi-direct manner, i.e. through a 2:1 reduction gear made up of two nylon gears (i.e. two revolutions of the engine for one of the propeller). The pistons were not equipped with rings and so the proper fit of the piston in the cylinder was achieved by careful adjustment as follows.



Plan of steam engine construction

The cylinder was installed in the jaws of a rotary drill and the interior coated with a mixture of oil and an abrasive cream, similar to that used to shine copper for example, such as Sidol. While the cylinder was rotated, the piston was pushed in from the front to the back. This operation was repeated using fresh oil and abrasive until the ideal bore was achieved.

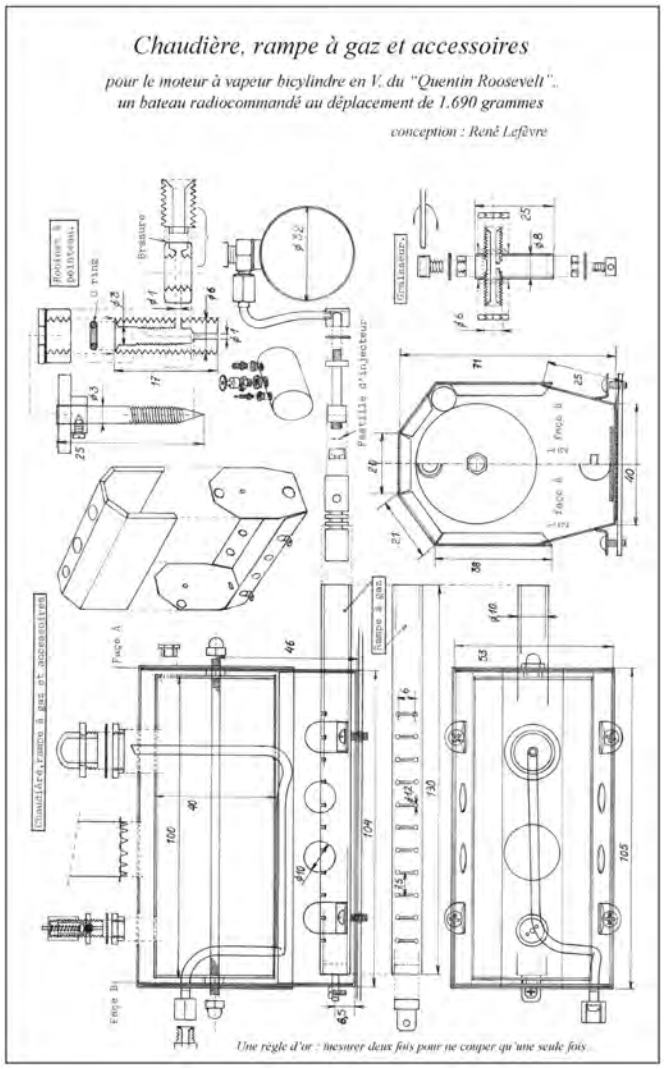
THE BOILER

The engine was supplied with steam from a boiler made from a copper tube 40 mm in diameter and 100 mm long, which gave a volume of 125.6 cm³. The ends were closed with two circular flanges. The capacity of this boiler allowed sailing for 10 minutes at full throttle with the small engine described here.

Holes were cut in the centre of the end flanges and a 3 mm threaded bar was passed through the middle of the boiler and soldered at each end. This gave additional reinforcement to the boiler body, and also aided the attachment of the boiler to its insulated jacket using cap nuts.

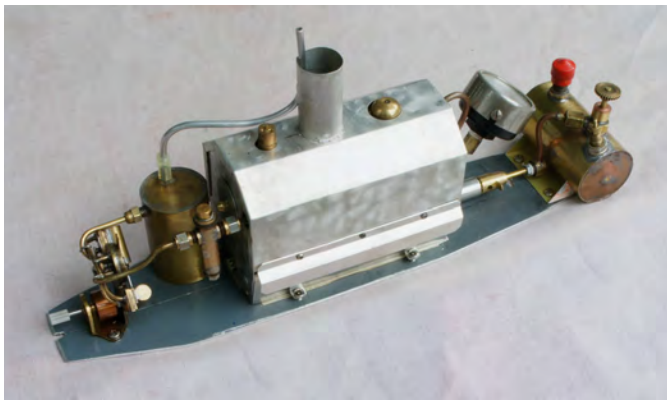
The boiler was fitted with a miniature ball valve and a dome, made from a piece of plumbing and sanitary component adapted for the purpose. The latter served as the filler cap and the high point for delivering steam. A pressure outlet was fitted into one of the flanges with the aim of installing a pressure gauge. Although this gauge was not necessary it was useful for indicating when the operating pressure had been reached. Of course all the boiler components needed to be brazed.

The boiler was surrounded by an insulated jacket made in two parts from folded 0.5 mm aluminium sheet. The top slides over the base part and together they have openings for the evacuation of exhaust gas and adequate ventilation for the burner.



Plan of boiler, burner and gas tank

The gas tank



The whole steam plant installed on its plate

The same type of mini torch used for the boiler shown here, only the burner was used

The boiler was two-thirds filled with water in order to leave a space where the steam could form. In the body of the boiler, the steam tube takes the steam from the highest point, under the dome, so that it had very few droplets formed by the boiling water. The pressurised steam in the steam tube then passed through the bottom of boiler and was further heated by the burner flames.

This simplified superheating evaporated any remaining water droplets into steam, to prevent condensation in the pipes; in this case we use the term 'dry steaming'. The steam pipe then links to the condenser, motor oiler and changeover valve.

At the exhaust of the engine the used steam enters a small reservoir, which collected the small drops of oil and condensate, while residual clean steam was conducted, via an aluminium tube, to the chimney where it escapes.

THE HEATING SYSTEM

To heat the boiler, René Lefèvre opted for a gas system. The set included a gas tank of a similar design to the boiler, i.e. a copper tube 30 mm in diameter and 60 mm long. It was fitted with a car tyre valve for filling, a bicycle style valve for venting and an outlet valve, or more exactly a needle valve with its fitting, to supply the gas to the burner.

The burner consisted of a stainless steel tube 128 mm long with an outer diameter of 10 mm. This material could have been replaced by aluminium, copper or other metal. One end was closed by a 'forced on' endcap, which also provided a locating pin to position the burner correctly under the boiler.

Eleven pairs of holes 1.2 mm diameter were drilled each side of the burner tube. They were spaced 6 mm apart and connected a pair of small 'bleeding' slots 0.8 mm wide cut using a fine saw. Each of these pairs was spaced 7.5 mm from each other. Into this tube was inserted the air/fuel mixing device which, in this case was the sleeve and nozzle from a mini blowtorch type gas pencil as have been marketed for a few years.

The burner, now separated from the original body of the torch, was suitable for connecting to the gas valve. Its nozzle consisted of a round metal disc pierced, in the centre, with a tiny hole. At first this hole was too small to operate the whole burner and so it was gradually enlarged until a nice alignment of blue flames was achieved. A number of discs were made by punching them out from thin metal and then drilled and reamed, using a needle file, to get the variety of hole sizes needed to finally get the correct setting for the burner.

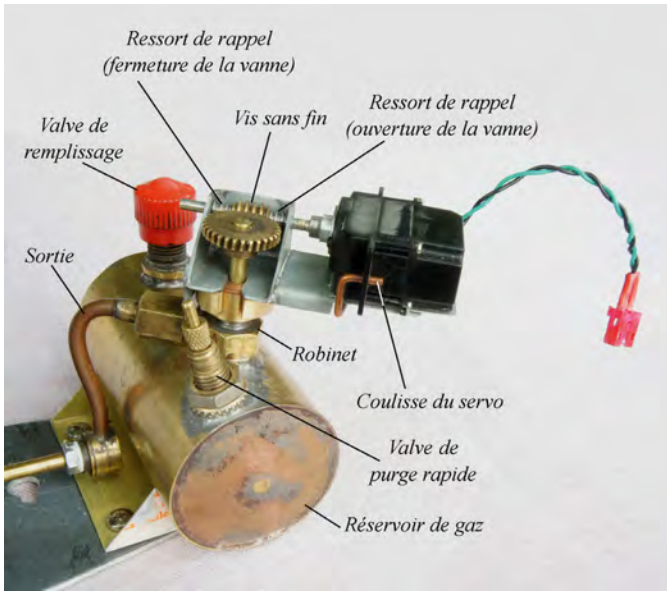
As has already been stated, all the steam plant, i.e. the boiler, the engine and accessories, were mounted on a removable aluminium tray, which was formed to fit the hull of Quentin Roosevelt.

THE NEEDLE VALVE

It is probably useful to dwell here on the making of the needle valve, a device installed on the gas tank, which is used to adjust the flow of steam.

Made in brass, it was essentially built from two nuts, a section of threaded 6 mm rod and a piece of 3 mm diameter round bar. The threaded rod was cut to measure 17 mm long. It was drilled in the centre in two stages: first to a diameter of 2.5 mm and depth 12.5 mm, and then all the way through with using a 1 mm drill. The 2.5 mm hole is then opened to 3 mm diameter for a depth of 3 mm. Finally, the 2.5 mm section was threaded and the edges chamfered.

A small hole was formed in one side of one of the two nuts, which engaged with the machined end of a flare nut; the two parts were then soldered together. This assembly was then screwed onto the threaded rod, until 4 mm of thread remained below it, and carefully soldered with tin. This was just above the internal taper of the valve body and a 1 mm hole was drilled from the threaded outside to the internal cavity; this became the gas outlet.



Control system that acts on the gas supply valve and the safety mechanism

The needle was made from 3 mm round bar cut to a length of 25 mm. One end was tapered, while the rest was threaded up to half the length. At the other end a circular knurled disc with a shoulder, a component like a wheel, was fixed by the means of a grub screw. This made the rotary handle for the valve.

All that remained was to make the cap fitted with an 'O' ring seal. This consisted of the second nut soldered to a disc. The latter was drilled out using a 3 mm drill. The outside diameter of the nut was reduced from 9 to 8 mm.

The assembly of this control valve was simple: just screw the needle into the valve body and 'O' ring seal until the taper just married with the chamfer. The cap was then screwed down tight to seal the assembly. Finally, the valve was screwed into the fitting on the gas tank with a gasket.

SOME TIMELY SECURITY MEASURES

The small steam engine that propels the Quentin Roosevelt, which has a displacement of 1,690 grams, is not very powerful and our sailing lakes are not always clean. So when weed wraps around the propeller, the engine stalls, resulting in overheating, even if the pressure release valve works properly. There are effective security systems on the market, such as automatic shutdown, but they can be cumbersome in such a small model and require additional pipes and fittings. René Lefèvre, has devised a R/C system which acts directly on the needle valve of the gas supply (the one just described).

As has already been explained, to open and close the inlet gas valve the knurled valve wheel needs to be manually turned. To automate this the latter was replaced by a toothed wheel meshing with a worm gear. The worm gear was fitted onto the extended output shaft of a mini-servo inside which only the motor and the gears were used. On either side of this worm gear were fitted two small return springs, which have the task of operating the limit switches and preventing blockages. Thus this worm gear moves slightly forward and backward.

The assembly was mounted on a zinc bracket, but the servo was not rigidly fixed, as it must respond to the small movements of the worm gear. It slides easily on two horizontal copper bars fitted around the bracket. All of this fitted onto the valves screw plug and was held in place by a split ring, which made it easy to remove if necessary.

A servo closes a micro-switch placed inside the model and actuates, via batteries, the mini servo's motor. This opens the needle valve a little. Fed with gas, the boiler may then be lit, and steam raised for sailing. If a major problem, such as the motor stopping, occurs or just at the end of sailing before docking, the valve is closed via a second micro-switch. This switch reverses the polarity on the micro servo motor and the worm gear closes the valve in 3 to 4 seconds... This manoeuvre is actuated by means of the trims on the transmitter, as only a two channel R/C system was used. The servo was actuated when maximum reverse was applied.

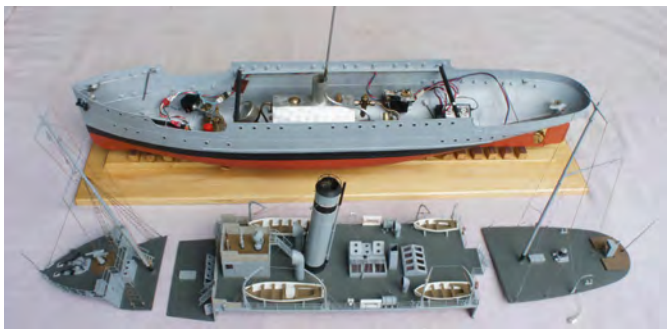
TO CONCLUDE

Despite its small size this steam engine is fully functional. As has already been said, the displacement, and hence the power, may be increased by simply enlarging the scale, as can be done for the boiler.

The reduced size plans have been reproduced in this article but the A4 size plans can be downloaded from the MMI website as a free download http://thehobbyhub.com

In a third part René will describe how he made interchangeable propulsion systems for the Quentin Roosevelt, one steam, and the other electric... ***MMI***

Even though this view is somewhat overexposed, it shows the Quentin Roosevelt in the first test of its steam propulsion



For access to the internal machinery the decking was completely removable

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GREAT BRITAIN

LAUNCHER

BRIAN DESIGNS AND BUILDS HIS BOAT LAUNCHER

AUTHOR: BRIAN KNIGHT

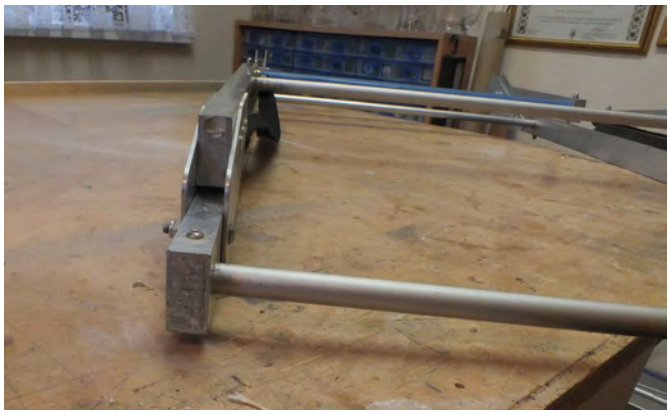
Have you noticed how the boats seem to get heavier and harder to launch and the water appears to get lower as we mature? (In keeping with normal practice I blame either global warming or the Government). But my very wise better half insists it's because I'm getting older!

The obvious solution is to use a launching cradle. There are some very ingenious and well-made examples in the model boat fraternity, but I could not find one to the specifications I wanted, namely: it had to be light, strong enough to hold around 35 kilograms (I have some very heavy boats) and most importantly it had to fold flat. So on to the computer with old faithful CorelDRAW, and start designing.

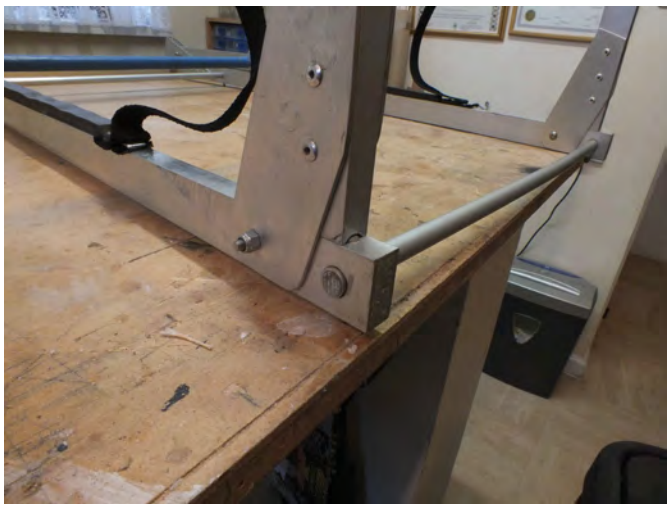
After a few modifications and extensive testing at the lake with various members' model boats I am happy to publish full diagrams and drawings for any readers it may help. I will not go into a detailed build, I think the drawings and photos will do that better than I can, I will add some tips that are not on the plans.

Unit open ready to ease your back

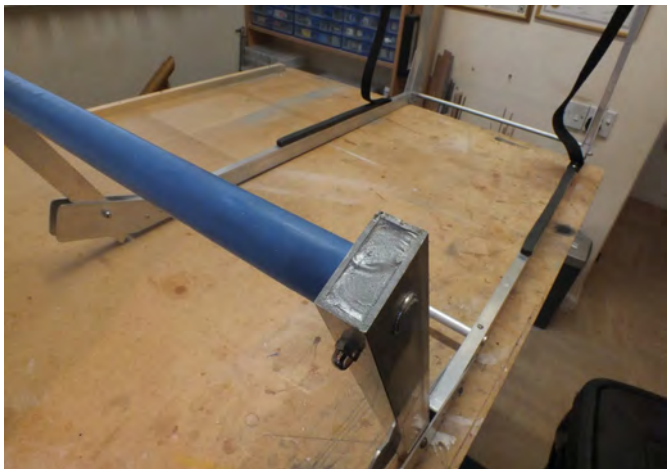
Collapsed for transport



Tube blocked to prevent water ingress



Detail of bottom hinge



Top tube reinforced with wood block

Bottom cradle arms

Assembly in progress

Bottom bracket detail

Bottom aluminium tube blocked (tube can be extended to fit wheels)

More handle bracket detail

Heavy boat loaded ready for launching

Hook and eye latch to lock into position

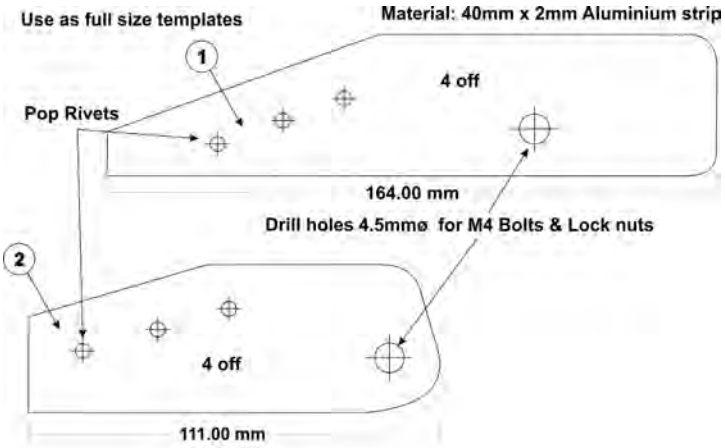
I cut pieces of 22 mm x 9 mm wood or the closest size you can get trimmed to fit firmly into the end of the square tubing long enough to extend past the bolt holes. This serves two purposes: the first it prevents the tubing from distorting when tightening the bolts and secondly it stops water from getting into the tube. I inserted the wood 3 or 4 mm in from the end and filled this with P38 filler. The cross tubing #3 was also fitted with a piece of dowel into the end and bolted through the square tubing.

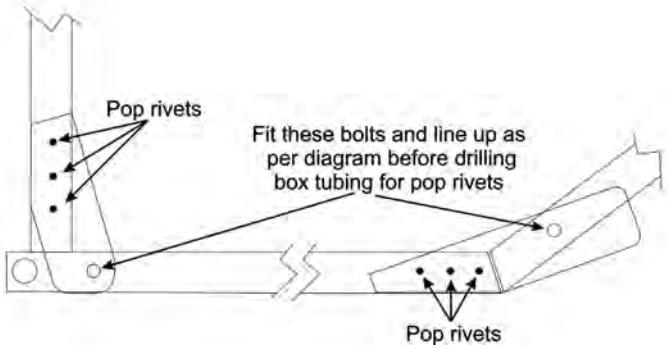
The handle part #3 & #4 was given extra strength by fitting a dowel in the centre the full length and covered with a piece of garden hose for comfort, cut down the length (it was too tight to slide over the tube) and a piece of heat-shrink tubing to hold it closed (but binding it with self-amalgamating tape or insulation works just as well).

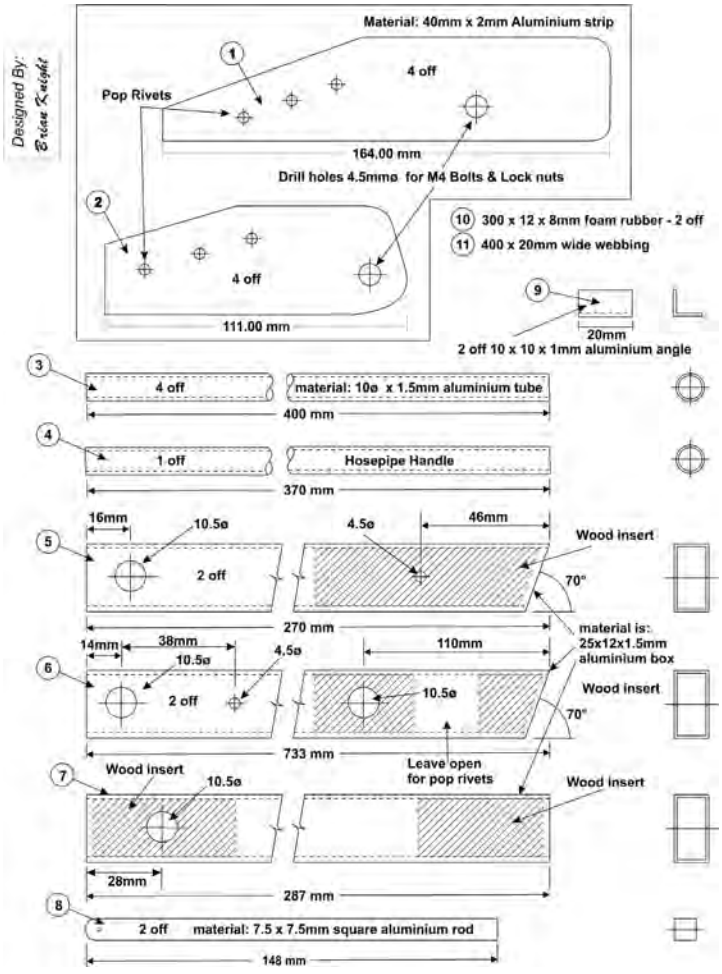
Note: Fit plates #1 to #5 with bolts first and line up with the handle in the open position BEFORE drilling #6 uprights for pop rivets, and fit plates #2 to #6 uprights with bolts and line up in the open position BEFORE drilling #7 for pop rivets (Details as per drawing). After using the cradle I found when placing the model on the cradle the unit had a tendency to fold with the weight of the model, I corrected this by fitting a hook latch as per photo, an enthusiastic modeller also had a very good idea of extending the bottom rod and adding wheels.

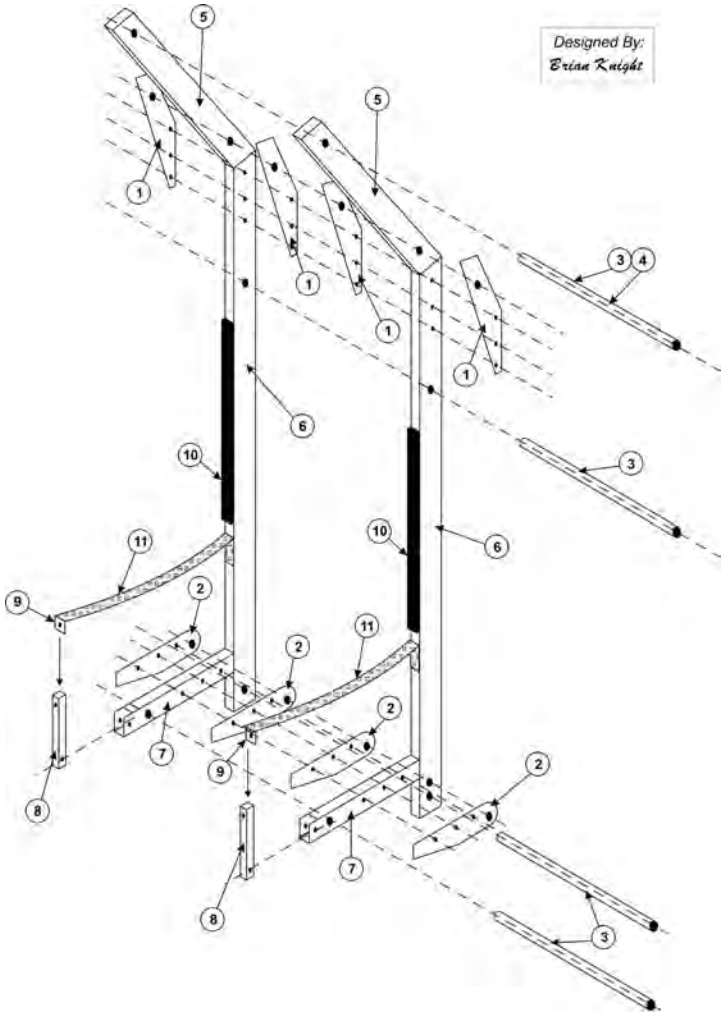
I purchased the material from www.metals4u.co.uk and the various bolts, nuts, lock nuts and dome nuts from www.orbitalfasteners.co.uk. The reduced size plans have been reproduced in this article but the A4 size plans can be downloaded from the MMI web site as a free download http://thehobbyhub.com

I hope this helps it certainly helps my back! ***MMI***









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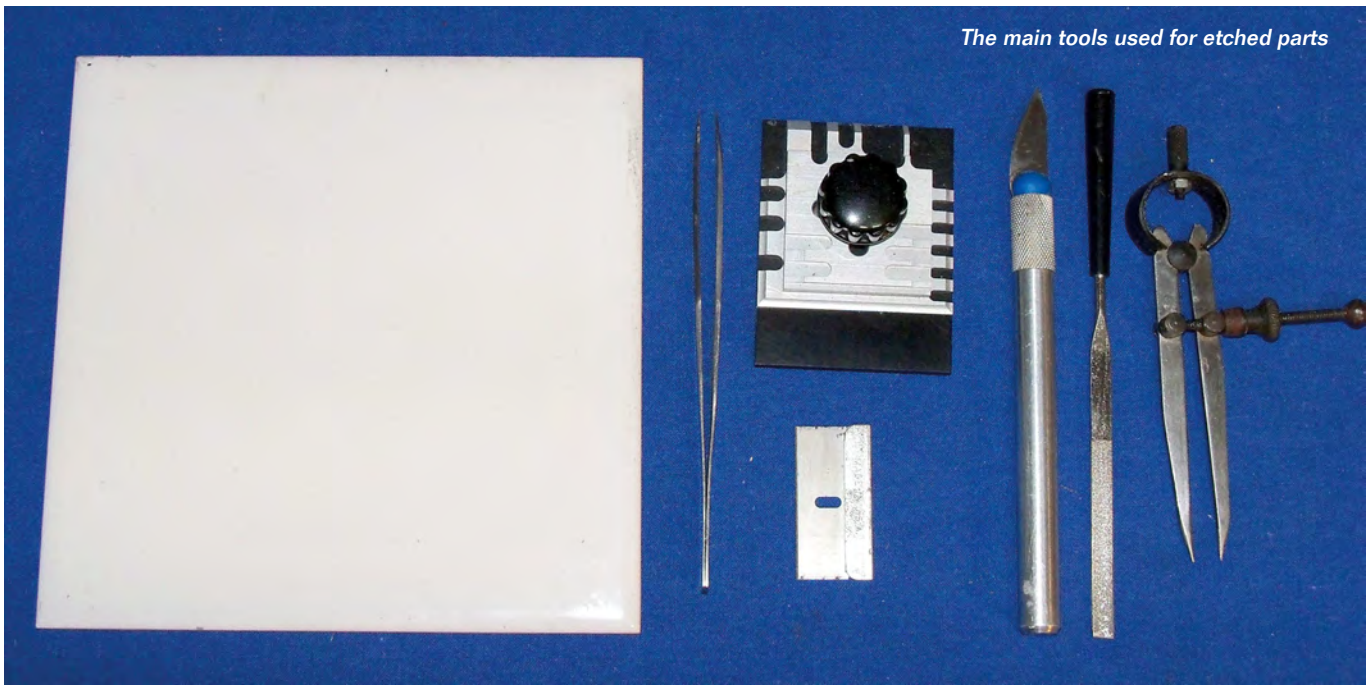


The main tools used for etched parts

PHOTO-ETCHED MODELLING FOR BEGINNERS

ROBIN GIVES SOME HINTS AND TIPS ON ADDING PHOTO-ETCHED COMPONENTS TO ENHANCE A MODEL

AUTHOR: ROBIN TROTT

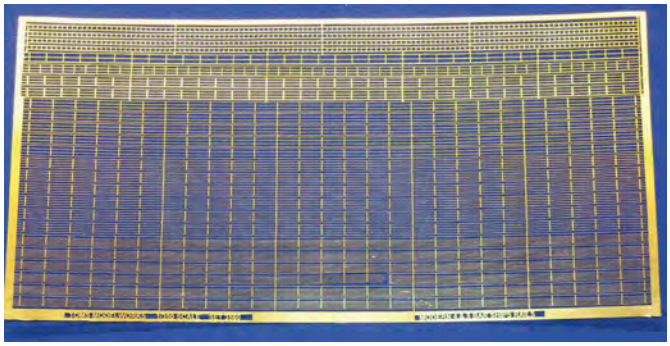
Working with photo-etched (P/E) parts can look very daunting and even frightening to many modellers; it was for me when I first used some 1/700 scale P/E railings. These were to go around the deck of a model battleship I was building at the time; I must admit I did ruin many of the sections before I had finished.

It was a case of trial and error but in the end I found a way that was comfortable to work with these types of railings. When buying P/E fittings and sets there are usually no instructions on how to remove the parts from the fret and how to fix them in place, so where do you begin? I read through many articles and books to find the easiest way, but they give many different suggestions which can be very confusing. In time I began using many of the techniques I had learned from them and developed my own procedure of P/E modelling. So in this article I will give details of my way of working with P/E; it may seem strange for some modellers with experience of P/E but it worked for me.

WHERE TO BEGIN, SHIPS RAILINGS

I will start with what must be the most common etched parts for the marine modeller, the ships railings; these are available in many different scales so make sure you purchase the correct scale for the model you are building. They usually come on a fret with several lengths of railings.

To begin with I gently wipe the complete fret with thinners or white spirit to remove any residue from the etching process which may stop paint from adhering to the etched parts surfaces. Take care when doing this as a rough cloth may snag the etched part and bend it out of shape. Paint before or after, the choice is yours. Sometimes I spray the complete fret before removing any parts, but the only problem with this is if the part has to be bent to shape around the deck the paint may flake off, so it will need repainting after being fixed in position.



Ship railings fret

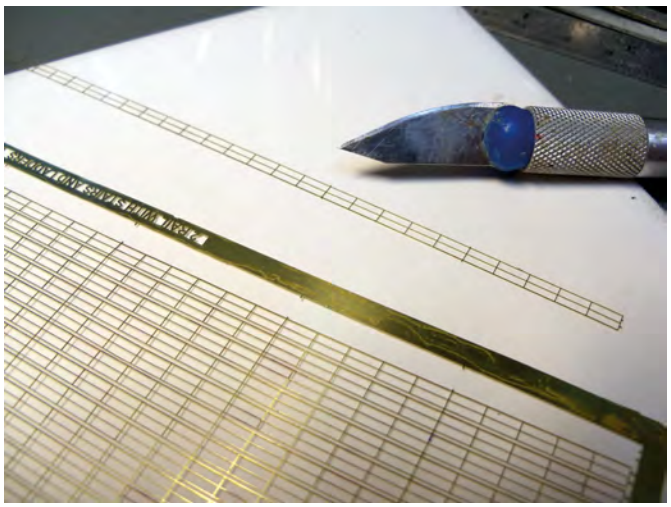
One thing to watch out for; if it is attached before painting make sure you can still access the area to be painted as on some very small models this can be a problem. What paint to use? Enamel paint is probably best although I do use a lot of acrylics; always apply in thin coats as too thick paint will clog the fine etching detail.

REMOVING FROM FRET

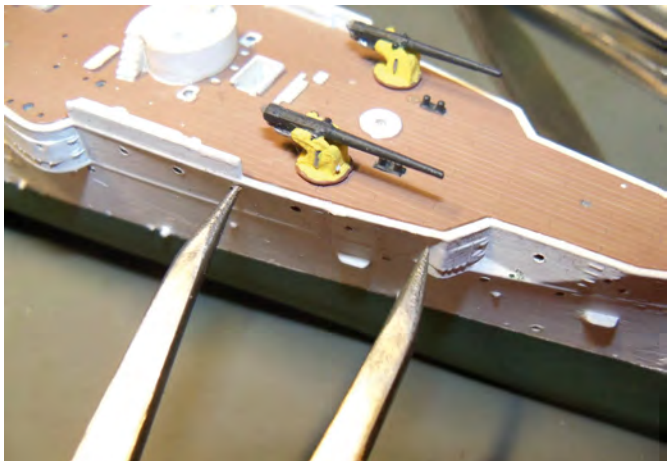
This can be achieved by using a sharp modelling knife with a curved blade. When you look at the fret holding the railings you will see that they are held in place by small tabs joining them to the fret's frame and to the other railings. These small tabs are what you cut through to remove the railings.

The fret needs to be placed on a hard surface; I use smooth bathroom wall tiles. Holding the fret securely I place the knife blade over the tab and with a firm but gentle rocking motion the tab is cut; do not try to draw the blade along the length of the rail to cut all the tabs in one go as it will probably pull the railing out of shape and ruin it. I have done this myself so we do learn from our mistakes.

Any small bits left on the part after cutting from the fret can be removed with a flat needle file drawn gently along the tab in one direction only.



Removed from fret

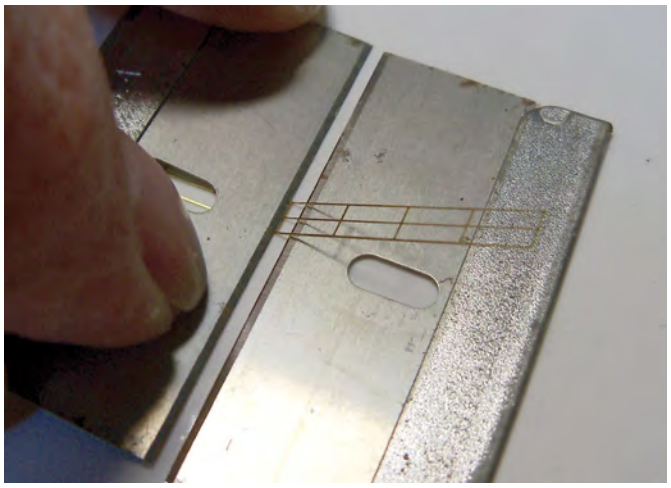


Taking measurements

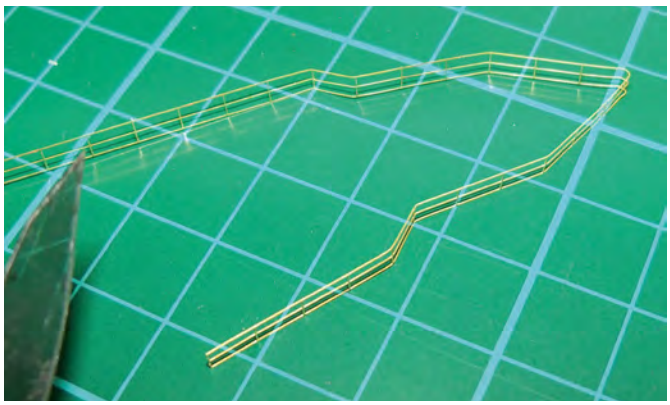
To get the correct length required I use a pair of callipers to measure the space where the railing is to be attached, this is then held against the complete length that has been removed from the fret and with the knife cut across all the rails using a rocking motion and it will cut very easily.

BENDING TO SHAPE

You will find that many of the railings need to be curved to follow the edge of the deck; this curve can be easily achieved by gently pressing the rail between the thumb and a finger until the shape required is obtained. If an angle is required this can be done using a folding tool or by the old tried and tested use of two flat blades.



Bending using 2 blades



Formed into shape

In the latter method one blade is used to hold the part down and the other is slid gently under the railing to the point where the other blade is holding down the railing and forming a straight edge; the blade is then bent upwards to form the angle required.

If a really pronounced curve is needed this can be formed by bending the railing around a wooden dowel or the handles of modeller's paintbrushes as they come in many different diameters. A complete circle can be formed using this method; to make the etched part bend more easily you can hold the part over a flame which makes the metal more malleable so it is easier to work with.

HOW TO ATTACH TO MODELS

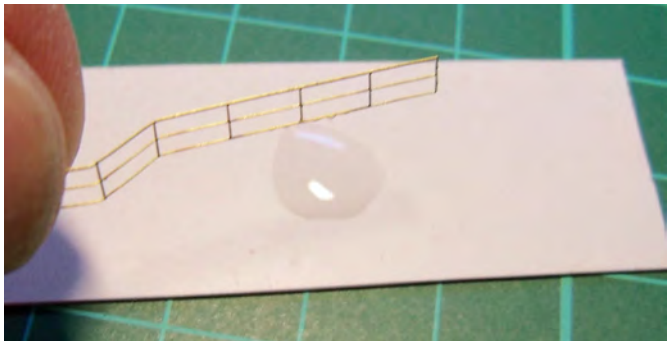
There are several ways to fix P/E railings to a model ship, some modellers use PVA adhesive while others use superglue; I use the latter as it is a stronger bond. I apply the glue by first pouring a small amount on to a flat surface so it looks like a water drip, this will remain liquefied for about 5 minutes before it becomes unusable.

Have the P/E railing ready cut to size and bent to the contour of the deck edge, I hold the railing in a pair of tweezers and drag the part through the glue so a thin film of glue is along the complete length of the bottom of the railing. The railing is then carefully placed in position at both ends with the glue already on the railing; the rest of the length is then gently pushed into position.

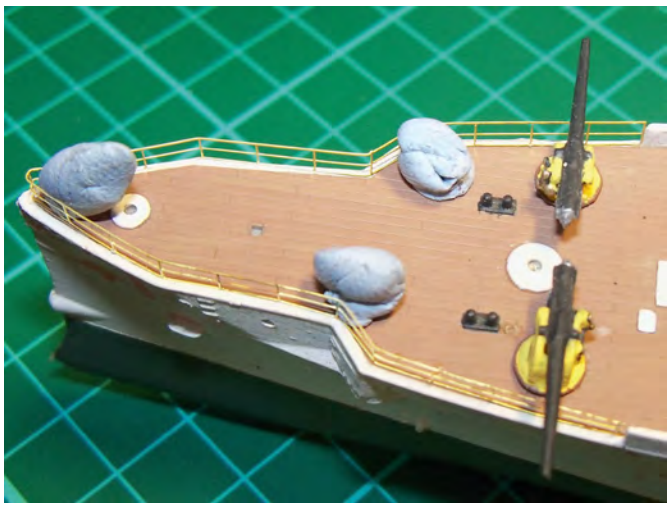
Some types of superglue do not bond instantly so sometimes I use Blu-Tack along the length just to support and hold it in position until it is firmly attached.

Along the edge of most ships decks are bollards and cleats so an opening is required in the railings. In 1/700 scale this does not really show but in the larger scales 1/350-1/200 it would look better to remove some of the rails where the railings pass in front of them.

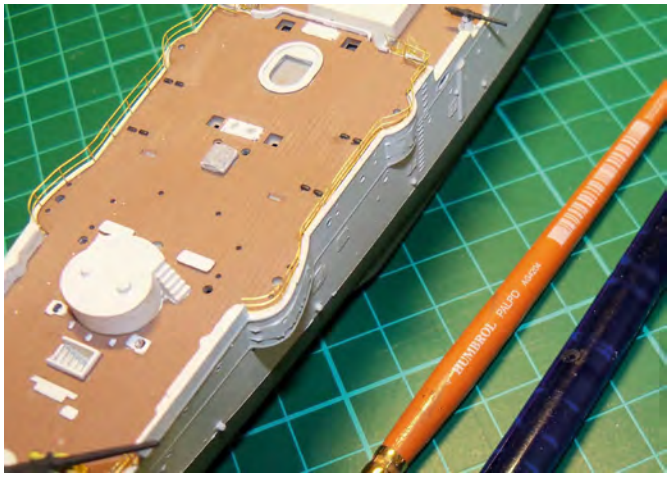
This is done before securing the railing in place, just measure where the gap is to be made and with a sharp blade remove the rail at the bottom and perhaps the second rail as well. Some P/E railings only have three rails so by removing two the railing is now very fragile so great care is needed when holding and fixing in position. Remember accurate measuring and dry-fitting is crucial before securely attaching the railing.



Adding adhesive



Held in position



Paintbrush handles used to produce gentle curves

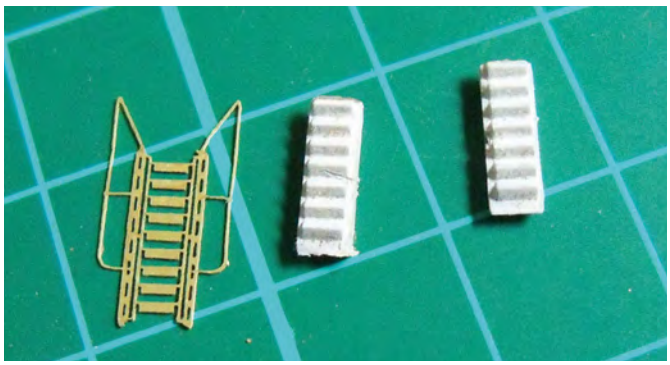
STEPS AND LADDERS

A lot of plastic ship kits have steps or stairways moulded in with the superstructure and decks of the models sometimes referred to by modellers as Aztec steps. They can look quite hideous and ruin the finished model. Many companies produce generic sets of P/E staircases and steps with or without hand rails that can replace the moulded plastic ones; these really look the part on the finished model.

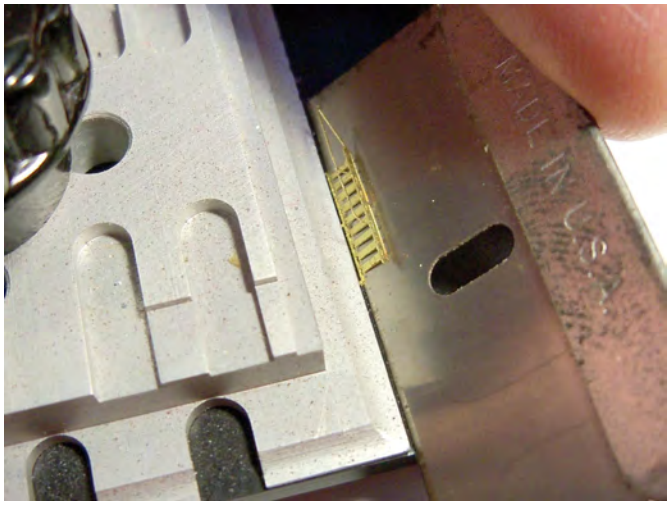
Start by carefully removing the moulded plastic steps with a sharp craft blade leaving a nice, clean finish. Select the type of P/E staircase needed and remove from the fret, they come flat so they need to be bent into shape. This is best done using a folding tool where the part can be held firmly while the handrails are bent upwards.

Now the awkward part, especially in the small 1/700 scale, is bending each tread of the stair case. Hold the part very gently between a finger and thumb and with a pair of finely pointed tweezers in the other hand, each tread is then grasped by the tweezers and bent 45 degrees to form the stairs; usually just gentle pressure is sufficient to bend them in position. A lot of care and patience is required doing this and you will ruin some of these P/E staircases before you have the skill to produce a finished staircase.

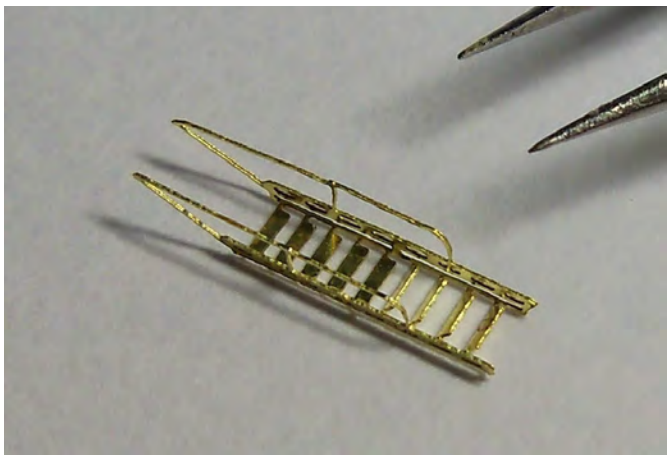
Because the underneath of the staircase will be inaccessible when fixed in position you could paint that part first. Just a spot of glue top and bottom will secure it in place. Ladders come on generic frets and these can be a flat type ladder which just need to be cut to the required length or some require the sides of the ladder bent upwards. The latter, when fixed in position, actually stands off the superstructure; again a bending tool is ideal for this job and just a dab of glue is needed to attach.



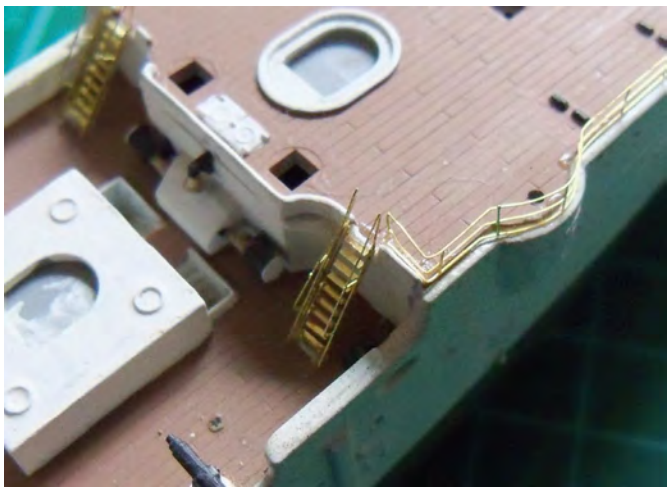
Aztec style plastic steps with replacement P/E part



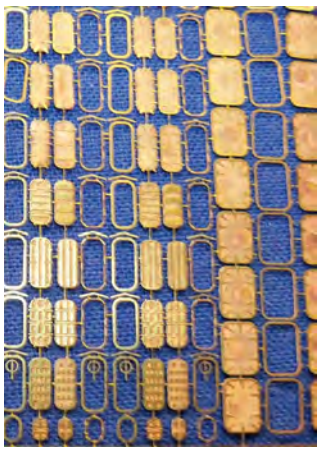
Staircase being folded using folding tool and blade



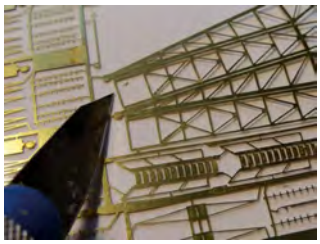
Treads being bent into position



Staircase in place



Doors and hatches fret



Cutting with a sharp curved blade

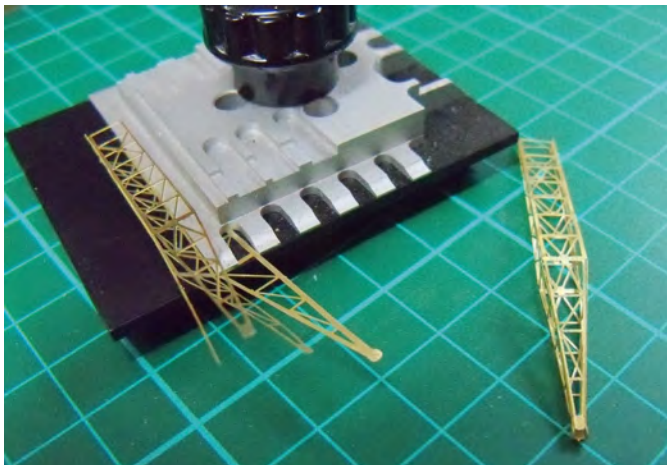
EXTRAS FOR THE BEGINNER

Handrails, stairs and ladders are the main P/E additions to many ship models for beginners, but there are also doors and hatches, which are just flat pieces used to replace moulded plastic detail. All you need to do is carefully remove the plastic detail with a craft knife or a sanding stick and glue the replacement P/E part in place.

MORE ADVANCED P/E PARTS

Once you have mastered the basic use of P/E fittings you can move on to some of the more complicated P/E fittings such as radars, cranes and weapons. These I will not go into as it would be impossible to try and describe the folding needed for some. I have included photographs of some of these types to show what can be achieved.

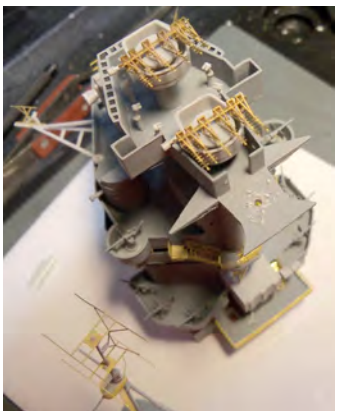
I have also included a photograph of a complete P/E model I have built of a German WW2 U-Boat from a company called Jasmine Models; it is in a skeleton form showing all the bulk heads and some interior fittings. It is in 1/350 scale and only 19.2 cm in length but comprises of 57 parts and required a lot of cutting, folding and concentration to assemble so don't try one of these models until you have mastered the art of P/E modelling.



Folding tool helps to produce complicated shapes

Etched parts add extra detail beneath mast star platform

These wax sticks are very useful for placing small parts

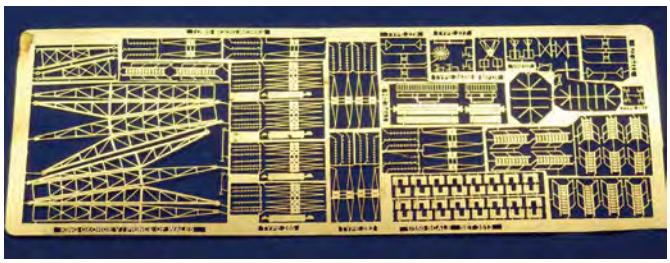


Very complicated parts used with this model

Adding P/E parts to any kit will increase the detail of that model. It just needs more time and a lot of patience, but don't be put off if it does go wrong just try again, it's worth it!

This article gives an insight into the techniques used by myself and I am still learning! I hope it may be of help those who are beginners to modelling and those who have not yet tried P/E modelling.

I would like to thank Tom's Modelworks for supplying many of the P/E frets for me to show their use in this article. Details of all Tom's Modelworks P/E sets can be found by visiting www.tomsmodelworks.com and www.whiteensignmodels.com. More details of the Jasmine U-Boat can be found at www.jasmodel.com. ***MMI***



All this on one fret can be very frightening for the beginner

Model U-Boat made completely from etched parts

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- ★ **Size: 73 mm x 51 mm x 26 mm.**

FR12X (12 amp. 6 to 24 volt) £28.95
FR12VR (12 amp. 6 to 24 volt plus B.E.C.) £31.35

Motors

We offer a small range of motors specially chosen for use in model boats. In addition we provide a leaflet with full details showing you what current to expect with the battery and propeller you intend to use. (Ask for your free copy)

Motor Type 653-33 (Fast patrol etc.)

High Power Medium Speed, 6 to 8V £8.75

6V,	Power 70W,	max. prop. 40 mm 'P'
8V,	Power 110W,	max. prop. 35 mm 'P'

Motor Type 653-17 (Fast patrol etc.)

High Power Medium Speed, 6 to 12V £17.95

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

Motor Type 543-24 (Modern scale)

We regret that the original 543-23 is no longer manufactured but is replaced by a specially wound 543-24 with similar speed and ratings.

Medium speed, 6 to 12V £17.45

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

Motor Type 543-17 (Modern scale)

Medium speed, 6 to 12V £17.45

6 V,	Power 10W,	max. prop. 55 mm 'P'
12 V,	Power 25W,	max. prop. 35 mm 'P'

Motor Type 543-12 (Traditional scale)

Very low drain, 6 to 12V £17.45

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

Motor Type 365-14 (Small scale)

Very low drain, 6 to 12V £5.15

6 V,	Power 2W,	max. prop. 55 mm 'P'
12V,	Power 7W,	max. prop. 30 mm 'P'

IMPORTANT

Choose the right controller for the motor you intend to use.

There is a common belief that the speed controller should be chosen to suit the stall current of the motor rather than the continuous running current. This is completely wrong and is no doubt due to experience of many controllers with exaggerated ratings. Please be assured that our controller ratings are realistic and in any case they have a lot of built in protection. There is no need to worry about the stall current that only lasts for a second or so as the motor accelerates from rest. As an extreme example our 653-33 motor is a moderately high speed 6 volt motor with a rated current of 15 Amp and a stall current of 92 Amp. That will run comfortably on one of our 15 Amp rated FR15HVR controllers. In fact there aren't many single motor set ups that won't run on one of our 15 Amp controllers.

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

Please add £3.00 to cover Royal Mail First Class post.

We regret that we have had to add postage to our prices but, due to repeated price increases, this is now Royal Mail's minimum First Class charge for one of our controllers. ***There are no other "add on" costs.***

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Pay by any major debit/credit card or cheque payable to Electronize Design.

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

Who are we? Well we're not a "cowboy" company, we've made speed controllers for 22 years and earned an enviable reputation for quality and performance. We're a small family run business with the benefit of many years experience in aircraft and automotive electronics and we carry those high standards of engineering and quality on in our speed controllers. Our aim is to achieve the right balance of performance, reliability, quality and cost. So our controllers will never be "small and cheap". Likewise you can be assured that the claims we make are honest and accurate and free of meaningless jargon or exaggeration.

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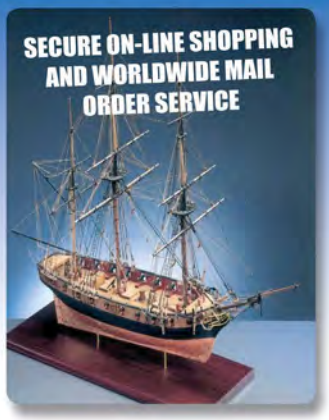

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