

the Balmain Bug



An Australian Classic by www.gospectre.com



APPRENTICED to a boatbuilder, 16-year-old Peter Ferreira, winner of seven trophies and 1948 point score of Drummoyne (N.S.W.) District 12th Model Sailing Club, has Vera Too ready for Sunday morning light sou'-wester. Father is Peter's rower, boat is named after his mother.

History of the bugs and these photos have been provided by Stephen Crewes of Sydney Australia, who has taken the time to document the story of model yachting in Australia for future generations.

To find out more about the "real" bugs have a look at his marvelous books, our favorite is 'Sydney's Model Racing Skiffs'.

You can contact him via and email link from our site (www.gospectre.com) , or write to Stephen at, PO Box 62 Hurlstone Park, N.S.W 2193, Australia.

Apprenticed to a boat builder, 14 year old Peter Ferrira, Winner of seven trophies and 1948 point score of Drummoyne (New South Wales) District 12'er Model Sailing Club has "Vera Too" ready for sailing Sunday mornings race in light sou'-wester. Father is Peter's rower, boat is named after his mother.

History

Made in
Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in
Australia

the Balmain

Somewhere around the year 1860 the world famous 18foot skiff came into existence, these dinghies had as the name implies a hull length of 18foot not including the bow sprit and very few other limitations, if you could keep the boat up right, as much sail as you could carry was fastest!!

The boats developed highly and even to this day the 18footer still is a grand prix class known for its wild flights of speed and overpowered sail plan.

The early 18 footers had colored patches on their mainsails to identify them to the masses of people who would gather around Sydney Harbor to watch, the modern skiffs have brighter color schemes, still with the addition of sponsorship and bright colored paints.

Early on the Balmain Bug model skiff came into existence and followed a similar rating rule as the real boats, limited hull length but nothing else, they also used sail patches.

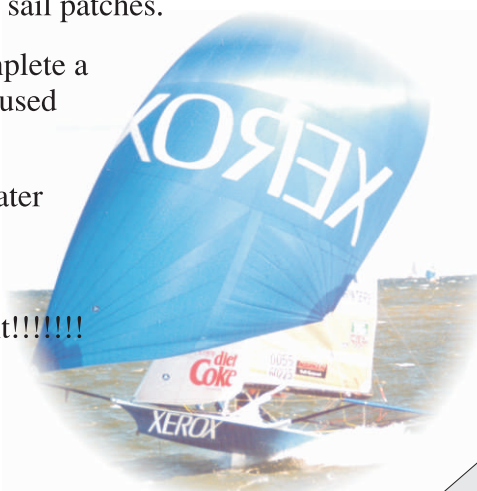
Boats were at first sailed on ponds and turned around at each end to complete a course, then later in the open sea of Sydney Harbor, rowing boats were used to chase the little monsters and even put on more sails downwind.

Bugs were raced in several class sizes, the smallest that raced in open water was the 12'er, and it also made a great pond racer, the largest was a 2 Footer Bug, that really took some rowing to keep up with!

The Balmain Bug was raced up to around 1954 in Sydney, lets re-ignite it!!!!!!

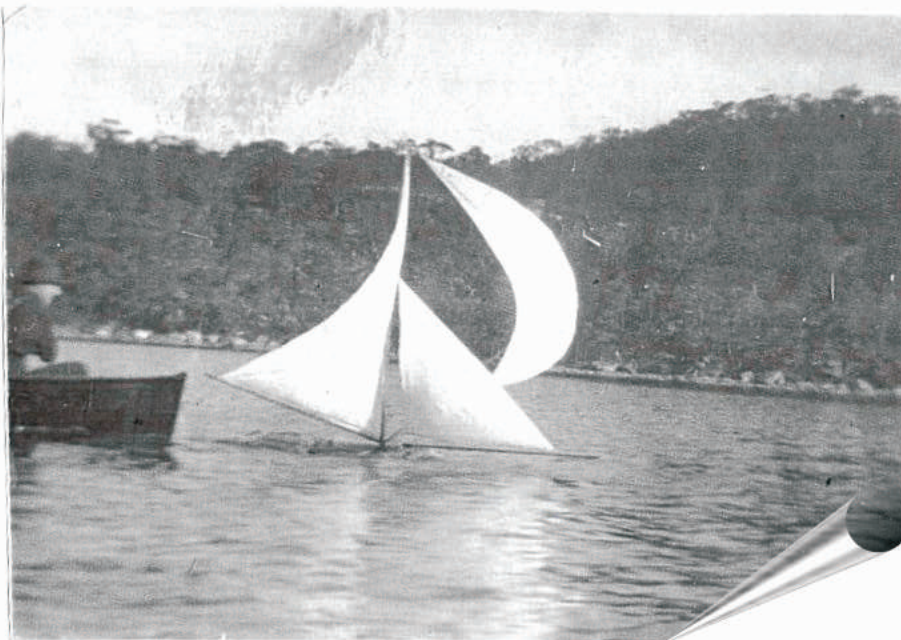


18foot skiffs pics by Andrew Cook



History

An Australian Classic by www.gospectre.com



Bug on the run! This Bug is seen with the 'big' rig and features a spinnaker sail as well as the normal mainsail and jib. Early Rigs had a 'Gaf' rig while later boats mirrored real boats and the development of a single light, long mast. Notice the row boat chasing, no remote control back then!

History

Made in
Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in
Australia

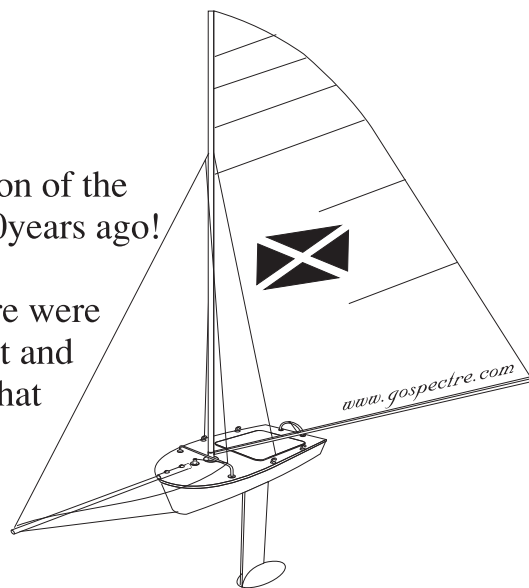
the Balmain

Welcome to the Balmain Bug experience!!!!!!

The Bug kit has been designed so as to be a modern version of the "Traditional Bug" now you can sail like they did over 100 years ago!

Traditional bugs mostly had varnished wooden hulls, (there were even paper mache bugs made!) your bug is a modern yacht and uses modern materials with remote control equipment so that You can sail her and change direction!

Choose a wood stain and varnish to finish your bug, add a sail logo and make her your own modern classic.



If you do not want to use radio gear, you can even convert the keel to be an assembly that slides fore and aft on a rail like traditional bugs, but we have made this kit with a fixed position so you can have remote control!!

Just add a standard 2 channel remote control to the package and off you go to build her, the keel bulb has been made slightly heavier than you need so if you are not using remote gear she will float well. It is worth noting that bugs float with the waterline around 15-20mm below the deck, looks weird, but thats how they hold so much sail!

Take care, read the instructions and build a classic, then sail her!

Your Bug

An Australian Classic by www.gospectre.com



The bug is so overpowered and radical, do not expect to sail her like a normal yacht, it will take a lot of practice, after all they were developed over a long period of time and highly refined!. But ultimately rewarding!

On light days until she has water going past the fins she will be difficult to turn, and when it gets too windy she will be difficult also, just be aware.

Andrew!

Sailing

Made in Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia

the Balmain



The bow sprit will frequently dive beneath the waves!



Try and keep up if your rowing, they are fast!!



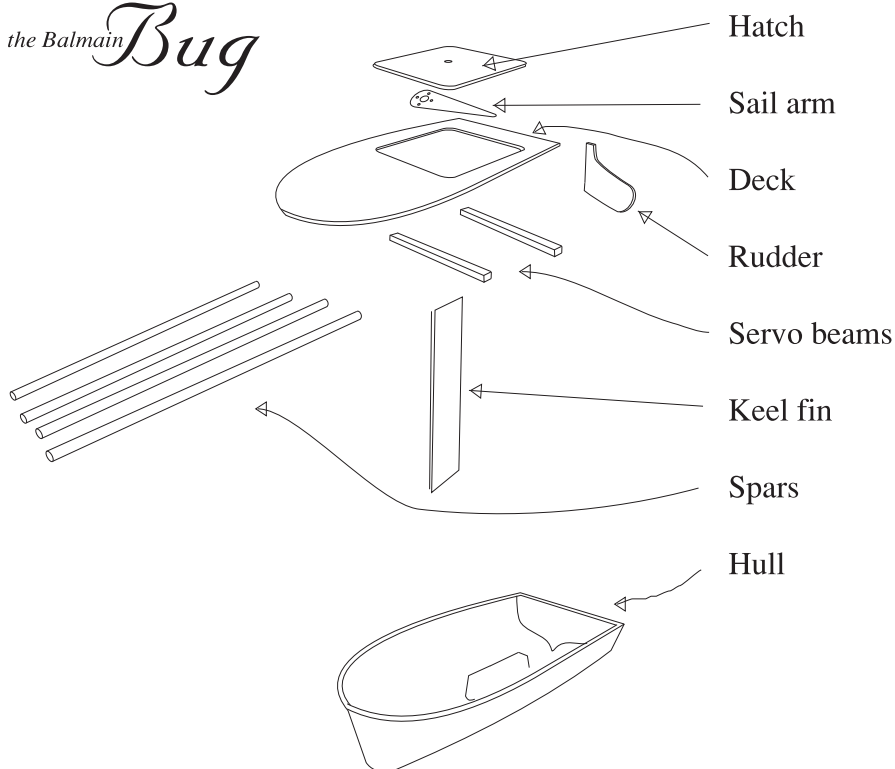
You can always drill holes in the bulb to lighten it!



Watch out for weeds!!

Bug!

An Australian Classic by www.gospectre.com



Tools needed

- Drill, drill bits 1,3,4,9mm
- 5 minute epoxy
- Sandpaper
- Varnish (i use maple color one step stain/varnish, one wiped on coat for a light deck, or 2 painted for deep rich color)
- Super glue
- Screw driver
- Hack saw or tube cutter
- Tape measure
- Marking pen
- Masking tape
- Sewing needle

Hull *Bits*

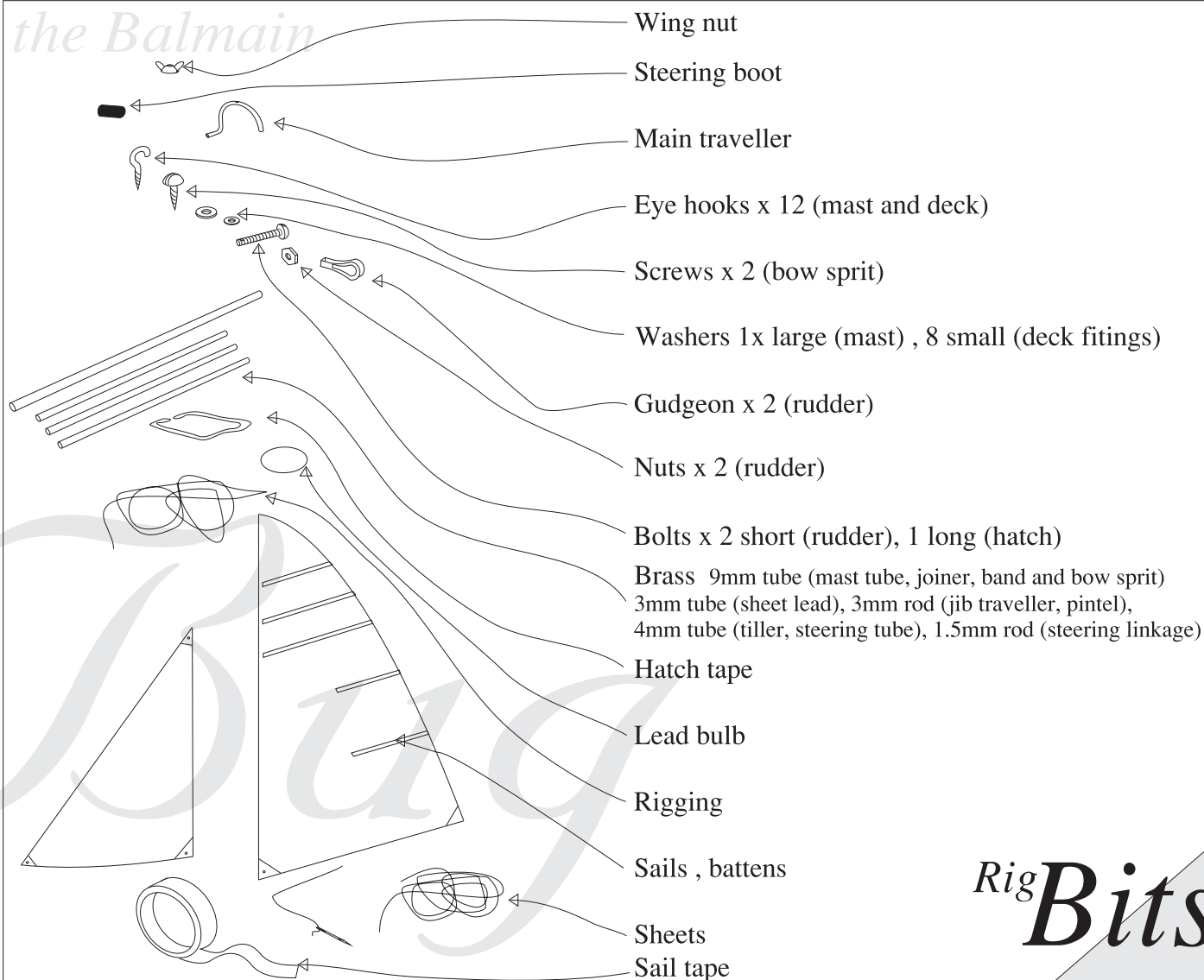
Made in Australia



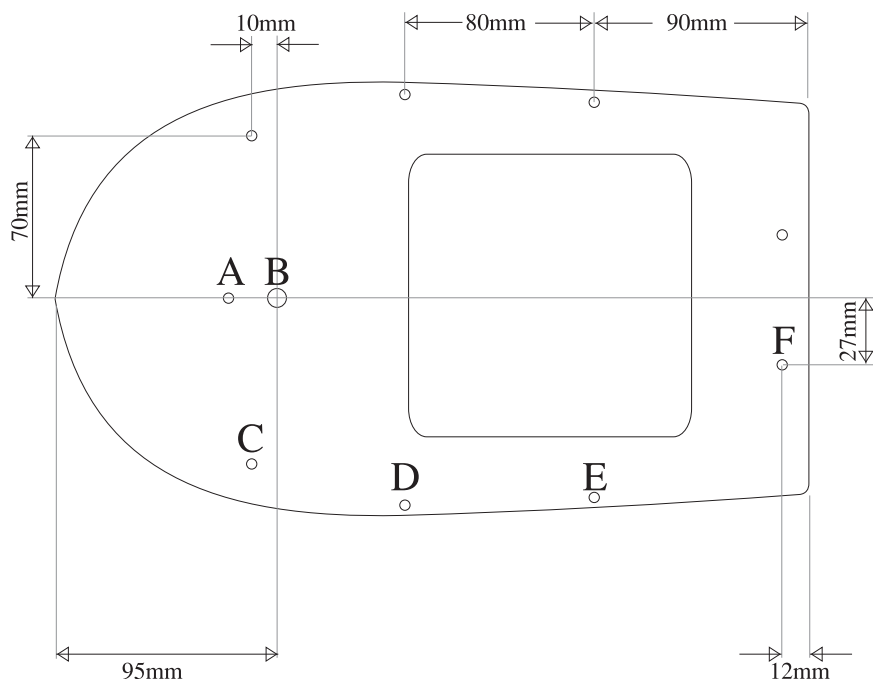
The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia



Rig *Bits*



1. Drill pilot holes in deck at locations shown in picture on left.

Hole A- for jib (fore sail) sheet x1

Hole B- for mast tube x1

Hole C- for jib traveler x2

Hole D- for mast stays (shrouds) x2
note : see step 4

Hole E- for spinnaker sheet x2

Hole F- for mainsheet traveler x2

Then stain and varnish the deck.

1

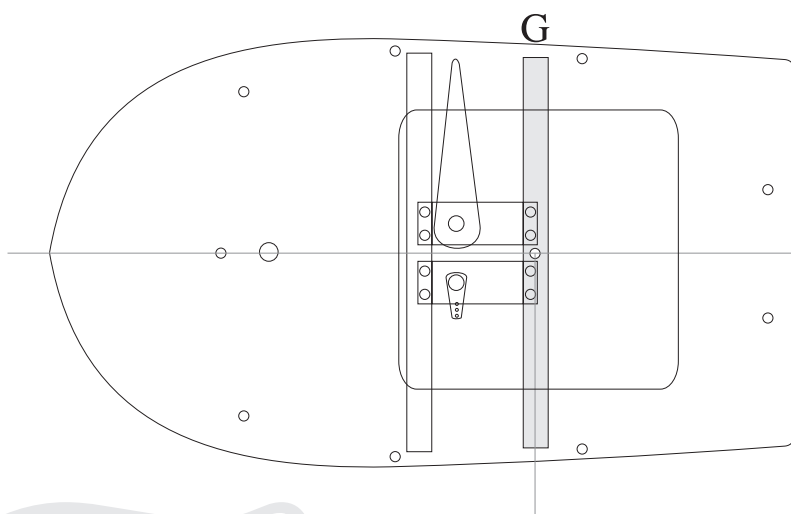
Made in Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia

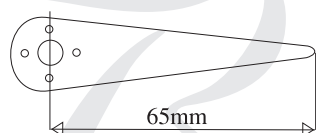


Important!!!!

The beam must line up with the centre point of the deck 'square' cut out, so that the hatch retaining bolt will line up correctly later on.

Should line up with aft (back) edge of keel slot as the keel will glue to these beams in step 19.

Trim the length of the beam (shaded in picture) to hold your chosen servos clear of the hull. Be sure they are not too high once sail arms are fitted to Servos though.



Fabricate arm

Sailing terms:

Jib - the sail at the front of the boat.

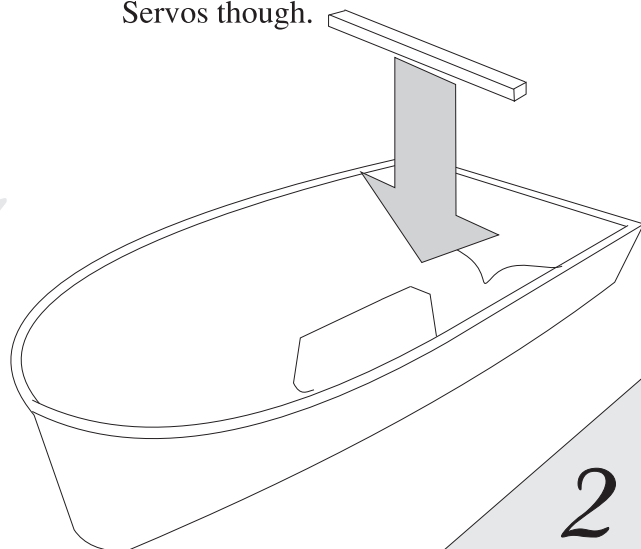
Mast - the vertical spar that holds the sails.

Sheet - a rope, eg. Jib sheet, the control rope for the jib.

Spinnaker - usually the big colored sail for downwind.

Traveller- sheets connect to this and to the sail.

Stays - hold up the mast, side ones are called shrouds.



2

3. Locate servo cross beam 'H' in hull.

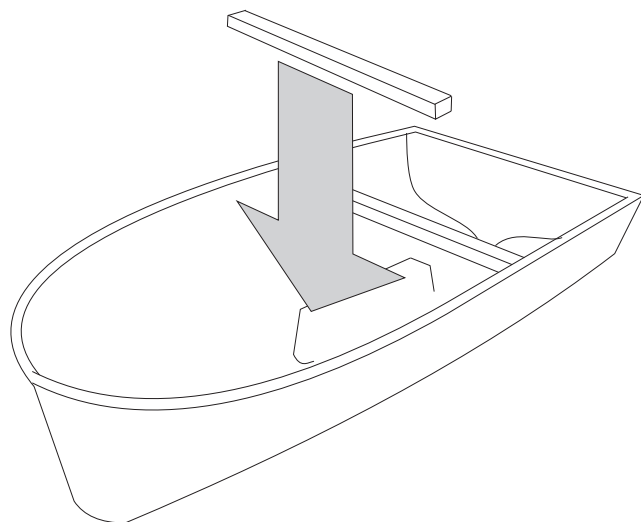
Trim the length of the beam to hold your chosen servos clear of the hull and level height with the beam 'G'.

Space between the two beams should be around 40mm depending on the brand of servo used.

You can drill servo mount holes in the beams at this point and use them to locate the beams.

Trial fit servos and deck in position and use 5 minute epoxy to firmly locate the beams in place.

If necessary temporarily hold beams in place using CA glue or masking tape.



3

Made in Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia

the Balmain

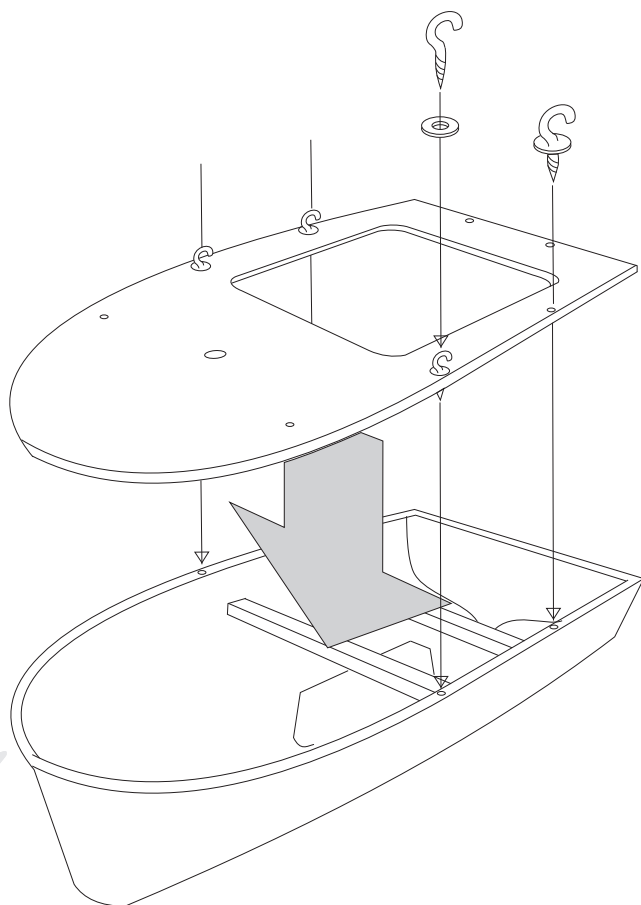
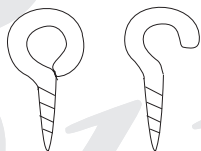
4. Fitting the deck

With the deck in position on the hull, drill through the "D and E" holes so the 4 eye hooks can hold the deck to the hull.

Apply 5 minute epoxy around the deck flange, place the deck in position and screw in the 4 eye hooks with washers.

Note:- if you want to make the rig and sails readily removable for transporting the bug, then cut the eye hooks to make them into 'cup hooks'.

See below.



4

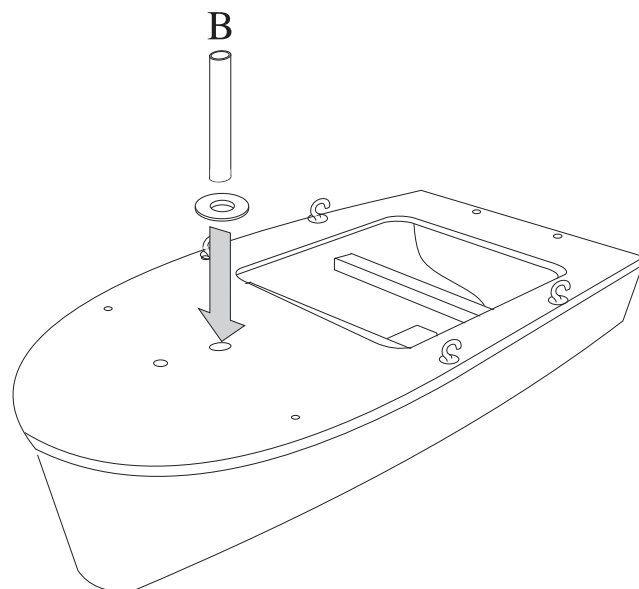
Sailing terms:

Hull - the main structure of a yacht, sits in the water. In this case the white fibreglass molding!

Deck - the top section on the hull, where you walk around. The wooden part of this kit you stain and varnish!

5. Install mast tube.(B)

Cut brass tube to a 50mm long length.
Fit washer and tube through deck.
Place a section of mast (pre fit and sand if required) and check mast alignment fore and aft as well as side to side.
With the mast 90 degrees to the deck from each plane , glue the tube into the deck.



5

Made in Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia

the Balmain

6. Fit the deck hardware

A- jib sheet lead.

Black plastic tube goes through the center of the 15mm long brass tube to reduce friction.

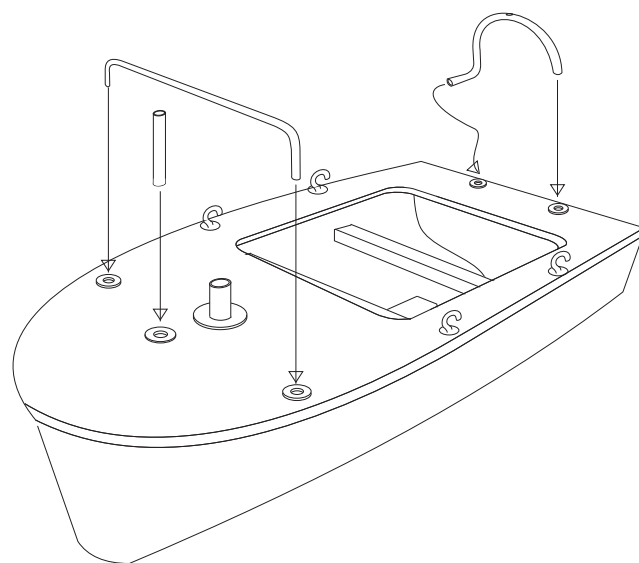
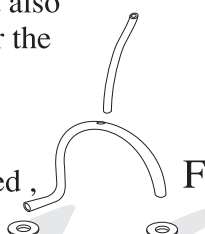


C - cut 180mm long, then bend the brass rod to match the holes in the deck. The jib traveler should sit 15mm above and parallel to the deck.



F - fit the mainsheet traveler , it also needs black plastic tube in it for the sheet routing.

Once position and fit is finalised , epoxy all fittings in.



Sailing terms:

Main sail - normally the big sail, the one at the back.

Aft - back , rear ward end of the yacht, the stern.

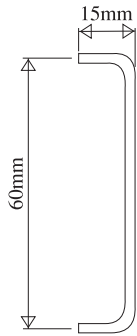
Fore - as in forward end, the bow.

6

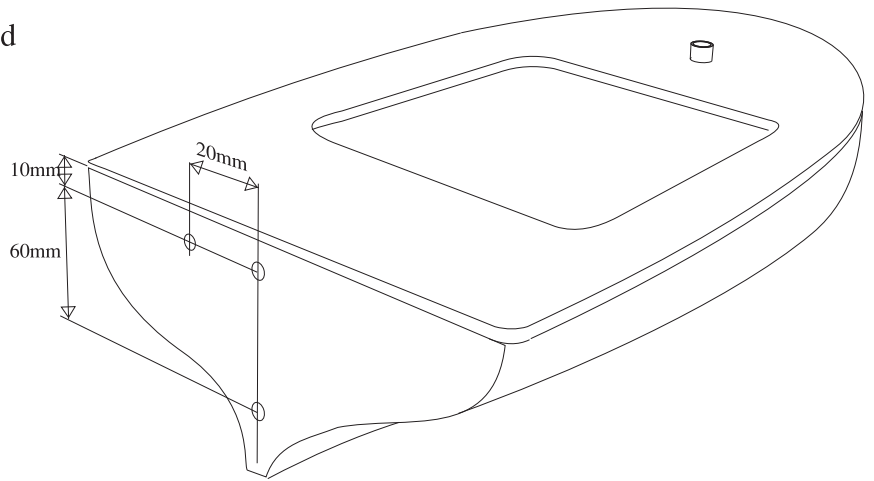
7. Drill the transom holes

Place masking tape on the transom and mark hole centres on it (the tape will help avoid cracking or scratching the hull). As per picture drill holes to suit bent brass rod (pic. left).

It may be better to bend the rod first and space the holes when drilling to suit.



Cut 100mm long



7

Made in Australia



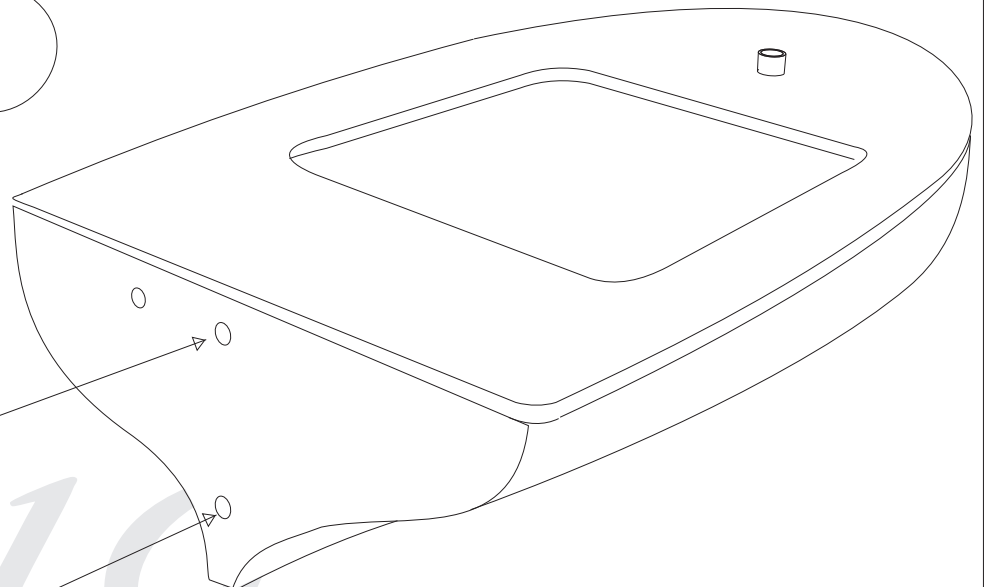
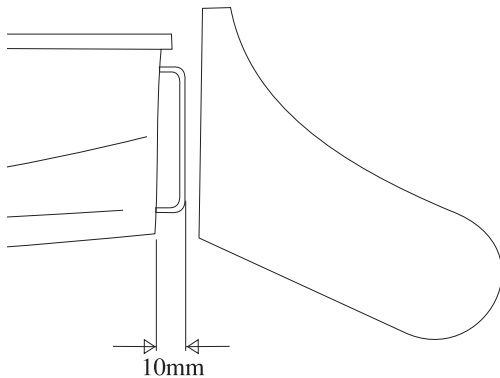
The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia

8. Fit rudder pintel .

As per drawing the pintel will sit approx 10mm proud of the transom. From inside the hull glue with 5 min epoxy.



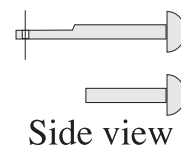
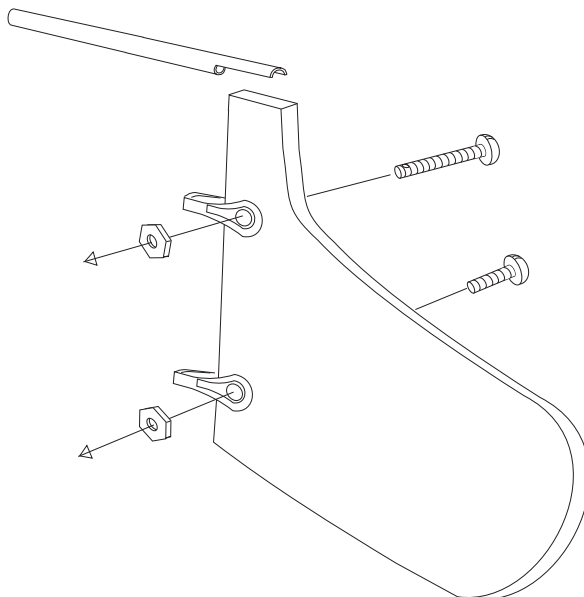
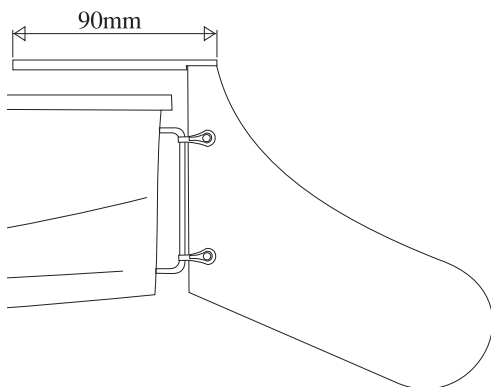
Sailing terms:

Transom - the rear face of the yacht, in this case where you are drilling the holes.

Pintel - the pin that holds the rudder to the hull fixtures.

Gudgeon - the hull fixture through which the pintel locates, pintels can be on the hull with gudgeons on the rudder in some cases.

8



Side view

9. Fit rudder

Drill long bolt to accept steering linkage rod (see side view). Then fit gudgeons to pintel, adjust rudder height drill holes and bolt to rudder. Cut tiller to length and if required file the tube to fit rudder, then glue in position.

9

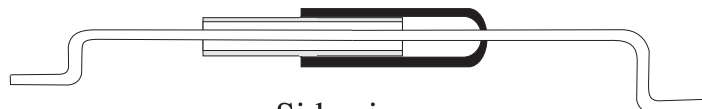
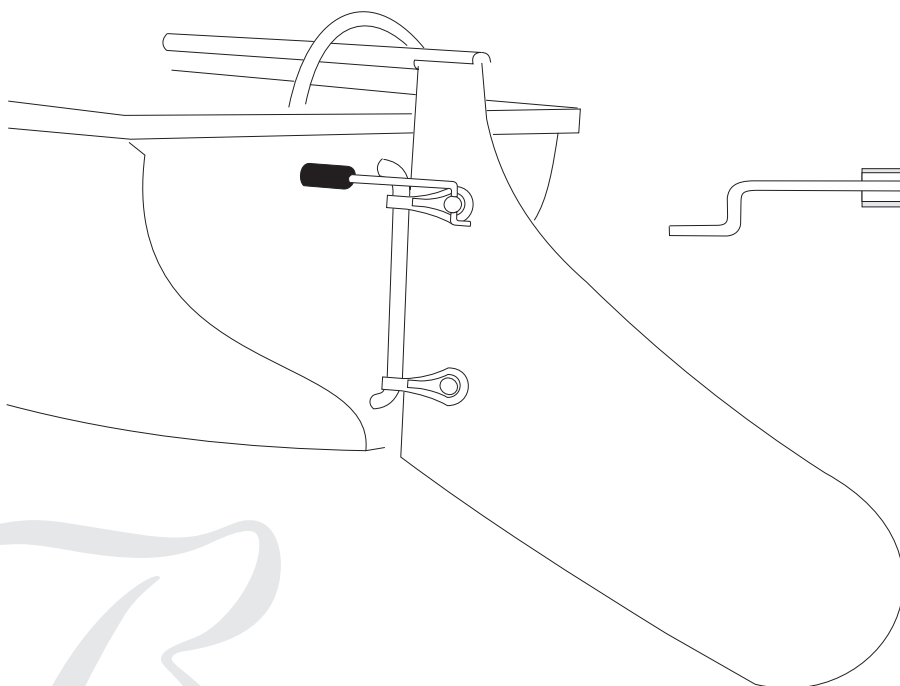
Made in Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia



Side view

10. Fit steering linkage boot.

Then slide the steering rod through the brass tube ready to bend to suit servo and rudder later.

Sailing terms:

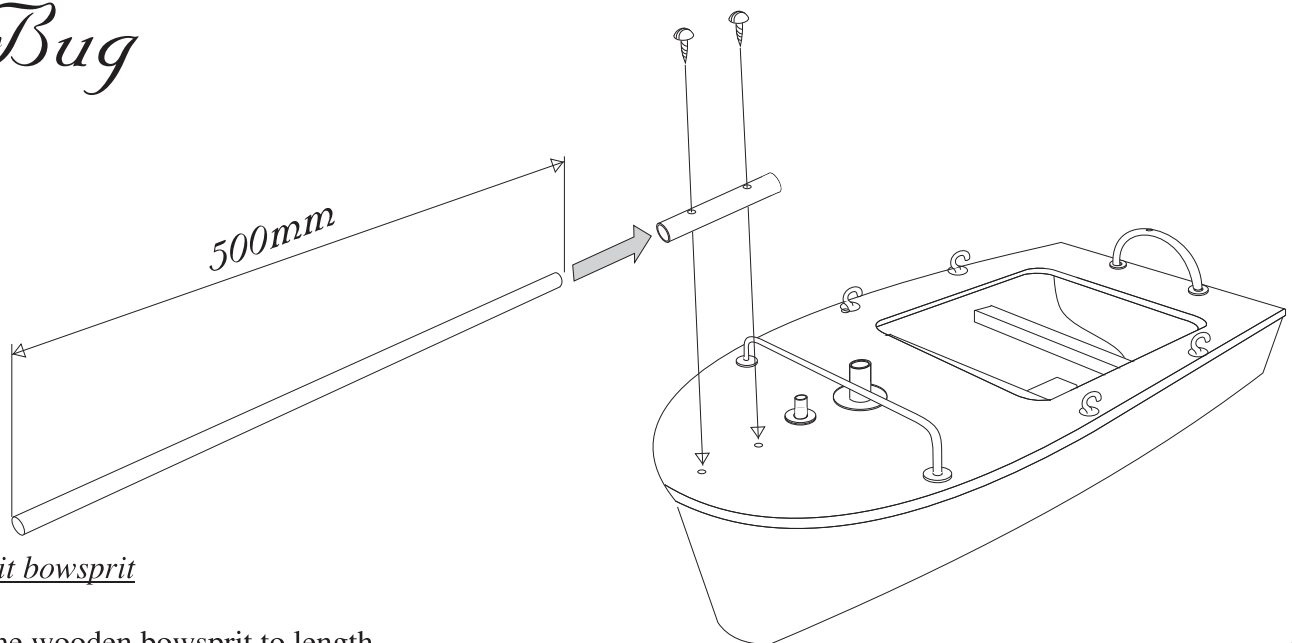
Rudder - the big board that steers the yacht!

Normally attached to the yacht owner.

Tiller - the steering stick that the owner holds on to to try and control the rudder.

Nut - the bit connected to the tiller, see owner.

10



11. Fit bowsprit

Cut the wooden bowsprit to length.
Cut the brass tube to 50mm long.
Fit bowsprit to tube, position on deck
and drill holes through deck for the 2
screws. Screw assembly on.

11

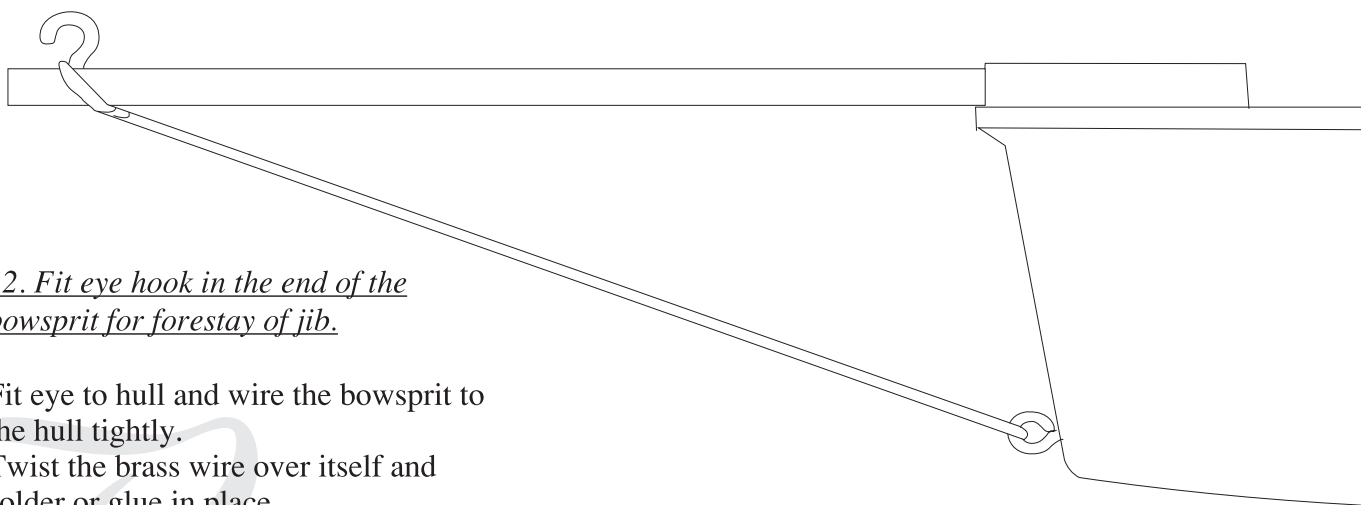
Made in
Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help
of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in
Australia



12. Fit eye hook in the end of the bowsprit for forestay of jib.

Fit eye to hull and wire the bowsprit to
the hull tightly.
Twist the brass wire over itself and
solder or glue in place.

Sailing terms:

Bowsprit - the spar at the bow of the boat projecting
fow"rd of the hull.

Bobstay - the stay from the end of the bow sprit to the
hull, normally tensions the bowsprit downwards
inducing an arc in the bowsprit.

12

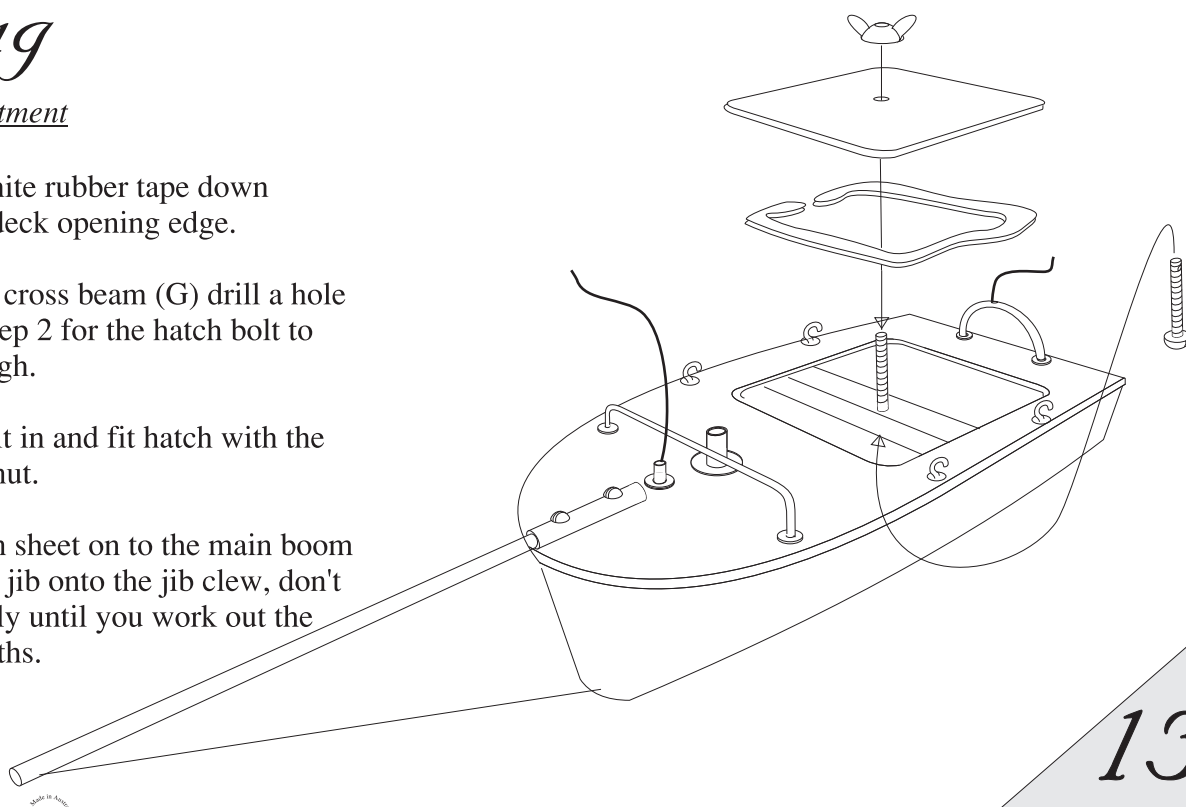
13. Hatch fitment

Stick the white rubber tape down around the deck opening edge.

In the servo cross beam (G) drill a hole as seen in step 2 for the hatch bolt to locate through.

Glue the bolt in and fit hatch with the brass wing nut.

Tie the main sheet on to the main boom eye, and the jib onto the jib clew, don't fix them fully until you work out the correct lengths.



13

Made in Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia

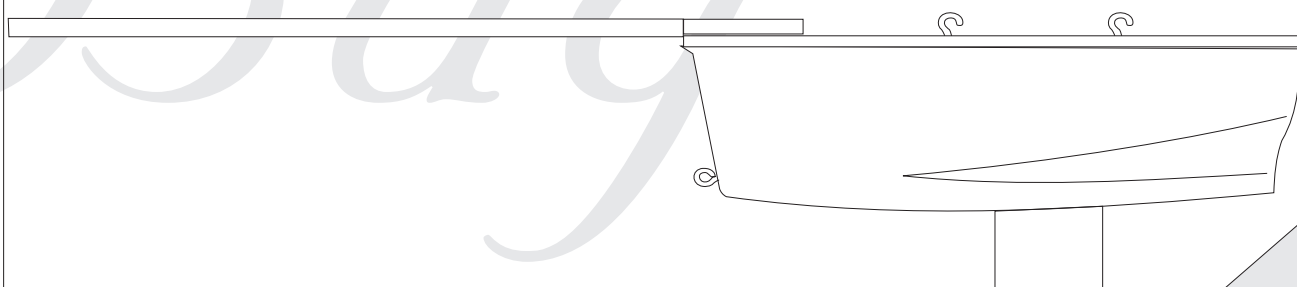
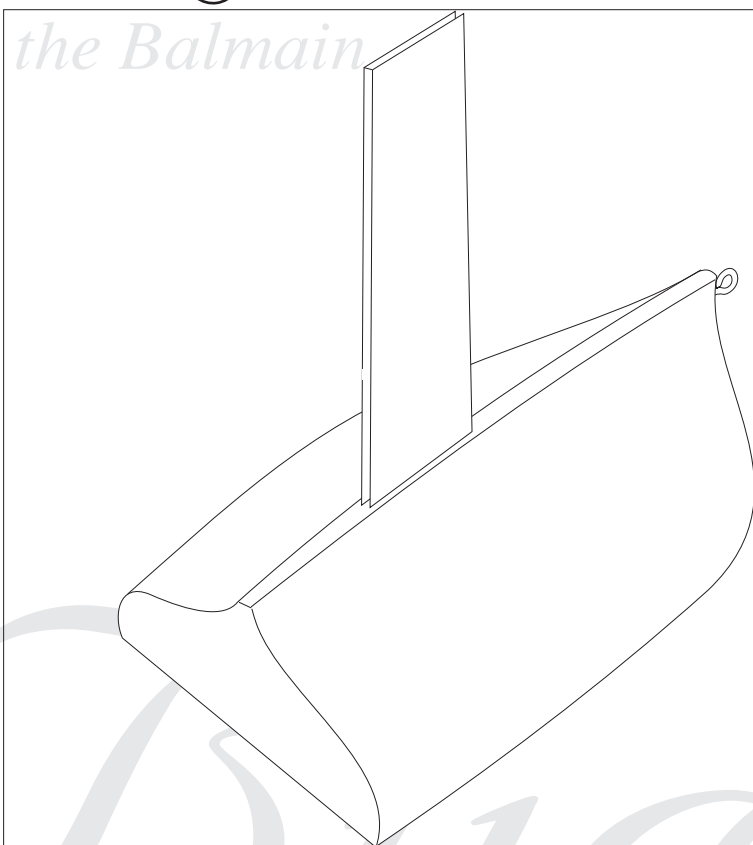
14. Fit keel

Trial fit the keel fin into the hull.

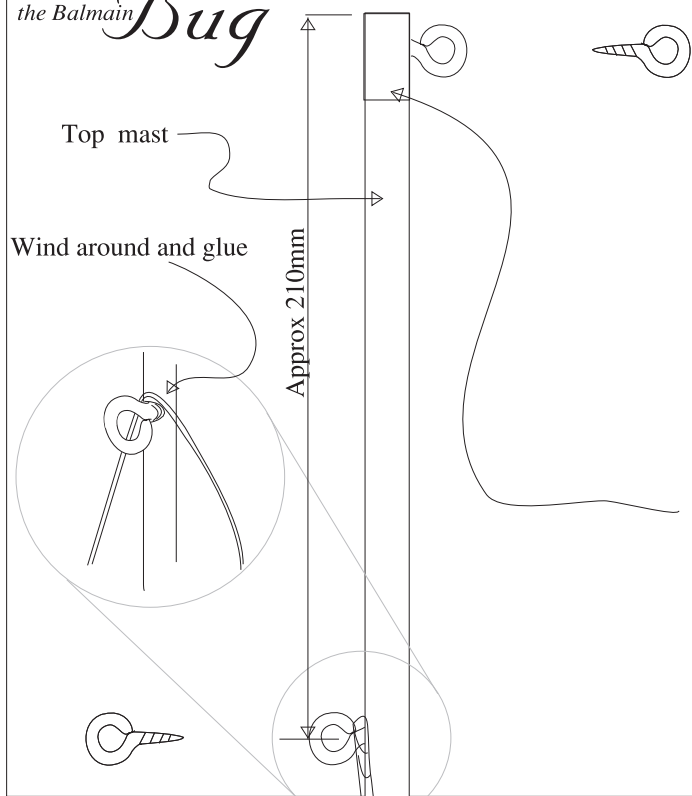
The fin will butt up against the servo cross beams.

Tape around the slot in the hull with masking tape to catch epoxy that squeezes out. Tape around the fin to the level of the hull and coat epoxy onto the section to go into the hull.

Centre the fin glue to cross beams and leave to set, then glue where the fin goes through the hull .



14



15. The mast and rigging

Top mast section is 500mm long
Bottom mast below brass joiner (30mm long) is 500mm long and the main boom is 500mm long.

Use eye screws to hold sails to mast in the following locations.

You can also paint the ends of the spars white for a classic look

15

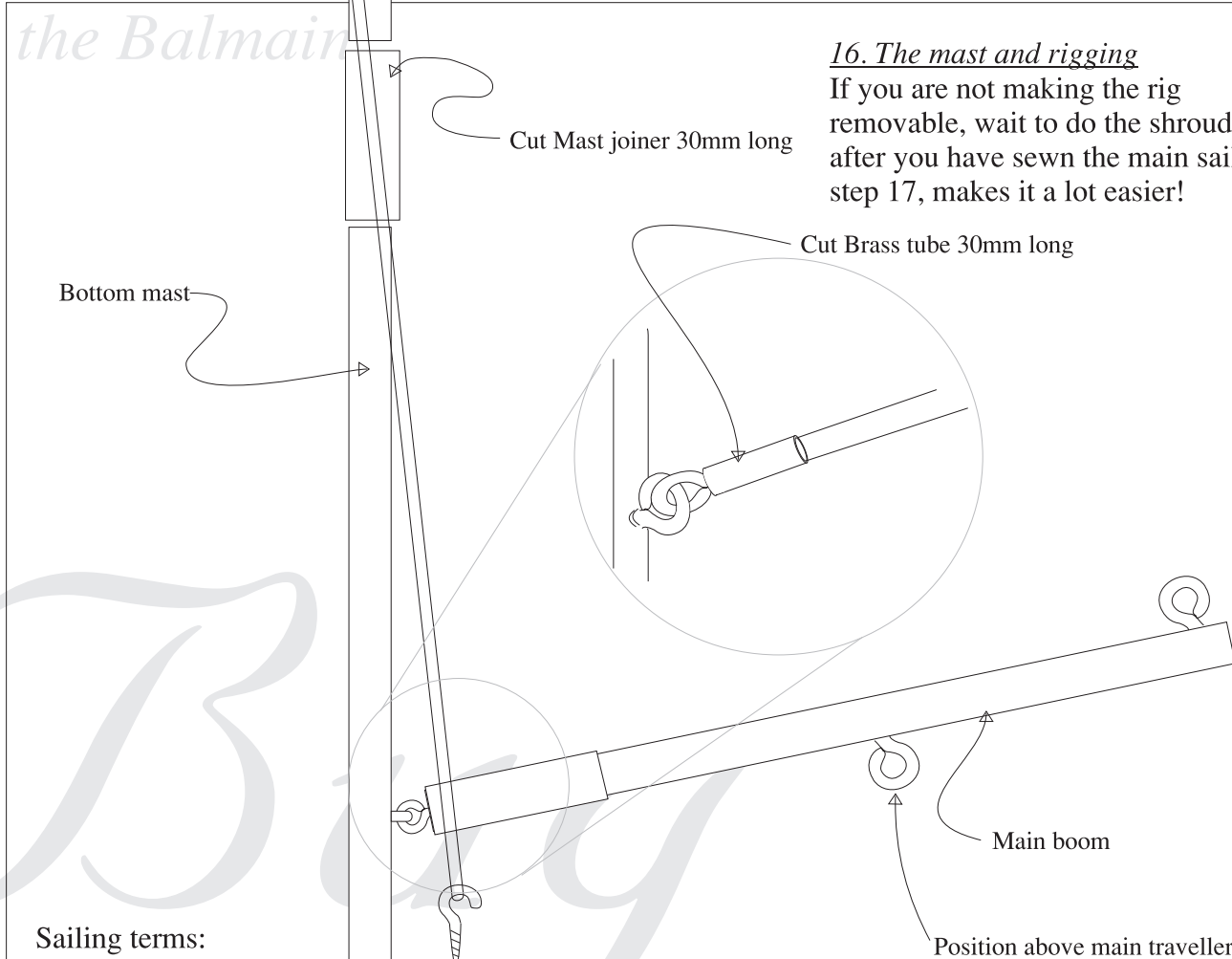
Made in Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia



16. The mast and rigging

If you are not making the rig removable, wait to do the shrouds until after you have sewn the main sail on in step 17, makes it a lot easier!

Sailing terms:

Main boom - the spar for the mainsail, normally near your head, makes a boom noise if you do not duck.
Gooseneck - the joiner between main boom and the mast that allows movement.

Main boom

Position above main traveller

16

the Balmain Bug

Folding the adhesive tape over

Jib luff

Mainsail luff

Mainsail foot

Batten

Tape

17. Sails

Fold the white self adhesive sail tape length ways and stick it along the luff and foot of the main sail so that it sticks to both sides of the sails (see inset pic.). Then stitch the main sail onto the mast by using a needle to pass the thread through the sail, around the mast and through the sail again. Space holes about 15mm apart, or further dependig on the classic look you wish to acheive.

With some of the tape attach battens to the main in the shown positions.

Use tape along the luff edge of the jib and enclose a piece of the string before folding it over, this will be used to tie the sail on to the eye screws top and bottom.

17

Made in Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.



Made in Australia

the Balmain

Sailing terms:

Luff - the front edge of a sail

Foot - the base edge of a sail

Leech - the third edge, normally the back edge.

Tack - the front corner of a sail, where it is tacked down to the deck.

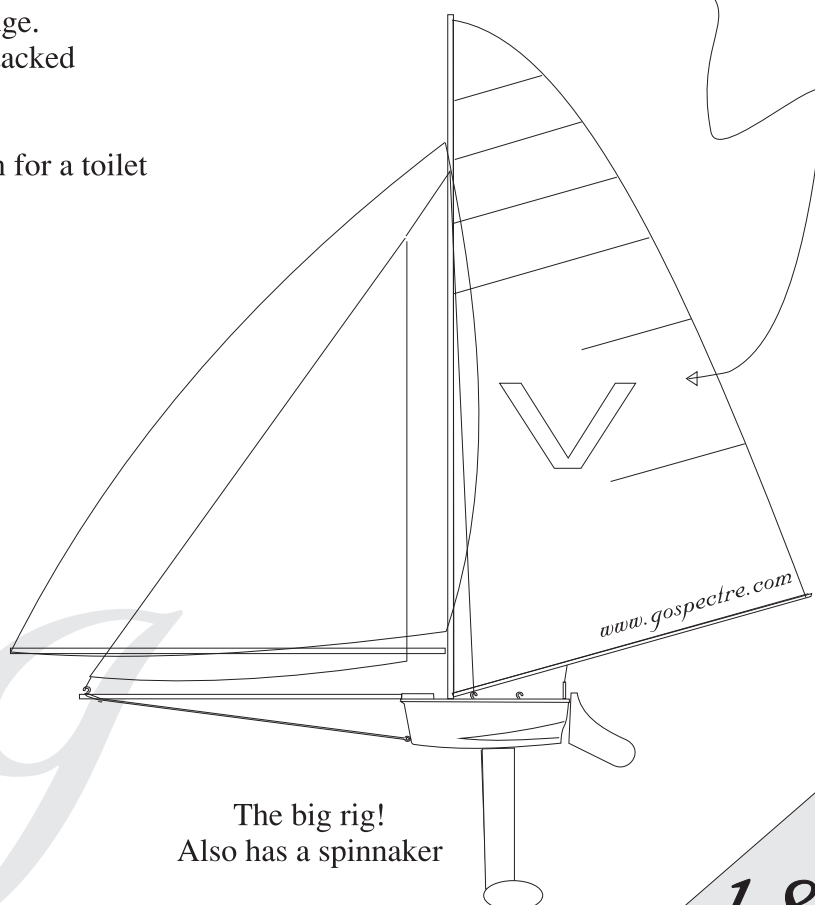
Clew - the outer corner attached to a sheet

Head - the top corner of a sail , also the term for a toilet on a yacht.

Add a logo to your mainsail like a traditional bug, see examples further on!



The standard rig



The big rig!
Also has a spinnaker

18

An Australian Classic by www.gospectre.com

19. Sheet routing

Both the main and jib sheets tie to the hatch bolt (see step 20) then go to the sail arm end.

From there the mainsheet goes into the mainsheet traveller beneath the deck and exits at the top of the curve above deck.

The jib sheet turns around the other end of the main traveller under the deck and then exits through the fore deck fitting.

To make the sails ease readily it is recommended you use miniature blocks (pulleys) as indicated on the drawing.

A Pekabe brand double block on the sail arm and a single becket block connected to the steering linkage boot brass tube work best.

19

Made in Australia



The Balmain bug kit is a modern adaptation of an Australian Classic, made possible with the help of Stephen Crewes, Tom Wilson and designed by Andrew Cook. Kit and instructions copyright ARC Design.

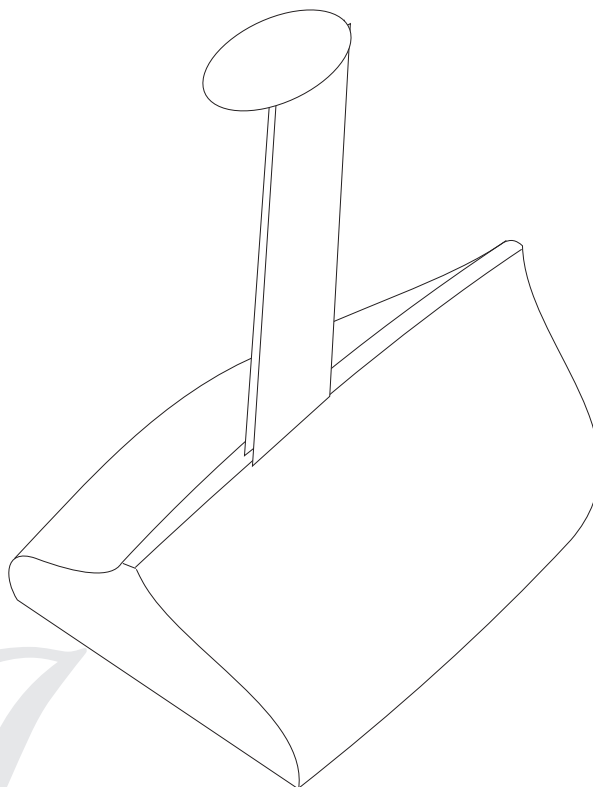
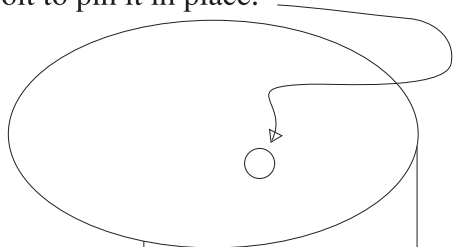


Made in Australia

the Balmain

20. Fit bulb

Epoxy bulb onto the fin and leave to cure. If you are in any doubt to your glueing skills you can always drill a hole through the bulb and fin and use a bolt to pin it in place.

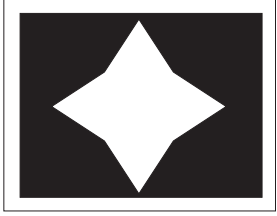
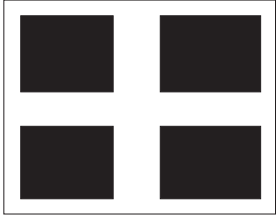
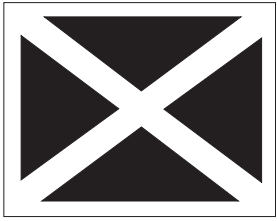


Sailing terms:

Keel - the big board that hangs down from the hull. Provides stability to stop the yacht drifting sideways when sailing.

Bulb - the weight in the end of the keel fin. Sometimes yachts have weighted keels with no bulb.

20



www.gospectre.com