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MAY 2012

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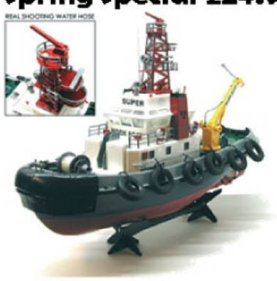

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CONTENTS

MAY 2012 – ISSUE 302

COVER STORY
OUTLAW JUNIOR OBL
Fast Electric racing is one of, if not the most popular and competitive parts, of our hobby. The modellers attending F/E meets are steadily increasing and it is particularly popular with some of the youngsters who like the speed and thrills of this type of racing. This particular review is one of the new generation of F/E boats with 2.4 GHz radio and brushless motor and should prove very competitive when raced in organised races by Electra or some of the locally based racing orgainsers like SWAMBC (South West Association of Model Boat Clubs).

Regulars

Features

MESSAGE
FROM THE BRIDGE

GREETINGS ALL!

I know I have said it before but as we are an international magazine we do like to know what is happening in different parts of the world with our hobby and share with readers any information and events. This is not only useful for readers in your respective country but also for visiting modellers on holiday where useful contacts can be made of modelling methods and any future projects. I have had a few comments from readers asking for more articles on specific specialities i.e. more on warships and on racing yachts, likewise I have comments to the contrary i.e. LESS warship and racing yacht articles! I try each month to publish a balance of articles but sometimes it is not an exact balance and I understand when readers get annoyed if their specialty is not given as much coverage as they would like.

In this month's edition we have a feature plan of the Swedish corvette HMS Helsingborg, which was built from pictures taken when the warship visited a UK port. The Marie Felling tug kit has been in production for a number of years and after requests from readers we are starting a two-part article on the build of this tug. As always we are keen to publish articles on different marine craft to inspire the reader but this month we have an interesting article and plans of a Bristol Channel Mud Horse, I will stand corrected by the purist reader who may describe this craft as not actually floating on water BUT it is a dying traditional fishing craft and floats, or should I say skates, on mud! To speed things up we have a review of one of the latest RTR Fast Electric boats, Outlaw Jnr and your chance to win this model in our popular Word Search competition. Without pointing the finger at any specific readers can I just say when you enter this competition PLEASE read the rules, there are still readers who have difficulty in counting… did I mention one Cornish reader!

If any readers are in North Devon on 6th May we are planning to attend the Appledore Lifeboat Model Boat Show, see Diary Dates for details.

Have a good month participating or just armchair reading about our hobby.

Barrie Stevens
MMI

EDITORIAL CONTACT

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

Prospective contributors can email or write for a copy of the MMI Notes for Contributors via Traplet Publications Ltd. Any other Editorial queries can be made by telephone to 01749 347172 during normal office hours.

Barrie Stevens

CHECK OUT **PAGE 59** FOR OUR LATEST SUBSCRIPTION DEALS

*LEFT: **Is this the most different type of fishing craft seen on page 60?***

MARINE modelling INTERNATIONAL

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TRAPLET PUBLICATIONS

MASTHEAD

SOME OF THE LATEST NEWS OF INTEREST TO MARITIME MODELLERS

NEW EXHIBITION 'SEARCH & RESCUE'

A new major exhibition is being held at the National Maritime Museum Cornwall depicting the lives of the rescue services that risk their lives in saving others at sea. Experience the drama of a rescue, climb aboard a Sea King helicopter, explore a lifeboat, revisit rescues from the past and discover what it takes to bring you home safely when the worst happens at sea and around our coast.

An RIB (Rigid Inflatable Boat) on display at the NMMC Search & Rescue exhibition

The Sea King rescue helicopter inside the museum – painted half for RAF rescue and half for Royal Navy rescue

For further details contact the National Maritime Museum Cornwall Registered in England, No. 1067884 Registered office: Discovery Quay, Falmouth, Cornwall TR11 3QY or visit ***www.nmmc.co.uk***

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Even though this popular company has not physically changed address the local council has changed the numbering system on the Lancing Buisness Park. The new address and contact details are:

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SWAMBC (SOUTH WEST ASSOCIATION OF MODEL BOAT CLUBS) FAST ELECTRIC CHAMPIONSHIP 2012

Round 6 now round 4 – same venue, but different date!

The local council is draining the Millbrook Lake, Cornwall (one of the home waters for the City of Plymouth Model Boat Club) to carry out work to repair an island in the lake. The work will be starting in the middle of July and is expected to continue through August. This has meant that the SWAMBC Fast Electric race meeting which was due to be held there on 19th August has had to be rescheduled and will now take place on Sunday 24th June. If at all possible there will still be a race meeting on 19th August, but a venue for this has yet to be confirmed.

For the latest news please visit ***www.swambc.webeden.co.uk***

CUTTY SARK RE-OPENS TO THE PUBLIC

On 26th April this iconic London landmark and a major part of British maritime history re-opens to the public following an extensive conservation project. The re-launch marks the start of an exciting new chapter in the extraordinary life of the world famous clipper: a new and immersive experience allows visitors to venture both underneath and aboard this beautiful three-masted sailing ship. Cutty Sark has been raised three metres above her dry dock and for the first time visitors can walk underneath the elevated ship making it possible to view the elegant lines of her hull which enabled her to glide speedily through the water, making her so successful. On board, visitors can explore the ship's rich and tumultuous history; her various cargoes from tea to wool to buffalo horns, and the cultures and lives she has touched throughout her 140-year lifespan.

For further information visit: ***www.cuttysark.org.uk***

THE WARSHIP SQUADRON MODEL BOAT CLUB

The club sails at an ideal venue for a model boat club, the Swiss Cottage public house in Shoreham-by-Sea in West Sussex. The pub has a large lake which makes the twice a month sailing a pleasure! The club is relatively small and always welcomes new members. Following a recent AGM the new committee officers are:

The Warship Squadron Model Boat Club home water of the Swiss Cottage pub!

President of the Club	Jack Rose (Ex RN)
Chairman	Robert Rice, Tel: 01273 441382
Vice Chairman	Shaun Weatherley
Secretary	Mac Skeet, Tel: 01903 206139

LIFEBOAT FUN DAY

To be held at Stevenage Model Boat Club, Fairlands Valley Park and Lakes SG2 0BL on 29th July. The club would like to invite as many model lifeboat owners as possible to participate in demonstration rescues etc. Slower I/C and steam powered lifeboats also fire/rescue boats are welcome. All proceeds going to the RNLI.

For further details contact: Bill Warder on 07712 465863 or email: ***unicornsound@hotmail.com*** Roland Duffett on 01438 362012 or email: ***roland.l.duffett@btinternet.com***

2012 MODEL WEATHERING CHALLENGE

A reminder that in the January 2012 edition of MMI, in conjunction with Mark Steele, we set a challenge to build a small scale model which was to be weathered. The deadline for entries is September 2012 and even though there have been many entries we still would like to see some more. If you would like a copy of the rules please either email or write with a SAE to the editor of MMI (see page 5 for contact details).

OOPS!

Due to an error in the April edition of Scale Scene (Page 19, first column, 14 lines up) the section should have read *"A dodge was found whereby a factor would be applied to the number of the new Gross TONS to bring it near to, but never less than, the number of Gross TONS measured under the Moorsom system. Earning capacity is based on the volume of the cargo spaces in cubic metres with relevant factors for passengers where carried and with a similar fiddle factor to Gross TONS."* The word TONNES was printed incorrectly, it should have been TONS. Apologies for any confusion. ***MMI***

READERS' LETTERS

LETTERS AND EMAILS RECENTLY RECEIVED BY THE EDITOR

Dear Sir,

As a regular reader of Marine Modelling International for many years I was reading through the pages and read the article of the Blackpool Model Boat Show on pages 32-33 of the Feb 2012 issue. What caught my eye was the picture of HMS Armithest of the Yangtse Incident, as my mother told me many years ago that my cousin Sidney Macnamar was a crew member of that ship, being the youngest lad on board about 16 years old. What sticks out are the photos in front of the model looks like a picture of the crew, I wondered if anyone knew who the crew in the picture were? I would love to know, it's so many years ago, unfortunately I have not seen him since the early 1950s as we lost touch when I was a young lad.

Many thanks,
Richard Flatt, Kent
(If any readers can help please contact the editor)

Barrie,

Chris Koenig mentioned 617 Squadron's attack on Tirpitz in his excellent article on the St Nazaire raid (March MMI 2012). What is not generally known is that 617 were reinforced by aircraft from 1X Squadron for the raid, an oversight that really annoys 1X Squadron to this day! The two squadrons have been rivals since the raid, most notably in their possession of the bulkhead from the ship that was presented to 617 after the war that only ended when a second was presented in the 1980s.

The original bulkhead is now firmly in the possession of 1X Squadron, and has been since they stole it in an operation quite daring in its execution. At the time 617 was based at Scampton and 1X was in Cyprus, both flying Vulcans, and the bulkhead was apparently built into the tea bar in 617's aircrew crewroom. In a well co-ordinated attack two members of 1X got themselves detached to Scampton and struck on Friday night when a dining-in night was in full swing in the officer's mess, breaking into the crewroom and breaking the bulkhead out of the tea bar. They took it by car to Wittering, where a Vulcan just happened to be visiting, and loaded it into the aircraft pannier (used to carry spares and equipment on detachments) in the bomb bay. The Vulcan immediately took off to return to Cyprus, getting clean away before the theft was even discovered!

I got involved in the story when 1X Squadron were deployed to Waddington when the RAF withdrew from Cyprus in the '70s. I came to work one day in the Armoury to find the Station Commander, OC 1X Squadron, OC Engineering Wing and my boss, OC Armament Squadron, standing over the bulkhead that one of my armourers was chaining to the central heating pipes with two high security padlocks. OC 1X kept one key and I had to sign for the other, with dire threats to future career if 617 managed to steal the damn thing while I was personally responsible for it! Within minutes of the brass leaving the bomb dump armourers were asking if they could have it for their crewroom; I left them in no doubt of the physical violence they would be subject to if they even touched it!

I saw it again when it moved with 1X when they reformed at Honington with Tornado in 1982, and again at Bruggen in Germany when I was posted there in 1994. I presume it is now at Marham with them.

Regards,
Pete Danks ***MMI***

DIARY DATES

WHAT'S ON, WHERE AND WHEN?

Event Dates for your Diary

If you know of any confirmed Maritime related events and you would like us to include them please let us know, by email *mmi@traplet.com* or post to The MMI Editor, PO Box 4239, Shepton Mallet, BA4 9AQ. We need Date/Venue/Organiser/who to contact, an Email/Website address, telephone number, post code would be useful for Sat Nav's. A full listing of events for the year can be found on *www.marinemodelmagazine.com*

MAY 2012 — MMI DIARY DATES

MAY 6

Model Boat Show, Appledore, Devon

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

MAY 6

Tug Towing Competition

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

MAY 6

Glasgow Richmond Model Boat Club, Start of Season Show

11 am – 4.30 pm, Richmond Park, Glasgow (opposite Shawfield Stadium). Bang-a-boats for kids, bring & buy, raffle. A harbour system to navigate. Hot and cold food/beverages. Car parking, help to unload. Toilets. Come and join in the fun. Contact Colin Miller, Mobile: 07719 568539 or club email: *glasgow.richmond@gmail.com* Website: *www.glasgow.richmondmbc.co.uk*

MAY 13

Cygnets Model Boat Club, Tug & Warship Day

Mote Park, Maidstone, Kent ME1 5SU. 10 am to 4 pm. Warships and tugs can show what they can do, from towing barges to stopping illegal fishermen. All welcome. Contact Matt Beck, Tel: 07919 263769 or Phil Knell, Tel: 0797658554. Email: *p.knell@blueyonder.co.uk* Website: *www.cygnetsmbc.com*

MAY 13

Toy Boat Regatta

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

MAY 13

Edinburgh MBC Start of Season

Inverleith Pond, 12 noon start. New 'Boat of the Year' competition (EMBC members only). Steering and Docking competition if enough interest. www.edinburghmodelboatclub.org.uk *secretary@edinburghmodelboatclub.org.uk.uk* 0131 551 4637

MAY 13

Dolphin Model Boat Club

All meetings are at Orpington Pond just off of Kent Road by the A224 Cray Avenue BR5 4. 10.00 am start. There will be a £1.50 charge per boat for any non-club members. Sorry no I/C or petrol boats. There is off road parking on club days but no food or toilet facilities. Web: *www.dolphinmodelboatclub.com/* Email: *dolphinmodelboatclub@live.co.uk* Margaret, 01689 834896

MAY 19

Mobile Marine Models Manufacturer's Bonanza, Manufacturer's Market Day

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

MAY 19/20

International Warship Weekend in Belgium

The Scottish Warship Association and I are pleased to announce an International Warship weekend in Belgium, in Hofstade near Brussels, we call it a lido, excellent facilities pondside, accommodation close by is €16 ppn in the Sport Hotel in the park. If you would like to see the facilities see *http://users.pandora.be/suys/* Any questions ask David Jack, Email: *david.jack5@btinternet.com*

MAY 20

Stevenage Model Boat Club 'Fun Day' Regatta

Fairlands Valley Park & Sailing Centre, Six Hills Way, Stevenage SG2 OBL. 9 am – 11 am hrs. From 9 am I/C and Fast Electric, from 11 am hrs Scale, Electric, Steam, Submarines and Yachts of all classes. Contact Bernard Hitchcock on 01438 869268 or Roland Duffett on 01438 362012, Mobile: 07889 312508 ***MMI***

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- ★ 6 to 24 volt battery range. (5.5 volt min.)

* Beware suppliers who quote MOSFET ratings as continuous controller rating!

30 amp. FR30HX Speed Controller

A heavy duty controller for the most powerful boats.

- ★ Genuine 30 amp. continuous forward and reverse rating.
- ★ 200 amp. motor stall rating.
- ★ Precision pre-set neutral.
- ★ Double MOSFET's giving 150 amp. (480 amp. peak) rating*
- ★ Low loss Power MOSFET switching. (2.3 milli-ohm)
- ★ Size: 73 mm (ex. mounting) x 51 mm x 22 mm.

FR30HX (30 amp. 6 to 24 volt) £43.65

15 amp. FR15HX/HVR Speed Controllers

A high power controller for all but the most power full boats.

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- ★ "Autoset" neutral at any stick position.
- ★ Low loss Power MOSFET switching. (5.8 milli-ohm)
- ★ 5 volt B.E.C. option (FR15HVR) for single battery operation.
- ★ Reversed battery protection.
- ★ Size: 73 mm (ex. mounting) x 51 mm x 24 mm.

FR15HX-AN (15 amp. 6 to 24 volt) £32.30
FR15HVR-AN (15 amp. 6 to 24 volt plus B.E.C.) £34.90

FR15HVR DIY PARTS KIT

NEW!

- ★ Exactly the same specification and components as in the controller above.
- ★ Replaces the discontinued 43HVR with an up to date microprocessor based kit.
- ★ Includes a high quality double sided, plated through printed circuit, a pre-programmed "chip" and every component needed down to solder, case and the last nut and washer.
- ★ All you need supply is a few basic tools and the skill to use a small soldering iron.

FR15HVR-AN Parts Kit £26.45

12 amp. FR12X/VR Speed Controllers

A cost effective replacement for the older 43X controller.

- ★ Genuine 12 amp. continuous forward and reverse rating.
- ★ 100 amp. motor stall rating.
- ★ "Autoset" neutral at any stick position.
- ★ Low loss Power MOSFET switching. (5.8 milli-ohm)
- ★ 5 volt B.E.C. option (FR12VR) for single battery operation.
- ★ Reversed battery protection.
- ★ 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

Heavy Duty 40 amp. Forward Only Controller

- ★ Genuine 40 amp. continuous rating.
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- ★ Speed range adjustment to match neutral.
- ★ Double MOSFET's giving 150 amp. (480 amp. peak) rating*
- ★ Low loss Power MOSFET switching. (2.3 milli-ohm)
- ★ Size: 73 mm (ex. mounting) x 51 mm x 22 mm.

FX40HX-AN (40 amp. 6 to 24 volt) £41.85

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 653-16 (Fast patrol etc.)

High Power Medium Speed, 6 to 12V £17.95

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

Motor Type 543-24 (Modern scale)

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 £14.75

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

Motor Type 543-12 (Traditional scale)

Very low drain, 6 to 12V £17.45

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

Motor Type 365-14 (Small scale)

Very low drain, 6 to 12V £5.15

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

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AIRWAVES

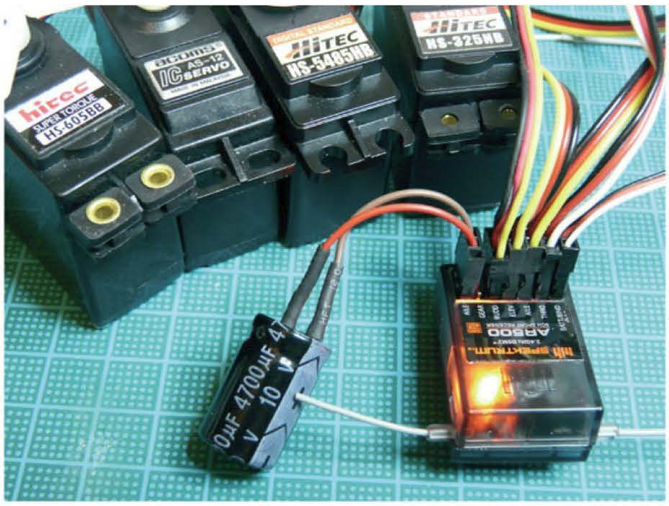
THIS MONTH ALAN INVESTIGATES PHANTOM GLITCHES AND PLAYS WITH A USEFUL LASER TACHOMETER

AUTHOR: ALAN SENIOR GREAT BRITAIN *airwaves@anola.net*

LOSING CONTROL?

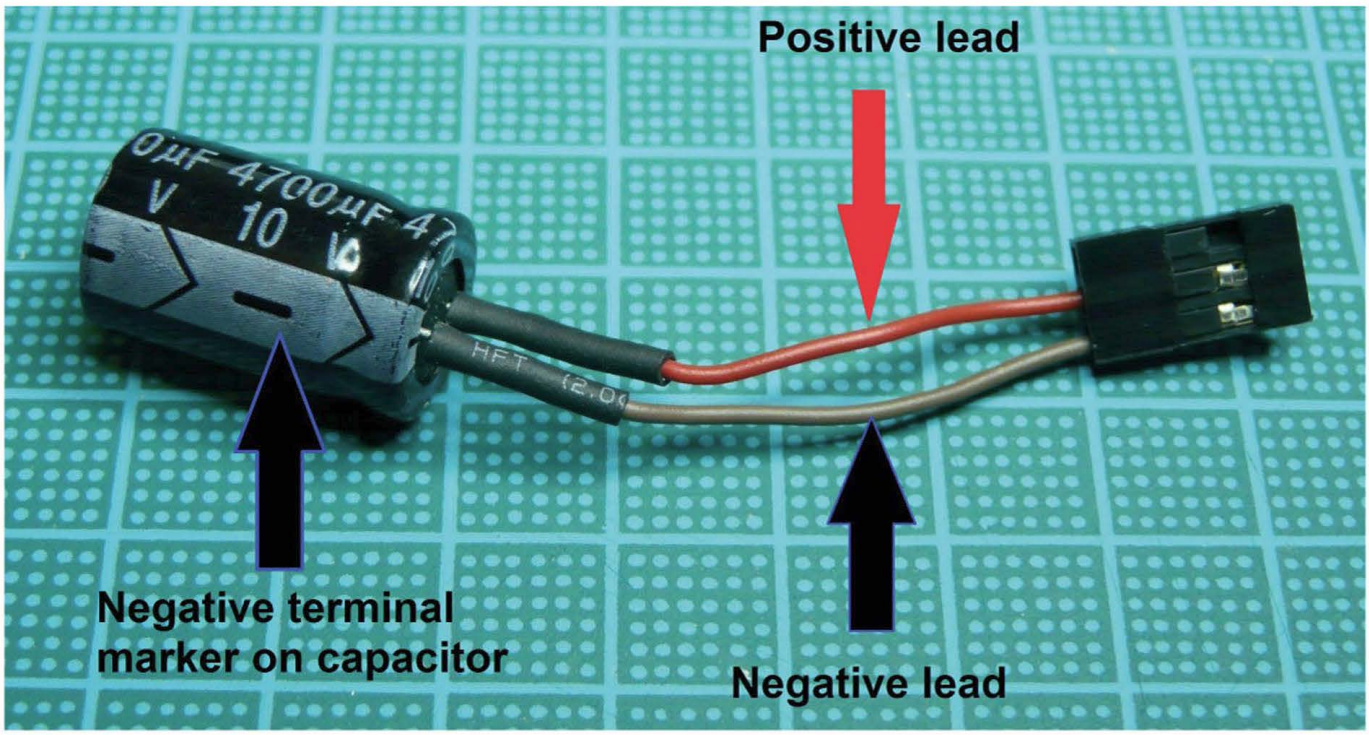
I seem to have been lucky with my marine models because I haven't suffered interference or control loss on a model following a successful launch. I say "successful launch" because I had one mishap where I forgot to check the rudder control was working the correct way before putting the model in the water, so after applying the throttle the result was the model mysteriously veered out of control to port and straight into the bank! The moral of that tale was to always check the rudder moves in the correct direction before launch and not just that it moves! The model suffered more than the concrete wall and the repairs took several hours, the dink had to be filled and the paint matched. The final repair is not totally invisible to my critical eye and is a rather annoying reminder of my error!

In the past interference from CB radios was a big issue for radio control modellers. Many years ago I picked up half a conversation from someone calling himself 'Catweazle' on my HiFi audio amplifier and could clearly hear his voice through the speakers, it was someone living 100 yards away and using an illegal 27 MHz AM Citizen Band radio with a 100 W transmitter! The 30 foot aerial on his roof was a bit of a giveaway, so I did the neighbourly thing and went for a friendly chat… the problem went away when he switched to the legal FM system. Clearly these power levels could easily affect radio control models which use transmitter powers less than 0.5 watts. This is one of the reasons why model aircraft R/C systems migrated to 35 MHz, model aircraft changed frequency first as they were more likely to be in 'line of sight' of a CB transmitter, whereas ground based models had a degree of shielding from the interference source due to buildings and the topography. As the number of CB radios increased the 40 MHz band was allocated to land based models to alleviate the problem of interference. I guess with the abundance of mobile phones that CB is no longer as popular, so it is less likely to be a problem nowadays for users of the 27 MHz band. Of course interference is very unlikely (though not impossible) with 2.4 GHz systems as they are designed to select free channels and frequency clashes from fellow modellers are no longer a major issue, there are limits to how many co-located systems can operate together.



Voltage protector test set-up, the servo loads were applied manually!

Often a model seems to operate perfectly well at home or on the bank but as soon as it is launched and the throttle is opened odd things happen; servos may twitch or randomly slew and motor revs surge. Usually the loss of control is an electrical problem in the model but a mechanical cause should also be investigated, an example is a linkage jamming or bending when the model is underway due to the increased loads. Even someone with a normal sized ego does not like to admit that problems may be due to their own installation efforts – so interference may be blamed or some new part in the system is thought to be faulty. To be fair, one of the key difficulties is that most electrical problems are invisible and require specialist equipment to identify the cause. There are also occasions when it is really difficult for even an experienced modeller to figure out what the problem is, so the only diagnostic approach



Voltage protector with negative terminal on the capacitor marked

is to try various changes to find the root cause or at least find out what fixes it; the cardinal rule here is to only change one thing at a time until a cure is finally found. Don't forget the simple things like checking the batteries are fresh, not beyond their useful life and are fully charged; also check for loose connections or dirty contacts before considering replacing the more expensive parts!

The laser tachometer came in a box with instructions, batteries and reflective tape

VOLTAGE DROPS

The inability of the propulsion battery, receiver battery or BEC to meet brief but electric current demands is probably the most common electrical cause of models running amok. A 5 V output BEC may not be able to deliver a stable voltage to the receiver and servos from a 6 V propulsion battery and in this case a separate battery pack for the receiver and servos would be a good idea. Though a higher voltage helps the standard linear BEC maintain a stable voltage it can lead to the BEC overheating, for example if the main battery is 12 V and the BEC output is operating at 1 amp, then the poor little BEC has to dissipate 7 watts… and so it gets hot. Modern BECs have thermal protection so they shut down when they get really hot (usually 125°C) to prevent destruction, this shut down manifests itself as temporary control loss until the BEC cools down and automatically switches back on. If a separate receiver battery is undesirable then a good solution to this overheat problem is to use one of the new suitably rated 'switched mode' UBECs as discussed in March 2011 Airwaves, however they typically need at least 7.4 V to operate correctly.

The technical term for one form of electrical interference is 'conducted emissions', this is where one part of the system is generating current spikes which result in extremely brief periods of higher or lower voltages. These spikes travel (i.e. are conducted) along the wires throughout the model and can cause unpredictable effects. The spikes also cause radiated emissions, i.e. unwanted radio waves and magnetic fields but typically they are far less likely to cause a control loss problem. The effects of the emissions might be twitching servos, short periods where control is lost or speed controllers that cut in and out randomly. In general, the more complex and power hungry the set-up, the more likely these unwanted conducted emissions will happen because the different parts of the system interact in odd ways and the emissions are pro rata more powerful too.

The tachometer displays the rpm on a 5 digit LCD display

The laser is safe providing it is not shone into someone's eyes

Measuring the speed of a drill press chuck

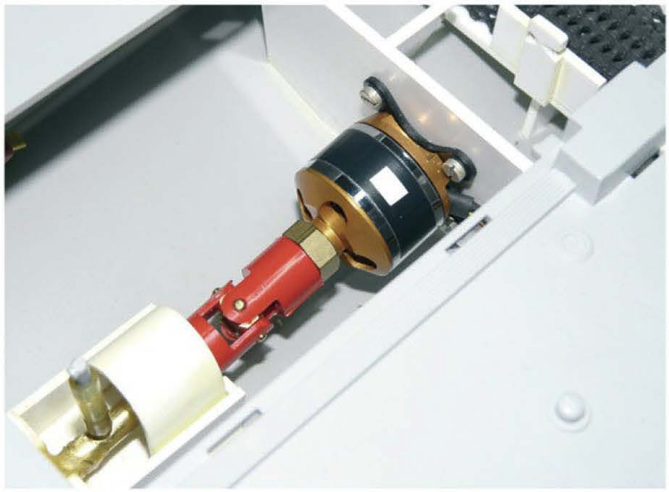
As an example in a twin motor system, spikes generated by one motor can cause the other motor to audibly stutter or make one ESC briefly enter a fail-safe mode. In this scenario it would be worth trying separate drive batteries and optically coupled ESCs so that the spikes have fewer direct paths between the two drive systems and the receiver. Electric motors demand a lot more current than normal when they start because briefly they are effectively 'stalled' until accelerated up to running speed. In high-powered models the motor brushes take a toll and eventually wear, so in time a motor becomes electrically 'noisier' and generates bigger spikes more frequently, so just because a model has been working fine for years does not mean that it will continue to do so without a little maintenance. Powerful brushless set-ups can also be electrically noisy, the rapid current changes are often audible in the form of the 'brushless motor whistle', just for fun some brushless ESCs use this effect to play musical tunes on the motor at start up.

VOLTAGE PROTECTORS

Voltage protectors for radio control receivers have been around for about six years, they were introduced when receivers began using microcontrollers which unfortunately tend to take longer to recover from a voltage spike. Servos have also become more power hungry to meet the modeller's demands for quick, accurate, powerful actuators. At the other extreme, very small fast models are being built that, due to their size, can only accommodate lower voltage propulsion batteries with no room for a separate receiver battery. These technology developments mean higher electrical demands on the system components and this in turn means that one of the more esoteric properties of wires called 'inductance' starts to have a greater effect. It is not an easy thing to explain, but as an analogy inductance is the electrical equivalent to mechanical inertia or momentum, for example inertia prevents a car from going instantly from 30 mph to 70 mph. To change the car's speed quickly requires more power, alternatively the inertia of the car must be reduced by making it much, much lighter! Back in the electrical world, current can only build up slowly (for example millionths of a second!) due to inductance; the only way to make it build up faster is to use thicker and shorter wires which in a real system becomes increasingly impractical for obvious reasons. Amazingly, electronics is so fast these days that a device can switch on and off before the demand, which travels along the wires near to the speed of light, has been noticed by the battery!

OK, that's the theory, what can be done about it if spikes really are an issue? Fortunately there is an electronic device called a capacitor that can be placed really close to a demanding electrical component, this capacitor is like a tiny battery that can provide current almost instantly but only for a very brief period, this period is enough for the current demand to get to the battery and for all those electrons to come rushing back! The capacitor can thus act as a spike suppressor both supplying and absorbing current albeit briefly to meet the local current demands, so keeping the voltage stable; which of course is why we put them on the back of brushed motors – to kill the spikes where they are created and hence reduce the conducted emissions. Back in the mechanical world, having a local capacitor on an electronic circuit is a bit like having a powerful rocket booster with a very brief burn time on the car, it can't power the car for any length of time but it can change the car's speed really quickly if needed!

The voltage protectors which are sold for radio control systems are just a high value (high capacity) capacitor which can keep the receiver alive for a brief period. The protector will only be of benefit in quite specific circumstances, in particular in the case mentioned previously where a lower voltage drive battery is providing power to the BEC and there is a very brief voltage drop that is causing a problem. If the main motor pulls the 6 V battery down for a few thousandths of a second the voltage protector will temporarily act as the supply battery to the receiver. How long it can keep the receiver alive depends on the current demand of the receiver and any servos.



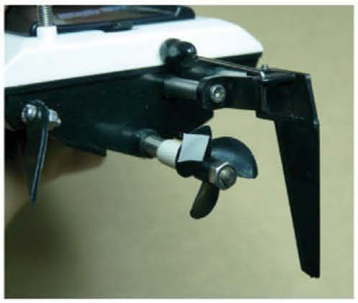
Reflective tape applied to a brushless motor, notice the black tape to reduce unwanted reflections from the shiny motor can

To test the theory I built a voltage protector to try to create a faulty set-up. I connected a total of 2 m (6 ft) of servo extension leads between a 4.8 V NiMH 4-cell battery pack and a Spektrum AR500 receiver that had four heavily loaded servos connected. This set-up worked flawlessly, which surprised me as all the servos were really straining albeit at reduced speed. I think this set-up probably worked fine because modern receivers work internally at 3.3 V and, although the long wires caused a varying voltage drop, there were no spikes below the receiver's operating limits. Substituting a battery pack that was low on charge also worked fine, and as the battery flattened it was the servos that started getting sluggish and stopped working before the receiver gave up. So, I failed to produce a test set-up that actually needed a voltage protector! Having said that, I did notice that with the servos stationary and the voltage protector plugged into the receiver I could quickly flick the battery pack switch off and on again without the Spektrum receiver indicating a voltage loss. Without the voltage protector a power loss was always indicated, because the Spektrum receiver flashes the internal LED as a warning that it has previously lost the control link due to a supply voltage drop out. So in that particular test scenario it did make a difference. It was possible to see that the Voltage Protector could supply current because when the battery was switched off the LED on the receiver took a noticeable time to dim and extinguish completely.

The typical cost of the Voltage Protector is in the range of £3.50 to £6.00. The capacitors used in them are reasonably inexpensive, for example Maplins sell a 4700 uF capacitor (Order code N96KF) for 99p. If you do try the DIY approach to save money then be very careful to wire it up correctly, these capacitors are polarised which means they have positive and negative terminals just like a battery, after an unpredictable delay they may explode with a loud bang if they are wired the wrong way around!

LASER TACHOMETER

In the April 2012 Airwaves I discussed electric motor characteristics based on a knowledge of the motor rpm and suggested two methods of measuring that all important motor speed. Since writing that article I came across another simple non-intrusive method of measuring motor speed using a laser tachometer. I was particularly surprised to find these tachometers for sale on eBay from a UK supplier for only £14.99 including postage and the batteries. I have to say I am most impressed by this gadget; it works really well… so much so that there is hardly a revolving object in the house that has not had the rpm measured! There are similar cheaper optical tachometers available that use a bright LED, but apparently these are not as effective, laser tachometers can be recognised because by law they must have a triangular warning label on them.



Reflective tape applied to measure the speed of the 20 mm propeller on a Joysway Magic Vee

To measure the speed of rotating of an object it is just a case of applying a small piece of the provided retro-reflective tape (similar to the stuff used for safety reflectors at night) to the item, setting it rotating and then pointing the laser at the tape location. The tachometer measures the time between the light pulses reflected back from the tape and displays the rpm on a 5 digit LCD display. The tachometer records the last value, as well as the last maximum and minimum speeds. Indoors I found that I could measure the rotation speed of the chuck on my pillar drill from 3 m (10 ft) away! In normal daylight it operated at around 30 cm (1 ft) reliably. In model applications I measured the speed of the propeller on a Joysway Magic Vee at 15,200 rpm unloaded, I did this as I want to use the 20 mm propeller on another model and the measured rpm then gave me a guide for the kV rating of a suitable brushless motor. So for example to get the same 15,200 rpm on 7.4 V I would need a 15,200 ÷ 7.4 = 2027, so a 2000 kV motor would be fine.

I also tested some new brushless motors and found that although the three motors were well matched in rpm on a given voltage battery, they were actually closer to 18,200 kV, i.e. about 11% faster than the 1650 kV specification. I assume that either the motors had been mislabelled or that this is down to manufacturing tolerances. So in summary this gadget gets the thumbs up because it makes measuring rpm so easy. Do read the instructions before use, as although the laser is low power it is important not to shine it in anyone's eyes. Another warning, you can drive a four-legged cat (as opposed to a catamaran!) mad chasing the bright laser dot, so keep cats well out of the way when testing rotating machinery!

CONTACTING THE AUTHOR

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

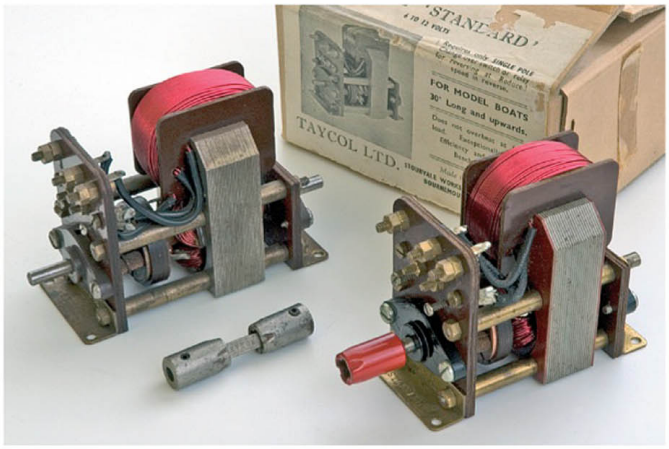
VINTAGE MOTOR SHED – 15
THE FINAL TAYCOLS

AUTHOR: JOHN PARKER

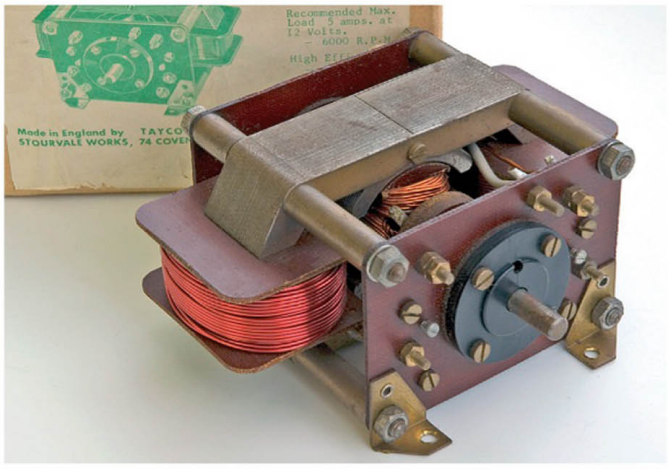
The Double Special and the Standard were the final two motors to be added to the Taycol range, appearing in late 1960 and early 1961 respectively. The Double Special, also referred to as the Supermarine Double Special and probably so called because it offered twice the power of the original Supermarine, was the fullest expression of the split wound field Taycol motor concept and weighed in at no less than 1.275 kg. Of the same general construction as the Supermarine, it may be distinguished from it by its larger canted-out field windings, which increase the overall width of the motor to 130 mm.

The Double Special was the most powerful motor Taycol made and also the most efficient. Maximum power on 12 volts was, in the units of the time, 68 milli-horsepower (about 51 watts) at 5,000 rpm drawing 7 amps; maximum efficiency was a claimed 74% at 6,000 rpm, drawing 5 amps and developing 60 milli-horsepower (45 watts). The general construction was rugged and said to stand up well to operation at these ratings. Despite this, the motor was still better suited to displacement hulls, for its weight plus that of the accumulators needed to run it made the achievement of a planing hull very marginal and expensive.

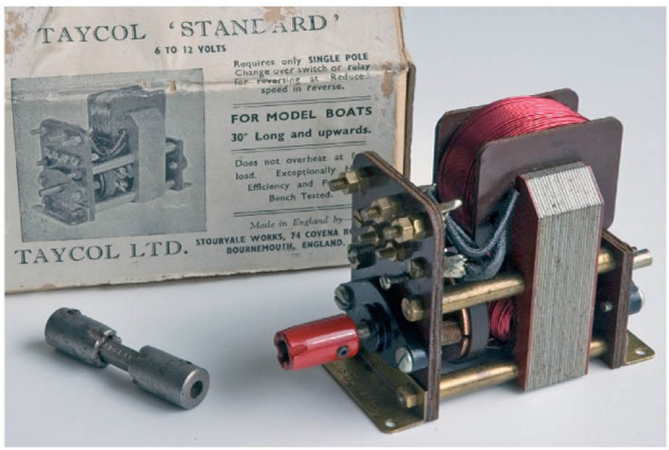
The Standard came along in January 1961 at a cost of 59 shillings and two pennies in pre-decimal UK currency, bridging the gap between the smaller Target/Meteor class motors and the large twin coil motors. To achieve this, Taycol's consultant designer Mr. W. Baker used the same single-coil field laminations as the smaller motors, but in a deeper 19 mm stack of 25 laminations. To match it came a longer armature with a 4.8 mm diameter shaft carried in doubled-up end plates with plastic bearing covers similar in style to those of the large motors and incorporating felt pad lubricators. For all their motors, Taycol recommended lubrication of the bearings at 15-minute intervals for maximum life. The brush gear was of the heavy-duty copper gauze cylinder type first introduced on the Supermarine in 1955.



Double Standards – two examples showing production variations



The Taycol Double Special



The Taycol Standard and Carden coupling

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6 to 12 Volt Electric Motors
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ASK FOR FOLDER GIVING FULL DETAILS AND ADVICE ON ELECTRICAL INSTALLATIONS

Give your motor a fair chance by driving the Prop. Shaft through the new TAYCOL CARDEN COUPLING Price 5/11 (inc.)

AND NOW THE "DOUBLE SPECIAL"

"Here is fast, reliable electric power" (Nov. M/M). 6 to 12 volts, 4½ to 6½ amps, 60% overall efficiency. 1/16 h.p. at 6,000 r.p.m., 5 amps. 95/- inc.

AND THE "STANDARD" for boats 30 in. to 40 in.

6 to 12 volts, 40% overall efficiency on 12 volts. .004 h.p. at 2,000 r.p.m. on 6 volts 1.65 amps. .018 h.p. at 3,000 r.p.m. on 12 volts 3.2 amps. Weight 1 lb. 59/2 inc.

BOTH reverse by single-pole change-over.

January 1961 Taycol advertisement

The Standard managed to put out 35 milli-horsepower (about 26 watts) at 5,000 rpm on 12 volts, drawing around 6 amps. This made it more powerful than its older big brother, the Supermarine Special, which weighed twice as much and cost a lot more! Its efficiency was not as high however, peaking at 40% (at 6,000 rpm/28 mHP/4.5 amps) against about 51% for the larger motor with its twin field magnetic circuit. According to some sources, the Standard became available in 'Red' and 'Blue' versions, optimised for 12 volt and 6 volt operation respectively, however my two examples are not marked as such and their literature all refers to 6 to 12 volt operation.

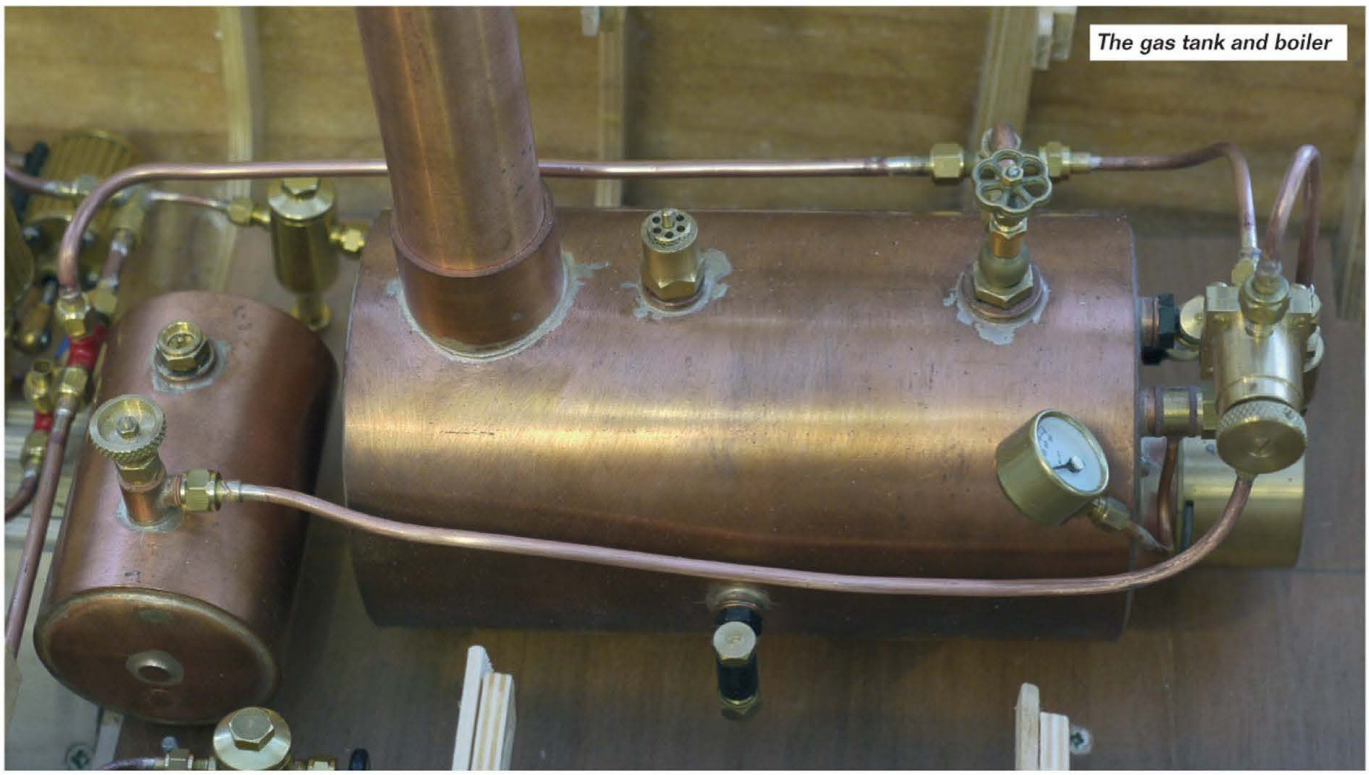
The Taycol Carden universal coupling also appeared at about this time, a strong all-metal double universal joint sold as an accessory item. Both the Double Special and Standard had reversing coils for single pole switch reversing, and both remained in production until Taycol closed in the mid seventies. Today these last members of the Taycol family must be well regarded by collectors, for I have noted mint and boxed Double Specials sell online for £100 or more, and similar condition Standards for around £50.

MMI

STEAM SCENE

CHRIS TAKES AN INITIAL LOOK AT THE COREL MUIMOTA ENGINE AND BUILDS A CONDENSER

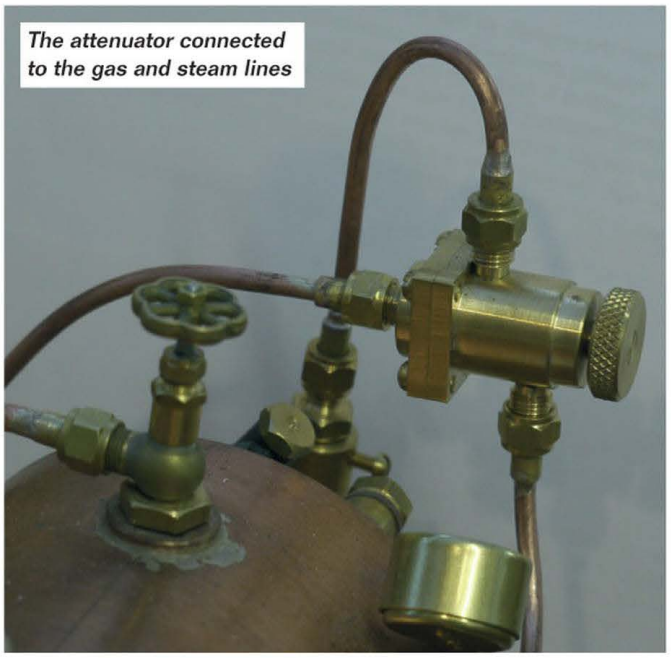
AUTHOR: CHRIS SAUNDERS chris.saunders08@gmail.com GREAT BRITAIN



The gas tank and boiler

BUILDING THE COREL MUIMOTA

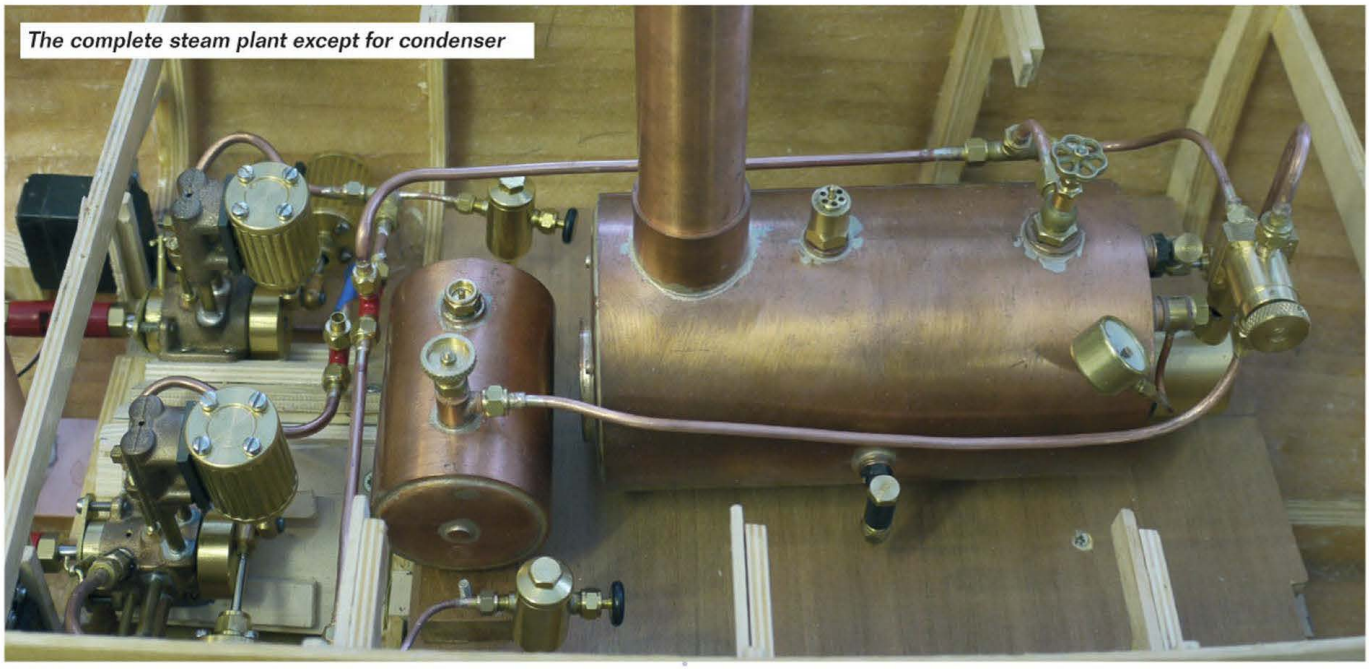
Now I have completed the Sealight Clyde Puffer my next project is to build a steam version of the Corel Muimota. This very large model of a 1958 tug (1/25 scale – 1.2 m long, 0.6 m wide, 0.66 m high) is an ideal size for a steam plant and has the capacity for developing a dual engine drive system. I decided to use two PM Research Twin Oscillating Cylinder engines as described in the July 2011 edition of this magazine. These engines will give the power necessary to run this heavy boat and give some interesting design features.



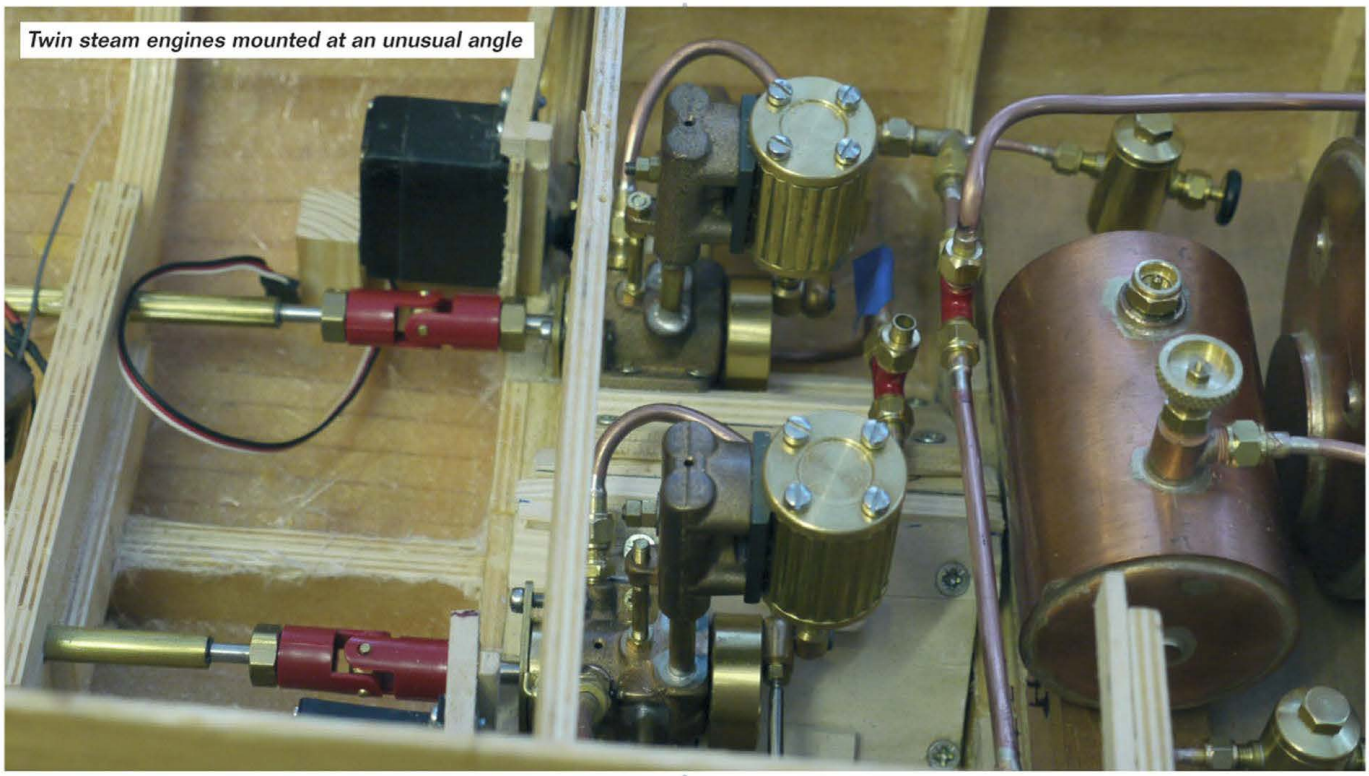
The attenuator connected to the gas and steam lines

The complete high pressure steam system

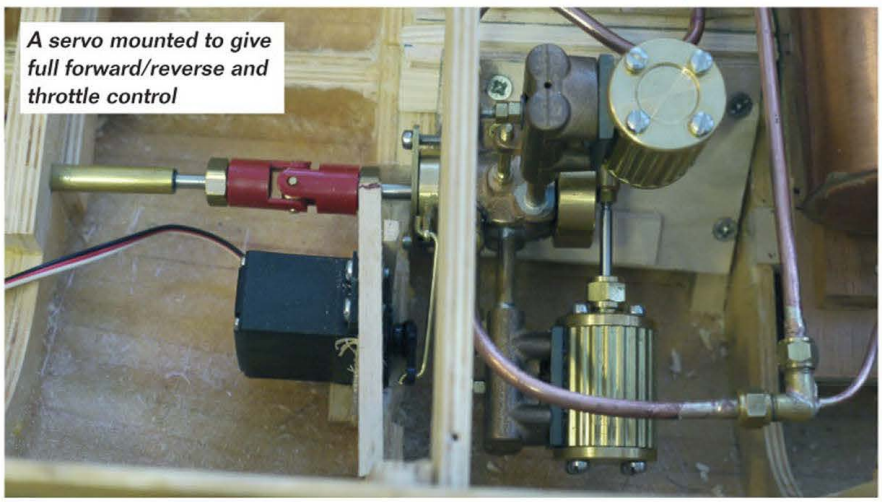
I will explain more about the construction of the Muimota in another article but have included some general pictures of the steam system layout. Notice how I have positioned the gas tank just behind the boiler so that it gets sufficient heat to counteract the cooling effect of the evaporating fuel. Also note the position of the gas control attenuator. I have made sure the control valve is easily accessible for fine adjustment of the burner. The gas inlet and outlet are clearly visible together with the steam pipe from the main steam line. This is the line, which acts upon the diaphragm to adjust the fuel supply.



The complete steam plant except for condenser



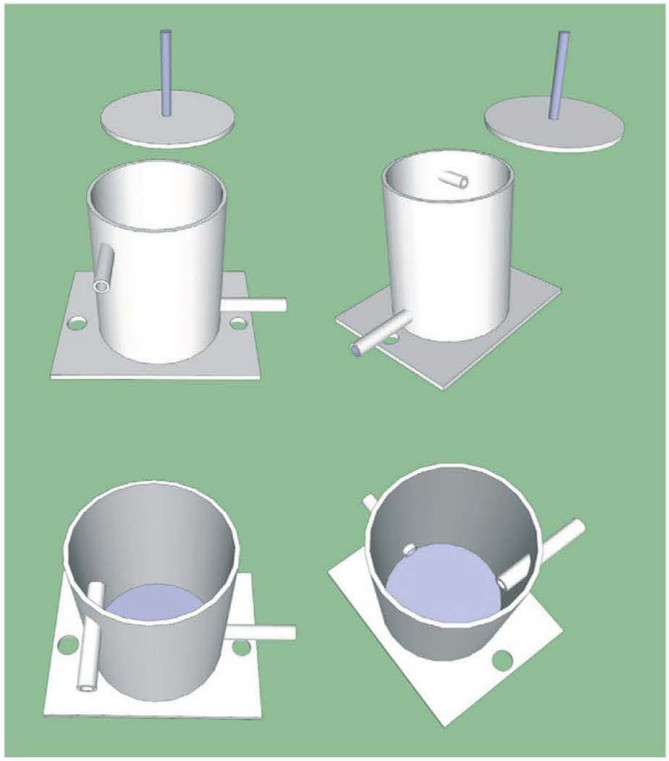
Twin steam engines mounted at an unusual angle

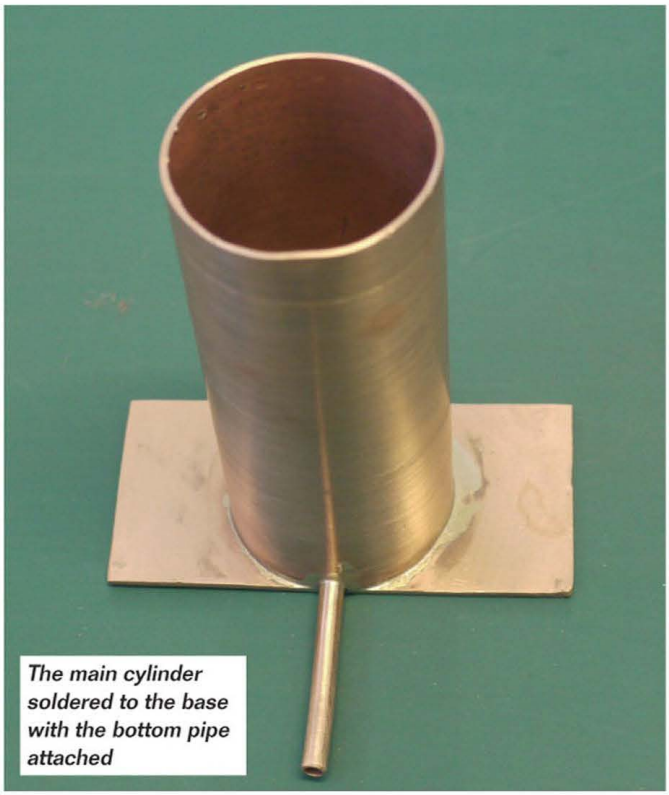


A servo mounted to give full forward/reverse and throttle control

I have made all the connecting pipes as described in previous articles. All that is left to do on the pressurised steam side is to lag the pipes. On the exhaust side, not only do the pipes need lagging, a condenser is required to ensure only clean steam goes up the funnel. I decided to build my own, as no ready-built condenser was available in the right size. The stages I undertook to build a condenser of the right size to fit into the space available in the Muimota hull follows.

A 3-D constructional diagram for the condenser



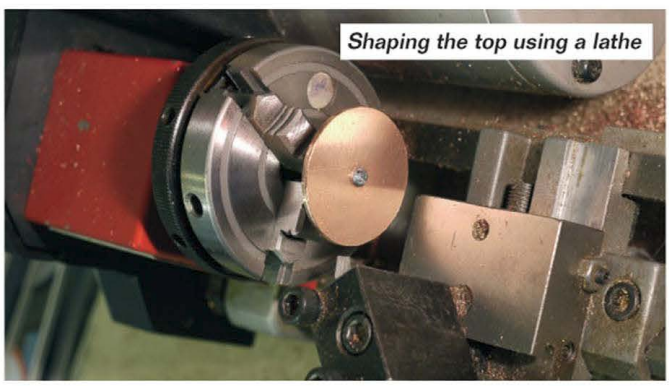


The main cylinder soldered to the base with the bottom pipe attached

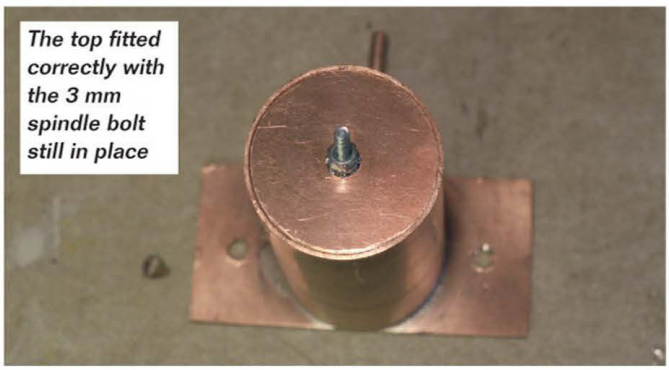
CONSTRUCTING A CONDENSER

The dimensions for the condenser were very much dictated by the space between two frames in the model. It was apparent that the optimum diameter for the main body of the condenser was about 1½" sitting on a rectangular base 3" x 1½". The height was limited by the deck level and so came out at 3½". I hoped to purchase some of the 1½" copper pipe at the Model Engineering Exhibition at Alexandra Palace but found it not as straightforward as I hoped. The suppliers had pipe of the correct diameter but it all had very thick walls. Not only would this make the condenser very heavy, heating so much metal to soldering temperature was beyond the tools I have in my workshop. So on getting home I turned to the Internet and soon found what I wanted on the Macc Model Engineering Supplies (***www.maccmodels.co.uk***) website. This company offers copper tube from 10 g – 3.2 mm wall thickness down to 22 g – 0.7 mm wall thickness. The thinnest tube in 1½" diameter is 20 g – 0.9 mm wall thickness, which is quite manageable in my workshop. I could purchase the tube in 12" lengths, which meant there would either be plenty leftover for other models, or I would have a number of chances of getting it right. At the same time I ordered a small rectangle of 16 g – 1.6 mm thick copper plate for the base and top of the condenser. The best price for the smallest piece of copper was found on eBay.

As soon as the components had arrived, construction began. The copper tube was cut to length and the base plate sawn out of the copper sheet. Completing the base plate was fairly easy as a file quickly cleaned up the edges. The cylinder was more of a challenge as the cut face had to be made flat and square. Unlike electricians solder, silver solder is not a good gap filler and so surfaces to be joined should be as close fitting as possible. To achieve the surface required the copper tube was placed in my lathe and a facing tool used to finish the edge. I found lathing the copper far more difficult than expected. Even with lubrication the cutter seemed to jag into the surface and stop the lathe. It was only by increasing the speed and cutting very slowly that a flat surface was eventually achieved both ends.



Shaping the top using a lathe



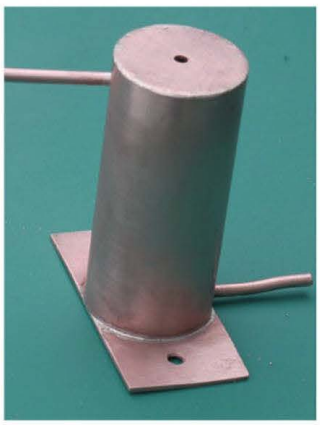
The top fitted correctly with the 3 mm spindle bolt still in place

Now came the silver soldering of the cylinder to the base plate. Meticulous cleaning of both surfaces is necessary to be sure of a good joint. The base plate was held in a vice with a wooden strip either side to stop the vice acting as a heat sink. The choice of wood was a mistake as soon after strong heating commenced the wood began to smoulder and then the unit fell onto the floor. There was nothing for it but to wait for everything to cool down and then clean all the surfaces and add more flux. For the second attempt I cut a strip from the insulating material used to construct my hearth. These strips were placed between the copper plate and the jaws, with care not to over tighten in case this deformed the copper. This time the unit held firm even after prolonged heating.

Despite selecting fairly thin copper and using my most fierce gas burner, I could not get the solder to flow into the joint. What was needed was extra heat to allow for the heat loss to the environment. At this point most people resort to a proper hearth

with charcoal to supply the additional heat, however, no such refinement was available and so a makeshift solution was required. As I have mentioned before I have two gas torches, a big one for large joints and a smaller one, with a focused flame, for more intricate work. By arranging the smaller torch so that it gave a stable heat to the back of the cylinder I found that the larger torch was more than sufficient to raise the temperature of the joint so that the solder flowed quickly and evenly.

Feeling very pleased with myself I cooled the copper, washed it in acid and then thoroughly rinsed and cleaned the whole structure. Unfortunately on close examination there was a microscopic hole in the joint through which water leaked slowly. Clearly I had not been sufficiently meticulous in the cleaning the second time! Luckily for me the hole was exactly where I wanted to insert the lower tube. This tube is kept closed during normal operation and is only opened to clean out the condenser after use. Thus I simply had to drill out a hole of a size to just take the 5/32 pipe and then solder this in place. Here I used the same heating as before but taking care not to melt the solder joint to the base. This was achieved by concentrating the main flame on the pipe rather than trying to heat the whole structure.



Top soldered in place

The main inlet to the condenser enters the cylinder near the top at a tangential angle. This angle causes the exhaust stream to cycle around the condenser depositing any oil on the sides. This oil then runs into the bottom of the tank where it accumulates above any steam that may have condensed into water. So a hole was cut using a pillar drill as near the tangent as practical. A piece of 5/32" pipe was cut to length and the fit checked.

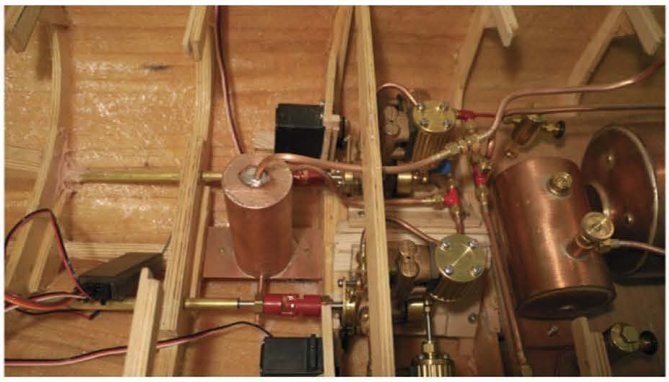
The final component is the lid of the condenser. For this I marked out and cut a slightly oversized circle from the 16 g copper plate. I then found the centre and drilled a 3 mm hole into which I fixed a 3 mm nut and bolt to act as a stem around which the top could be rotated. A serrated washer and lock nut were necessary, as I wanted to use the bolt as the drive spindle in the lathe.

The bolt in the top unit was placed into the chuck of the lathe and a facing tool used to form the copper into a perfectly circular disc, which just fitted inside the main cylinder to make a tightly fitting lid. I slightly angled the cutting tool to give a small angle to the face of the top making it a conical fit into the base cylinder. This process also took a lot longer than expected due to the rather odd cutting properties of the copper. The locking nuts on the drive spindle bolt needed fairly frequent re-tightening, but with a bit of patience a very good fit was achieved.

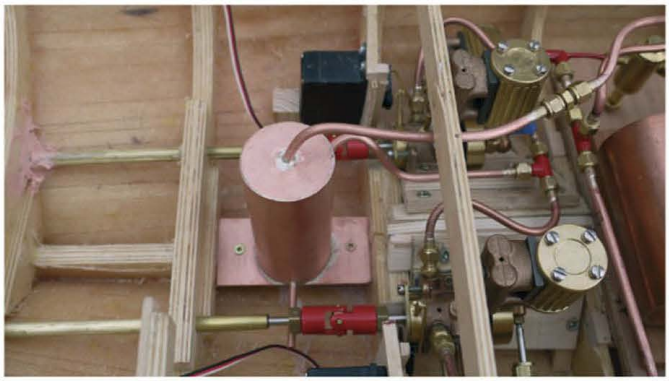
The outlet to the condenser is in the centre of the top plate and protrudes a short distance inside the base cylinder. My choice of a 3 mm spindle bolt was dictated by the size of the outlet pipe. I simply had to ream the hole a little to get a good fit for this final pipe.

I decided to solder all the remaining joints at the same time to avoid any problems with previously formed joints melting. Again there is a professional solution to this problem in that there is a range of melting temperatures for different silver solder mixtures. Thus the first joints would be formed with solder of a high melting temperature, and successively lower temperatures selected for the subsequent joints. Unfortunately, I have only one variety of solder and feel it would be very costly to keep the whole range, ignoring the additional problem of keeping track of exactly which solder was which.

In practice I was not as well organised as I had intended and had to solder the joints one at a time. This began with the condenser inlet pipe. This had to be held in place accurately so that the pipe



First soldering of outlet pipe using soft solder – what a mess!



Properly silver soldered joint – much neater and stronger

remained tangential to the main body cylinder. I used a wooden block to support the end of the tube in exactly the right position before beginning soldering.

The top of the condenser was next. After careful cleaning and fluxing heating began. I was now trying to heat quite a large piece of metal to over 600°C, no mean feat. In the end, using both torches, I managed to get the solder to flow although I have to admit there were a few lumpy patches to file off after cooling and cleaning with acid. Having detected a leak in the first large joint I now carefully inspected this joint and tested the whole condenser using compressed air. No leaks – great!

Only one joint left – the outlet pipe. Unfortunately, I was now out of silver solder and so went on line to order more. I find the best source of small gauge silver solder is a company called CuP Alloys Ltd (**www.CuPalloys.co.uk**) and usually order 0.7 mm 842 Silver Solder Wire (42% silver, melting range 610 – 620°C). As the EU now has banned solders containing cadmium this mixture is no longer available and so I had to settle for the cadmium free 455 mix, which is 55% silver and is the most popular. It conforms to IS0 17672 Ag 155 with a melting range 630 – 660°C. The 0.7 mm now comes as 5 x 500 mm rods rather than a coil of wire. The EF flux works with both the cadmium and cadmium free solders, which is convenient.

The soldering of the final tube proved to be more problematic than expected. The bulk of copper in the rest of the condenser made it impossible to heat the top and outlet tube sufficiently to get the solder to flow, even using two torches. Disheartened I cheated and used some electrician's soft silver solder to make the joint. This worked well with a much lower melting point, but looked very untidy and was potentially less strong than the other joints. After a day of indecision I decided this was not good enough and so re-melted the joint, cleaned off all the soft solder and prepared to try again. This time I purchased a second propane/butane gas torch from the DIY store and was able to heat the condenser strongly from both sides. The joint formed easily but I had some problems with the other tubes re-melting, which was a bit of a nuisance. A final check on the joints was made before installing the condenser into the boat. I must admit there was quite a sense of achievement seeing it shining brightly and looking well made. **MMI**

POWERPLUG

THE PROBLEM, CRANK TWIST!

AUTHOR: RICK EYRICH riciric99@tampabay.rr.com USA

One of the few benefits of growing older (repeat, few!) is that with time I've managed to gather-up a lot of the more lesser-known maladies that can occur on any kind of R/C power craft. By spending quality time with both my local boaters, travelling to races and seeing many engine-curing masters in action your MMI scribe has amassed many pages of reference notes recording engine problems and this month's Powerplug column will detail one of the more unique situations that happened several years to a large petrol monohull owned by an experienced local sport boater.

Unfortunately for our modeller this headache spread itself over almost an entire boating season and like most difficult engine glitches it eventually was diagnosed by someone who noticed something that countless other boaters (myself included) had missed without knowing it.

THE START

The featured marine craft for this article was a fibreglass-constructed deep vee running a well-built Zenoah gasoline two-stroke from an established engine guru/tuner. Put together over a period of three months the finished gasboat looked great and was immediately quick out on the water as its owner already had a handful of IC hull builds in his logbook.

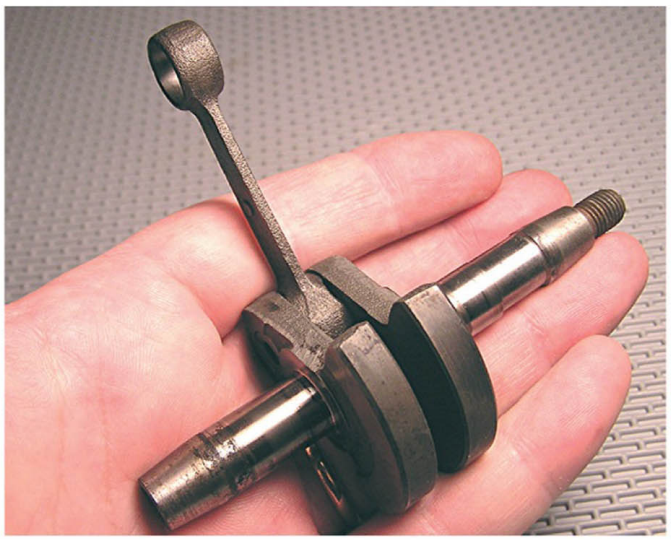
Properly maintained and kept fed with fresh fuel the monohull stayed ultra-reliable for several months; then the day came when it suffered a major shunt and that's when the trouble began. Running within a pack of other boats, the deep vee suddenly had to make a quick right hand turn to avoid contact with another marine craft and this pivot drove the boat right up another hull's wake. It shot straight up into the air, then the wide-open running mono did a three-quarter back flip and hit the water hard, deck-down near the transom. Swiftly recovered by the group, the hull got a full de-watering and the petrol engine inside the boat was thoroughly flushed and cleaned as was the on board radio system and fuel cell.

Following two hours of hard work, the crashed vessel was refuelled and after only a few pulls of the Zenoah's starter rope, the engine was up and running. Given a couple of slow-driving periods the marine craft was still fast and showed no signs of problems in its on water actions; so, it was carefully serviced at the end of the day, including a heavy after-run oiling of the inside of the motor.

At this juncture it was assumed that the shunt hadn't done any harm to the boat; yet, in the coming weeks a slow but steady gremlin began to show itself in the vee's power source. Initially there was a slight increase in the number of pulls it took to get the Zenoah started; but no change was noted in the colour of the spark plug's colour; so all seemed well within the power plant. Also, since the boat was still capable of good speed out on the pond, nothing was checked on the engine beyond its regular maintenance points.

***RIGHT:** On an open-style hull, its engine is open to taking damage in a crash and a Zenoah motor like this boat's unit received a twisted crankshaft through a full flip/nose dive at the local lake*

***BELOW:** Large in size and heavy enough to create a lot of energy should it become airborne during a shunt, this petrol catboat can sustain some damage to the power plant after it suddenly hits the water after a flip*



Outwardly this petrol engine crankshaft looks perfectly fine but it can be misaligned in a crash or by an improper rebuilding and the result will be worn out crank bearings, a dragging ignition coil or any number of other engine maladies

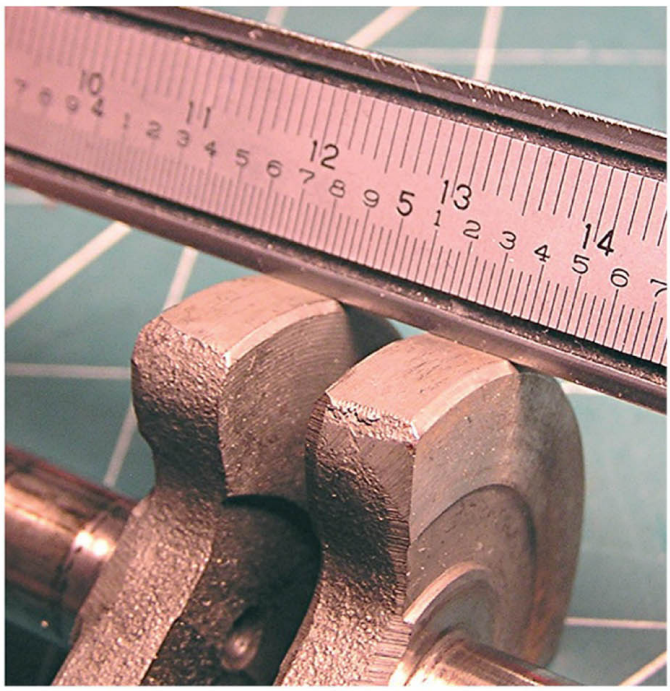
STAGE TWO

As the long boating season began to wind down (just as the football season begins) our IC enthusiast was now noticing that his monohull's power plant was refusing to idle smoothly and its spark plug ceramic insulator was beginning to show a more lighter shade of tan. Sensing that the water that had entered the engine during the crash may have damaged its twin crankshaft bearings it was decided that the boat's power plant would be rebuilt during its winter break.

Again, the owner had had previous experience with tearing-down and replacing worn bearings, pistons, etc. inside a Marine Zenoah engine and he had no problems switching-out these components on his workbench. Inspecting the old ball race crank bearings there was a slightly-noticeable amount of slop between their outer surfaces and their rotating ball bearings, so the boater believed that the small two-stroke engine was now fully-restored after its rebuild.

Properly remounted in the hull and plumbed-into the equally well serviced fuel tank and lines, the deep vee was given a short batch of fresh petrol/oil mix, the radio system was switched-on and the carburettor was tweaked for a cold start-up.

As the crankshaft's connecting rod is fixed by a press-in metal pin its location on the crank will be the possible twist point under a load against the driver coupler or the engine's ignition rotor/ flywheel areas



Machined flat to keep it balanced and free of the cases the crankshaft's outer 'flats' can provide a simple checkpoint for any imbalance by placing a good metal straightedge on the flats to look for gaps between the tool and crank

STAGE THREE

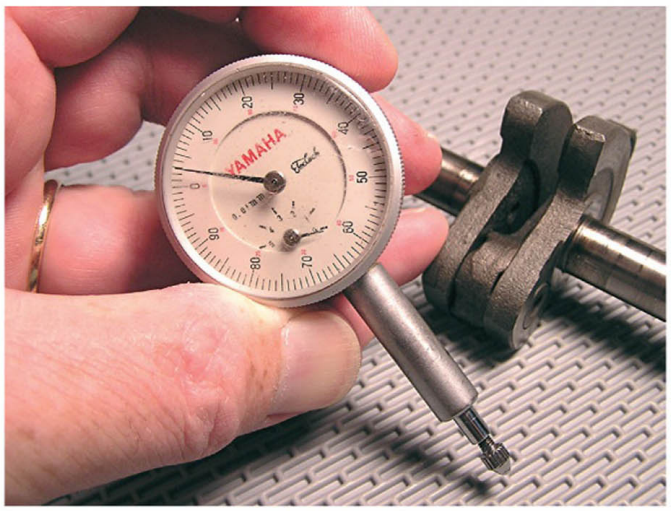
Only two pulls on the starter rope were required to fire up the rebuilt power plant and it now idled smoothly, throttled-up well and ran just as strong as the gashull had done before the previous season's shunt. All was well for the first quarter of the new boating season then the mono's engine began to again show a lean spark plug colour that led the boater to believe that air was working its way inside the motor.

With his good working knowledge of the two-stroke power plants used in gasboats the owner first inspected the various gaskets on the 26 cc Zenoah but none of the sealing points around them appeared to be stained which usually indicates an air leak glitch. The next check was the two rubber crankshaft seals found on either side of the engine's crankcases as they're the only serious leak locations on a standard two-cycle engine. On the output side of the crankcases, the round black seal is exposed and easy to examine, and again, there was no sign of any leak around the inside or inside edge of the rubber seal.

To clearly inspect the crank seal on the opposite end of the crankshaft it was necessary to remove the Zenoah's recoil starter and ignition rotor; so the whole motor had to come back out of the hull!

Sitting on the workbench, the power plant's starter/rotor were carefully removed and it quickly became apparent that the hidden seal was indeed letting air in as its rubber surface was coated with a greasy layer of burnt fuel residue. After popping the seal free from the case, the modeller, for some reason, decided to see if there was any play in the crank bearings. Grabbing the bare crankshaft end in his hand and holding the engine with his other hand, he gave the shaft a good wiggle and to his surprise there was a marked looseness in the almost-new ball races.

Completely baffled and confused the boater wisely chose to quit for the evening and take some time to think about what might be happening inside his recently rebuilt boat engine. Still running with plenty of compression and with the right amount of two-stroke oil in the petrol, the motor's crank bearings hadn't worn due to a lack of compression or lubrication. In any case, he knew that the engine was going to have to come apart to fully determine what had caused the bearing failure. Taking it slow and using plenty of



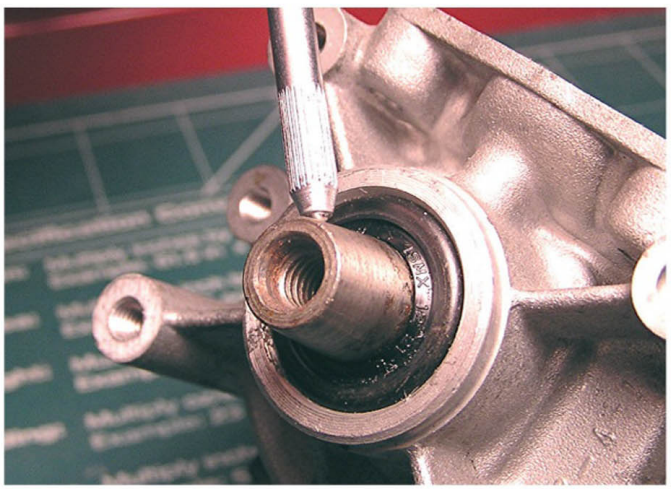
A dial indicator gauge like my old Yamaha unit can be used to check a crankshaft's straightness and it can be mounted to the outer crank housing with a clamp or homemade bracket that is bolted to the case to steady the gauge

clean rags to wipe down each component the Zenoah was slowly disassembled, laid out on an another cotton towel and then given a thorough inspection under a strong light.

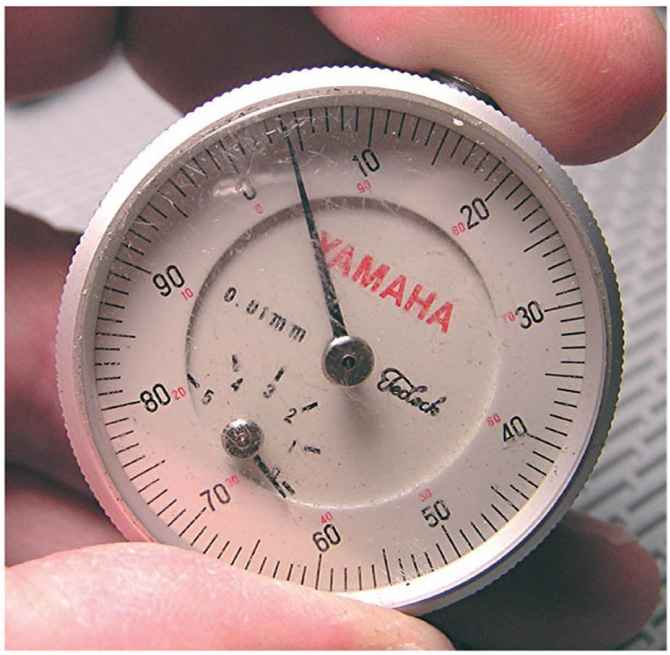
STAGE FOUR

Nothing on any of the engine's internal part's surfaces, edges or rotating points showed any wear or damage to their makeup; so the light was brought in as close to each part and they were again inspected for any problems. Focusing on the inner area of the two-piece crankcase a very slight marred spot was discovered on one inner case half and a matching shiny patch was then found on the matching crankshaft face as well. Not noticed during the previous off-season rebuild, these tiny marks didn't clearly explain the rapid bearing failure; so, the boater sought the help of his fellow IC hull owners.

Most of the local group had no ideas for the cause of the case/crank scuff marks; however, one veteran gas boater with many years of doing his own engine work suggested that the flip may have caused the Zenoah unit to be twisted during the sudden impact with the water. Having a small propeller balancer that would accommodate the crankshaft, the roller-style balancer was set so that the crankshaft's bearing locations were centred on the balancer rollers. Turned slowly the shaft ends were watched under the light and after only a couple of rotations a noticeable wobble was seen on the long end of the metal crankshaft.



Your goal when aligning the gauge's roller ball tip to the crank will be to centre the tip on the shaft as far away from the bearings and/or free of any keyways in the shaft itself



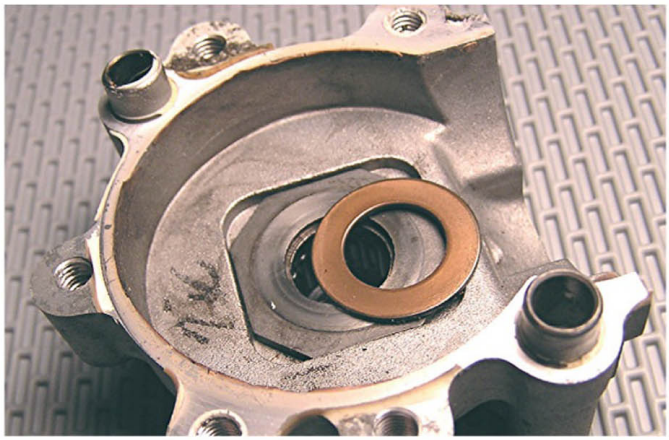
Any more than a few thousands of an inch of out-of-round on the gauge will cause an increase in bearing wear and will in turn cause a lot of unwanted vibration when the engine's running in your hull

This gasboater has fashioned a scale-like dummy engine over the actual power plant and not unlike a good canopy or hatch it could help shield the power plant during a big crash

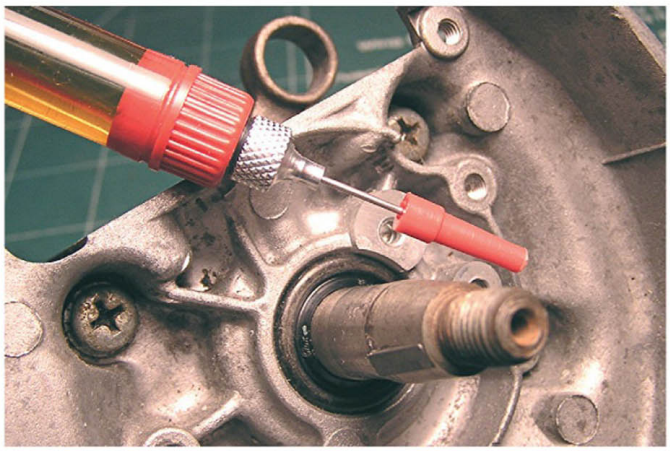
When rebuilding your hull's engine installing the new crankshaft bearings should be done with a driver socket and hammer as using only a hammer can damage the races. Adding a bit of oil to the installed bearings will protect the races when the refreshed motor is first started

After removing the crank from the balancer a steel ruler was laid across the part's machined halve flats and again there was a clear gap beneath one of the surfaces, which meant that the twist was in the crank's connecting rod pin location that holds the crank together. Likely caused by the major G-load the boat endured during the impact with the water the pressed-in rod pin moved in the crankshaft halves and this imbalance, although only a few thousands of an inch out of round, was enough to rapidly wear out the Zenoah's main bearings.

Once the twin races had been subjected to the vibrations caused by the wobbly crankshaft the seal on the inner case was also worn to a point were it had began to let air in and exhaust gases out of the engine. Luckily, the leak was detected before it did any real harm to the engine's piston, rings or cylinder liner. On the downside, the crankshaft assembly, two new bearings and seals and a fresh gasket set was required to restore the motor's rebuild levels to what you'd expect from a new Zenoah marine engine.



Through the normal differences in manufacturing you'll likely find a shim or two positioned between the crankshaft and the main cases and maintaining their OEM location will be important to maintain the engine's performance levels



Lubricating the inner lip of each crankshaft rubber seal and the crankshaft surface before you mount the seals will eliminate any damage to the seal during the rebuild of your petrol marine engine

PREVENTIVE MEASURES

As an aside to the tweaked crankshaft review, it should be stated that the modeller can use another tool to check his/her crankshaft alignment and it can be used while the crankshaft is still in the cases. A small dial indicator used on a lathe or press can be adapted for use on a small petrol power plant's crankshaft run-out check, but its positioning on the motor must be done securely to get a true reading from the instrument.

A homemade mount can be created from some DIY aluminium angle, thin steel strap or even a clamp/bolt arrangement and each will likely hold the dial gauge in place to the outer engine housing. Checked with new/tight ball races on the crankshafts the boater shouldn't see more than one-two thousands of run-out movement on the longer crank end. Any more deflection on the gauge will indicate a problem and you might have to get a new crank or have a machine shop attempt to realign your old one on a small press. In either situation taking the effort to carefully remove, check and reinstall your gasboat's crankshaft will help prevent any in-balance/vibration glitches in the power plant.

Another possible crank-related glitch that can crop up when the boater is rebuilding a petrol engine is the miss-alignment of the two crankshaft ball races that fit in the crankcase housing. Usually lined with a steel insert the bearing mounts hold the races tightly in place, so when replacing the twin bearings you'll need to carefully align the new ones as they're positioned in the cases.

Heating the steel inserts prior to installing the races will make it easier to place them straight into the housings and a regular heat gun can provide enough warmth for this job. Done outside and while wearing heavy work gloves to protect the modeller you'll also need some sort of bearing driver to ensure the races move straight into their locations. Your driver can be something as basic as a hardened socket as long as its outer diameter matches the outside width of the ball race.

Under no circumstances should you attempt to knock the bearings with only a hammer as you could easily damage the bearing or it could go into the cases at a slight angle; instead use your driver and a hammer and you'll end up with properly situated crank bearings.

Along these same lines, when you replace the two rubber seals found on the outside of each crankcase bearing you should again use a suitable socket, pipe, etc. to position the seals into their case openings. To help prevent any damage to the seal's inner lip you can apply some light oil or grease to the inside seal and then slide each seal onto the crankshaft to smoothly guide it on the shaft. Forcing the rubber seals onto the crank can quickly tear their edges and the result will be an air leak that will make it impossible to keep the engine in tune.

At this point you should be able to rotate the assembled crankcase without any indication of binding between the crankshaft, races and seals and the shaft itself can be double-checked for any out-of-round before the rest of the motor is assembled. Throughout the rebuilding of any IC petrol boat the modeller should take the time to turnover the crankshaft whenever a new component is bolted in place as this will prevent any nasty surprises once the engine's back in the hull.

CLOSING THOUGHTS

While this story may seem like an isolated incident don't think that a big shunt can't do any damage to your marine craft's power source. Even a canopy-equipped nitro or petrol-powered hull can be subjected to a high-G shaking and the result can be an engine with a twisted crankshaft, a shifted ignition coil, a sheared flywheel key or a cracked carburettor manifold block. Water may be a liquid but it becomes extremely hard when an airborne, fast-moving IC vessel hits its surface. Talk to you next time! ***MMI***

TIP OF THE MONTH

Like any mass-produced engine, a modern IC boat power plant will have some minor tolerance differences in its components during the motor's assembly, so the average engine's crankshaft/case combination can end up with a shim or two on the shaft. Done to keep the connecting rod centred on the cylinder's piston bore the thin metal crank shims will need to be kept in their original locations each time the engine is rebuilt. Small in diameter to not bind against the ball races or the crankshaft itself, the shims may seem too thin to make any differences in the overall performance output of the power plant; however, they are needed as installed from the engine's factory. ***MMI***

WATERLINES

HOLY LOCH – THE US NAVY'S REFIT SITE ONE: KELVIN RECOUNTS THE STORY OF THE US SUBMARINE BASE AT HOLY LOCH (PART 1)

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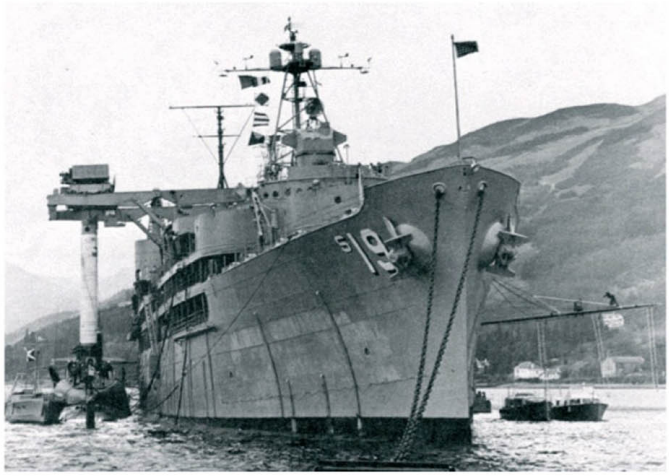
Between 1961 and 1992 Holy Loch in Scotland was the home to the US Navy's Refit Site One, a base created for servicing and refit of US nuclear powered ballistic missile submarines (SSBN). The USN unit assigned was Submarine Squadron (SUBRON) 14, which comprised a submarine tender (US designation AS), a floating drydock, several barges and tugs plus up to nine SSBNs.



USS Proteus (AS-19) at Holy Loch in 1961, USS Patrick Henry alongside (USN)

USS Hunley (AS-31) at Holy Loch in 1966 (USN)

The Holy Loch base was established on 3rd March 1961 when the submarine tender USS Proteus (AS-19) arrived and just five days later the USS Patrick Henry (SSBN 599) berthed alongside for the first refit. USS Proteus was built in 1942/43 and in 1959/60 lengthened and extensively modernised to support Polaris equipped SSBNs, leaving a pair of 5" guns forward, re-commissioning on 8th July 1960. When at Holy Loch USS Proteus had just a single 5" gun forward and this was removed during the 1970s. During the 1960s the USN operated four classes of Polaris SSBN: George Washington (of 5, completed 1960-61), Ethan Allen (5, 1961-63), Lafayette (19, 1963-64) and Benjamin Franklin (12, 1965-67). The last two classes were upgraded for the Poseidon missile (1971 - 77) and the twelve Benjamin Franklins to Trident (1979 - 81). No new construction occurred until the Trident equipped Ohio class of 1981 onwards.

USS Canopus (AS-34) (USN)

USS Holland (AS-32) original crane fit

During WWII the US Navy built three types of large Advanced Base Sectional Docks (ABSD, later re-designated AFDB), the third of which (ABSD 4 type) comprised seven sections. In early 1961 four sections of AFDB-7 were towed across the Atlantic to Holy Loch where they were joined together by the Seabees of MCB-4 as USS Los Alamos. Ready for use by 10th November 1961 she undertook her first docking – USS George Washington (SSBN-598) – before the year was out.

In January 1963 USS Proteus was relieved by USS Hunley (AS-31) the latter fitted at that time with the huge 32½ ton 'hammerhead' crane. Digressing briefly, USS Proteus appears again when SUBRON 16 with four SSBNs was established at Rota in Spain in January 1964. USS Lafayette (SSBN-616) was the first to refit and replenish at Rota. Later in 1964 USS Proteus moved on to Guam with AS duties subsequently covered by various tenders as shown in the table. Drydocking at Rota was provided from June 1964 with the arrival of the floating drydock USS Oak Ridge (Auxiliary Repair Dock – Medium (ARDM) -1, ex ARD-19). She was one of many ARDs built during WWII and was the first of three taken out of reserve between 1962/68 and modernised for SSBN support. For ARDM-1 and ARDM-2 USS Alamogordo (ex ARD-26) this involved an increase in length to 536 ft and for ARDM-3 USS Endurance (ex ARD-18) to 513 ft (source for all dimensions Polmar, 14th edition). By the end of 1979 SSBN operations at Rota had ceased transferring to Kings Bay, Georgia.

Superior 1/1200 model of USS Proteus with Wiking 1/1250s of George Washington and Nautilus (modified by US Collector Steve Forsyth)

USS Hunley and her sister-ship USS Holland (AS-32) were completed in 1962/63 and were the first ASs designed specifically for support of SSBNs carrying Polaris. In August 1966 USS Simon Lake (AS-33) took over at Holy Loch and she in turn was relieved in May 1970 by her sister-ship USS Canopus (AS-34), the latter having been upgraded in 1969/70 to support Poseidon equipped SSBNs. The latter two ships were completed in 1964/65 to support Polaris missile SSBNs with USS Simon Lake receiving her Poseidon upgrade in 1970/71 having returned home from Holy Loch. At the same time both Hunley class were given a pair of new 30 ton cranes to the same design as those on the USS Simon Lake.

HMS Protector is the newest RN vessel from Albatros

Class	Commissioned	Full Load	Dimensions
Fulton mod – USS Proteus	1944 (1960)	20,295 tons	574 by 73 ft
Hunley (& Holland)	1962 (& 1963)	19,819 tons	599 by 83 ft
Simon Lake (& Canopus)	1964 (& 1965)	19,934 (& 21,089) tons	644 by 85 ft

Table 1 – USN SSBN Tenders

Table 1 gives main details of the USN's three classes of SSBN tender; two more AS classes were built but for support of SSNs: L.Y. Spear (AS-36 class of 2) and Emory S. Land (AS-39, class of 3). For those closely following the numbering sequence, ASs 35 and 38 were cancelled. All SSBN tenders had been taken out of service by the end of the 1990s, with USS Simon Lake in reserve for a few more years. USS Proteus, having served as an accommodation vessel from 1994 to 1999 was sold for scrap to Esco Marine, Brownsville, Texas; this was not completed until 2008 so she may well have been re-united with the remains of USS Los Alamos as described next month.

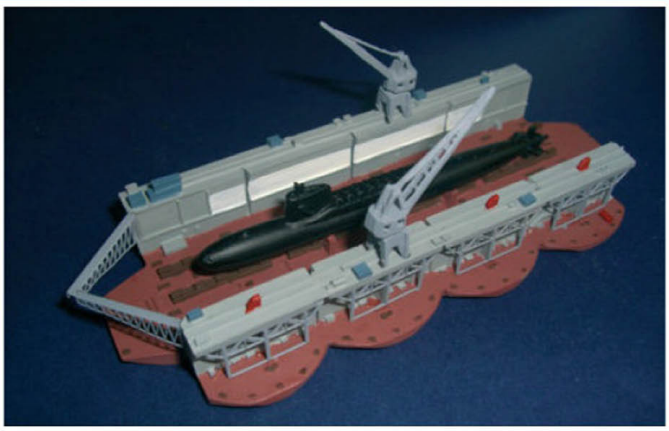
AFDB-7 USS Los Alamos (USN)

Ship	Duty Period	Servicing	At Rota
USS Proteus	1961-63	George Washington & Ethan Allen classes	1964
USS Hunley	1963-66	As above plus Lafayette class	n/a
USS Simon Lake	1966-70	All above plus Benjamin Franklin class	n/a
USS Holland	n/a	Lafayette & Benjamin Franklin classes	1964-66, 1969-70
USS Canopus	n/a	As above	1967-69

Table 2 – USN SSBN support at Holy Loch to 1970 (and at Rota)

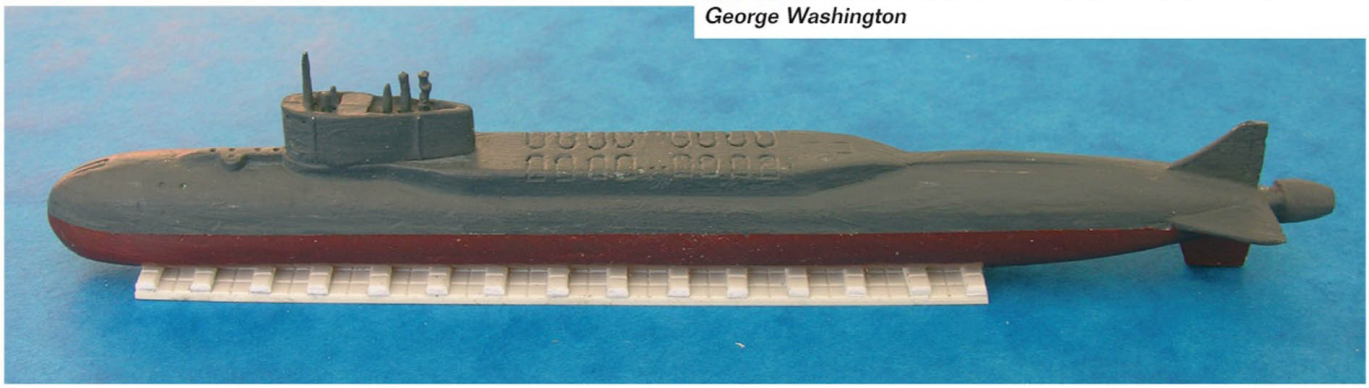
Table 2 makes an attempt at identifying which SSBN classes could have been at Holy Loch during the various tenures and is continued next month when we also look in more detail at waterline and full-hulled submarine models. Meanwhile available now from Mountford is ABSD-1 USS Artisan with USS Oak Ridge and various ASs in the pipeline.. Incidentally if you have a waterline submarine, preferably a bare metal kit, a full-hulled version is not difficult to make and can be achieved by glueing then sculpting/sanding down layers of Plasticard to reach the desired hull form.

MMI



ABOVE: Mountford AFDB-7 USS Los Alamos with SSBN USS George Washington

BELOW: This full-hulled Soviet SSBN is a waterline model to which has been added a layered Plasticard lower hull



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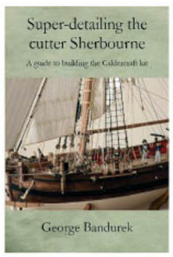

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PLASTIC KIT SCENE

SOME OF THE LATEST MARITIME RELATED PLASTIC KITS AND ACCESSORIES RECENTLY RELEASED

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

DRAGON MODELS (CYBER-HOBBY)

Cyber-Hobby has released three models, one in 1/350 scale and the other two in 1/700 scale. Two have been released this year to commemorate the 30th Anniversary of the Falklands War.

Cyber-Hobby's 30th anniversary model of HMS Sheffield (Courtesy Dragon)

HMS Sheffield (D80) Type 42 Destroyer (Premium Edition)
Model No.: 7133
Scale: 1/700
Length: 18 cm

HMS Sheffield was one of the warships sent to the Falklands in 1982 as part of the British Task Force following the Argentinean invasion of the islands on the 2nd April 1982. On the 4th May two Exocet anti-shipping missiles were launched from two Argentinean aircraft, one missed their mark but the other hit her but failed to explode. The missile had smashed through the ship's side causing a large hole and also igniting fuel oil in the engine room. These fires started to spread through the ship, the missile had destroyed the main fire fighting main so the crew were unable to stem the fires. The ship was abandoned and eventually sank six days later on the 10th May.

This is a well-detailed model that comes complete with photo-etched parts to enhance the detail of the model; among the etched components are finely reproduced antenna and radar arrays. The model can be built with a full hull or as a waterline version. Decals are included for the model to be built as HMS Sheffield or HMS Coventry D118, which was also sunk during the Falklands War. There are also provisions included on the decal sheet and painting guide for the model to be completed as the ARA Hercules, a Type 42 destroyer that was built for the Argentine Navy before the Falklands War.

Cyber-Hobby's 30th anniversary model of HMS Invincible

HMS Invincible Aircraft Carrier
Model No.: 1728
Scale: 1/700
Length: 30 cm

Only commissioned into the Royal Navy in 1980 a decision was made for her to be sold to reduce the size of the Navy's carrier force, in February 1982 the Australian government announced that they would be purchasing HMS Invincible for the Australian Navy and she would be renamed HMAS Australia. But before she could be delivered the Falklands War began and she joined the Naval Task Force to be sent to the Falkland Islands. Here her aircraft and helicopters were used to great effect, after the war she saw service in many parts of the World including the Balkans and the Gulf conflicts. In August 2005 she was decommissioned and after several years of languishing in waters outside Portsmouth Naval Base she was sold and sent to be scrapped in 2011. Again this model is accurately reproduced and is well moulded. It also includes many etched parts for added detail, which include intricate railings for the flight deck.

Both of these models have been released in the special 30th Falklands War Anniversary packaging to commemorate the anniversary. The models were released before, in 2007, to commemorate the 25th Anniversary by Dragon Models but this time they are from their other company, Cyber-Hobby, but it is stated that they have been revamped and upgraded since that release.

USS Freedom in 1/350 scale (Courtesy Dragon)

USS Freedom LCS-1
Model No.: 1057
Scale: 1/350
Length: 32.5 cm

The USS Freedom was commissioned in November 2008 and is the lead ship of the Freedom Class of LCS warships (Littoral Combat Ship). Its unique semi-planing monohull design gives it a top speed of over 40 knots; she carries a compliment of 40 officers and seamen. When on certain types of missions she can carry another 75 marines and aircrew. The armament consists of one 57 mm gun in a turret mounted forward, four 50 cal. machine guns, two 30 mm guns and a Rolling Airframe missile system. It has a flight deck for its onboard helicopters and the stern ramp can be lowered to allow its boats to be released straight into the sea and recovered the same way. This class of ship has been designed with the costs of running a ship in mind using the least amount of crew as most of the work is controlled by the systems carried onboard.

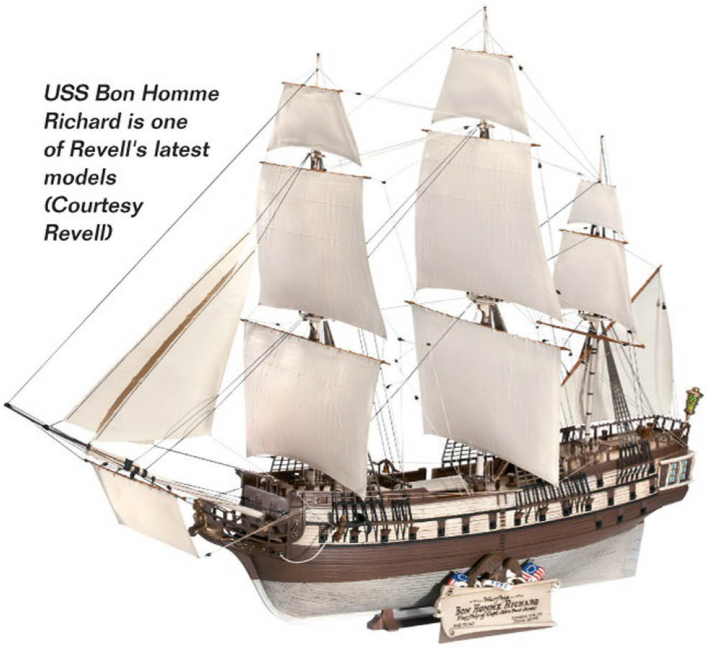
The model is a real gem just like the 1/700 scale model that Cyber-Hobby released last year except on a larger scale and with lots more detail. Here are a few of the details of the model: well-detailed superstructure with many etched parts, hangar door can be modelled open or closed, detailed etched safety netting around flight-deck, the option for stern ramp in open or closed position, detailed armament, helicopters (some with etched folded blades), well reproduced etched railings. A must have model for collectors of the latest types of modern warships.

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

REVELL

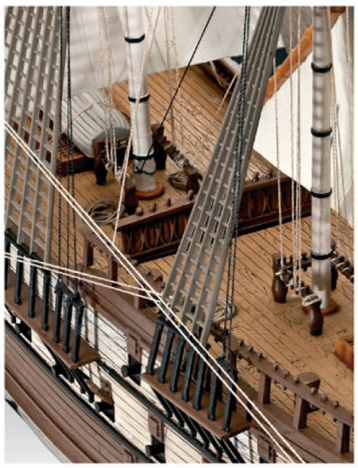
USS Bon Homme Richard
Model No.: 05113
Scale: 1/132
Length: 58.1 cm
Parts: 341

Originally built as a merchant ship for the French East India Company and named the Duc de Duras, but by command of the French King Louis XVI she was refitted and transferred on loan to the American Continental Navy in February 1779 under the



USS Bon Homme Richard is one of Revell's latest models (Courtesy Revell)

Close-up image of the stern gallery (Courtesy Revell)



Detail of the model is well reproduced (Courtesy Revell)

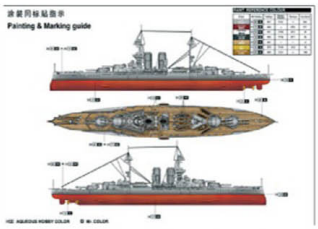
command of Captain John Paul Jones. America was in its war for independence from the British at this time and she desperately needed more ships for the fight. Renamed Bon Home Richard she set sail from France with other ships to hunt for British merchant ships around the coast of Britain. They had captured at least 16 merchant ships as prizes when they had entered the North Sea; it was here in September 1779 that she engaged the heavily armed British warship HMS Serapis at the Battle of Flamborough Head. The Serapis devastated the Bon Homme Richard with her shots killing many of the crew, the captain of the Serapis called for them to surrender but Jones replied with the now famous words, "Sir, I have not yet begun to fight." Jones closed his ship in allowing them to be lashed together; attempts to board each other were made by both crews but to no avail. Finally another American warship arrived and entered the fight – this was too much for the Serapis whose captain surrendered his ship. The engagement had lasted over four hours, the Bon Homme Richard was on fire and badly damaged – efforts to save her failed and she sank. Captain Jones and his crew returned to America on the Serapis, which they had captured.

This kit will build into a lovely well-detailed model, which comes complete with vac-formed plastic billowing sails.

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

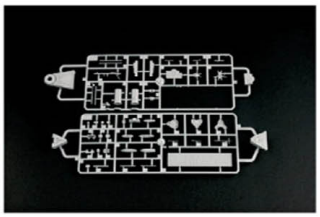
TRUMPETER MODELS

Here are two models of the same warship but in different scales and time periods from this well-known producer of detailed models.



Trumpeter HMS Queen Elizabeth 1918 in 1/700 scale (Courtesy Trumpeter)

The 1918 painting guide is very detailed



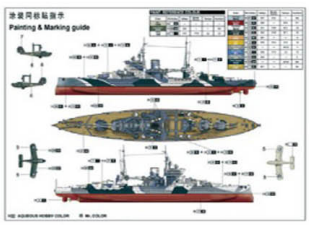
Some of the many parts in 1/700 scale

HMS Queen Elizabeth (1918)
Model No.: 05797
Scale: 1/700
Length: 28.1 cm
Parts: 170+ plus etched fret

Features:
Full or waterline hull
Deck wood pattern finely reproduced
Etched parts for extra detail
Display stand
Engraved nameplate
Full colour painting guide

Trumpeter HMS Queen Elizabeth 1943 in 1/350 scale (Courtesy Trumpeter)

HMS Queen Elizabeth (1943)
Model No.: 05324
Scale: 1/350
Length: 56.2 cm
Parts: 600+ plus etched fret



The 1943 painting guide really shows the difference from the 1918 model

Features:
18 sprues of parts
Two-part hull
Etched parts
Very well moulded superstructure
Gun barrels with hollowed ends
Two detailed aircraft moulded in clear plastic
Clear assembly instructions
Colour painting guide

HMS Queen Elizabeth entered service at the beginning of World War One in January 1915. In April 1915 she was used as flagship in the Dardanelles during the military invasion at Gallipoli by the commander of the Mediterranean Expeditionary Force. But in May 1915 she was withdrawn to reinforce the Grand Fleet at Scapa Flow. She was not present at the major engagement against the German High Seas Fleet at the Battle of Jutland due to being in dock maintenance. Between the wars she was greatly modernised with increased armour, trunked funnels, increased armament, aircraft catapults added and new fire control. During World War Two, she was seriously damaged by Italian frogmen in an attack in the harbour at Alexandria in December 1941. Because of the shallow draft in the harbour she grounded. As the frogmen had been captured the ship was given the illusion to the enemy forces of being in full operational order. This was to show that the Royal Navy were still a very strong force in the Mediterranean. After being re-floated she was temporarily repaired and made her way to the United States to be fully repaired. After over 18 months she rejoined the Home Fleet in July 1943, and then sent to the Pacific area to join the Eastern Fleet for operations against the Japanese forces. Surviving the war she was scrapped in July 1948 after more than thirty years of service with the Royal Navy.

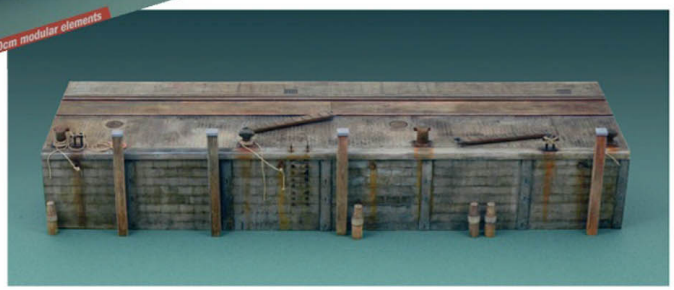
This is the first World War One warship to be released by Trumpeter and I hope there are more to come. Perhaps the 1/700 scale 1918 model will be released in 1/350 scale at a later date. As with all Trumpeter models the models are very well reproduced and will be very well received by many modellers.

Further details of these models and all Trumpeter kits can be found at: ***www.trumpeter-china.com***

ITALERI

This is an unusual release from the Italian company Italeri.

Long Dock
Model No.: 5612
Scale: 1/35
Length: Two 30 cm sections
Parts: 64 plus thread to simulate rope



Dock With Stairs
Model No.: 5615
Scale: 1/35
Length: 30 cm
Parts: 40

ABOVE: ***Imagine what sort of scene can be produced using these dock models***

BELOW: ***This is the dock model with stairs, the detail is very good (Courtesy Italeri)***

This is a well-detailed section of a dock for modellers that want to build a dock diorama, which can feature any of the Italeri 1/35 scale ships and military models. It comes in two 30 cm sections that are joined together and other sets can be attached to form an even longer dock. Also the section with stairs can be used separately or in conjunction with the long dock sections.

Details can be found on the Italeri website at: ***www.italeri.com***

LIFECOLOR PAINTS

How many of you think black is black? Well here is the latest paint set from LifeColor and it contains six different colours of black!

Black Rubber Shades & Co.
Set No.: CS 27
Contents: 6 Pots

This set has six different shades of black acrylic paint, each with its own name:
UA 731 Dirty Black
UA 732 Vulcanized Rubber
UA 733 Tire Black
UA 734 Worn Black
UA735 Deep Cockpit
UA 736 Burned Black

Lifecolor Black Rubber paint set

These are very good paints that can be airbrushed or hand painted, and as I have said this is a wide variety of the colour black. The use of these paints is ideal for representing weathered and worn surfaces on many types of models. It is difficult for me to show the variations of the colours here but believe me they are different.

Thanks to The Airbrush Company who are the distributors of these paints for supplying the sample pack, further details of all the paints in the LifeColor range can be found at: ***www.airbrushes.com***

REVELL NEWS!
REVELL GERMANY ACQUIRED BY HOBBICO

In February 2012 Hobbico, Inc. of Champaign, Illinois USA announced that it has acquired Revell Deutschland Holding GmbH.

Revell Germany was established in 1956 and is the European market leader in the plastic model building segment. For the last four years, Revell has also been a key player in radio control vehicles in the European toy market. With several new product lines just announced at this year's Nuremberg Toy Fair. Revell has embarked on a rapid expansion of their radio control products including a new series called tecZone which is targeted at the European hobby market.

Hobbico is the world's leading manufacturer and marketer of model hobby products, including radio controlled models, plastic model kits, flying model rockets and other hobby and toy products. The 100% employee-owned company sells products through several subsidiaries including Revell, Estes, Great Planes Model Distributors and Tower Hobbies. Since 2007, Hobbico has owned the US Revell operation. Just prior in 2006, Revell Germany was spun off as a separate company. For further details visit ***www.hobbico.com/home.html*** ***MMI***

LIVEWIRES

BUILDING A COMPETITIVE MONO 2 FAST ELECTRIC

AUTHOR: ALLAN SHILLITTO GREAT BRITAIN
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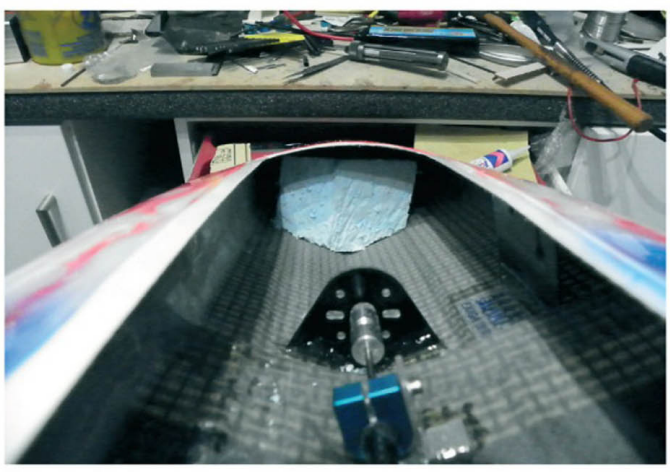
I thought it was time for a break from the theory and that we could look at an actual build in depth. I need a new mono 2 for this year so as that is what I need to build, that's what we will look at. Although the build is for a mono 2 the principles apply to all models but the detail is more so mono's. Now I am not saying this build is right but it is the basis from which I will work and builds like this have worked for me in the past. Others have built the same boats slightly differently and they also work. So use this as a guide rather than a set of instructions! The hull does not really matter but mine is an ETTI Exiga Evo2. This build is specific to that hull but can be used as a template. You just need to take in to account any differences in the hull you build.

Exiga Mono 2

I would normally strip and paint the hull after I had finished the build, then any minor dings will not be seen. I think most people would build this way. I had the hull painted for me in my chosen pattern (in Hong Kong) so I have no choice but to build with the paint in place, I have done several builds before and a couple that were ready painted so I am not fazed by this but I will take extra care.

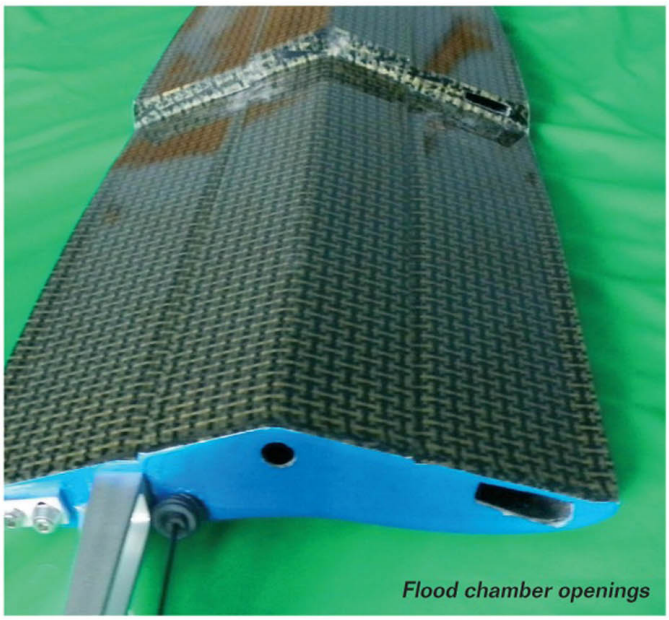
LAYOUT AND PREPARATION

The first thing to do is to think about the layout of the major heavy parts of the build, so really that is the motor and the cells. These need to be positioned so that you have some adjustment around the Centre of Gravity. My preference is also to keep the weights as close to the C of G as I can as in previous builds I have found that this approach means the boat will react better to pitch and roll. The C of G for me will be just aft of the step but stepped hulls will run with the C of G just forward of the step so I need to ensure that I have at least that amount of adjustment available. You also have to think about accessibility for charging and servicing the boat, as you don't want a 5-hour turnaround to fix a simple problem! I'll get the adjustment from moving the packs. This all means that I need to have most of the parts to hand before I can start. I don't allow for small weights as these can be fairly easily compensated for but be aware that they can add up. One thing I do not know at this stage is how much extra weight I will have to add to make the self-righting work correctly. My old Mono 2 worked extremely well so I based the new build on that and that gives me one 2S cell pack in front of the safety loop and one behind, which leaves the front of the motor about 30 mm in front of the step.



View to the bows

So that's that sorted. I want to do some work before I start gluing things in place in the hull. One is to put some buoyancy in the nose so in the event of a catastrophic accident I can at least get some bits back! There are a few things you can use for buoyancy but my preference is blue foam. Many people use chopped up pool noodles but I have a lot of blue foam so that is what I used (I purchased six sheets from Southampton insulation some while ago!). Blue foam is an insulating material of the closed cell variety. It is solid, easily shaped and easily sanded and has been used in the past to create cowls for hydroplanes, which are really solid affairs after coating with epoxy. I marked out the sheet that I have and cut out a block of near the right size, then marked it up from the hull outline and again cut it down. I have used a bread knife in the past but someone objected so now I use a hacksaw blade, which also works well. After roughing out I sanded it to fit – (you can see the contact points from a test fit and use them as a guide). Once happy I checked the cell pack would still fit where it will go and then glued the block in. As you can see from the picture, this needs to be in place before the build is started in earnest, as it will not fit over the motor mount!



Flood chamber openings

The second piece of work is to open out the flood chamber at the rear and rear of the step (see pictures) and create the air and flood holes. I will start with a small drill opening out carefully and filing back to the finished size. I will start with small entry holes and modify if needed, as I want to retain the maximum strength. This hull has a carbon Kevlar bottom and a Kevlar top. Kevlar adds strength and does not block radio but it is a right royal pain to finish as strands will stay in place and are difficult to get rid of. Lastly, I cut a piece of carbon to support the right-hand deck and epoxied it in place, this is to improve the rigidity of the hull – I don't want the lid being popped off!

BATTERIES AND SAFETY LOOP

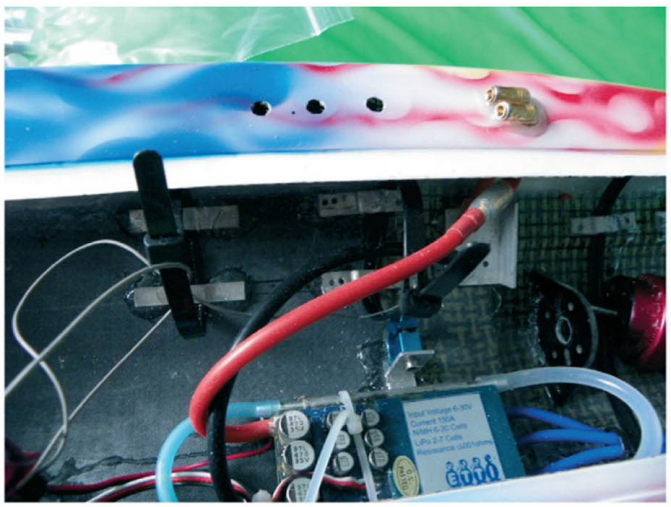
Next is the safety loop. I use 3.5 mm high current connectors throughout and so use them for the loop. The loop will go flat on the surface of the boat so I want the wire to come out at right angles. Cut the solder bucket on two female receptacles so the wires can enter from the side and solder 10 AWG silicon flexible wire to them. On this hull there is a recess in the flood chamber to take the loop so I located this – measured and transferred the measurements to masking tape affixed to the hull. Once happy that everything would fit and not touch, I drilled pilot holes and

opened out to just below the cable size. Then I roughed the paint area under the location, fed the cables through (tight fit = no water leaks) and epoxied the connectors in place ensuring that they will still expand to take the loop. The loop itself is simply 10 gauge wire with two 3.5 mm HC male connectors on it ensuring it is 20 mm long (I race and that's the rules). In this hull the wires go through the flood chamber so remember to seal the inside wall as well – I did this with silicon.

Assembled components for the safety loop

NB. If the hull is carbon then both connectors MUST be isolated from the hull – carbon conducts, one connection will cause interference, two will cause a fire.

The cells need to be removable and I will keep them in place with re-useable tie wraps and anti-slip matting plus aluminium limiters! You could use Velcro straps, but stick and stick Velcro does get rejected by epoxy in time so beware of that (and it adds weight to the packs). The tie wraps go through aluminium brackets – these were made from thin sheet, bent over a form (I used the handle of a pair of tweezers – see picture), they are a bit rough and ready but it works! Drill them to allow epoxy to flow through and help retain them.



The battery holders, you can also see the fitted safety loop

The tie wrap brackets in construction

The glue side was roughed up as was the hull at the mounting point and then they were epoxied in. I have seen this done with skinning epoxy and glass tape but some of those have failed on me. These will have to take a lot of force so best be safe. I made a bracket to limit the forward travel of the rear cell and mounted that the same way after making sure that the wires could be routed and removing all the sharp edges. Tie wraps were routed and batteries test mounted. Next I worked on the battery connections. Competition rules give us a weight limit for a pack so I cannot add and maybe need to remove some wire from the cells to keep the pack below weight with the connectors in place, and still need my adjustment!

HARDWARE

Now it is time for the hardware installation. Time for more thinking! The rudder sits off to one side and must clear the prop at all times. I want to run at least a 42 mm prop and maybe larger so need to bear that in mind. The rudder itself needs to be mostly behind the prop and the prop needs to be in clear water at least 10% of the hull length behind the boat. A bit of comparison work gives me the front face of the prop 80 mm from the transom. The rudder is on a 100 mm standoff and the comparison shows that the 80 mm figure is fine. I am using a straight wire drive with a 2.5 mm wire so the drive is straight. Having measured the height of the motor shaft centre with the motor in the mount I drew a diagram with my chosen dimensions on it, and allowing 2 mm above the line between the peaks of the steps for the bottom of the shaft, then measured the centre height, transferred the height to the transom and drilled a pilot hole. (If I were using a flex drive then the hole would be as low in the transom as I could get it.) If you are in any doubt you can use a straight wire to check the positioning. Once you are sure open the hole out. Now my hull has a Kevlar top and a carbon Kevlar bottom. Epoxy carbon drills fine and so does the Kevlar but as I said earlier, Kevlar leaves a furry edge which is not too easy to get rid of – I used a fine file to work on the strands.

I am going to use a wedge rudder with a water pickup, these are a bit fatter than the non-water pickup but I do not think it will make a significant difference. You could put the water pickup just in front of the step and that will work just as well. The rudder is offset to the right-hand side so the boat will not easily turn left, this does not matter to me as I am racing in clockwise ovals, but it is worth thinking about. I have offset the rudder from the centre line by 45 mm – this should be enough. Using the backing plate as a template I marked and drilled the mounting holes and fitted the rudder. When I am ready I will undo it all and seal with silicon – I'll do this to all the holes.

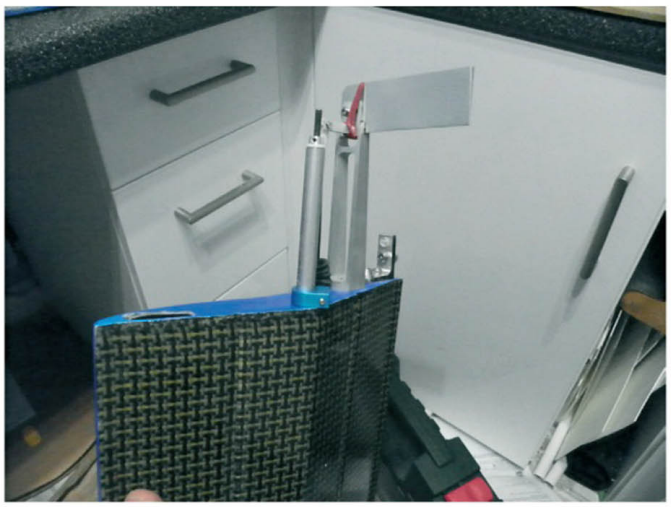
You can see in the picture that I experimented with a system to spring the rudder back in place after an impact but I went back to the plastic break out screw as my attempt seemed a little floppy and I thought the water force may move the rudder. I still like the idea and will have a play with it when the weather warms up.

The turn fin is mounted as far right as I can get it and still get the mountings in place, the internal plate and access are the key to this – make sure they will fit. I used products from the same manufacturer and meant for the hull but you can still get it wrong so check – and allow for the internal layup. The angle is adjustable vertically and forward/rearward and that gives me some leeway. The suggested item is straight up and down which is not to my taste – we will see! So long as the mounting is there it can be changed later.

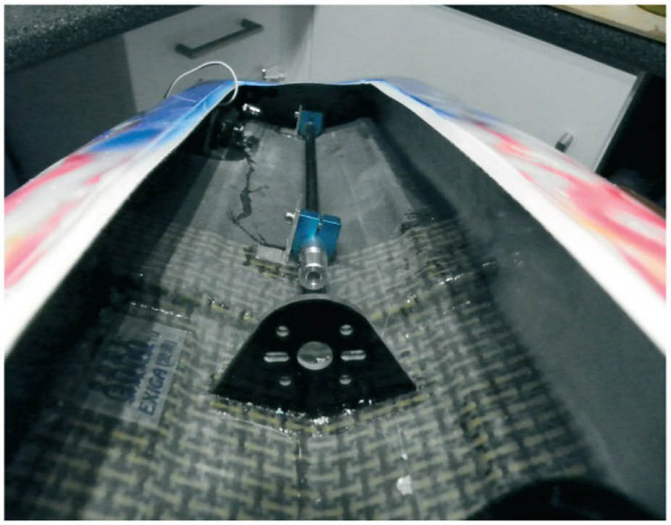
THE SHAFT

Now we come to the shaft. This is critical and deserves some real care. First I dismantled the wire drive. In the picture the original parts are at the bottom, I replaced these with four ceramic bearings with brass spacers and coated with Micro ZX1 grease. This is a high temperature synthetic grease but I use it as it has very low friction and is waterproof. The wire drive has a PTFE centre bearing and I will replace that just as soon as I figure a way to hold the 2.5 mm bearing in the lathe so I can remove the flange (so far I have only found a supply of them with flanges, if you

The wire drive with modifications



Lining up the wire drive

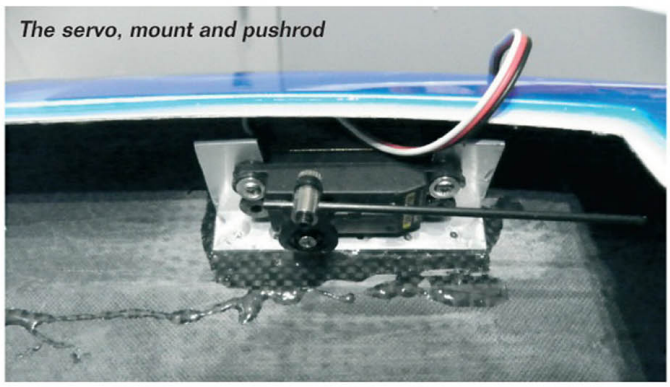


The assembled wire drive with mounts

know of a source of plain rimmed ones then let me know). I need everything to line up correctly and mount correctly so I took a lot of care with this to ensure everything is in line and not stressed during the install. I have some 10 mm shaft clamps that are meant for hydros so I used two to fit adjustable brackets (adjustable with a slot filed in the upright). Then I made up an assembly of the shaft, brackets, coupling, motor and motor mount and checked the positioning on a flat surface. I marked the transom position (you can see this in the picture) and used another clamp to hold the assembly in position and epoxied the shaft mounts and motor mount in place holding it all vertically whilst it set. I did this so that no stresses were introduced by the motor weight. Then set the clamps correctly, release and remove the end clamp and seal the transom with silicon.

RUDDER SERVO AND LINKAGE

I left the rudder linkage until now as I wanted to know exactly where there was room for the servo, I also wanted to make sure I could replace or service it if needed. So a hole for the servo rod was drilled and the boot fitted in it. You could mount the boot on a tube and even put it inside the boat but I just fitted it in the hole and siliconed it in place. Later I will secure the end of the boot with a small tie wrap. An aluminium mount was made for the servo from T-bar, it and the servo were mounted together, servo hardware fitted and the positioning checked. Once satisfied it was epoxied in place, not forgetting to rough the mating surfaces up and drill some holes for the epoxy to spread through. This will take some force so make sure it is solid. I made a bit of a mess with the epoxy – I should have used some masking tape.

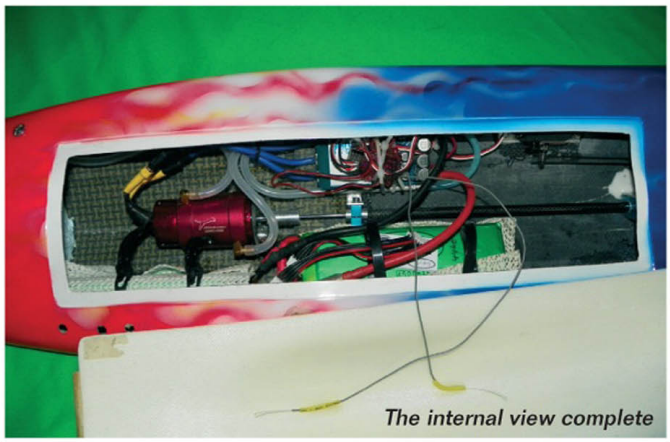


The servo, mount and pushrod

NEARLY THERE... BUT STILL SO FAR

Next I removed the motor and fitted the cooler, oriented it correctly and then (did you guess yet?) siliconed it in place (as a precautionary measure) and not because they leak in general. Do check the seal on the input/output nipples though as they can leak if knocked. A hole for the water outlet was drilled in the bows, sealed in place and connected to the motor cooler.

A position for the ESC was chosen and more retainers epoxied in. The UBEC was fitted and secured to the ESC with tie wraps. Connectors were fitted to the ESC, including the UBEC and 7 mm silicon tube used as insulators. Motor connected up and a test run to make sure it all sort of worked (beeps from the motor and then in the case of this ESC error beeps indicating no signal). The Rx was fitted and connected up and the final water tube run and connected. Two lengths of silicon insulation from 1 mm wire were siliconed in to the lid fore and aft – these will take the aerials from the Rx, hold them in place and stop them getting tangled. As a side note if the hull is carbon the aerials must go outside the hull!



The internal view complete

All I need now is some nice weather so I can do some testing and get the balance and weight correct for self-righting. I will use self-adhesive tyre weights to do this. You can apply them on the outside of the hull and when satisfied slit the rubber and remove them and put replacements inside the flood chamber in the same position. You can then roll the remaining rubber and adhesive off the hull and all will be as if it was never there. A bit wasteful on weights but they are cheap!

Well a nice day came along and I did go and test the boat. I found one small leak and added approx 120 grams in weight on the LHS in two strips of weights. I used a 39 mm prop to start with and the boat runs just fine. All that remains is to work up to the final prop and put the weight inside the flood chamber. I'm off to watch the weather forecast for another decent testing day when I'll do some extensive testing. I'll leave you with a picture of the finished innards.

If you have any questions or suggestions for future articles then please do mail me at *allanshillitto@blueyonder.co.uk*, I will answer all the mails I get and maybe they will lead to some discussion in the magazine. **MMI**

MMI VISITS

TITANIC VISITOR EXPERIENCE, BELFAST

AUTHOR: BARRIE STEVENS GREAT BRITAIN

With Titanic mania appearing in most of the media in April, Mrs S and myself had the opportunity to visit what was claimed to be the largest Titanic Visitor Experience in the world. The visit started for us in Southampton when we boarded the MS Balmoral en-route to Liverpool and Belfast, this cruise ship was the one that retraced the first and last voyage of the doomed RMS Titanic, which sank on April 16th 1912. We travelled with a group of fellow ship enthusiasts from the Ships Monthly magazine under the direction of Russell Plummer. When we entered Belfast from the sea the two iconic cranes of the now redundant Hartland and Wolff shipyard, called Samson and Goliath, came into view along with the very strange building which houses the Titanic Belfast Visitor Experience.

The first impressions were very mixed as it consisted of many high angled sides, which from a distance did partially resemble the bows of a ship but why are there bows on four corners? Where is the entrance and how can this possibly house an experience of the Titanic, which from the outside looks more like the Sydney Opera House, with a reputed build cost of around £38M; lots of questions!

After a conducted tour of the White Star Drawing office used to design Titanic, the slipway used in the launch of her and the Thompson Graving dry dock used to fit her out we eventually came up close and personal with the stunning gigantic Titanic Belfast building. Our guide explained that the building was designed to recreate the bows of the Titanic to exact scale and there are four so that from the air it shows as the White Star emblem.

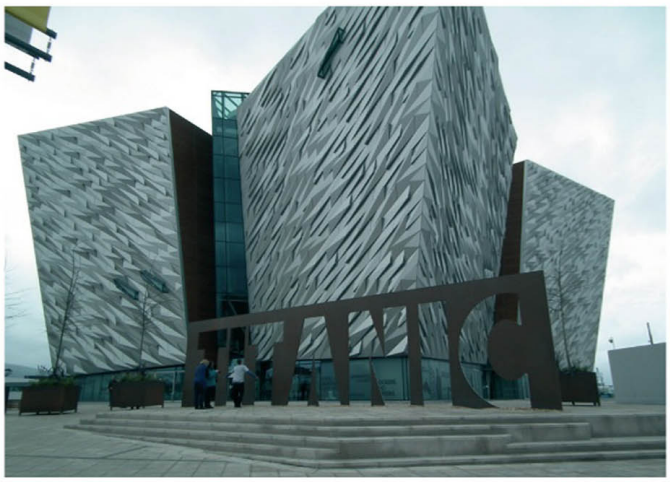
It should be noted that this is not billed as a museum but a visitor experience and when you get inside, you are transported up an escalator (one of the largest in Europe) on a tour over 5 floors. You start with being loaned an audio commentary handset, which is very clear, and escorts you through the journey of the build of this gigantic ship.

The use of VDU's in museums I have visited in the past has made me very anti these types of visual aids, BUT this is different as many of the visual screens are of 1:1 scale and you enter many of the galleries as part of the workforce or visitor to the ship. There are many other aids to learning like documents to read and press buttons for the young and old at heart.

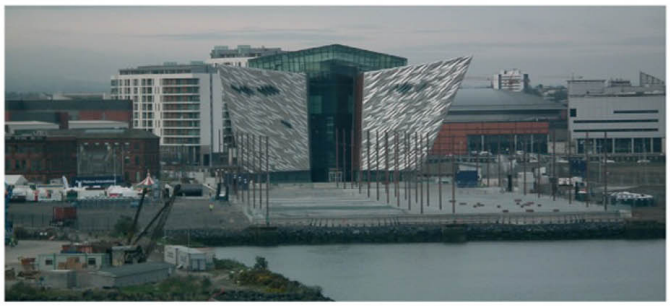
On floor 4 you can experience the Grand stairway at full size with a virtual tour through all the decks of the ship from the lower level steerage class up through to the bridge. The final part of the experience and I think this was my favourite is the underwater footage of the remains of the ship found by Dr Robert Ballard. With the very large screens you had the experience of walking on the seabed discovering the remains of the ship.

The whole building was beyond any other such attractions I have ever seen and despite the many TV programmes and films on Titanic this visitor experience is a must to see. The only problem is that when we visited there were so many people, in fact the bookings were full for the whole of the Easter period! Perhaps the numbers will fall a little after the media hype has subsided? The visitor experience is designed so that other exhibits can be accommodated and changes can easily be made to encourage the visitors to come again. Our visit was rather quick (we had to rush to catch our ship with only a few minutes before she sailed!) and you should allow at least 3 hours plus to absorb all the facts, details and displays.

Adjacent to the building in a dry dock, is the now partially restored Nomadic, the tender to Titanic. We were told that the inside will be restored at a later date but it is very appropriate to have a physical vessel used to complete the Titanic story. I cannot urge readers enough that if you have the opportunity to visit this Titanic Belfast experience you will not be disappointed. For further details including opening times and prices visit ***www.titanicbelfast.com*** **MMI**



Front entrance of Titanic Belfast, the 'TITANIC' sign at the front is made of 1" steel plate, the same material used to build the full size ship



From the sea the new visitor experience building and original slipway used to launch Titanic can easily be seen

The tender used for Titanic, Nomadic in her permanent dry dock adjacent to the main building

The Thompson Graving dry dock used to fit out Titanic

AUTHOR: FRANK BUTLER

AN ALTERNATIVE WAY TO RACE R/C YACHTS

HARTSHOLME ELECTRIC MODEL BOAT CLUB'S METHOD OF SOCIAL FUN YACHT RACING

IN THE BEGINNING

A few years ago some of my club mates started sailing R/C yachts. They were mostly Comtesses, but there was also a Double Dragon and a couple of others. These did interest me and they kindly gave me the opportunity to have a sail occasionally. Unfortunately they were too large to fit into my car without some disassembly and that was enough to dissuade me from obtaining one. Then I came across the racing Micro-Magic (also known as rMM). This light and compact model fitted my preferences perfectly. The added bonus was how well it sailed. On a day with very light winds and while the larger yachts were hardly moving my rMM would sail all around them! One of my club mates immediately saw the benefit and had me build one for him to sail instead of his Comtesse.

Off to the next mark

The longest leg on a cold, calm day in March can seem even longer

Our club, the Hartsholme Electric Model Boat Club, sails on the lake in a Country Park. It is a most attractive location and the lake is closely surrounded by very tall trees. More on that later. Sunday morning is the main gathering which is also the day on which occasional competitions are held. So when the suggestion was made that those of us sailing yachts should hold regattas we knew that it would not be acceptable to do that on a Sunday morning. Saturday afternoons were the only choice.

THE REGATTAS

We had to decide just how formal these events were going to be. To my relief everybody agreed that it was to be primarily a fun event and that we would not entertain the Rule Book. We do have to have some very basic rules to cover the start and that all yachts must pass outside of the buoys. I built a small amplifier and fed a speaker horn with the output from an MP3 player. This gives us a sixty second countdown to a starting gun.

A natural hazard with the right of way. My yacht's ballast weight was attacked by a pike just in front of us

A bit of aggression in the excitement at the finish line

We sail a simple course. There is a start and finish gate, an approach gate and three buoys set out in a large triangle. Each heat is through the approach gate, then the start gate, round all three buoys twice, and dash to the finish line. It is quite a large triangle so that two laps are adequate. We do not have the luxury of marshals who would count the yachts several times round a smaller course. Now I'm not strong on distances over water but I think the first buoy is about 50 metres out to the left. The second is some 80 metres directly across the lake from us and about 50 metres from the first. The third, out to our right, is another 50 metres on. From the third back across to the first might be as much as 90 metres. This description is when we sail round clockwise. If the wind direction dictates that we sail the other way then obviously first and third are reversed in name only.

Inevitably, with experience, we found that we did need to adapt our rules. One example was at the start. When some boats arrived too early at the start line they would turn and sail down the start line before crossing it. This put others at a disadvantage. To overcome this we introduced the 'approach gate'. This is about four to five metres before the start gate. Once a boat has passed this gate it must sail a straight line on and through the start gate. The only exception is if it must tack, once, to be able to pass through the start gate. A boat that crosses the start line before the start gun must sail out around the buoys marking both gates and pass through the approach gate once more. It must not interfere with the other boats while doing this.

THE SAILING

During the first full year it quickly became clear that rMM's had a distinct advantage over the others on most occasions. To help redress this we introduced a handicap system. The winner of the last heat could not start the next heat until the first boat had rounded the first buoy. This worked fairly well and was better than nothing.

By the following year I had built another one for a club mate and some others appeared as well. By last year our regattas had become a 'class' event in that we were all sailing rMM's. If everybody turned up to race we could have a dozen participating. This meant that the handicap system could be abandoned. Again, by unanimous decision, all boats are built as per the kit instructions and sailed in what is termed as an 'Out of the Box' format. When I suggested on the official Micro Magic forum that there be an 'OOTB' class I was quickly put in my place! One of the forum regulars confidently stated, "Maybe small groups with starting sailors initially succeed in getting 10 or 12 people at the lakeside, but these groups will not last very long." How wrong can you be? After three successful seasons we are looking forward to the next. Two new rMM skippers joined late last season and I hear that there may be a couple more ready before the next one starts.

Having said that we sail OOTB I must now contradict myself – it's called Sod's Law. We do allow the sails to be replaced but the new ones must exactly match the standard ones for size. It may appear strange that we should allow this when the sails are the important 'motor' for the boat. Rest assured that the new sails do not make the yacht go faster but they can make it easier to recognise it amongst the others. I am 76-years-old, have reasonable eyesight, but during the first two seasons I frequently managed to attempt to sail one of the other boats when they rounded a mark in a gaggle. Someone would ask what was wrong with my boat, usually my wife, and point out that my boat is over there! This provided much amusement for my club mates – I do have a lot to put up with – and did nothing to help my scores. Last season I sailed with bright yellow sails and was now able to sail my own boat all round the course every time. My scores have improved wonderfully.

Caught by a sudden gust

"Hey, the next mark is that way!"

Sailing on our lake would confound the 'experts' with their multi sets of sails of different sizes. It is not unusual when sailing clockwise that there will be a distinct lack of wind around the first buoy whilst the wind at the third, a more open buoy, may lay the boat on its side or spin it around on the spot. Pick a set of sails for those conditions!! As the wind comes over the trees it swirls down and tucks under making it very unpredictable. Sailing a straight line of 30 metres can see you on a port tack, switch to a starboard one and then back to port. You may even go gull-winged in the middle of that. It can be tough to control the boat but it is the same for everyone so no complaints. Another common sight is one yacht stationary whilst a couple of metres away several yachts are galloping past. That is so frustrating but being in a public park, you have to be careful how you express it.

The club has developed its own nautical terms: "You're blocking my passage", "Who's missed the buoy?", "Oh no I bl***y didn't", "Is this still the first lap?", "Where did you get that wind from?"

SCORING

Our regatta season is early March to late October with two regattas each month. There is a Challenge Cup to be won by the scorer of the most points at the end of the year. The points system is simple enough. If ten boats start then the winner of that heat gets ten points, the second nine points and so on all the way down. You are assured of one point just for starting. These points accumulate all through the year to determine the winner.

IN CONCLUSION

We are unable to invite other clubs to come and sail with us for three reasons. We sail on the lake under license from the City Council. There are some stipulations by which we must abide, one of which is that anybody sailing on the lake must have insurance issued by the club. That is only available to our members; it isn't obtained from any model organisation. Secondly, as mentioned earlier, we don't sail to the Rule Book, which would surely be unacceptable to those more serious minded sailors. Thirdly, we are a happy crowd who thoroughly enjoy our regattas and fear that bringing in outsiders would spoil the party. I'm sorry if that sounds selfish but it wouldn't make sense to change or disrupt what is working so well.

I feel certain that there are other yacht skippers, or would be skippers, who would like to have a go at racing yachts. They are put off by the formal rules of racing and by the seriousness that the more proficient sailors attach to their racing. They may deny this but you cannot claim not to be serious if you have three or four sets of sails for such a little yacht as an rMM. It is fine for those who enjoy the fierce competitiveness of their racing and I do wish them well. It just isn't the fun sailing that some of us prefer.

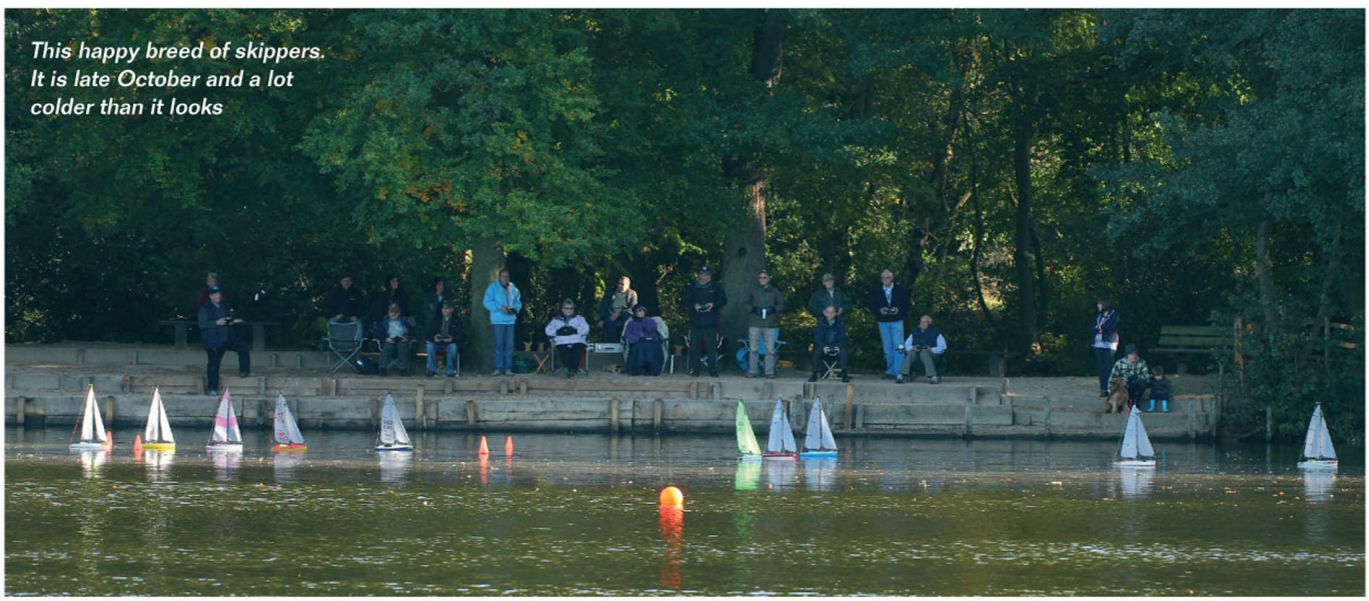
However, I would urge other clubs to have a go for themselves if there are some who would like to try racing yachts. I would add that the racing Micro Magic – built as intended by Graupner – does sail very well in all but the very strongest of wind conditions and is an excellent choice for those new to sailing yachts. There is a lot of advice on how to build it on the Internet and how to avoid mistakes. Don't feel that you must modify it. Agree between yourselves that they won't be. Best of all you just pick it up as is and put it on the back seat of your car; it is all ready for the next time you want to sail – apart from charging the battery of course. Make sure that it is the racing Micro Magic that you purchase. This is an improved version of the original Micro Magic that is still sold. Don't be tempted by the version with a carbon fibre finish, this is significantly heavier with no discernible advantage.

A strong wind at last; now we are motoring

There is one modification that I do recommend. When you assemble the boat stand add a heavy piece of wood to the base to stop it blowing away. While you are busy rounding the course you won't notice the stand sneaking off behind you.

FOOTNOTE

I am indebted to club mate Jonathan Cox for his kind permission to use his photographs. Jonathan also runs an excellent website entitled 'In and Around Lincoln' at ***http://homepage.ntlworld.com/stuart.cox/*** If you click on 'HEMBC' and then 'Documents' you will find a copy of our rules. If there are members of a club who would like to give this more relaxed form of racing a try and have questions they want to ask then by all means send them to me at: ***f.butler137.yahoo.co.uk*** I will do my best to answer them. ***MMI***



This happy breed of skippers. It is late October and a lot colder than it looks

Portside view

AUTHOR: CHARLES SELLS

SWEDISH CORVETTE K32 HMS HELSINGBORG

CHARLES BUILDS HIS MODEL WHEN HIS INTEREST WAS REKINDLED BY A PROTOTYPE FEATURED ON A TV PROGRAMME!

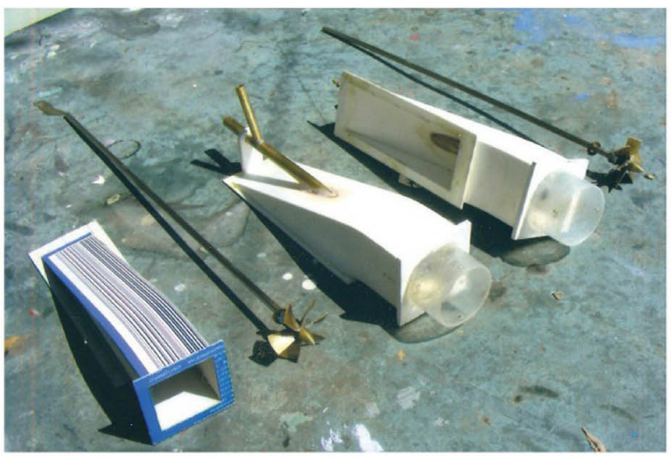
This is the second ship of the Visby class corvette built by Kockums of Sweden. K31 Visby is the prototype and as such is slightly different to her sisters. For one thing she does not have the conical dome on the bridge and carries very obvious life-raft containers on her deck.

The specifications of the class are as follows:

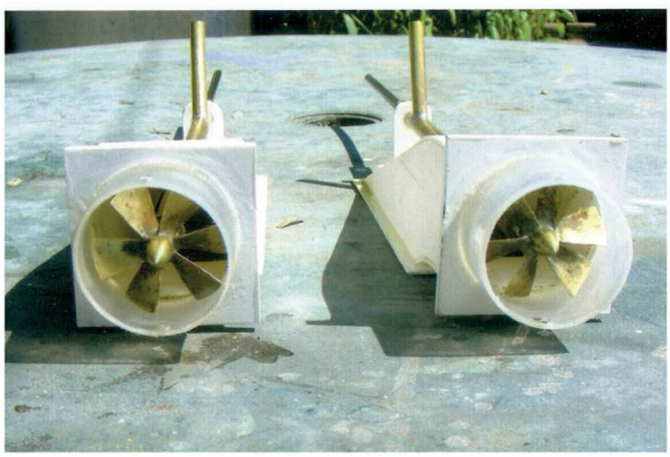
Hull construction is of carbon fibre skins over a foam core
All ships launched between June 2000 and 2006

Length approx: 72.4 metres
Beam: 10.4 metres
Draught approx: 2.4 metres
Total Displacement: 640 tons
Speed: 40 knots
Crew: 43

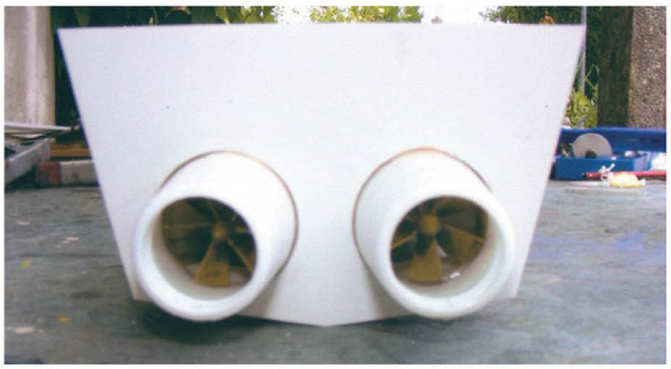
CODOG Propulsion by two Ka Me Wa water-jets twin gearboxes, four gas turbines, 4,000 kW each total 16,000 kW, two diesels 1,300 kW each total 2,600 kW.



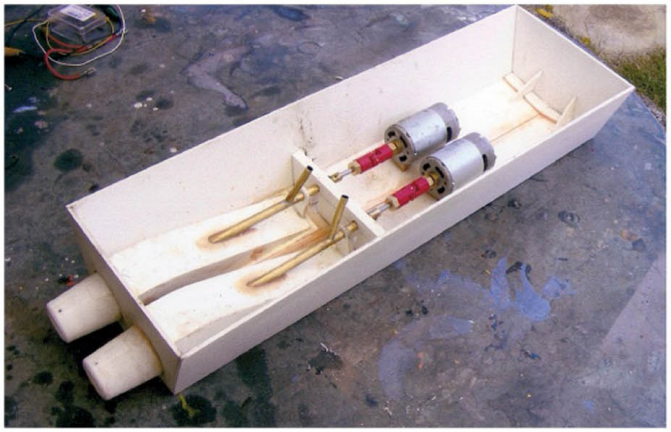
Water-jet template from card then made up from Plasticard



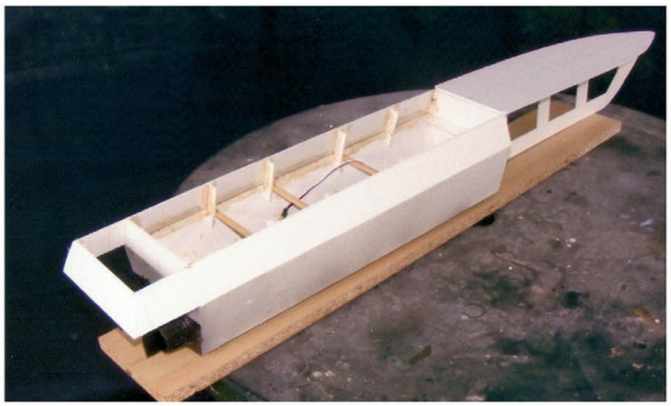
The six-bladed propellers added



Rear view of the water-jets



Motors connected ready for the trial



Wooden crossbeams and plastic uprights added

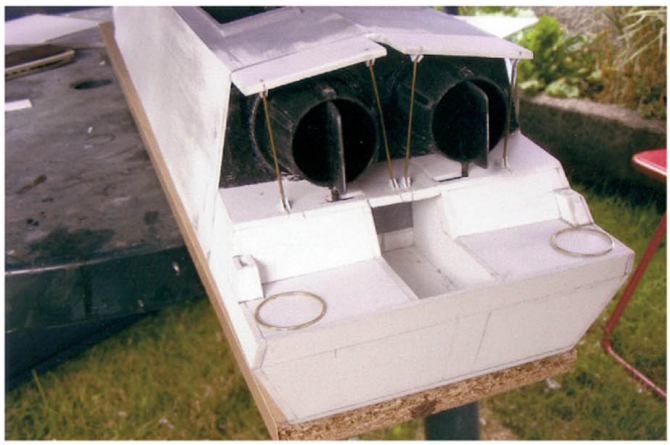
ARMAMENT

1x 57 mm Mk.3 folding gun
8x 15 mm Mk.2 ASLM
Mines and depth charges
Helicopter pad-no hangar

There are three others in the class: K33 Härnösand, K34 Nyköpig, K35 Karlstad, the fifth K36 Uddevala being cancelled.

THE MODEL

My interest in this class began when the prototype was featured on a TV programme a few years back. It was rekindled by a photo of HMS Härnösand in the Herald, a local newspaper. Also given were ships movements to and from the Devonport Naval Base, and the ship was entering the base on the afternoon of the next day. When she came in I was stationed on the Plymouth (UK) Hoe foreshore with my camera. The ship was accompanied by her sister Helsingborg and I managed to get several photos of them both as they sailed past. The broadside on shot, full head and stern shots I had blown up to A3 size at my local stationary stores and from these I made my drawing. With the aid of a home made scale rule I expanded the photos up to 1/72 scale, which therefore gave a length



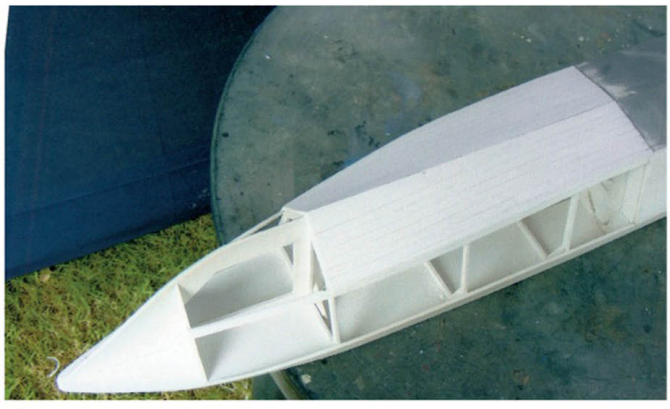
Wire rings on the stern underside represent the gas-turbine exhausts

of 1 metre plus, i.e. 40". Applying this scale to the other dimensions I arrived at a beam of 5¾" and draught of 1⅜" or if you prefer 144 mm and 33 mm. This gives a nice portable size model.

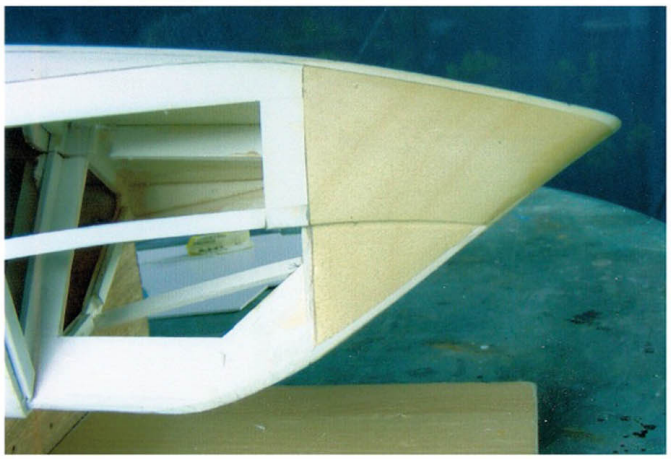
The water-jets were a bit of a problem, as when I priced them up they came to about £175 for the pair. Now I call myself a model maker so I thought why not try to build them myself. I visited a ships chandler near Plymouth and he kindly gave me a brochure of small boat water-jets, which I used to design mine.

From this I made a cardboard model then a pair of plastic ones. These were of square section, not circular as in the original, but I thought if I used some plastic putty or something similar in the angles, this would be more like the real thing. With hindsight I would probably have been better off using small bore, say 1" (25 mm), plastic tubing and jointing it to form the requisite angle. However, I added the propeller assembly and used two handed six-blade propellers from my spares box, again home built. The two water-jets were mounted in a section of the hull, which had been built and two shortened caps from mouthwash bottles added to the outside, the stern.

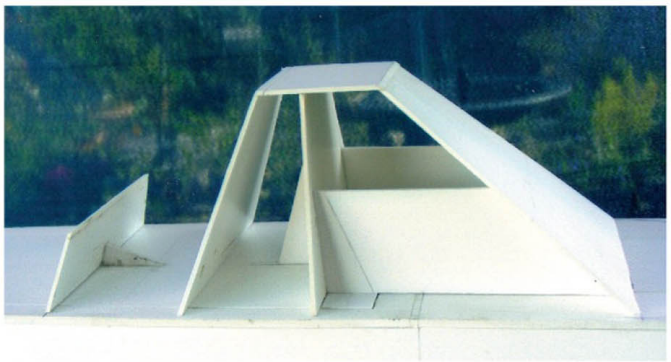
The Plasticard frames in place



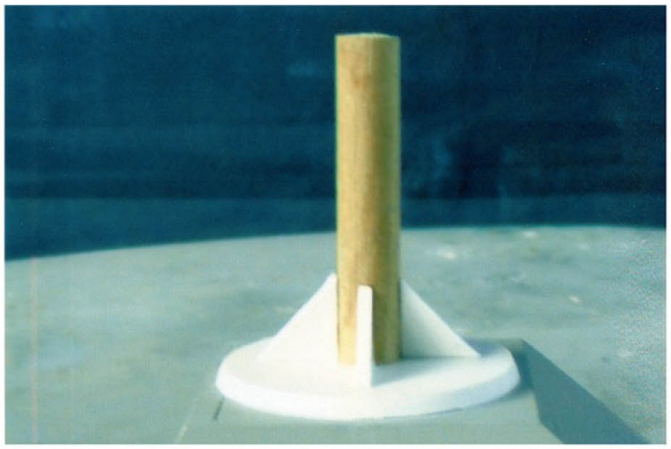
Planking gets underway



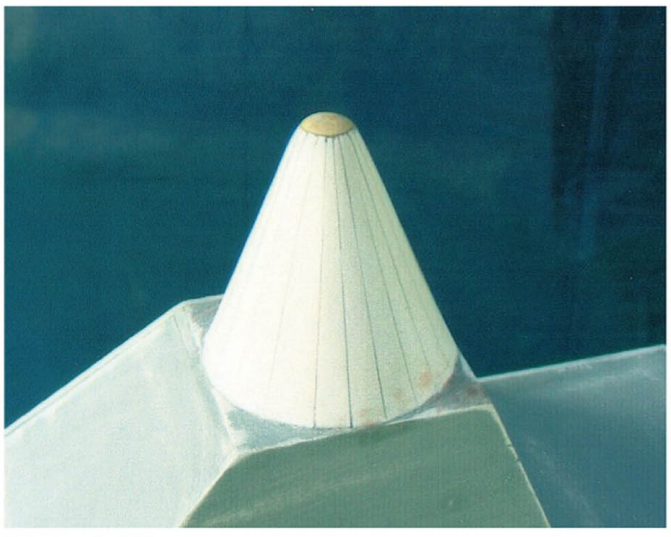
The solid obeche hull sanded ready for painting



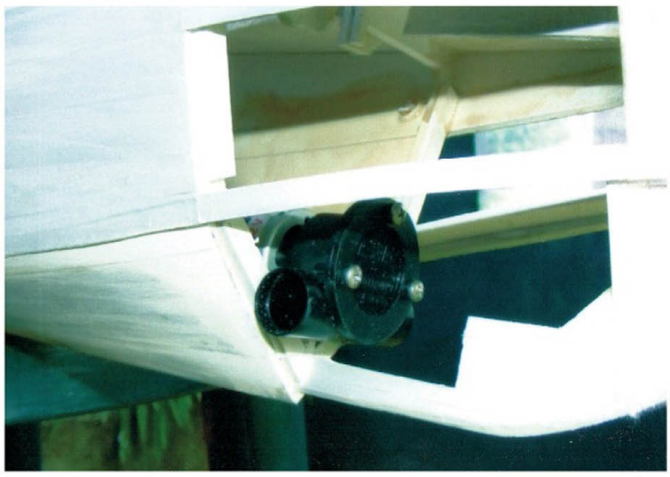
Starting to build the superstructure



The beginnings of the conical dome



The finished dome

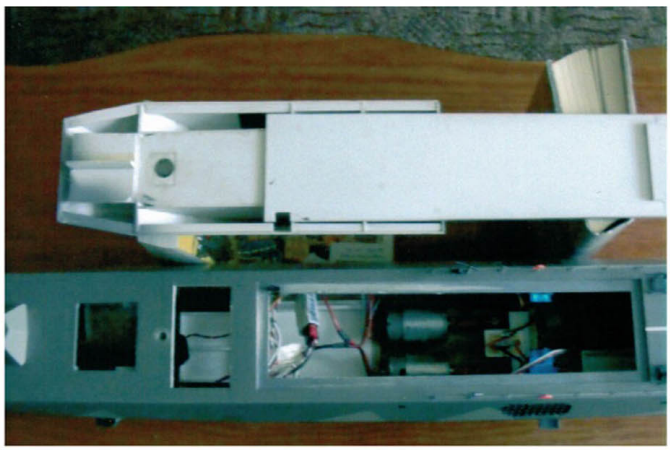


Bow thruster fitted

I coupled up the shafts to two 550 motors and tried them out in my trusty test tank with the power provided by a 6 V 4 Ah battery each. After some adjustment to these pipes the water-jets worked as hoped, giving quite a good thrust. Unfortunately I could not make the bucket arrangement used to steer and reverse the thrust as in the real thing so I relied on a conventional slightly balanced rudder installed into each end pipe. These were then connected to a servo in the usual manner.

To go astern the motors are put in reverse and water is obviously sucked into the water-jets and flows bow-wards.

Now that I knew these worked the rest of the hull could be built. Forward of the engine room a keel in the shape of the bow profile was added and to this the deck was glued to stabilise the structure. The model was now beginning to look more like a ship.

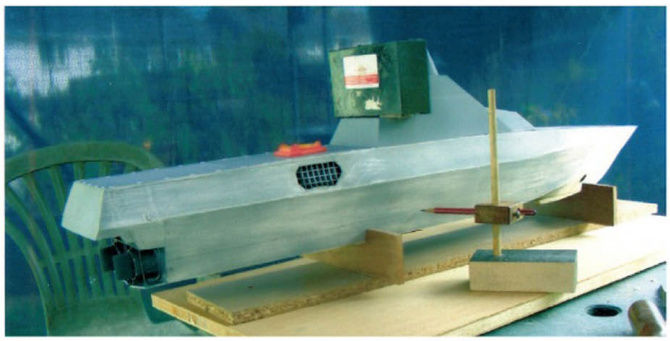


Fitted with a piece of plastic to locate it, and the forward end, under the bridge, had a circular magnet let into it which matches up with a steel washer on the hull

I now concentrated on the engine area. This was strengthened up with some 1/4" (6 mm) wooden crossbeams and plastic uprights. The upper sides were then added and the after end completed as per photos. The wire rings on the stern underside represent the gas turbine exhausts. There are also the two hinged plates which extend past the ship's bottom that are adjustable on the actual vessel but fixed on my model.

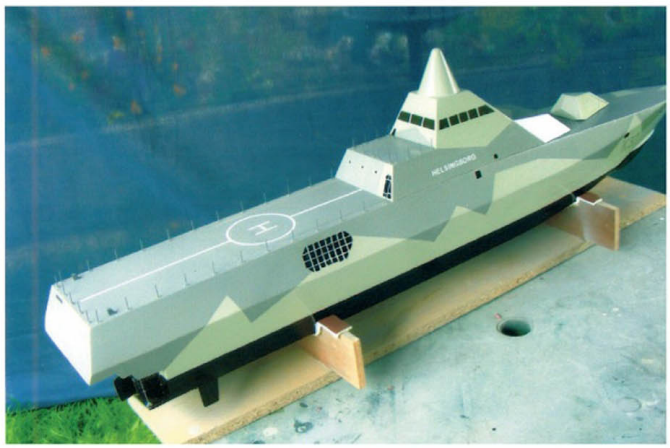
BOW SECTION

Lightened bulkheads were added and the edge pieces for the chine and deck. The bow itself is of block obeche and the section behind it was left clear to take the bow thruster, the rest was then planked with the same plastic as already used. Whilst on the subject of this plastic, it is 3 mm thick but not Plasticard as such, in fact it is soft enough to cut with a modelling knife after a number of strokes. It cannot however be glued with any plastic cement that



Marking the waterline

Masked using Tamiya tape for the camouflage



Almost ready to go

I know of. The only sort that will stick it on a permanent basis is superglue, which was used throughout. It was some off-cuts given to me by a fellow club member who works for a photographic firm, these being left over from various jobs and otherwise ending up in the waste bin. So you could say my model is built of recycled material.

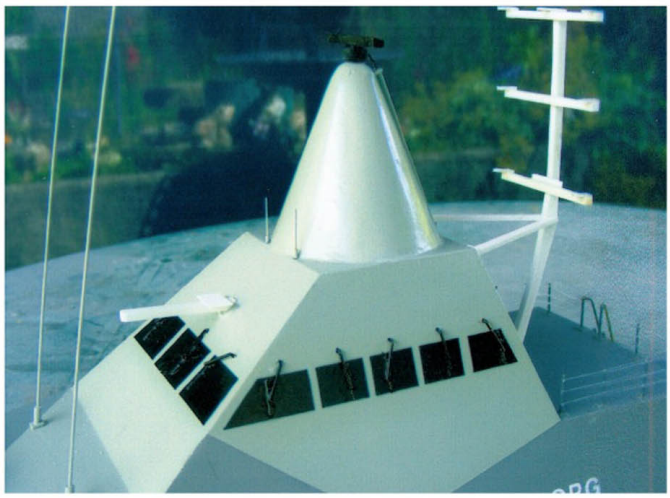
UPPER DECK AND PAINTING

An aperture was cut in the fore deck for access to the bow thruster and possible ballasting, the bow block was fitted then carved and sanded to shape. I had sent off to Westbourne Models for a bow thruster and while I waited eagerly for its arrival I decked the after hull and cut out a large hatch for access to the engine room. A ledge was added to this and the piece cut out was used as its cover.

To this hatch cover was added the bridge structure. For this I used the same type of plastic but 1/16" (1.5 mm) thick for lightness.

The after end of the afore said hatch was fitted with a piece of plastic to locate it, and the forward end, under the bridge, had a circular magnet let into it which matches up with a steel washer on the hull. This holds it securely in place.

Its side panels follow the angle of the hull and are flush with it. On top of this was erected the conical dome for the radar. To aid its construction a piece of 3/8" dowel (9 mm) was inserted into its roof and the dome built around it. After sanding down it looked quite presentable. I now turned to the hull sides in which are what I believe to be the gas turbine air intakes. These were cut ready for a



Close-up of some of the finer details

Rear view of tower and midships

grille to be fitted, first being backed with a piece of black Plasticard. By this time my bow thruster had arrived and was fitted in the bow, planking could now be finished.

The next job was to fit the spray rails. These were made of triangular sectional plastic and superglued on. After all gaps and discrepancies had been filled with a resin and talcum powder mix the hull was sanded down again and the bow section given a coat of grey spray primer to match the rest. The grilles were fitted into the intakes and the waterline drawn on. This was then masked off and the hull and superstructure sprayed with another couple of coats of grey primer, this by the way from a local car accessory store.

The colour scheme of this class of ship is of the angular form of camouflage being of medium/dark and light grey. I used Tamiya masking tape for this and the result was very like that seen on the actual ship. Each vessel in the class has a similar pattern with slight variations, as you would expect.

The bridge windows were indicated with black painted paper as were other apertures in the hull.

Circular exhaust outlets on the hull were outlined with copper wire rings. An opening had to be cut in the port side of the bridge for another intake or exhaust and backed with black plastic as before. This and those in the hull sides were fitted with a mesh of galvanized wire used in gardening projects – about a 1/4" (6 mm) mesh.

The bow gun has quite a complex shape and took a fair while to build, the lines on it represent the opening parts for the barrel to emerge.

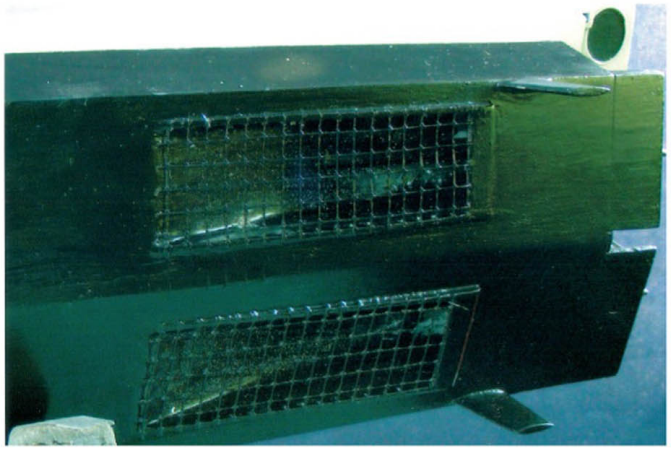
Each bridge window has its own windscreen wiper, these were represented with short pieces of brass wire. This was also used for the stanchions with longer pieces for the four aerials, metallised thread being used for handrails.

On the underside of the hull, grilles of the same sort as before were fitted to the water-jet intakes, hopefully to stop any leaves

etc. entering. Also added were the two fixed fins, which are at right angles to the hull bottom to give directional stability, as the firm's brochure says. The hull undersides had been previously painted with satin black water based paint from a local hardware store. This was also used for the fins and water-jet outlets.

After looking more closely at my photos I found various doors in the hull and superstructure. These were represented by appropriately painted paper with brass wire for door handles where needed.

The mast is of plastic with various stays, bits and pieces made from wire and other materials. As for the ship's name this is of white rub down letters and the bow pennant number painted paper. The entire model was finally given two coats of satin varnish to give an even finish.



The wire mesh used as grilles over the water intakes

I have not mentioned the small guns on the afterdeck. None of the photos I had gave much help so I made up something like large machine guns and installed them. Two appear to be mounted on heavy stanchions, whereas the other pair seem to be on some sort of mounting.

The crew has been press-ganged from a box of Revell German WWII aircraft personnel 1/72 scale; the only officer to be seen is either looking at the stern wash or being seasick.

SEA TRIALS

Initial trials took place on our Civic Centre Pool here in Plymouth. These were reasonably successful but she seemed too low in the water. After a visit to my workshop and a bit of rewiring, further trials were held at the Exeter club's water at the Crealy Adventure Park.

Using one 6 V 4 Ah battery rather than two made quite a difference and my club mates were suitably impressed with her performance.

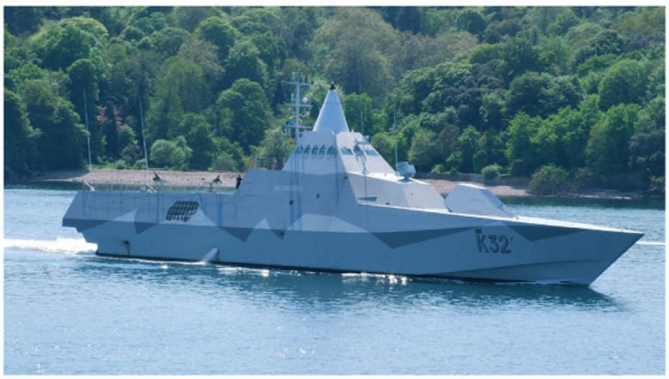
My bow thruster is powered by four AA's in a battery box using a simple forward and reverse switch. I must admit the model is still a bit deep in the water but on the plus side this makes my home built water-jets more efficient. If I were to build another of the same class I would probably use my normal working material of thin plywood to make a lighter hull, this being the first model I have built from plastic entirely. Two Electronize FR 12x's are used for speed control and I have recently invested in a Planet T5 2.4 GHz radio control set which I find very convenient, not having to search for crystals when operating her.

My thanks are due to Fred Weeks, for added photographs, my daughter Catherine and club mates Nigel Allen who supplied the plastic, Francis McNaughton and Alan Thomas for the information they provided without which my efforts would have been much less successful. The plan number for this warship is MAR3526, Swedish Visby Class Corvette, available from the Traplet online shop, http://shop.traplet.com **MMI**

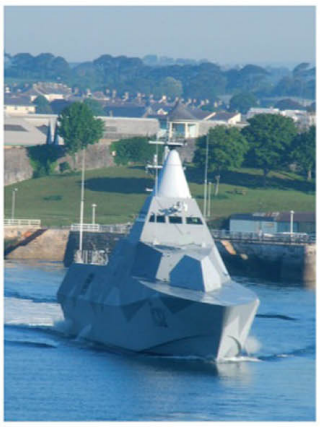
On the water trials

Water-jets working well she looks the part

Author and builder Charles Sells with the completed model HMS Helsingborg



Starboard view



The full sized Helsingborg on her way into Devonport, bow view

Stern view

GREAT BRITAIN

AUTHOR: IAN WILLIAMS

OUTLAW JUNIOR OBL

REVIEW OF THE OUTLAW JUNIOR OBL RTR FE BOAT

The Outlaw OBL is a reduced size electric powered version of the original Outlaw 7.5. It uses the same hull form in a smaller size with the addition of a full cowl and an outrunner brushless motor for power (hence the OBL part of the name).

A large and colourful box, which provides good protection for the model

This package contained spare parts, including a slot together stand and all operating instructions

CONTENTS

Upon opening the rather large and colourful box I found an extremely well packaged and protected hull, a pistol grip transmitter, battery, charger and a bag of bits which included a spare prop, small tube spanner and a flat pack laser cut stand. Oh and of course operating and set-up instructions for the radio gear and ESC. The boat is sold in ARTR or RTR form and the boat supplied to me for this review was the RTR version. I should also mention that the main drive battery and charger, which were supplied to me to facilitate the review, are not normally supplied in the box and have to be purchased as extras. The first thing that struck me about the hull was the exceptional quality of the paint job. On closer examination it proved to be a two-colour spray, with the rest of the artwork being made up of pre-applied decals. The whole hull seems to have had a clear coat sprayed after the decals were applied and it has been very well done, the overall effect being exceptional. There are two colours available, yellow and orange or, in this case green and yellow.

CONSTRUCTION

As the boat is Ready to Run there is no construction work as such, however you do have a couple of little jobs that need doing. First you have to assemble the laser cut stand, an easy job as the pieces just slot together. Then apply the self-adhesive foam strips to the stand, which prevent the hull from being scratched by the wood. Then there is a piece of self-adhesive foam, which fits inside the cowl to provide flotation for it in event that it comes off the boat during running. Finally, the instructions advise you to use some of the white foam packaging from the box to put in the bow of the boat as extra flotation, however, I used large size bubble wrap, which I have found to work well.

THE HULL

The hull is formed from blow moulded ABS and is very nicely done. It measures 720 mm in length (just over 28"), which is quite large, (especially when you look inside and see how small the motor is). The hull is of the modern low, flat and wide design, having a beam of 210 mm and an overall height of 165 mm.

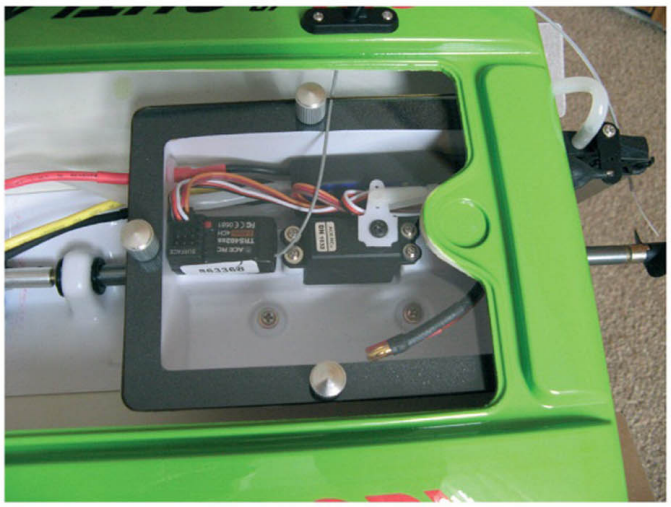
Amerang, the importers, quote the weight at 1050 g. However, I am not sure if this is ready to run with batteries or not and to be quite honest I didn't check the review sample.

As you can see from the photos, the hull is a non-stepped medium-V mono with two pairs of spray rails. These do not run the full length of the hull and it should be noted that they are commendably sharp, especially for a plastic hull. As you all know, having sharp edged spray rails helps the water to break cleanly from the rails and give the hull the required lift.

Inside the hull is a very small motor, a waterproof radio box, which also has space for the cell pack. All very neat and tidy. The hull seems cavernous and if you are the adventurous type, there is

ABOVE: Nice paint job. The canopy fits well and looks good

Internal layout. Note the shaft support and the tiny motor!



Close-up of the radio box, cell pack not yet fitted

The stern of the boat (see comments in text)

Close-up of the spray rails, note impressive sharpness for a plastic hull!

plenty of space for a bigger cell pack and larger more powerful motor.

Staying with the hull for the moment, I would like to mention the rather novel hatch arrangement. This fits into grooves around the hatch opening and is actually held in place by three magnets. The grooves that the hatch sits in also continue right to (and over) the transom, obviously to try and get the water to run off the back of the transom instead of finding its way into the hull. More on this system later in the article.

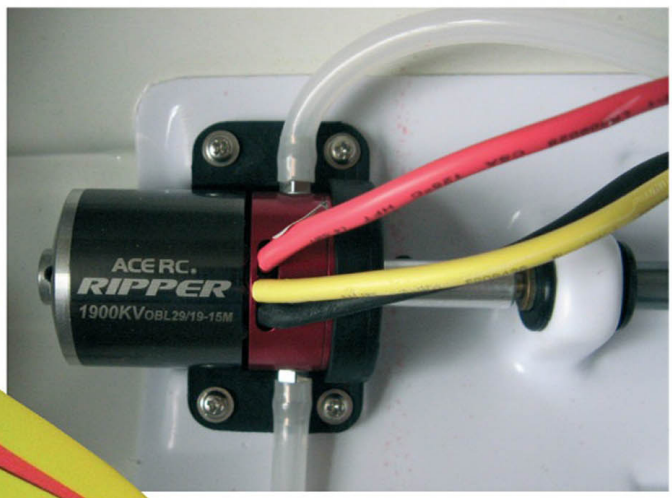
The review model came with this dedicated LiPo charger

The provided LiPo pack (see comments in text)

MOTOR, CELLS AND CONTROL SYSTEM

I've said that the motor is small for the size of the hull, (about 380 size) but don't let that fool you, it's quite a powerful little beast. Firstly it is of the outrunner type, which is usually a little more 'torquey' than inrunner type brushless motors. Secondly it is rated at 1900 kV (1,900 rpm per volt) which when powered by the recommended 3S1P (11.1 volt) LiPo pack, gives you, in theory at least, just over 21,000 rpm. The motor as you can see is water-cooled and is connected by a solid coupling to a straight, solid (non-flexi) shaft.

The waterproof radio box sits at the stern and contains the water-cooled 40 amp ESC, the mini servo for steering and the receiver. It also has a space for the LiPo pack. The rudder pushrod exits the stern via a large waterproof boot.



***ABOVE:** The little powerhouse! 1900 kV water-cooled outrunner brushless motor*

The speed controller and motor are both fitted with suitable heavy gauge wire and those going to the battery from the ESC are fitted with 3.5 mm gold male connectors. This brings me unfortunately to the first of my little gripes. The cell pack was supplied to me without any connectors fitted and as I did not have any 3.5 mm sockets, I decided to fit a Deans socket to the battery and a Deans plug to the ESC, after de-soldering the 3.5 mm plugs. Now this was fine for me, but the thought of someone, potentially a novice, having to solder sockets to a cell pack does not fill me with joy. Although the cells are not supplied fully charged, there is more than enough power to produce quite a spark and even weld the bare ends of the wires together creating a fully shorted cell pack. Not a nice thought! I should point out that the cells are supplied without sockets, but have the wire ends protected with heatshrink to prevent shorting in transit (see photo). I think that supplying the cells pre-fitted with the correct connectors to suit those on the ESC would be a good idea if ordered with the boat, especially as this boat could be someone's first FE experience.

The ESC is a water-cooled 40 amp type which is optimised for LiPo use and features under-voltage cutoff and temperature protection.

The 2.4 GHz transmitter provided

RADIO SYSTEM

The radio is an Ace RC, 2-channel 2.4 GHz Cougar PS2 with a quite nice pistol grip Tx and a 4-channel mini Rx and here comes my second little gripe. For those not familiar with 2.4 GHz equipment a little explanation is in order. Without going all technical about it, these systems are much less prone to interference than older types of equipment. To this end and because there are no crystals involved (so no frequency clashes) the Tx and Rx have to be 'bound' together. With the Cougar set, this involves pushing buttons on the Tx and Rx and waiting until sequences of lights report that binding has taken place. I don't know if it was my rather limited experience with this type of radio or a fault, but I had a hard time getting a bind. I eventually got it to work, but I don't think it was quite right, as I had to fiddle the throttle trim quite a bit to get the motor stop position correct. The other little problem, which could have had a bearing on the difficulty with getting the Tx and Rx to bind, was the fact that there was no Rx switch or battery power switch or safety link. This meant that to switch the Rx on you had to plug in the battery, all the while holding down the bind button on the Tx followed by the Rx. Not enough hands! Of course once a bind is achieved, that part of the equation disappears so it is a minor gripe. However, as there is no power switch, connecting the cell pack to the ESC plug will arm the ESC and power up the entire system, so you will have to keep your fingers and other fleshy bits away from the prop as you fit the radio box lid and canopy.

The pistol grip Tx is quite comfortable to hold and easy to use. It has trim knobs for both throttle and steering and Hi and Lo ATV controls for the throttle. There is also a separate steering rate pot situated in the perfect spot to be operated by your left thumb (see photo). As the Tx casing is obviously used for models with a higher function count you may be able to see 'buttons' on the Tx which don't actually do anything on this 2-channel version.

DRIVE SHAFT AND TRANSOM HARDWARE

As previously mentioned the shaft is a solid straight type. This is quite a robust affair and I am reasonably sure it could handle quite a lot more power. As you can see from the photos, there is a moulded structure in the hull, which includes a plain bearing which supports the inboard end of the shaft. The outer end also has a plain bearing, (possibly Oilite) and is fitted with a 3/8" dog drive. Although I didn't check, I believe the prop is around 36 mm. If you look at the photo of the transom you should be able to see that the shaft exits the transom slightly to the right of the centre of the 'V'. This is presumably to help counteract prop torque and help the boat to track straight, which it does do. The rudder mounting is a moulded unit, with the rudder blade being CNC cut aluminium. The rudder assembly has a flip-up feature to prevent the transom being damaged in the event the rudder hits an underwater object. Also note the large trim tabs (more later in the on the water section). Finally, the round black object on the left of the transom is a removable rubber plug which seals (hopefully) a drain hole to get rid of any water in the hull.

PREPARATION

Before running the boat for the first time, check over all the bits that can become loose or fall off. For example, check that all the screws and bolts are tight, such as the prop nut, the rudder mount, motor coupling and motor mount screws. As it happens this model has been extremely well assembled and finished and there do not seem to be any 'loose ends' such as you sometimes find with pre-made models. Still, it does no harm to check!

Finally you should also do a full radio check, i.e. all functions and range. But of course you always do that anyway, don't you?

ON THE WATER

I live quite close to three large lakes, so normally I don't have problems being able to run a boat any time I want. But as luck would have it the large model boating lake at Herrington which I normally go to was full, and I mean FULL of blue green algae and totally unusable and the other two were also unavailable for various reasons. So unfortunately I had to wait quite a while before I could do any on the water testing of the Outlaw. I did eventually manage to get the testing done at a model boating pond in Sunderland, which was just about big enough.

A little tweak with the trim tabs and the boat is running a little looser. If you look at the stern you can see how much water is running off the trim tab – this has quite an effect on the attitude of the hull. Note also the water-cooling out flow

Enough of the waffle, how did it go? Very well actually, the speed of the model surprised me. I would guesstimate that it was travelling at about 20 mph perhaps even a little more. This is pretty impressive, given the relative sizes of the hull and motor. I am a pretty experienced FE racer and I am confident that my estimate of the speed is pretty close.

The boat tracked pretty well in a straight line and turned exceptionally well. Too well at first, as I had to wind back the steering rate back quite a lot to get it to turn predictably. But

once set up the boat was very controllable in both left and right hand turns. As you can see from some of the photos, the hull has a very flat running attitude, which probably has a lot to do with the stability of the boat. This worked out fine in the calm water I was running in, but I think in rougher water the bow may potentially have a tendency to dig in and possibly spin or even flip the boat. A simple tweak which would go some way to avoiding that would be to bend the trim tabs up a little (perhaps 2-3 mm at the trailing edge). This would help to lift the bow a trifle and 'loosen up' the hull, which could help reduce any tendency to nose dive in rougher water and may even increase the straight line speed a bit. The trim tabs are quite large and I am pretty sure that they will contribute significantly to the boat's running attitude. All in all the boat ran in a more than satisfactory fashion and was good fun.

A half speed turn – see how well the water is running off the spray rails

When I got the boat out of the water, the motor was quite cool so it doesn't seem to be under any kind of stress. Although there was no water inside the radio box, there was a small amount in the hull itself, although I couldn't be sure where it came from. Which brings me back in a roundabout way to the hatch system. For numerous reasons any fast electric boat can flip upside down and even at 20 mph the hatch can come off. Which is why all racing boats have their hatches firmly taped on and I would certainly advise that course of action here. Whilst the magnetic hatch system works, a little insurance against the, "whoops, I wonder if I've put enough extra flotation in the hull" scenario can't hurt.

A half speed shot close in for the camera

REFLECTION AND CONCLUSION

In some ways the Outlaw OBL falls between two stools. Whilst it is not an out and out racing machine, it is so much more than a toy. If 20 mph doesn't sound too fast to some seasoned racers who are used to similar sized boats doing twice that speed, it will be very exciting to a novice. At 20 mph a model can disappear into the distance in no time at all and can tend to focus the mind somewhat, so excellent fun! My suggestion to any buyers of this model and indeed any first time FE boaters would be to join a boat club. Even if it is not an all FE club there will be someone who has some experience and provide help and advice. Some clubs run a 'Box Stock' class so you could even get to race your boat, which after all is what fast boats are for!

Looking back on what I've written in this review and on the model itself. The comments I made about the cell pack not having any connections and the fact there is no kind of power isolation are the only reservations I have and these are in no way insurmountable. Ask an experienced person to solder sockets to the cell pack for you! A simple Rx on-off switch would solve the problem of the boat becoming 'live' as soon as the battery is plugged in and would also make it much simpler physically to get the Tx and Rx to bind.

So there you have it, the Outlaw Junior OBL RTR package and it all boils down to this:

Did I like the boat? Yes I did – a lot.

Would I recommend it? Definitely, it is well-made and good value for money and you certainly wouldn't regret the purchase.

Sorted! ***MMI***

KIT BOX DATA

Brand: Thunder Tiger
Product Code: TT5123F27Y
Length: 720 mm
Beam: 210 mm
Height: 165 mm
Weight: 1050 g
Radio: Cougar PS2 2.4 GHz system
Motor: Water-cooled OBL29/20-15M
Available from: Amerang Limited, Lancing Business Park, Commerce Way, Lancing, West Sussex BN15 8TA
Tel: +44(0)1903 765496 Website: ***www.amerang.co.uk***

Entering a high speed left turn. Looking good!

SPRING WORD SEARCH COMPETITION

READERS' FREE TO ENTER COMPETITION

Simply mark off the 25 words listed. The words can be horizontal, vertical, left, right or diagonal and the letters can be used more than once. Then count how many letters are NOT used on the bottom line only (after all the words listed have been marked off). Then fill out the form below (you can Photostat the form so as not to damage the magazine if you wish) and either post with your full name, address and telephone number to: MMI Competition, PO Box 4239, Shepton Mallet, Somerset, UK, BA4 9AQ. or email your details (as listed in the form below) and answer to *mmi@traplet.com*. Only one entry per household will be permitted. The first four correct entries drawn on the 1st June 2012 will be the winners. The editor's decision is final and no alternative prizes are permitted. Good Luck!!

Thunder Tiger Outlaw Jnr RTR

Revell 1:400 scale
100th Titanic Anniversary Edition

Airfix 1:700 scale
RMS Titanic

Airfix 1:72 scale
Short Sunderland III

MMI Spring 2012 Word Search Competition

Name .....

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Competition closes 31st May 2012. Traplet Publications accepts no liability for entries posted or emailed that are not received.

B	V	E	J	G	Q	C	T	S	I	U	L	N	R	E	D	D	U	R	S
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V	K	T	J	J	U	I	K	A	F	O	L	D	A	B	L	E	S	M	I
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H	K	N	T	W	H	O	S	G	P	O	J	N	D	F	R	L	V	R	A
U	U	I	O	U	M	E	X	H	G	N	A	R	E	M	A	U	T	I	H
A	K	C	N	Z	L	I	Q	E	S	Q	U	L	Y	C	G	O	O	M	D
F	D	D	M	H	A	V	C	R	C	H	A	R	G	E	R	M	X	X	D
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H	G	U	C	I	O	U	T	R	U	N	N	E	R	C	M	J	W	P	S

THE 25 WORDS TO FIND ARE AS FOLLOWS:

- ☐ AMERANG
- ☐ BALANCE
- ☐ BATTERY
- ☐ BRUSHLESS
- ☐ CHARGER
- ☐ COUGAR
- ☐ FOLDABLE
- ☐ HATCH
- ☐ HULL
- ☐ JUNIOR
- ☐ LIPO
- ☐ MONO
- ☐ MOULDED
- ☐ OUTLAW
- ☐ OUTRUNNER
- ☐ PISTOLGRIP
- ☐ REVELL
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BETSY BEV

Designed by Maurice Mould

Measuring just 660mm by 255mm this freelance pusher tug and suits two function RC and single motor (or more if required).

Featured in: MM APRIL/MAY 1988

Ref: **MAR 2170**
RRP: **£9.00/US$12.00** + p&p/s&h

JOHN KING

Designed by Jim Pottinger

Bristol Industrial Museum's preserved 1935 built tug drawn as originally built and recently restored at 1:24th scale. Model is 880mm length and 220mm beam and the two sheet plans give many details but no model construction data.

Featured in: MMI MAY 1999
Ref: **MAR 2734**
RRP: **£16.50/US$21.00** + p&p/s&h

AN STRADAG

Designed by Andrew Stout

A scale model of Lady Arran's twin motor electric powered world record hydroplane drawn at 1:9th scale. Size 560mm by 240mm. For twin 540 stock motors and direct drive makes a unique replica of a unique boat.

Featured in: MM DECEMBER 1995
Ref: **MAR 2461**
RRP: **£11.00/US$14.50** + p&p/s&h

THORNYCROFT 55'CMB

Designed by John Lambert

Drawn to ¼ in/ft scale on a single sheet, full details of this craft are provided including internal profiles, hull lines, scantling section and 81keyed items.

Ref: **MAR2181**
RRP: **£9.00/US$12.00** + p&p/s&h

BLUEBIRD II

Designed by Jim Pottinger

Cruising motor yacht built 1938 by G L Watson the last of three for Sir Malcolm Campbell. Two sheet plans show all hull lines and super structure. For experienced modellers as no construction information is included.

Featured in: AUGUST 2001 MMI
Ref: **MAR2904**
RRP: **£16.50/US$21.00** + p&p/s&h

BRITANNIA

Designed by Sandy Cousins

The classic Royal racing yacht built in 1893 and scrapped in 1937drawn at 1:32nd scale1160mm length and 226mm beam. Fully detailed on no less than four sheets.

Featured in: JANUARY/FEBRUARY 1997
Ref: **MAR 2530**
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PRIDE O' FIFE

Designed by Findlay Drynan

Scale model steam trawler for electric power on two sheets the second of which gives all hull lines. Model is 880mm long by 178mm beam.

Featured in: MM FEBRUARY 1993
Ref: **MAR 2396**
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MEETING POINT

REPORTS FROM SOME RECENT SHOWS

2012 FRED'S BIG TOEPHY BY ROGER STOLLERY

There was great enthusiasm to get racing after a fortnight of ice on Guildford Model Yacht Club's Abbey Meads Lake near Thorpe Park, Chertsey. This caused the postponement of the first Footy open of the year to 19th February 2012. Although still cold it was a sunny day with a very variable north-westerly wind from between 2 and 12 mph. Ten entries from five clubs took part and 15 races were sailed over a simple windward leeward course taking on average 11 minutes per race. Guildford's race team of Mark Mortimore and John Townsend handled the event with authority yet gave skippers time for changing battery or rigs etc. and everyone enjoyed the racing with some close finishes at times.

The Morning Racing

Racing started with boats in a variety of rig sizes because of the gusty conditions, but later most settled for a 500 millimetre high rig. Trophy holder Rob Vice started his defence with a win with his Ice beating Roger Stollery's Supabug and Scott Wallis's Ranger. Leading Footy skipper, Hugh McAdoo, who had technical difficulties in the first race, stamped his authority on Race 2 with a win from Roger and Rob. These three skippers continued to master the variable wind strength and direction to take the podium places with Rob winning Races 3 and 4. The rest of the fleet began to read the wind better and in Race 4, Jim Vice scored his best result of the event finishing fourth. Hugh did not let Rob monopolise first place and won Race 5 and not to be outdone Roger took Race 6, in which recent Footy enthusiast, Peter Shepherd got his best result of the event with a fifth. From here on Rob sailed really well and won all the remaining races before lunch, leading overall with a score of 8, with Roger and Hugh tied with 14.

Racing After Lunch

The wind became slightly more westerly and even more variable and gradually eased off towards the end of the event allowing the use of the biggest competition rigs. The same pattern of results followed the morning's racing with Rob continuing to sail well being chased by Roger and Hugh. However, they didn't have it all their own way and David Wilkinson, who was racing his Supabug for the first time, was going better with a third in Races 11 and 13. In the penultimate race Alan Viney had his best result with a second behind Rob, who retained Fred's Big Toephy by a big margin.

The Prize-Giving

This started with the award of the 2011 Footy Travellers' Trophy traditionally presented at the first event of the following season. GMYC Commodore, Hugh McAdoo presented this to David Wilkinson who had competed in the most events last year. On receiving the beautiful wooden Fred's Big Toephy, Rob Vice thanked the race team of Mark Mortimore and John Townsend for running another very good event.

All the types of Footies at the first open meeting of the year

A Footy Ranger under full sail

The Boats

Footies are by far the cheapest way into competitive sailing and the whole fleet of ten boats this year may have cost no more than £700! Apart from the Stollery Swing Rig powered Ice and Supabug, the most interesting designs were American, from the board of Bill Hagerup. Relative newcomer Peter Shepherd had built an elongated Razor 3 which fitted in the measurement box double diagonally, a nice looking boat except that the swing rig was high up off the deck to clear the top of the box. Dinghy sailor, Scott Wallis had made a very nice example of Ranger, a very narrow hard chine hull in Depron with a balanced Una rig. This was very fast at times off the wind, but the wider and more stable designs continue to dominate the results.

BELOW: Fred's Big Toephy award being presented to Rob Vice

Place	Name	Sail Number	Club	Design	Score
1st	Rob Vice	(41)	Clapham	Ice	14
2nd	Hugh McAdoo	(87)	Guildford	Ice	30
3rd	Roger Stollery	(117)	Guildford	Supabug	30
4th	Scott Wallis	(84)	Clevedon	Ranger	68
5th	Alan Viney	(17)	Guildford	Ice	72
6th	David Wilkinson	(46)	Cotswold	Supabug	78
7th	Jim Vice	(48)	Guildford	Ice	82
8th	Peter Jackson	(30)	Wickstead	Supabug	90
9th	Keith Parrott	(31)	Frensham Pond	Ice	91
10th	Peter Shepherd	(52)	Wickstead	Razor 3 extended	98

The stunning 1/32nd scale model of the cable laying ship St Margarets built by Bob West of Bedford

Crowds watch as Phil Locke commentates on his 1/12th Tamar Class lifeboat, whilst another Lifeboat Enthusiast Socitey member, Gary Underwood demonstrates his boat

Back in the 1970s the RNLI used to sell this D&M kit in 1/96th scale. This delightful example was built by Jeff Carter

Alf Blake is making good progress with his model of the Victor III/7. An experimental submarine produced in the USSR

A fine selection of yachts presented by the Hove Lagoon Model Yacht Club

BRIGHTON MODELWORLD, 24TH – 26TH FEBRUARY 2012, BY STEVE DEAN

The movement of the show dates to avoid clashing with the Brighton Half Marathon meant that this year the Friday of the show was not on a day during a school half-term holiday and this inevitably reduced the attendance on the first day. However, the crowds poured in on Saturday and Sunday and the final figures revealed a 7% increase in visitor numbers compared to 2011. With nearly 11,000 people paying to enter the show, there is no doubt that Brighton Modelworld 2012 was a resounding success.

It is easy to understand the popularity of the show. There is a staggering amount to see and each year there are changes in layout and exhibits that keep the show fresh and vibrant. In the main arena the boat pool and the radio controlled truck display were in different locations and a full size replica of a Supermarine Spitfire occupied a prominent position.

This year 'Bertie' the talking swan was taking a well-earned rest but his absence didn't reduce the amount of activity on the pool. Set piece displays were mixed with sessions of 'free sailing' and there was never a dull moment on the water. As this year marks the 100th anniversary of the sinking of the Titanic it was no surprise that Richard Slater's huge and stunning model of the ill-fated White Star liner drew large crowds when it took to the water. Accompanied by appropriate music, the sound of it hitting the iceberg and historic commentary delivered by your author, it was a very moving presentation. The mid-day sailing on the Saturday had the aisles around the pool and the auditorium's banked seating heaving with people and the applause demonstrated the visitors' appreciation of the display. Other set piece displays included submarines, lifeboats and the fishing trawler rescue, which was introduced last year, only this time with even more smoke!

The 'free sailing' sessions saw just about anything that would float taking to the water. Very eye-catching were a pair of 1/28 scale models Andrea Gail and Lady Grace built by Alan Storrar of the Moorhen club using the Billings kit. Demonstrations of tug towing, using a large (and leaking) oil tanker and an amphibious car were definite crowd pleasers.

Stands included Hove Lagoon Model Yacht Club, the Moorhen Model Boat Club, the Warship Squadron Model Boat Club and Tamar Model Mariners. Supporters of lifeboats had plenty to see with three stands displaying superb models of these unique vessels, plus the RNLI also had their own stand.

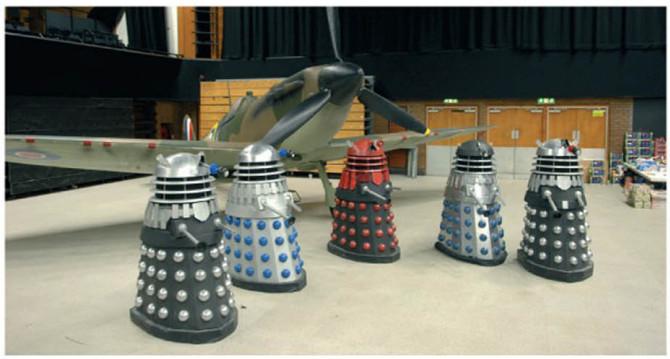
A surprise new entry and its first time on public display was a stunning 1/32 scale model of the last steam powered cable laying ship St Margarets built by Bob West of Bedford. Construction was started in the late 1970s and it was a truly stunning model.

Fun moments of the show were a spoof award to the Moorhen Model Boat Club for taking the longest to complete their display, Phil Locke for frightening the Daleks by wearing his RNLI hard hat and to the submarine lads for informing us that the technical name for Blu-Tack is 'Smurf Poo'!

If the above comments haven't put you off, then the dates for Brighton Modelworld 2013 are 22nd-24th February.

Shaun Weatherley and Mike Collins have a good laugh on the Warship Squadron MBC stand

Just some of large array of models displayed on the Warship Squadron MBC stand



It just had to be done! After the show closed and the crowds had gone home, all the Daleks came to pose in front of the full size replica Supermarine Spitfire

LISKEARD MODEL SOCIETY'S ANNUAL MODEL EXHIBITION, 3RD AND 4TH MARCH, BY BARRIE STEVENS

This delightful show held in Cornwall attracts many modellers and visitors from the South West area. It is an ideal time of year if either before or after the show you can explore the usually VERY busy seaside resorts in Cornwall without as the locals call them 'Grockells' (visitors) seen during the Summer period. The show is now in its thirty-second year and for the maritime modeller many of the exhibits had nautical themes. It was a good meeting point for modellers of different clubs and groups to exchange ideas and new projects and to promote our hobby to the public.

On the first day the Mayor opened the show and was given a guided tour around the exhibits in the main hall/classrooms of the Liskeard Community College. Other exhibits included some very impressive steam locomotives, hot air engines, aircraft, tanks, cars, rope making and model railway layouts.

The Main Hall had a constant flow of visitors

Godfrey Copeland of the Camborne Pond Hoppers with his superb St Ives lifeboat in the course of construction (can anyone help with details?)

LEFT: Brian Finka and Pete Sloley manning the Exeter & District MBC stand with a very detailed Sea Queen model

RIGHT: The MMI stand attracted a keen youngster planning his next project

Brian Peck from the City of Plymouth MBC has built a model replica of an Atlantic rowing boat Red Arrow used by Richard Hume and Tom Barnes when they successfully rowed the Atlantic in 2010 (see MMI December 2009)

John Holland with his HMS Magnificent based on a Dean's Marine kit with modified upper works

We met Godfrey Copeland, one of the mainstays of the Camborne Pond Hoppers MBC who is in the process of building a large scale model of the St Ives Liverpool Class lifeboat called Edgar George Orlando and Eva Child which saw service from 1948 - 1968. Godfrey is appealing to readers if they know or have any other details of this lifeboat as he has a few items he would like to get right on his excellent model (any replies to the editor please).

The City of Plymouth MBC, Looe MBC and Millbrook Model Mariners MBC to name a few had some impressive displays and it was good to see Robin Burnham (MMI pen name 'Chippy') back into model building again after his illness last year.

Another excellent show well organised under the leadership of master model submarine builder David Brown and his team of hardworking Liskeard Model Society members, not forgetting the ladies and their helpers in the canteen!

OCEANOLOGY EXHIBITION BY PATRICK BONIFACE

For three days every two years the exhibition floor space at London's Excel is transformed by the Oceanology exhibition and conference. Experts in sonar, oceanography and undersea technology gather to exchange ideas, new products and services.

From the 12th to the 15th March 2012, companies from across the globe came to London to sell their ideas; amongst them were a number of ship and boat builders who displayed a wide range of model boats depicting their latest offerings. One of the most impressive models was of a new proposal called the Simba 455 from ECA Robotics, who also displayed a remote controlled shallow water operations vessel called the USV Inspector. Braveheart Shipping, from the Netherlands, displayed a model of their Javelin 22.22 design. The Javelin 22.22 has been developed to fulfil the need for a higher speed, larger carrying capacity and extended operational range giving increased accessibility to offshore assets but particularly the expanding field of servicing offshore wind farms. The first of the type will have become operational in May 2012. Also being displayed at Oceanology was a model of the deepsea survey vessel C.S Sovereign operated by Global Marine and finally the firm of Furgo had a wonderful scale model of the Furgo Galaxy. All images by the author. **MMI**

Stern view of a model of the proposed Simba 455 shallow to deepsea survey vessel from ECA Robotics

Bow view of the proposed Simba 455 shallow to deepsea survey vessel from ECA Robotics

A model of the USV Inspector designed for remote controlled shallow and very shallow water operations

Furgo Galaxy deepsea survey ship

A model representation of the Javelin 22.22 vessel designed specifically for the growing wind farm market

The supply ship Alexandria

Model boats on the display of Cowes based South Boats

Marie Felling under way on her maiden voyage

NEW ZEALAND

HERE COMES MARIE part 1

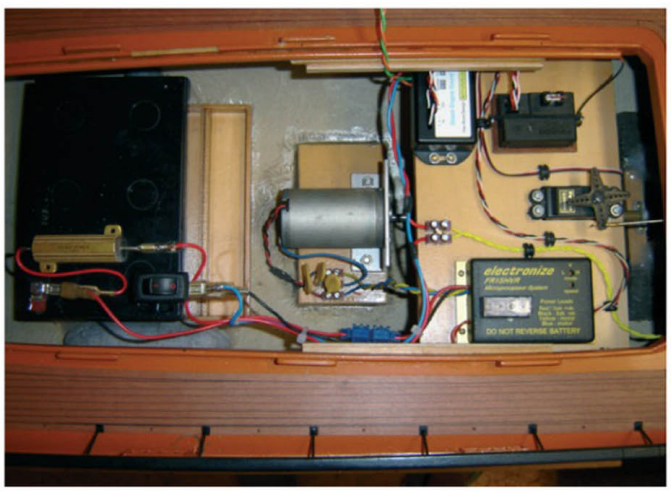
THE BUILD AND MODIFICATIONS TO A CLASSIC CALDERCRAFT KIT

AUTHOR: JOHN DENHAM **CONTACT:** dentech@ihug.co.nz

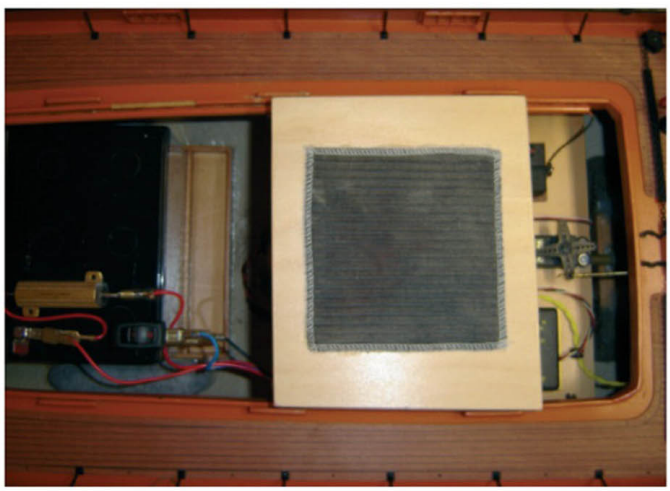
SOME HISTORY

Marie Felling was an oil fired, twin screw British steam tug built by Earles Shipbuilding and Engineering Co. at their yards in Kingston-on-Hull, England in 1928. She was sold under contract to the Port of Mombasa as a harbour tug and was sailed there later that year for delivery to the owners, per contract.

This tug was an earlier sister tug to Imara and featured some very innovative designs not usually incorporated in tugs of the day and this uniqueness is what really interested me as a marine modeller. She boasted a cross passage between the main and forward superstructure, which I am sure the crew would have appreciated in heavy seas, as well as internal companion ways to the funnel deck, both port and starboard side. Another unusual feature was her single cross mounted lifeboat on a dedicated deck forward of the bridge. To me, together with her large raked funnel, and searchlight bridge, seemed to give this tug a sort of balance and charm and this encouraged me to embark on this build. So the day came when I dug deep in my pocket and purchased the Caldercraft single screw kit version from Westbourne Models in late 2007. I hope that my story will encourage others to build this challenging but totally worthwhile build.



The radio control layout. The Technobots sound generator is at the top next to the Rx. Note aerial running through tubing along inside of coaming



Speaker baffle. Note the dropping resistor for speaker volume glued on battery. Isolator switch to the right. Battery is not quite fitted snug in tray

WHITE METAL FITTINGS

There are hundreds of these in the kit and they are bagged in sets applicable to decks/areas of the model. Don't mix sets! It will make it harder for you to track down fittings and locate positioning etc. on the 3/4 plan. Some of my bags were damaged and fittings were loose. What fun! When sorted out, I kept all fittings in those cheap little food storage boxes you can buy at the supermarket. Best investment I made. You will also find that just about every fitting will need cleaning up, either by modeling blade or file. Don't neglect this operation even though it takes a lot of time. Clean, sharp profiles on fittings are necessary for a top detail finish on your model.

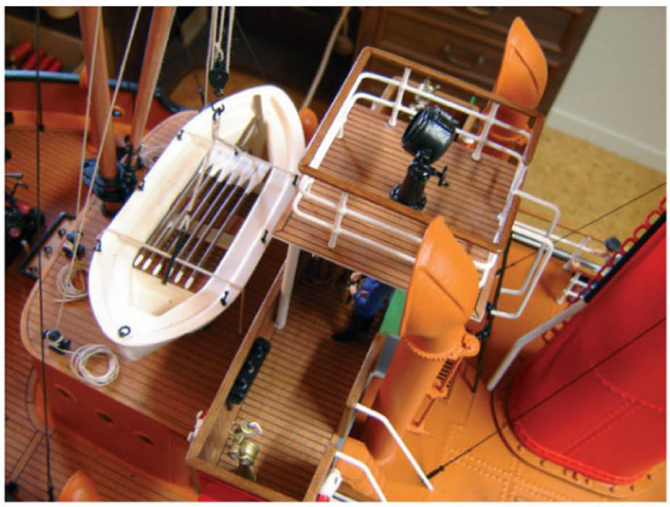
Control mini toggle switches housed under aft skylight. Left-hand is sound generator, right-hand is Rx

Looking aft along shaft tunnel showing positioning of the 24 oz lead sinkers. Other weights are further aft out of view

STARTING THE BUILD

After making up a suitable cradle for the hull, I then made and mounted a 1/8" ply motor bed with studs to suit my aluminium angle mount which I fabricated to suit a motor which I already had in my bits box. The ply was bedded to the hull with body filler in its correct position, the motor bolted on temporarily and suitable Huco universal joint attached to its 5 mm shaft. The propshaft provided was lubricated with light grease, aligned with the motor shaft and the hull exit point at the stern was marked. A hole was then carefully drilled through the hull. Don't chip the gel coat! Then with a 65 mm prop mounted, I ensured that it was not going to foul the rudder when fitted by moving everything slightly fore and aft to suit on the Huco universal joint. When I was happy with all the alignment parameters I temporarily cyanoed the shaft at exit. Then, using automotive filler again, I totally sealed the shaft at the stern end of the keel hollow in the hull. Don't want any water in here! Now I finally bolted down the motor hard to its mount after a final alignment check. Don't be surprised if this stage seems fiddly. It is, but accuracy is important with your drive system.

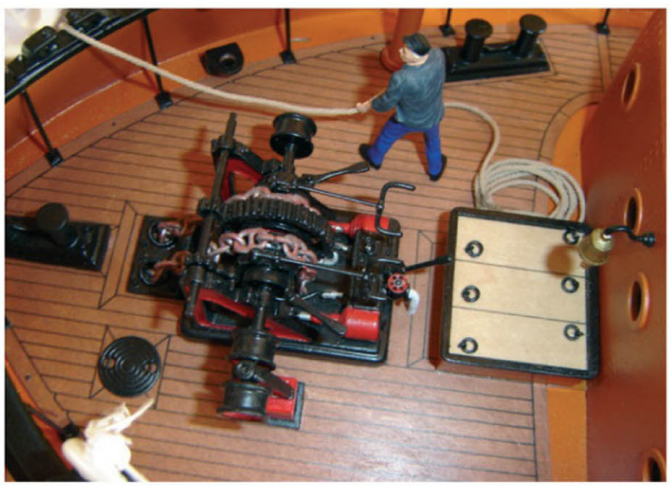
The motor I used, by the way, was a Dunkermotoren 15 V 2 A. It came off a worm reduction drive gearbox and has extremely good torque. This is what is needed for a 65 mm prop pushing a 15 kg boat around. It is front-mounted through a 22 mm hole, which I simply hole sawed through the aluminium angle, drilled and bolted up. Any beefy motor though would be fine, such as a Decaperm or one of the many reduction drive motors available at your hobby shop, your choice.



Seagull's view of front structures and details of searchlight platform, rails, ladder etc.

Using the instructions as a guide only, I next prepared the white metal rudder pintle (skeg) and made sure this was drilled and bolted to its recess in the hull exactly in line with the rudder bearing brass tube. To do this, I offered everything up and marked, drilled and cemented the rudder tube, making sure it was truly vertical. Then I reinforced the tube joint with a generous blob of filler around it. When cured, I next fitted the rudder shaft to its tube bearing and the pintle, set everything true then marked and drilled the hull and bolted up the pintle with the bolts provided. I made sure that the prop was finally fitted and lock nut tightened before firmly securing the pintle! If you forget to do this, you'll have to undo everything at the drive end, withdraw the shaft and then refit the prop. I found that to get alignment there was a gap between the pintle end and the hull, which had to be filled. Also using filler, I had to build up and shape a neat curve in the lower portion of the rudder cavity to correct the ugly right angle, which is made between pintle and hull. I then fared all this in, eyeballing, sanding and adding filler etc. to suit until it looked right, making the curve to match the hull curve at the top of the rudder cavity. Of course, the bolt head recesses were also filled. There is also a white metal propshaft saddle which has to be attached, half way along the shaft, to a suitable cross beam glued and fixed with auto filler to both sides of the hull. It's a

Some bridge detail



Fore deck detail and windlass. Crewman is modified Preiser railway worker. Note the outboard winch bearing plinth black coaming described in text as fixing method

long shaft and without this you will undoubtedly get some vibration because of slight whip.

Starboard view along bridge

Tip: for all small filling jobs I only use Tamiya Light Curing Putty. Brilliant stuff, I love it. No mixing, no mess, just apply it to the job and either cure it in sunlight or with a small 8 watt UVA fluorescent lamp (Type #TL8W-05) if it's a dull day. Takes about 15-30 seconds to cure. You can then sand or cut and build up and shape areas in minutes, I found the more I used it, the better I got at it. It has great adhesion. You can place it on a 1 mm edge of say, a GRP moulding to build it up and it won't break off. For larger fills you have to gradually build up the mass, as the UV penetration won't go deep enough in one application. It's great for repairing damaged white metal fittings. I got through two tubes of this stuff during the construction of Marie. This is what I used for the pintle filling described above. Just applying, cutting, sanding and building up to profile. Don't leave the cap off the tube in the daylight!

BALLAST, RADIO GEAR AND CONTROLS

While the deck is off, let's get all the above in the hull. First, I made up 1/8" ply tray for the gel cell battery (12 V 12 Ah) and glued this in on the hull centerline amidships. It is important to make this tray larger than the battery in the fore and aft dimension because when you finally trim the boat on the water you can slide the battery back and forth to find the perfect position. This obviates excessive ballasting to trim fore and aft. Once positioned, I then glued in the retaining strips to a snug fit with the battery. My battery was mounted vertically and an isolator switch was soldered on to the positive terminal. This is required because even with the ESC off, it draws about 3 mA and if this situation were left for a long time between sailings, the battery would slowly be flattened. In any case, an isolator is always desirable in case of a short circuit occurring somewhere.

Showing the perfect fit of the bridge deck into the recess of the front superstructure. This is the main superstructure break point for removal

The instructions say that final weight of the model should be about 40 lb. What I did at this point to make it easier with the hull open, was to place 24 oz lead fishing sinkers fore and aft loosely in the hull bottom, put in the battery, weighed all the white metal fittings and kit supplied wood etc. and put in an equal weight for these items. Then I did a float test. I trimmed the hull roughly to the water line (which I had marked bow and stern using the kit box picture as a guide) by moving the ballast around. Then I carefully glued in the sinkers using RTV silicone sealer. This is important because later on I knew that some of these weights might have to come out (and they did!) or to be moved and it's very easy to tear them away from the silicone bond. But ballasting this way before the deck is

Here comes Marie!

Showing the unique features of cross passage, internal companion ways, large cowel vents and athwart mounted life boat

on is much easier, especially in the stern where finally there had to be four sinkers laid between the motor and right up to the rudder shaft and there were three more sinkers in the forward hull. Final trimming for list was done when the model was completed and did require more weight amidships. Marie's finished weight was 33 lb (15 kg) to bring her to waterline.

Next I made the radio gear platform that mounts all the electronics. This was also made from 1/8" ply and mounted athwart on suitable supporting beams glued to the hull walls. This platform was attached to the beams with two small cap bolts either side, which were not screwed in but left an easy fit. They can be lifted out with long nose pliers, allowing extraction of the tray so as to gain access to the shaft and coupling if necessary. The ply platform was strengthened by two 1/2" x 1/8" spruce joists front and back which stops any tendency to warp. All interior of the hull, platform, motor mount and battery tray were then given two coats of acrylic varnish.

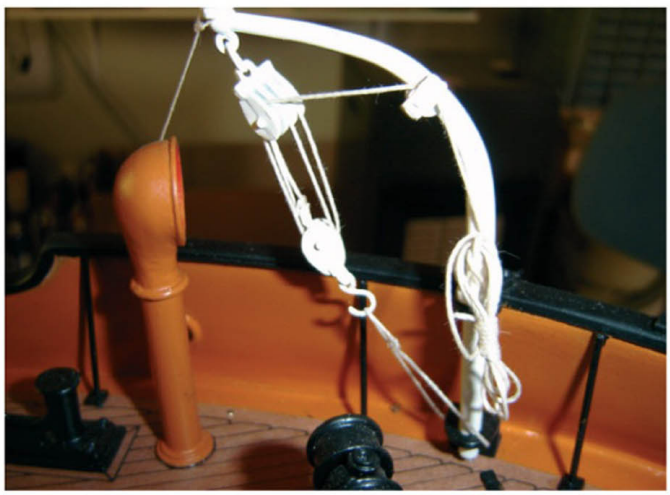
This shows the finished curve at the bottom of the skeg after filling and shaping

The electronics layout is clearly shown in the accompanying pictures and should be self-explanatory. I'm running a 27 MHz system and the items are fairly standard, ESC, Rx, rudder servo plus a Technobots steam engine sound module. I'll tell you about the speaker baffle and its mounting later. The terminal strip accepts the switch wiring for the sound unit and ESC. I mounted the switches under the after deck skylight (see picture).

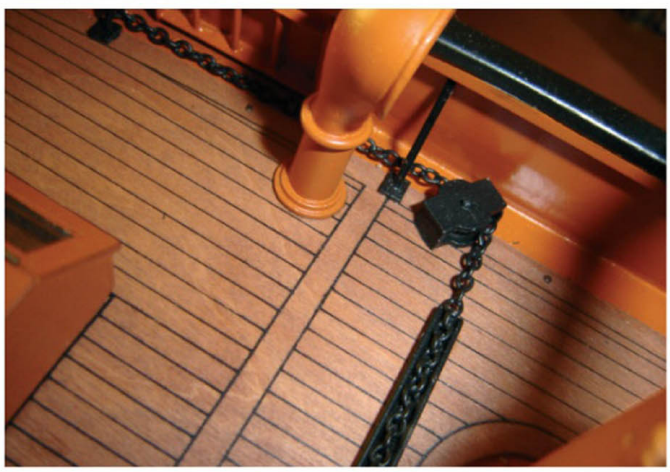
The rudder single action servo brass rod is quite long and I used the kit-supplied tiller (drilled and pinned to the rudder shaft). The rod had to be critically bent to accommodate the height difference between the servo and tiller but this can be achieved if you fiddle everything to fit. However, the forces applied to this long rod required that it be reinforced to prevent distortion and this I did by simply soldering a length of stainless steel 4 mm bore tubing along the straight portion of the rod. If you use this method you will have to use acid flux, resin core solder won't solder stainless steel efficiently. I know, I could have used brass tubing but I didn't have any! Finally, I wired everything up neatly, ran a radio test and set up the Electronize ESC per their instructions. Everything satisfactory, I ploughed on into the build with problems awaiting me, as we all know they do. Big time!

DECK AND BULWARKS

First I filled and sanded the inside of the bulwarks to smooth out the glass matting, which always shows here in a GRP moulding. I use a special self-levelling automotive filler called Dolphin Filler. But any good finishing filler would do. The main deck is supplied as a scribed piece of 1.5 mm ply sheet. I cut this with my little 12 V jig saw. Hobby knives can slip and go off line. The deck is instructed to be cut in half to be fitted, as you would never get it into the hull otherwise. From here though, I didn't follow the instructions for the deck fixing methods and the ply deck beams. I like to fix inwales to the hull and this I did with some flexible stripwood glued at a position some 32 mm below the bulwark top edge keeping that line right to the bow and stern as best I could. Difficult at the stern tuck! The advantage of this is it gives you a positive deck location point when you are fighting to fit a cambered deck and also sheer curvature. Next I laminated up some deck beams with estimated camber and glued them (x2) with cyano to the underside of each deck half section, but ensuring that they weren't placed where the main superstructure cut out was to be. This method gave me the advantage of fitting a true pre cambered deck, which I could then edge trim to suit the hull. I know this seems an unconventional method but it works! Once the inwales were in place, then the forward half of the deck was 'put and tried' many times, sanding and trimming to the hull curvature until I was happy with it. Same with the stern half deck. Then I trimmed them for a neat joint at the centre and cyanoed them to the inwales, giving them a good solid push down until the cyano cured. I should note here, that with this system of mine it is not necessary to glue the beams to the inwales. Only the deck is glued, the beams merely form the camber. Strength is more than adequate. There were some inevitable small gaps between deck and bulwarks but these were taken care of with Tamiya filler and then sanded.



Fore deck davit detail

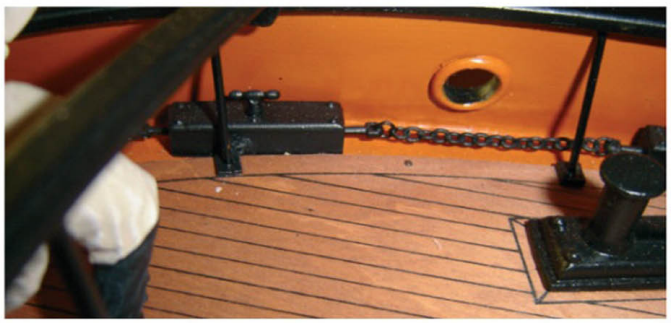


Close-up of stern deck port side steering chain pulley and running guide

I made an opening for the main superstructure per instructions only, as in my case there was no need for top access to the forward section of the model. Better for water tightness too! If I needed to fiddle ballast I could reach it from the main opening. When siting the front superstructure to its given measurements, I made doubly sure that all was going to be in perfect alignment by glueing the superstructure bridging deck piece (ply part #3) to the main superstructure once it was located correctly and mating the front superstructure to it. This ensures a very neat joint at the break point where the main superstructure is removed from the model for access.

I found that after the deck cut out was completed with my jig saw, the narrow deck sections either side, adjacent to the deck half joints, did not hold camber. This I easily fixed by using scrap pieces of laminated deck beam and glueing/clamping them under the joint and then finally filling for a good finish.

When fitting the stern grating mounting block, which I made up at this point, I used an alternative system for a stop by simply gluing two small stripwood scraps under the deck so that they protruded 1-2 mm into the cut out and fitted the coamings as usual. The strips locate the block depth. I found the grating height was perfect with block supplied.



Stern deck portside again showing steering chain spring boxes. Two each, port and starboard

A view of stern deck with all its various fittings and structures in place

The bulwarks on my GRP hull moulding were a worry, very wavy. Without correction, capping rails could never have been fitted satisfactorily – the distortion was too great. If you have this problem, this is my method to fix. I bought some lengths of 1/8' x 1/8" x 12" hollow brass tube and carefully cyanoed and clamped them along the inside at the top of the bulwarks, one length at a time right along the problem areas. The tube has to be formed slightly to suit the sheer curve in places. I know this is non-prototype and purists may be horrified but it was a case of 'needs must'! When completed everything looked great and I was happy to move on with the capping rails per instructions. Incidentally, when everything is painted up, these reinforcing tubes are not prominent at all to casual inspection.

The measurements given for fixing points of the fittings to the handrails were totally confusing and made no sense until I realised that the book's reference to 'sternpiece' should have been 'stempiece'. Be careful too, when finally fixing the first towing brackets and don't rely solely on the given book measurement. I plonked on the main superstructure and made sure of these placements by using a piece of thin strip wood as a dummy tow beam lined up with the correct placement on the superstructure to get these placements on the handrails spot on. This is very important – you don't want to have to rip the brackets off your nicely painted handrails later to move them a few millimetres either way.

After carefully fitting the two anchor hawser hole surrounds, I made up and glued in the anchors. Then, after the hull was painted I carefully applied black RTV silicone filler to the inside of the hawser holes by carefully pushing a small glob of it in with my finger. You don't want any to squidge out, just enough to seal them. If done properly, this will efficiently seal the hawser holes from water ingress to the hull.

Tip: when fitting your mooring ports, to save a heap of time with drilling and filing to diameter (don't try drilling in one go with twist drills you'll wreck the gel coat) use a step drill instead. Preferably a double flute step drill, which you can pick up at an engineering supply shop. It will be a great investment, which you can use for all your GRP hole penetration jobs. I've never had one chip or damage the gel coat if used carefully and they are very accurate. Of course, it's always good practice to drill a small 2-3 mm pilot hole first. There are eight mooring ports, two hawser holes and thirty-three port lights in Marie to cut so think seriously about adding this little time saver to your tool armoury!

The maindeck overlay I cut with my 12 volt mini jig saw to avoid any knife slippage which may have spoiled the deck but don't stick it down until the hull, bulwarks and maindeck have been painted. The deck was fitted per instructions after I stained it to the colour I wanted.

When fitting the coamings to the deck opening, make sure that the front coaming is no more than 7 mm high. This height will facilitate easy removal of the main superstructure when the model is completed. I found this out the hard way! The side coamings can be higher if you like but 10 mm is fine to save you trimming when the inside companionway boxes are fitted later. You will need small packing pieces glued outside the coamings at certain positions to perfectly centre the main superstructure moulding but don't place these near the companion way door openings or you might have to tear them off later on. The front superstructure coamings are locating devices only as I did not make a cut out here so they don't need to be more than say 6 mm.

Painting was carried out with rattle spray cans. I used fast drying semi gloss paints (can't get Halfords in New Zealand unfortunately) in a well ventilated area and when completely dry used a clear matt spray called 'Golden' which is available at art supply shops here. I tried Tamiya clear spray thinking it should have been compatible but it reacted with my topcoat and orange peeled slightly even though I did a test piece with it first. Luckily the damage was in an unobtrusive place, which I hid like any good modeller does but even so, there were a few choice words uttered after the event! Golden, being an art restoration product can be sprayed on any type of paint and it does not react. It takes several days to fully harden though but you can handle it within an hour or so.

The finish is perfect for ship models – just a hint of sheen.

Now, per instructions and plan, I made up, painted and fitted all deck items such as capstan, bollards, windlass, deck housings, hatches, Dowton pump etc. I did not glue the stern skylight to the deck but made a snug fitting 1/8" x 1/8" coaming for it so that it was a push fit. The deck inside was painted black and two mini toggle switches were fitted for 12 V supply to ESC and sound gen. Oh yes, the deck hatches are not mentioned in the instructions but you will find the ply printed parts are there, #53 – #56 are the coamings, top boards are from scrap wood.

Part 2 next month will cover: superstructure, funnel, lifeboats and completion. ***MMI***

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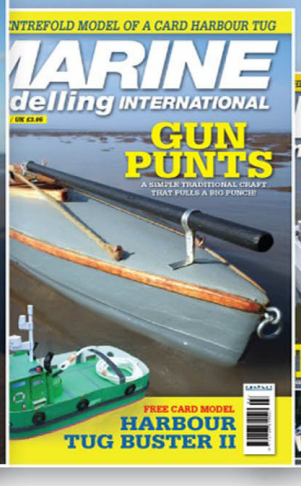

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GREAT BRITAIN

BRISTOL CHANNEL MUD HORSE

AUTHOR: TONY JAMES

TONY SOWS THE SEEDS TO BUILD A UNIQUE AND VIRTUALLY EXTINCT TRADITIONAL FISHING CONTRAPTION

It's been described as looking like a cross between a sledge and an upturned kitchen table with a bit of hostess trolley thrown in. It will take you a couple of weeks to make and cost you almost nothing. But what you will have, my friends, is something absolutely unique in the world of modelling. And if you can think of a better conversation-stopper at your local modelling show, I've yet to hear it...

So far as we know, no one has yet made a model of the Bristol Channel mud horse, and surely it's time someone did before they disappear forever into extinction? For at least a thousand years the mud horse fishermen of the Bristol Channel have plied their strange, lonely and often dangerous trade on the bleak Somerset shore, transporting the catches from their nets far out on the mud-flats on the sledge-like conveyance whose origins are lost in the mists of maritime history. Now there are only two men left in the world – father and son – who know how to make a mud horse and who still go out in any wind and weather to haul their catches home on the strange spindly contraptions they have built from driftwood and odd scraps of timber. Only half a dozen mud horses survive, most of them in a precarious state, but a couple are still working for a living on the remote mud-flats in Bridgwater Bay, west of Weston-super-Mare and in the shadow of the giant Hinkley Point Nuclear Power Station.

An early photograph of a Bristol Channel mud horse

A mud horse is a thing of quite surprisingly functional beauty and an ideal subject for an out-of-the-ordinary modelling project. Pared down to the essentials over the centuries, it resembles an upside-down kitchen table with a curved end and has more than a passing resemblance to the man-drawn sledges used in early polar and Antarctic expeditions.

A system of simple braces makes it rigid and immensely strong and the height and width may vary slightly according to the size of the mud horseman. Oak or elm were favourite woods and the mud horse which was presented to the Watchet Boat Museum in West Somerset a few years ago, and which is photographed here, is said to have been made from the off-cuts from elm coffin-boards.

Its base is two half-inch boards, 7' 6" long and each 8" wide held together by four dowelled crosspieces. The two inner crosspieces, 4' apart, are bored out to take the rounded ends of the four 3' 6" uprights. A rectangle of 4" wide half-inch boards is bored with holes to take the rounded tops of the four uprights, which are jammed down hard and dowelled to make the structure strong and rigid.

Extra strength comes from a diagonal strut running the length of the superstructure. The bottom boards protruding some 3' at the front of the horse are planed to a blunt point and then bent up 6" from the horizontal and held in place by two strong cords leading to the front uprights. Ropes or light spars are fixed across the top frame to support baskets or sacks containing the catch.

IF YOU WANT TO MAKE A MODEL...

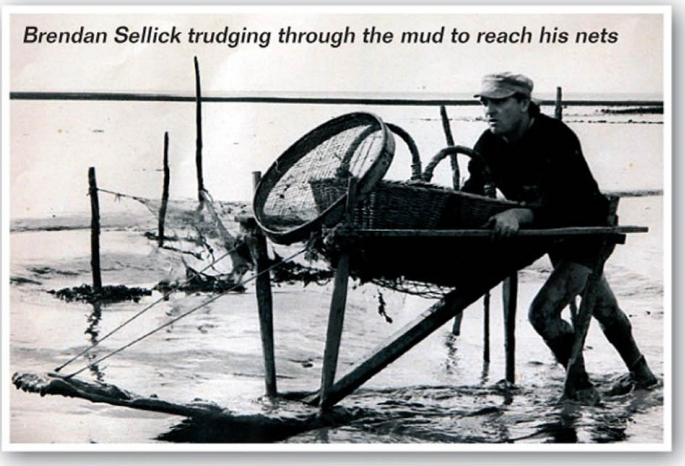
The best-preserved mud horse is on display at Watchet Boat Museum, Watchet, West Somerset and staff will be delighted to let you measure and photograph it. Contact 01984 634242 or visit ***www.wbm.org.uk***

Mud horses were regarded as expendable and were not expected to survive more than a few months of rough usage.

"My father could make one in a couple of days," said Brendan Sellick, at 76 recently retired from over 60 years of almost daily mud horse fishing. "He never bothered to paint them – they were always covered in mud so what was the point?"

Adrian Sellick with his mud horse in the shadow of the Hinkley Point Power Station

Brendan retrieving the catch of the day



Brendan Sellick trudging through the mud to reach his nets

The Bristol Channel mud has been described as smelly with the consistency of brown blancmange!

A retired mud horse can be seen at the Watchet Boat Museum

The Sellick family, the last of 14 families who once earned a living from mud horse fishing, still ply their precarious trade nearly every day of the year, including Christmas, despite the fact that catches are now a quarter of what they were, due to pollution and commercial over-fishing. "A good day's catch is now 40 or 50 lb of shrimps and a few cod and whiting in winter and skate and sea bass in summer," said Brendan Sellick. Now he sells the fish freshly caught by his son Adrian, 53, from a little shop next to his cottage in the tiny Somerset village of Stolford. "My dad would have been heartbroken to see what has happened to the mud-fishing," Brendan said. "When I started fulltime when I was 14 there were ten families making a good living and fish and shrimps went away by the ton on the train from Bridgwater. Once, a Stolford mud-fisherman could earn today's equivalent of about 30,000 pounds a year and years ago we didn't need a quarter of the nets we have to put out now. It's tragic really."

But old ways die hard. Adrian first went out on to the mud with his dad when he was six and now he pushes his mud horse sledge across the mud twice a day to repair and empty two half mile long stretches of nets hung from iron stakes driven into the estuary rock.

It's a simple, and environmentally sound way to catch fish... the tide rises, fish swim into the nets, the tide falls and the fish are caught. Then there's just a matter of pushing a sledge through the glutinous mud half a mile each way to collect the catch. "It's hard work pushing a mud horse but you get used to it," Adrian Sellick said. "You rest your stomach on the back of the top framework of the sledge, lean forward and push with your feet. In the old days they collected the fish in wicker baskets but we use plastic laundry baskets and load them on to the sledge for the return trip." He made it sound a pretty painless exercise, but it isn't. The Bridgwater Bay mud is deep, smelly and the consistency of brown blancmange.

It looks completely featureless but the mud horsemen pick their way unerringly along hidden paths. "It's 15 feet deep away from the paths," Brendan said. "If you fell in, no one would ever find you." Although semi-retired, Brendan agreed to take me across the mud to his nets and put the mud horse through its paces. We descended the windswept beach to below the high-water mark where the sledge was released from its anchorage of heavy boulders and loaded for the trip to the nets. Soon we were submerged calf-deep in mud and Brendan invited me to take over the sledge. It was heavier than I had expected even though it was nearly empty. Lying almost horizontally on the back edge of the sledge, I found it nearly impossible to push it in a straight line or see where I was going.

When I gave up, Brendan took over and charged ahead like a well-oiled machine. I followed as best I could. It was Oates following Captain Scott across a wilderness of chocolate mousse.

Brendan's legs moved with the methodical rhythm of someone climbing a long staircase and the sledge skidded straight and true across the mud leaving a wake of tumbling slime, which splashed him continuously up to waist level. "You get used to being covered in mud," he said. "After the first 50 years you don't notice it!"

A couple of times on the 40-minute trek out to the nets we paused for a brief rest for my benefit and Brendan talked of his life on the mud. "I brought up seven children through fishing but nowadays when you get out there you might find there's nothing to

Closer details of the mud horse

Baskets to collect the haul in place

bring home. You might earn good money for three weeks and then nothing for a month. It's so unpredictable. Adrian and I are now the only mud horsemen left in the world. I know pushing a sledge looks primitive but there's no other way of doing it. We bought a snow-sledge from Sweden once. Beautiful little thing. Like a motorbike. It only lasted six weeks before the mud got into it and ruined it. We had to go back to the sledges."

We emerged from the mud on to a long spine of shingle running out towards Wales on which the nets – known officially as 'fixed engines' – were staked. There were 60 shrimp-nets plus gill-nets and trammels.

The day's catch weighing about 40 lb – shrimps, sole, hake, cod and whiting – was loaded onto the mud horse for the return trip.

"Rather poor, but about what I expected, being as the tide is dropping. This lot will go locally. So will the shrimps when we've cooked them. There's nothing like them with a bit of brown bread and butter. You know, I'm still fascinated by fish after all these years. I love eating fish. I think my favourite is silver eel done in the Aga with a little drop of milk."

Details of the front of the sled

Author of this article Tony James measuring the full size mud horse for a potential model?

"We caught a seven-foot sturgeon once," Brendan remembered. "That's the Queen's fish. My dad had to offer it to Buckingham Palace but they said they didn't want it."

Just why have catches declined so dramatically out on the mud? "I blame Hinkley Point Power Station," Brendan said.

"They use so much water that it dilutes the fish stock. They say the amount of water going through the station over four years is equal to the whole of the Bristol Channel."

Fish may be more scarce but it's still delicious and Brendan has no problem selling what they catch. Canny locals know that the Sellicks have the freshest fish available, often ringing to find what the day's tide has brought in. Now his dad has retired from the mud, Adrian Sellick is the world's only full time mud horseman – and, he thinks, probably the last (Fish can be bought directly from Mudhorse Cottage, Stolford, Somerset. Tel: 01278 652297). "My four children aren't interested in taking it on – they prefer to have cleaner and better-paid jobs." In fact Adrian has to subsidise his mud horse fishing by working nights at a local yoghurt factory. "If it was just me and the wife, we would tick-over, but you can't make enough for a family."

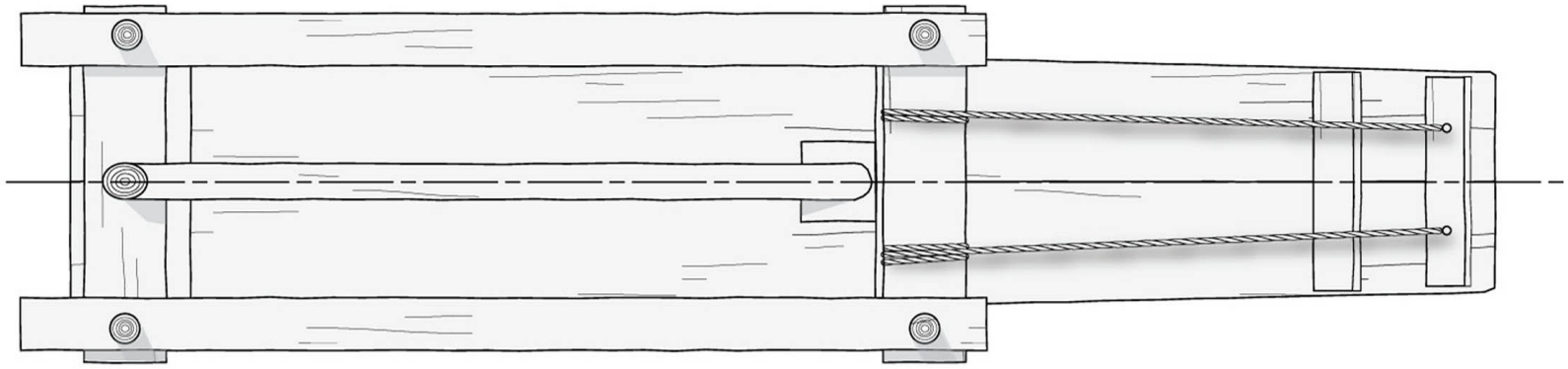
But he has no plans to give up. "It's hard work and it gets harder as you grow older. In the winter you're covered in icicles. Your hands are freezing but you can't stop for a teabreak. You have to work for as long as the tide will let you – usually up to three hours at a time. I will do it as long as my health holds out. My dad was still going out on the mud every day when he was in his seventies and I hope to do the same. I can't see myself ever giving up. It's a hard life but when you've been out on the mud as long as we have, it gets in your blood." ***MMI***

***BELOW:** The mud horse would make an ideal subject for a diorama*

MARINE modelling INTERNATIONAL

MW3583
Bristol Channel Mud Horse

Designed by Tony James
Scale 1:12



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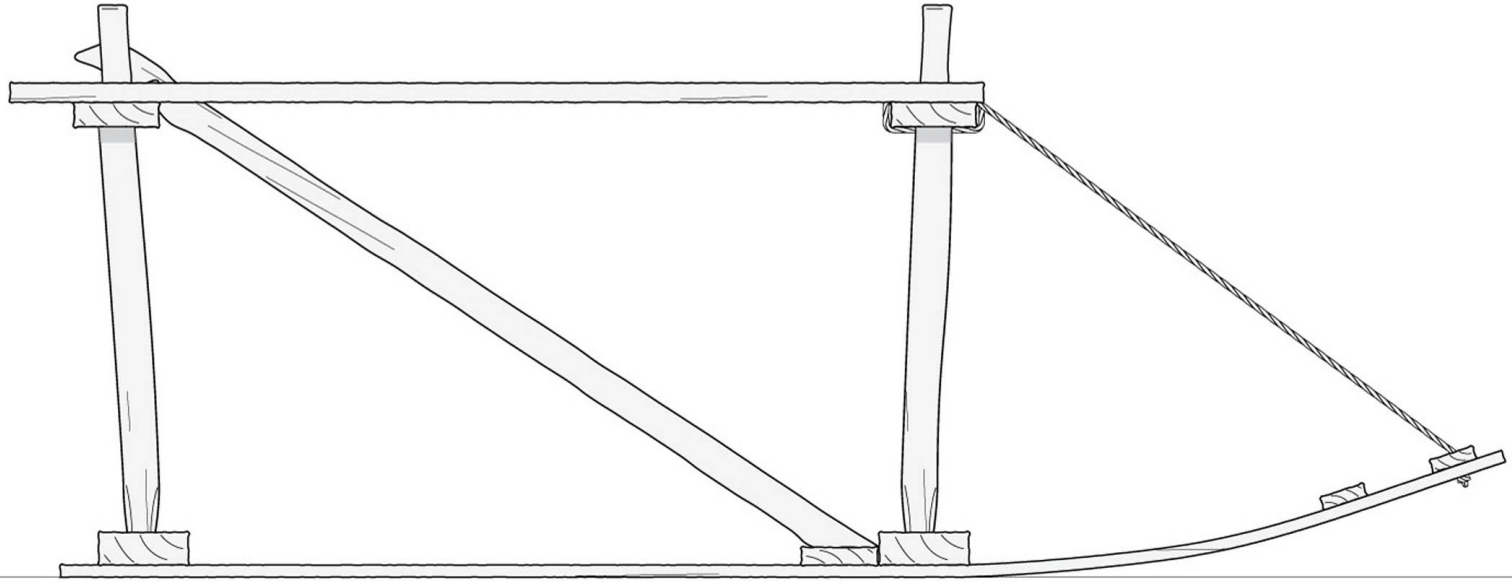
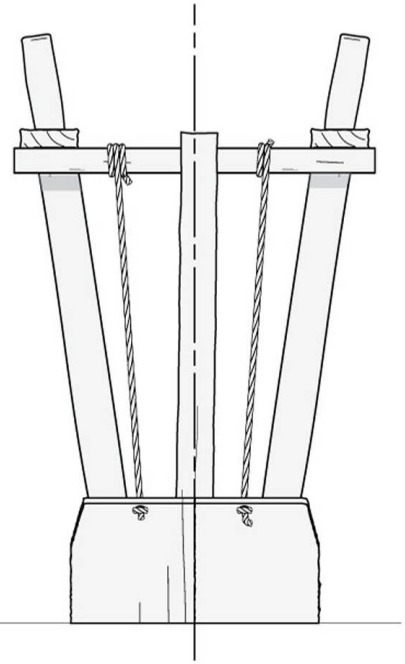




GREAT BRITAIN

AMBO

AUTHOR: RICHARD CHESNEY

THE ASSOCIATION OF MODEL BARGE OWNER'S REVIEW OF 2011

Having had an appalling year in 2010 for venue problems, 2011 was viewed with suspicion and events timed to try to avoid the weed growth previously experienced. And true to form, nature went its own way and grew weed even earlier in the year. Fortunately the Clubs were prepared and our first venue, Bluewater Retail Park, near Dartford, Kent had the weed cutters in a few days before the meeting and we raced dodging the piles of drying waterweed on the bank. This was the worst of the venues and after that all we had to contend with was variable weather conditions ranging from sunny and windless to wet and howling gales (I exaggerate). There were a couple of venues with a very poor turnout of combatants but generally there were enough skippers and boats of at least two classes of the three most popular to make a good day out.

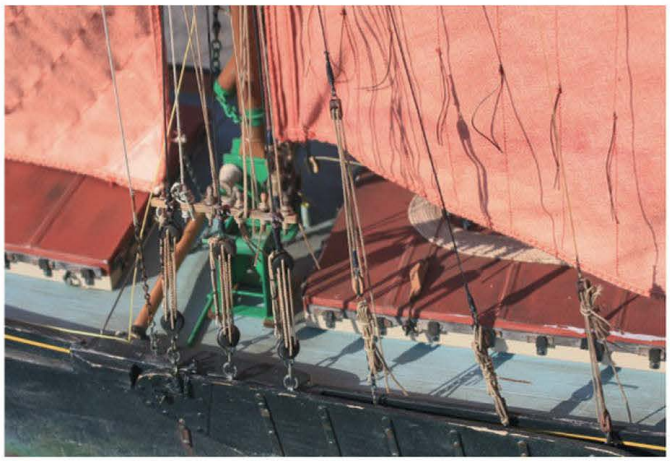
Cyril Pellet – receiving the Tony Lench 'Olympic Spirit' Award 2011 from Theresa Shammon

Before I outline the racing classes I should mention that we lost a stalwart member of the Association early in the year. Tony Lench had founded the Model Thames Sailing Barge Championships in 1988 and guided the race series for eight or nine years before standing down for a younger leader but he continued to race as and when he could get to venues – occasionally accompanied by his son David and grandson William (due to his ability to get lost on the way to venues and arrive late, smiling and apologetic). Having had his eyes sorted, his hearing improved and a short stick to aid the knees in rising from the crouch after launching one of his many barges, he was preparing new boats for the 2011 season when a fall at home put him in hospital and he sadly died in early March. Many Members of AMBO/MTSBC attended his funeral, which was taken by his friend of many years, the Rev William Mowl. His unfailing enthusiasm and smiling countenance despite all adversities and his enjoyment of the company of fellow modellers/sailors led his family to offer a trophy to be presented in his memory to the skipper who throughout the year had a similar 'Olympic Spirit' of taking part and enjoying the day out despite all adversities and not worrying about the final race position achieved – just having taken part. The award was to have been presented by Tony's son Michael at the Finals at Mote Park, Maidstone but the recipient was unable to attend due to family illness! Somewhat of a disappointment, but it was finally presented to Cyril Pellett at the International Model Boat Show (Warwick) in November by our lady member from the Isle of Man, Theresa Shammon.

Close racing round the buoy-Kent, Greyhound, Unidentified!

Max Cockett's Swimhead barge Kent at Bluewater

Bows of Greyhound



Midships detail Greyhound or Greyhound II

Stern detail on John Jeffreys' Greyhound II

Enough of the sadness, the year continued and Weymouth IMMF presented us with excellent sailing conditions for one of the best race meetings held there, except for Andy Hughes whose Portlight sank during one of the early races on the Saturday. Fortunately the mast tip showed above water and the rescue boat raised it for him but not in time to replace various parts of the electronics and continue on. The footy barge and yacht racing at Weymouth also had a good following of skippers with several new boats being tried out with various levels of failure but great enjoyment. (See the Model Barge website for the full report on this venue). The models raced are (hopefully) scale models of Thames & Medway Sailing Barges built to a scale of 1/24 (half inch to a foot) as staysail or bowsprit rigged approx 42" in hull length and coastal rigs at between 45" and 50" hull length, with approx 1/32 scale 30" hulls as a smaller alternative with any sail/rig layout.

After 16 qualifying venues throughout the South and South East of England the finals were held – as before mentioned – at Mote Park, Maidstone courtesy of the Cygnets MBC and they had organised the best conditions for sailing that we had encountered for a long time! It was sunny, the wind was appropriate in strength and direction and five races for each of the three classes were raced (not a lot I know compared to the IOM meetings but very good for barges). The skippers attending behaved, there were no untoward incidents and the day was enjoyed by all – including the passersby whom had their questions answered as to what we were up to.

The trophies were awarded to John Jeffery in Bowsprit and Colin Barrett in Staysail and 30" classes with Andy Walker taking the Concours for the best turned out model on the day.

A number of shows were visited throughout the year to raise awareness of barges, both model and full size, in the members of the public as well as modellers themselves. And this propensity to display ourselves continues in 2012 with something like 14 shows in the calendar over and above the MTSBC race meetings throughout the summer. If you wish to join in the racing or just come along and see what goes on, the venues are:

MTSBC BARGE MATCHES FOR 2012

29th April	Herne Bay, Kent (Herons)
13th May	Bluewater, Dartford, Kent (Chantry MC)
20th May	Maldon
27th May	Maidstone – Mote Park (Cygnets MBC)
3rd June	Brightlingsea, Essex (Brightlingsea MBC)
24th June	Silvermere, Byfleet, Surrey (Phoenix MMC)
8th July	Maldon
15th July	Bluewater
29th July	Southwater, nr Horsham (Southwater Dabblers)
5th August	Brightlingsea
12th August	Broomfield Pk, N. London (Broomfield MSS)
26th August	Maldon
2nd September	Herne Bay
9th September	Maidstone – Mote Park (Cygnets MBC) Final Championship Match

Scale and size comparison: background – 1/24th Jay P and a James Piper hulled model, foreground – a 1/18th Cambria

A Barge Match handbook is available giving barge classes, race rules and directions to each venue – just contact Richard Chesney for a copy. It is hoped that at the event at Broomfield Park in August there will be at least four barges built to 1/18 scale (approx 66" hull length) for a special 'big boat' race (or two).

Richard Chesney, 49 South Avenue, Thorpe Lea, Egham, Surrey TW20 8HQ. Email: ***rchesney@tesco.net***

The AMBO website is ***www.modelbarge.info*** and this contains a lot of helpful information regarding building and the barge match venues 2012.

Or for membership contact Alan Rowe, 16 Chestnut Grove, South Croydon, Surrey CR2 7LH. ***MMI***

SCALE SCENE

GUEST CONTRIBUTOR TO SCALE SCENE, PETER DANKS DESCRIBES HIS ADJUSTABLE BENCH AND LONG VICE

AUTHOR: PETE DANKS GREAT BRITAIN

All of my models up to now have been fairly small but I'm about to start a 1/10 scale salmon coble that is nearly a metre long. Consequently, I need something to hold the model for planking and a vice that will hold the planks for planing to shape. So I decided to build an adjustable bench that would hold the hull at the angles I required, and a long plank vice based on a small one I've used for years.

THE BENCH

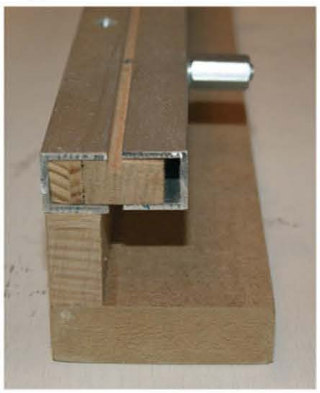
The bench is two bedside cabinets that I scrounged from our cottage hospital when it closed, screwed back to back and on castors so I can move it around the workshop. The working bits are screwed to the top of the cabinets and are essentially a pair of parallel brackets at each end with removable supports that can be bolted between them. A bench top with similar parallel brackets is fixed to the supports at whatever working angle is needed. By juggling the bench top and supports I can set the model hull in three positions: flat on the bench, vertical or at about 30 degrees to the vertical. I can also turn the model round to work on either side. I can have the model at the back of the bench to give me space for tools and bits in front, or at the front to avoid backache! I can therefore set the hull at the best angle for the plank I'm fitting. The bench top and supports are secured with 8 mm roofing bolts and wing nuts, and the model baseboard is fixed to the bench top with similar bolts.

The bench with the model baseboard bolted to the bench in the horizontal position

Model held at 30 degrees

And in the vertical position with the model at the front of the bench

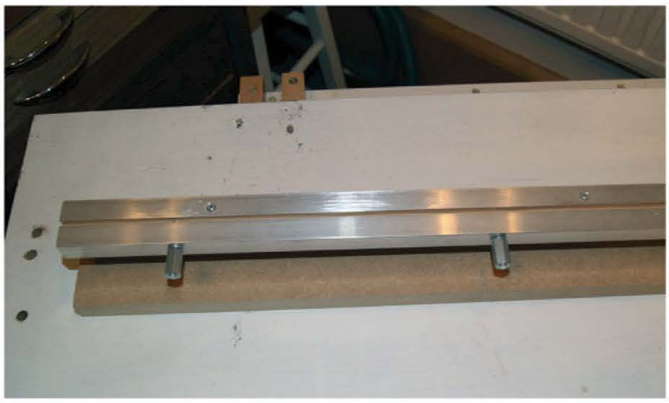
The component parts for one side of the bench – the parallel battens fixed to the bench on the left, the short horizontal support in the middle, and the 30 degree/perpendicular support on the right



End view of the vice showing the two pieces of channel and the wooden insert

THE VICE

The vice is based on the extruded 15 mm aluminium 'U' section available in lengths of 2.4 m from DIY stores. Two 1.2 m lengths of the 'U' section form the jaws of the vice. Between the jaws is a tight-fitting wooden insert with holes drilled at intervals for the clamping bolts. The insert has a slot sawn down the centre to allow the plank to sit lower between the jaws; inserts can be slid into the slot to reduce the depth of the slot if needed. The heads of the bolts sit in slots cut in the back of the insert to stop the bolts rotating when tightened. The moving jaw fits over the insert and is clamped with connector nuts (used to join lengths of studding). The connector nuts are long enough to give adequate grip to tighten the vice finger tight. My small version of this vice is screwed to a support batten that clamps in the bench vice, but this one is a bit big for the vice so I fixed an extra piece on the bottom of the support batten so I could clamp it directly to the bench. It allows me to plane planks 1200 mm long. **MMI**



The assembled vice

The component parts, with the bolted head fixed in a cut-out in the insert

VIEW FROM THE BRIDGE

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

Images taken by Captain P. Anthony

LEANDER G (ABOVE)

A visitor to Portsmouth's Gunwharf Quays Marina in May last year was the luxury yacht Leander G. Owned by Sir Donald Gosling, Rear Admiral RNR and the founder and owner of National Car Parks, she is a vessel of 1,930 gross tons with a length overall of 75 metres and a service speed of 15 knots. She was built in Germany in 1992 by Peene Werft, can accommodate up to 12 guests and has a crew of 24.

Although registered in Hamilton, Bermuda, she flies the Royal Navy's White Ensign by Royal Charter, as following the decommissioning of the Royal Yacht Britannia the Leander G has been used by members of the Royal Family on several occasions. In 2005 she carried out her first official Royal Cruise in the Caribbean with Camilla, Duchess of Cornwall and Charles, Prince of Wales, on board. Her Majesty, the Queen, had been guest of honour on board for luncheon a few days before this picture was taken. The Leander G is seen here leaving Portsmouth on 25th May 2011.

Viewed from the Bridge of St Faith.

BRITISH CORMORANT (ABOVE)

BP Shipping's double-hulled crude oil carrier Britsh Cormorant is seen here on 17th August 2011 approaching the North Sturbridge buoy outward bound from the BP Hamble Terminal on Southampton Water.

She had discharged her cargo at the refinery and was in ballast outwards showing her destination on the AIS as the Skaw, presumably for orders.

British Cormorant was built in South Korea in 2005 by Samsung Heavy Industries at their Koje Island yard. With a deadweight of 114,809 tons, a length overall of 250 metres and a beam of 43.8 metres, the Isle of Man flagged and Douglas registered vessel is powered by a 7-cylinder 2 S.C.S.A. B&W 7S60MC-C type oil engine giving her a service speed of 15 knots.

Viewed from the Bridge of St Faith.

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CHANDLERY

A SPECIAL LOOK AT SOME NEW AND PROPOSED PRODUCTS FROM DEAN'S MARINE

Which one is Ron Dean on the Dean's Marine stand at Nuremberg?

Dean's Marine attended the 2012 Nuremberg Toy Fair and announced their new proposed range of products and kits for the following year. Items included:

M.V YARRA

Scale 1/50, Length 554 mm, Beam 107 mm.

This tug is based on an Australian design tug handling VLCC and general heavy towage in harbours. The glass fibre hull is complete with rubbing strip, ports, bulwarks, prop shafts exits, skegs, etc. Also included is the complete engine casing as a glass fibre moulding with markings for doors and ports to assist construction.

KAPITAN HILGANDORF

Scale 1/50, Length 1090 mm, Beam 190 mm.

This vessel was built for the German government as a Pilot Vessel in 1961 by Schichau GmbH in Bremen as one of four of the class. She at present is powered by three MTUs with 1780 bhp in a diesel-electric arrangement and was based at Cuxhaven. The ship is fitted with 29 cabins, mess rooms and public space.

MV MERCANDIA PRESIDENT

Scale 1/100, Length 1.33 m, Beam 220 mm.

One of the most spectacular vessels to be added to the Dean's Marine merchant fleet with one of the most complicated and detailed glass fibre mouldings to come from their workshops.

The hull is moulded up to the bridge deck level and includes all port and rubbing strip detail. The bulwarks along the main car deck are part of this moulding. The bridge structure is of computer generated 1 mm printed plastic. All fittings, including the two multi-purpose hydraulic winches and the two rear loading doors are provided in the kit along with a full set of fittings and running gear. These, together with a comprehensive instruction book and a full size plan assist in the assembly of this impressive model. A colour chart and a set of precut decals for the company name are included in the kit to add the finishing touch to this most colourful addition to their merchant ship range.

TSDY DALVINA

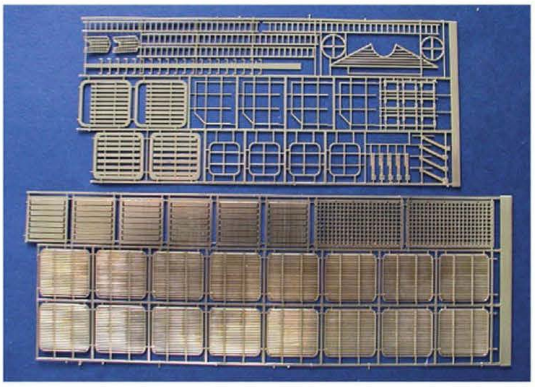
Scale 1/24, Length 1.04 m, Beam 280 mm.

Designed by Laurent Giles and constructed by the Berthon Boat Co. in 1987 the 80 ft Dalvina is a one-off gentleman's motor yacht. The hull and superstructure is constructed of aluminium alloy by Cougar Marine and was delivered to Lymington and joined at the finishing yard. Powered by 2x MTU 1300 hp diesel she is capable of 18 knots in a head wind of 10 knots.

BRASS ETCH DETAIL PARTS

A range of new 32 brass etched detail parts to add extra fine detail to Dean's range of kits or to upgrade or replace production parts. All items are available as single or small batch items to avoid purchasing large sheets of etching that may contain parts that are not required.

Please visit Dean's website to see further information on these new items, ***www.deansmarine.co.uk*** or call 0044 1733 244 166



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HM Schooner Pickle, Caldercraft kit, untouched plank on frame, £50 + p&p. Thermopylae Tea Clipper, Sergal kit, untouched plank on frame, £30 + p&p or both for £70. 01967 421735, Argyll.

SCROLL saw, two speed, condition as new, £25, buyer to collect, possible meet part way. John 01225 315453 after 6pm, Bath.

PRIVATE FOR SALE

FOUR 385 motors, new, unused, £8 plus p&p or collect. 01225 315453 after 6 pm please, Bath.

RNLI Lifeboat Oakley class, 1961, 37-03 Galouste Gulbenkian, 38" long, twin motors, Hitec RC, excellent condition, £425 ono. 01737 642075, Surrey.

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SEAFORTH Clansman, diving support vessel, 86" x 15", 10 RC functions, twin shafts, bow thruster, fire monitors, lights, crane mechanisms, anchor winch, fantastic working model, built to exhibition standards. Mike 07811 621874, West Midlands.

1/24" scale "Conserver" buoy maintenance vessel, Model Slipway kit, completed and tested, includes Futaba RC, batteries and charger, photo available, £250, buyer collects. 01227 792054. Kent.

Traplet clothing & Embroidery Service

AIR compressor, tank type Clarke Bandit, variable pressure with airbrush and spray guns, and other bits, £25, buyer to collect. John 01225 315453 after 6pm, Bath.
A class yacht, 2003 PJ Sails built, MYA registered, new RMG winch, 2 sail sets, £500. Roy 07762 616461, Cardiff, Email 1246@live.co.uk
PROFESSIONALLY built, sailing/working models, museum quality, Moonbeam Empire tug, Swansea pilot yawl, no space, reluctant sale, £375 ono. Also various racing yacht hulls, offers. Harry 01865 865670, Oxon.
RIPMAX Futaba M Series, 4 Tx and 6 channel Rx, 27 MHz (circa 1975), both good working order or possible collectors item, £50 + £5 p&p. Mike 01603 759256, Norfolk.
A class yacht, Sweet, 2 sets of sails, blue hull, supplied and built by PJ Sails, measurement certificate, £500. Clive 02920 658255, Cardiff.
FOR sale model mags, Model Flyer 2009, 2011, AMI 2011, RC Model World 2009, 2011, RCM&E 2008, 2009, 2011. Marine Modelling 2011, Model Boats 2011, £10/year or sensible offer, buyer to collect. Jim 0208 853 3059, London.
MARVON Models, Barry Pilot steam cutter, Chimaera Limited Edition kit, No 48, length 47", beam 8", £180 + p&p. 01253 869899, Lancs.
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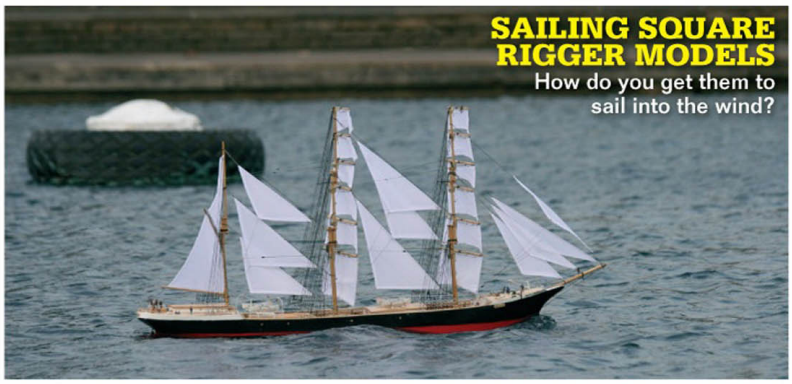

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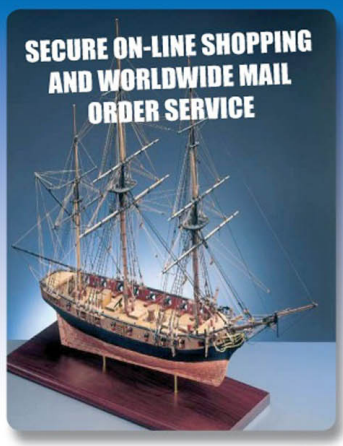

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