

**T**he RG65-ULY class is a development of the G65 class which was created in the 1950s by Don Juan Gherzi. They were boats of 65 cm in length, built up in bread and butter fashion in timber and with a free sailing rudder, which became very popular and were sailed for many years in a number of different places in Buenos Aires, especially the Plaza Urquiza, now renamed Ruben Dario.

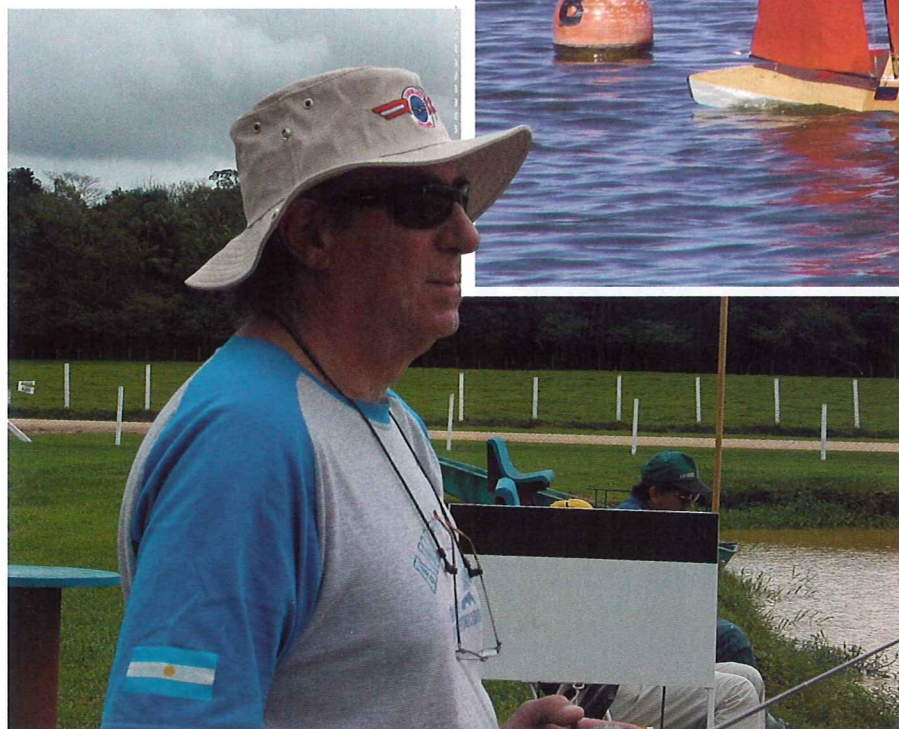
In the year 1978 a group of enthusiasts, led by Raul Lando, fitted a set of early radio equipment into one of these legendary hulls, and that is how this wonderful class started. The letter R was added to the existing G-65 to show that they were radio controlled.

Very quickly a new set of rules were drawn up, based on those of the Marblehead of the time, but with half the size. These specify a sail area of 2000 cm<sup>2</sup>. Very soon people began constructing boats in fibreglass, and naturally these lighter hulls proved much livelier and better sailors, so that the new craft rapidly became very popular among a new group of Argentine sailboat enthusiasts who learned to sail R/C boats with the class. They also realised that the class gave them the opportunity to design and build their own boats, and once again the Plaza Urquiza became the place to show off their boats and enjoy close racing.

The better handling of the R/C designs also allowed them to sail at bigger lakes when their sailing quality also gave good racing. In due course Club Argentino de Yatamodelismo (CAYM) put together a series of good regattas and national cham-

# THE RG65 SAILBOAT CLASS

PABLO BRAVO PROVIDES A BRIEF HISTORY AND INTRODUCES A SIMPLE FIRST DESIGN WHICH SAILS EXTREMELY WELL



**ABOVE:** Pablo Bravo, well-known builder of IOM Class hulls, is the author of this introduction to the RG65 Class

**ABOVE:** A typical JIF65 boat, modified transom, and red sails

pionships, and these days the class is controlled by the Asociacion Argentina de RG-65 with fleets in different cities in Argentina, such as Rosario, Colon, La Plata and others which also run local series.

In 1999 a new set of rules was written which offered a greater degree of liberty by way of rig design, especially in the measurement of sail area where the real area of each sail was measured and a total of 2250 cm<sup>2</sup> was allowed, and an upper limit of 110 cm of height was placed on the top rig.



LEFT: Number 7 sails very well

In the same year, 1999, the class was adopted by the Union Latino Americana de Yates RC (ULYA) and this approval by the top authority in South America has led to three South American Championships being organised for the class and a spread of popularity into Brazil and Chile, as reported in last month's MMI.

The best points about this class of sailboats are the very low cost of building, their facility to be broken down for easy transport and finally that the boats can be designed, constructed and rigged in individual ways.

There are however both plans and instructions for those starting in the class and wanting a cheap entry level but well-balanced design, and a small number of commercially produced hulls for those who prefer to buy rather than build their own.

This gives the class a special interest for anyone starting in R/C sailing, as there appears little difference between boats of different types. The class has proved excellent as a trainer for complete newcomers to R/C sailing, and some who have started with the RG65 have gone on to do well in other classes at a later stage.

A final point which is nevertheless very important is the freedom given by the class rules, which remain very open and therefore give enthusiasts plenty of scope for development inside the overall rules at a very modest budget. A good example of this is the results of the South American Championships, which were run last year in Brazil, where the winner was a hull moulded in glass fibre, second place was a home built hull in timber with a very low cost rig, and third a carbon moulded hull.

BELOW: On the grass you can see the outlines of the hull, keel and rudder



ABOVE: This CAMNE member's boat in Buenos Aires has clear sails, and clear balsa hull

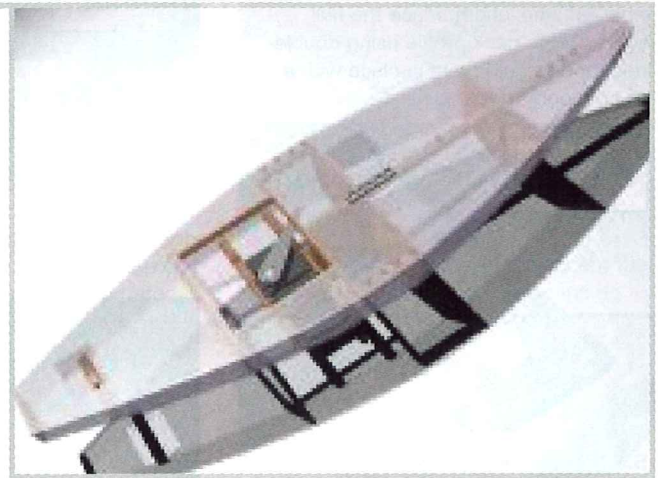


ABOVE: Having clear sails does not always make sailing easier but at least you can see oncoming ships!!



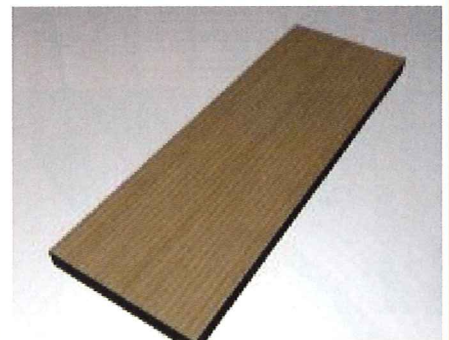
ABOVE: Roberto Azar with his JIF65 number 7, always a keen competitor, and very helpful to the Editor with this and other features in MMI

# JIF 65 BUILDING MANUAL

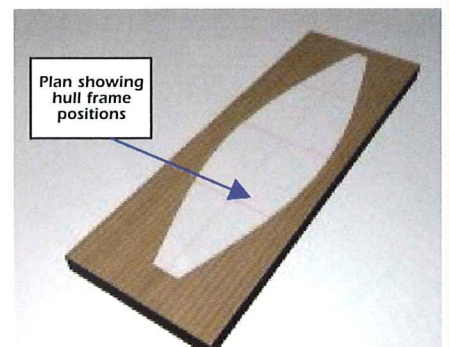


## The Hull

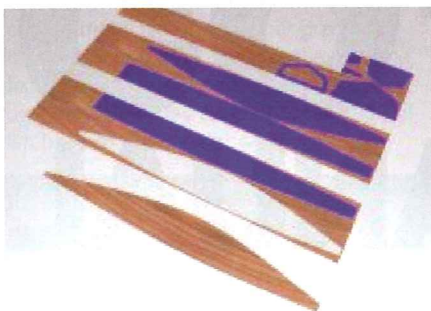
**1.** Building Board – Timber 750 mm long by 300 mm width.



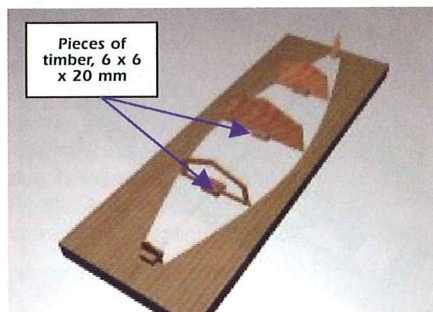
**2.** Plans sheet 1 refers. Trace on to greaseproof paper the deck outline and frame positions, and fix on to the board.



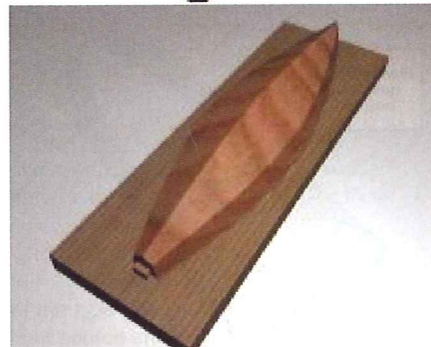
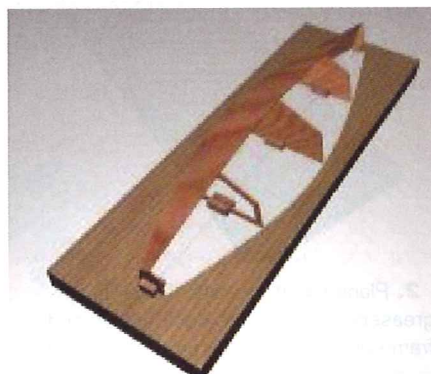
**3.** Trace out the shapes of all frames and hull skins on to balsa sheet to minimise waste and then cut out carefully and identify in pencil or marker pen.



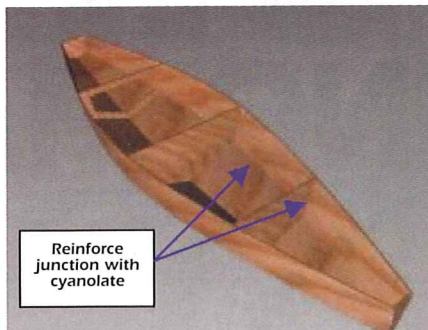
**4.** Cut 10 short pieces of 6 mm square timber, 20 mm length. Place the hull frames on the deck profile using double-sided tape to hold them in place with a timber support both sides.



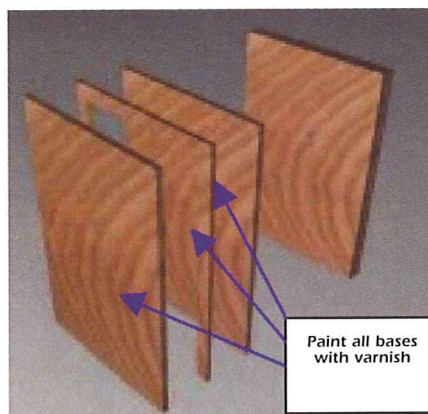
**5.** Offer up the hull skins to the frames and check they fit correctly. Adjust as required. When satisfied glue the bottom panels to the frames with cyanolate adhesive. Then chamfer the edges where the side panel will fit so the angle conforms with the line of frames. When satisfied glue the side panels to the hull, again using cyanolate adhesive.



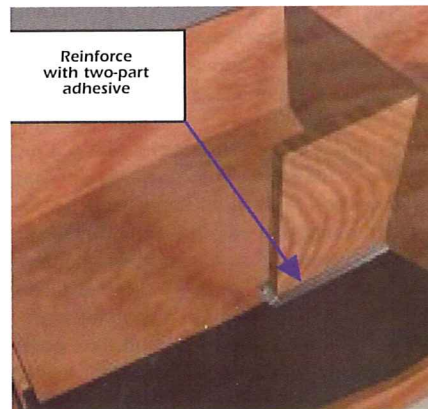
**6.** Remove the hull from the building board. Reinforce the internal panel joint lines with thick cyanolate. When dry file and sand the outer corner of the panel joints to a fair curve. Finally, apply a coat of polyurethane varnish to both inside and outside surfaces.



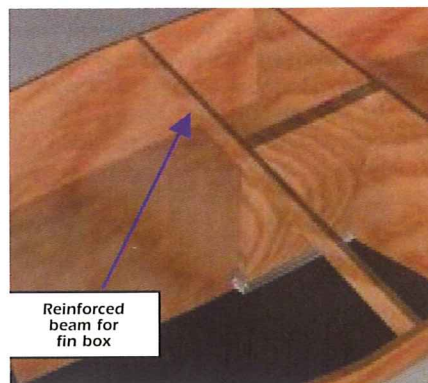
**7.** Plan Detail 1 refers. Cut out the parts of the fin box. Before gluing them together apply two coats of polyurethane varnish to the inside faces of all pieces. When dry glue and leave to set. When dry apply varnish to outside surfaces and leave to dry.



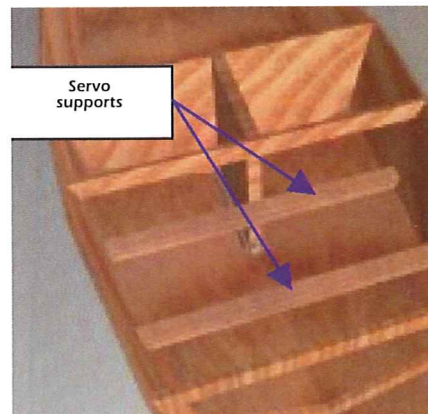
**8.** When the hull and finbox are both dry install the finbox in the hull. Cut a slot in the hull to suit the fin slot, locate the finbox in position and tack in place with cyanolate adhesive. Check carefully that the finbox is vertical and not twisted in relation to the centreline of the hull. When satisfied add a fillet of two part adhesive into the joint between finbox lower edges and hull panels to fix firmly.



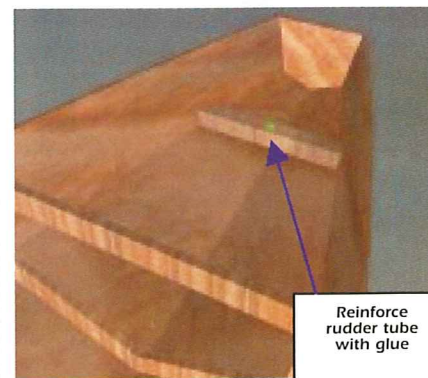
**9.** Plan Detail 24 refers. Cut to length the finbox reinforcement beam and glue in place using cyanolate adhesive.



**10.** Plan Detail 2 refers. Cut the servo support beams to length, taking great care that they fit the hull sides correctly, without forcing the hull panels apart under pressure. Then glue into position. The forward beam can be fitted to the aft edge of the fin box, and the position of the aft beam adjusted to suit the case size of the servos you intend to fit.



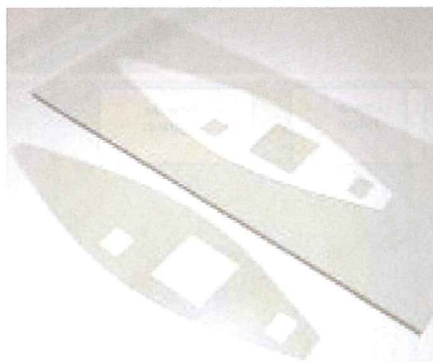
**11.** Plan Details 20/21/23 refer. Now cut the headsail attachment beam, the mast support beam, shroud attachment beams, and rudder support beam, and fit in place. It is helpful to mark the deck eye positions whilst fitting the beams. Check carefully the rudder support beam to ensure the rudder tube is vertical in relation to the deck both fore and aft and from the side view. Reinforce the rudder beam support with two-part adhesive.



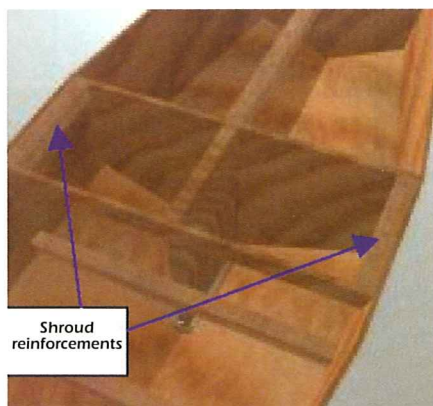
**12.** Now apply a coat of polyurethane varnish to all the fresh timber surfaces inside the hull. Allow to dry and then lightly sand to clean up the grain. If there are any gaps in the hull panels apply a filler of two part epoxy adhesive and smooth to fill.



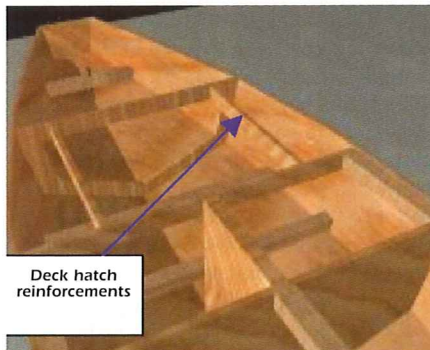
**13.** Deck Plan Refers. Using the full size drawings as a template, cut out the deck from thin plastic sheet or plywood, allowing a margin of 2/3 mm extra all round the edge. Then cut the access holes carefully, ensuring they line up with the hull reinforcement beams.



**14.** To fix the deck in place we suggest the following procedure. First glue the deck to all the internal beams and access cut out edges. When set, turn the hull over and place it flat on some scrap paper. Then apply glue all round the deck edges, keeping firm pressure on the hull during this process. Finally, trim away the excess material and to protect the deck edge apply a length of car trim tape right round the deck/hull edges.



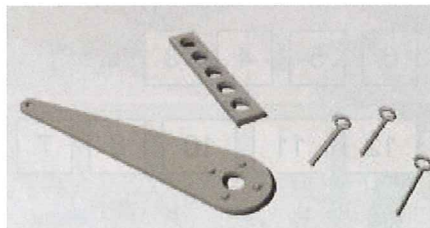
Shroud reinforcements



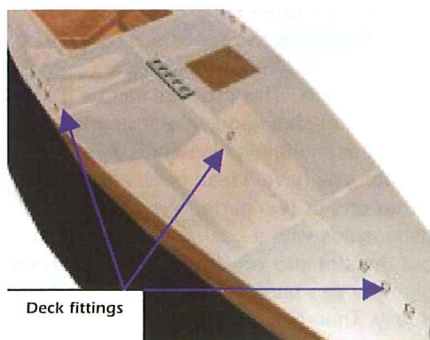
Deck hatch reinforcements



**15.** Plan Detail 9 refers. Using a pair of round nose pliers bend up 16 deck eyes. At the same time make up the mast step (see detail 5) and also the sail servo extension arm (see detail 6).

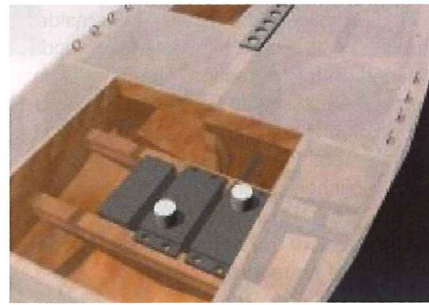


**16.** Plan Detail 1 refers. Fix all the deck eyes in accordance with the main deck plan. If you have used clear plastic for the deck the earlier marking will show through. Drill a small hole, slightly undersize for the wire diameter, then apply a spot of cyanolate adhesive and push the deck eye into place. After this has set apply a further spot of adhesive. Fix the mast step in the same way with cyanolate adhesive.



Deck fittings

**17.** This is the time to put both servos in place. Drill holes for the fixing screws supplied with the servos. As there is little vibration in the hull rubber washers are not really necessary.



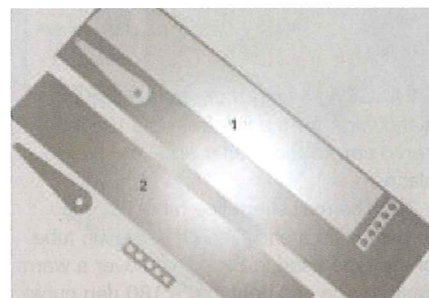
**18.** Turn the hull over and clean up the slot where you will be inserting the fin. Take care to sand lightly and offer up the fin to check the fit.



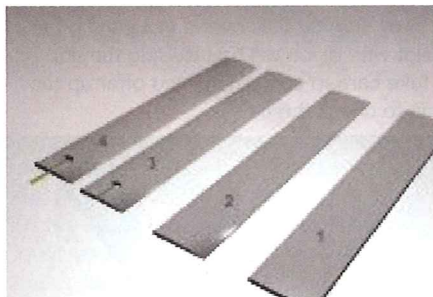
**19.** The hull is now ready to accept the radio equipment, fin and rudder and rig.



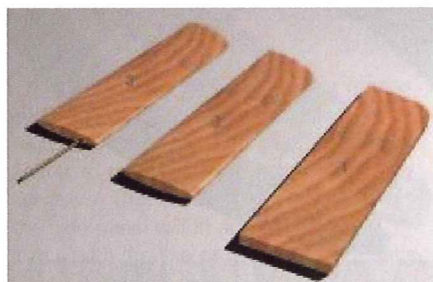
**20.** Plan Detail 3 refers. Trace on to a sheet of 2 mm thick aluminium the outline of the fin and cut to shape. Use a fine saw, not metal clippers as they may distort the metal. The same sheet can be used to cut out the mast step and servo arm extension.



**21.** The part of the fin which fits inside the finbox should be left rectangular and cleaned up for any snags. The fin section below the hull should be filed to the aerofoil section shown on the plan, using first a coarse metal file, then a finer grade and finally polished. Then cut out the slot and fix a long screwed rod with either cyanolate or epoxy adhesive. File and polish back to rectangular section.



**22.** Plan Detail 4 refers. Cut the profile of the rudder blade from timber, and sand down to aerofoil section. Use different grades of sandpaper from coarse to fine. Then drill out the hole for the rudderstock and fix in place with cyanolate adhesive. Finally, apply three coats of polyurethane varnish, sanding lightly between each one.



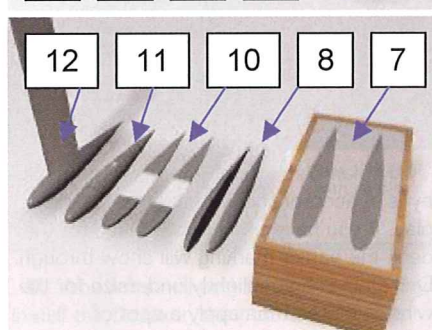
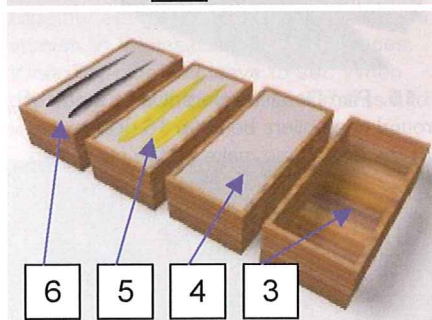
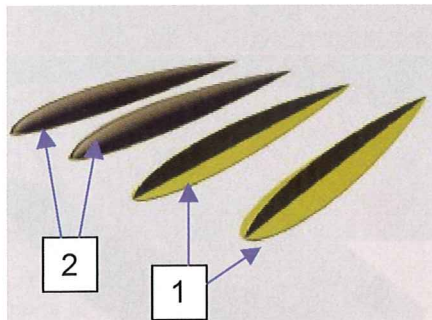
**23.** Plan Details 16/17/18/19 refer. The bow bumper can be cut from any rubbery material such as a flip-flop sandal, or moulded in a form using bathroom sealant mixed with some powder.



**24.** Using a length of brass, steel or piano wire, form a link from the rudder servo arm to the rudder arm, and fix in place.

**25.** The mainsheet line tubes can be formed from a short length of plastic tube of the type used in Biro's, held over a warm heat source and bent into a 180 deg curve.

**26.** Plan Detail 15 refers. The ballast. Make three patterns the size of the template, then cut one down the centreline. Then fix the halves on to the centreline of the complete patterns. Then fill out the pattern with a suitable filler, such as car body filler, plaster of paris, or styrofoam and smooth out and allow to dry. Remember that you will need to sand the patterns to a circular section.



Now build up a box in timber, fill with plaster and place both half-bulb patterns into the liquid until it hardens. Remove the patterns when set.

You now have two moulds into which you will need to pour molten lead.

**ATTENTION!** This process can be dangerous and should only be attempted by adults, as molten lead is quite volatile.

When you have a lead bulb, cast in either one or two parts, shave to rough dimensions with a coarse file, and clean out the slot into which the fin will fit. Then glue the two parts together with two-part epoxy. Then place the ballast horizontal in the workbench and glue into place the fin, checking to ensure it remains vertical whilst setting.

Now smooth out any imperfections using car body filler if required, and then paint with household emulsion or other paint.

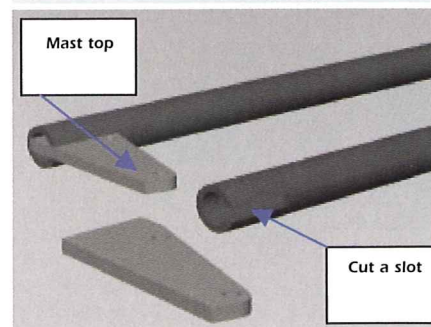
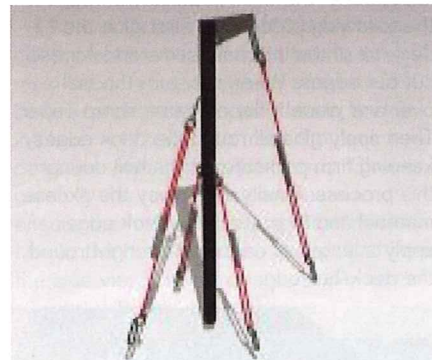
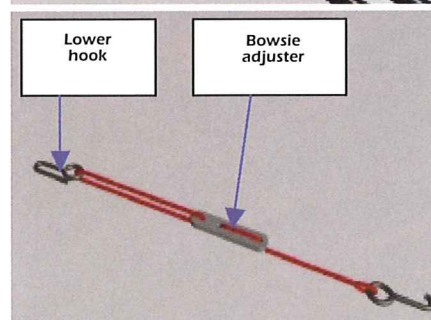
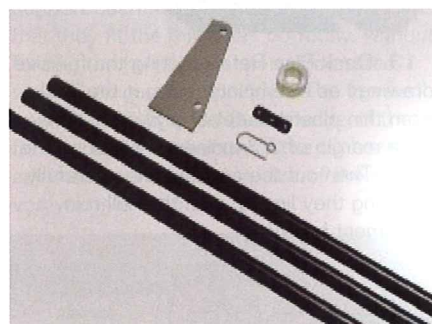
## The Sails And Rig

**27.** Plan Details 8/10/11/12 and 13 refer. First cut to length the booms and mast to the dimensions given in detail 8. Drill the holes for the jib stay and shrouds.

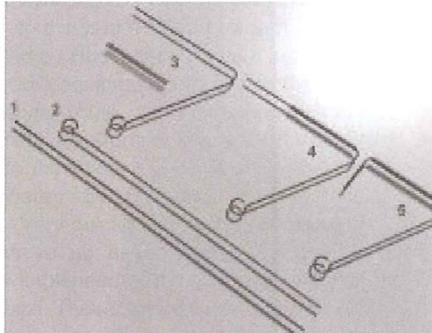
Make a backstay locator to fit into the top of the mast (see 14) and complete the hooks as shown in details 10 and 11. Now cut the boom adjustment pieces as per detail 12, and the shroud bowsies as per detail 12.

To assemble the mast top cut a slot into the mast and fix with two-part adhesive, filling the entire void around the backstay locator.

Adjust the lengths of the lines of all shrouds and fit the mast temporarily in place to check.

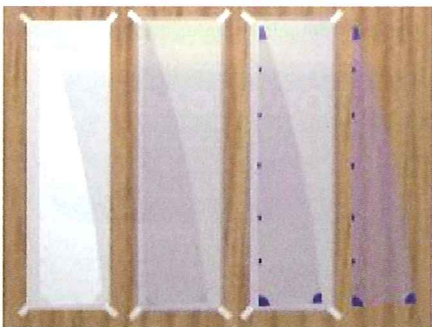


**28.** Plan Details 7 refers. Gooseneck and vang, bend up the wire piece in stages, starting with the loop on the vang. Then bend in the lower sharp angle, feed on the tube, and finally bend the top over 90 deg to complete as per drawings. Fill the end of the main boom with a shaped piece of timber and then insert the wire of the gooseneck.

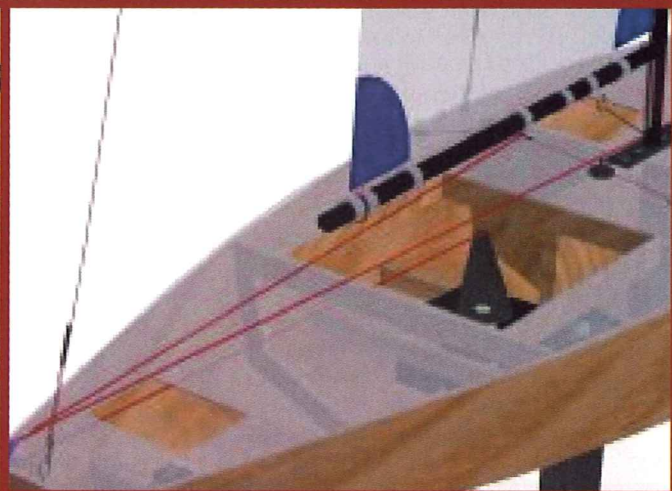
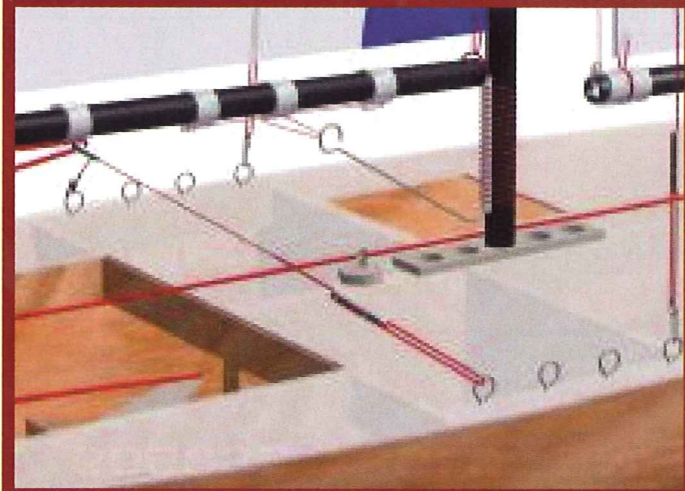
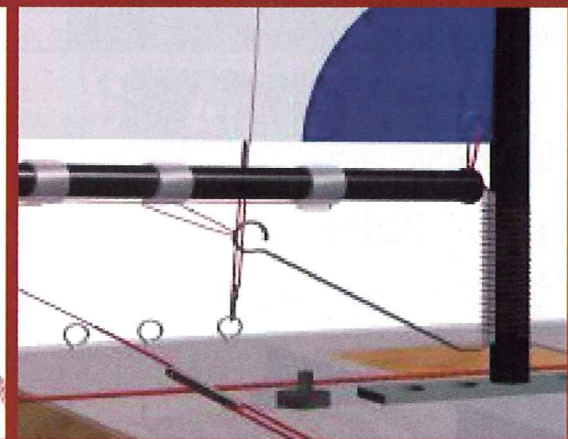
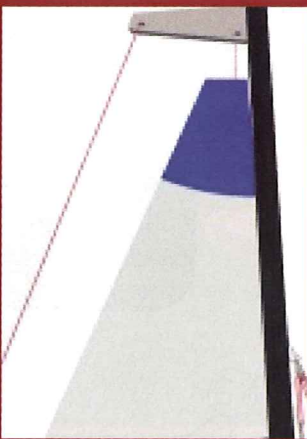
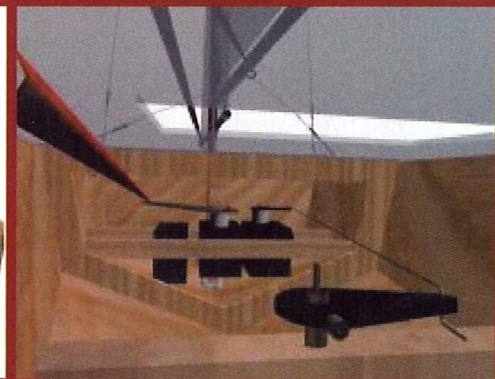


**29.** Plan Details of both sails refer. Trace out the shape of the mainsail on to a paper template and pin it down onto a flat board. Lay the drafting paper or other material you have selected over the template and fix with double-sided tape. Now fit all the reinforcements as shown in the plans to the relevant parts of the sail material. When completed, cut carefully with a sharp craft blade and steel ruler along the outer profile of the sail. Repeat the process for the headsail.

Cut out battens from light grade plastic material and fit in place with double-sided tape.

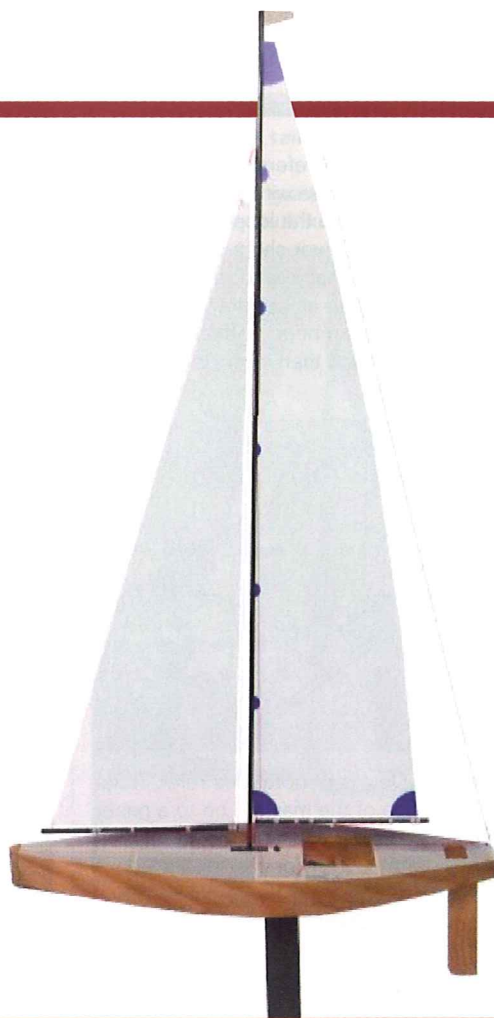


**30. General diagrams of the layout of all rig lines and booms.**



## List of Materials

- 1 sheet of 3 mm balsa (Medium/Hard)
- 4 sheets of 2 mm balsa (Soft/Medium)
- 1 strip 8 mm square pine or cedar
- 1 sheet of clear plastic or 0.8 mm ply (for deck)
- 1 sheet of 2 mm aluminium, 40 cm by 10 cm
- 500 g Lead
- 1 square metre Mylar, drafting film or Spinnaker Nylon
- 1 strip of 6 mm carbon
- 1 sheet of contact adhesive backed plastic, 30 cm by 30 cm
- 1 length of plastic tube (interior of Biro)
- 1.5 m stainless steel wire
- 1 piece 2 mm o/d aluminium or brass rod
- 1 piece 20 cm of 2 mm i/d aluminium or brass tube
- 1 rudder horn arm to suit 2 mm rod (from model shops)
- 1 length 6 mm i/d plastic tube
- 1 length of 2 mm o/d brass or steel threaded rod with nuts
- Nylon fishing line
- Elastomeric material for bow bumper
- Polyurethane varnish (household type)
- Cyanolate adhesive, both thin and medium
- Two-part Epoxy Adhesive (10 min bond)
- Double-sided sticky tape
- 1 radio combo with two servos



### JIF65 Ready Made Parts

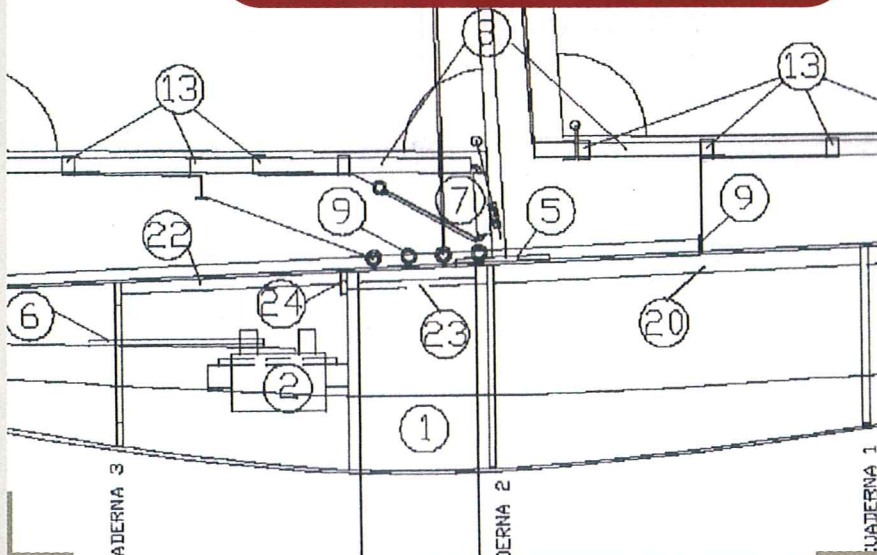
Pre-cut fin blanks, pre-cast ballast, sails and many accessories for this boat can be obtained from PJ Sails, Courtenay Road, Poole, Dorset BH14 0HD. Tel: 01202 744101.

## PLAN DATA

### MAR 3269 JIF65 RG65 CLASS

Two sheet plan for chine hull RG65 class sailboat. The hull is 650 mm length and 100 mm beam and the plans have full details of all parts required. Price Code M, which at the time of going to press was £10.00/\$17, plus postage and packing of £1.50 for UK orders, £1.95 for Europe, £3.75 for worldwide orders or shipping and handling charges of \$5 for US orders. For more information on Traplet Publications Plans Service see our advert in this issue

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