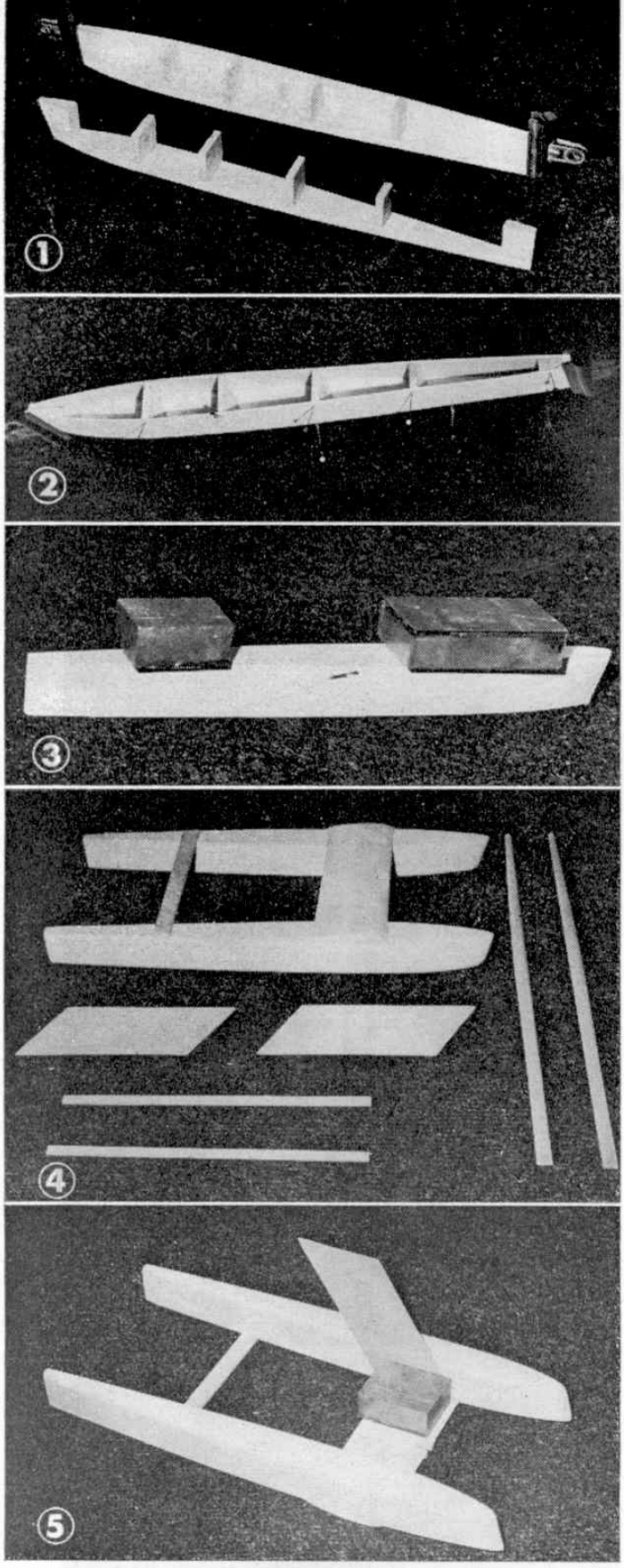


Stage by stage construction photos show: 1. The bottom with formers cemented on and one side skin clamped in place. 2. The final side skin held with clamps and modelling pins. 3. The top decking being weighted down until the cement dries. 4. All of Baby Cat's component parts. 5. One of the plywood fins being cemented in position with a lead weight to hold it true.

Peter Gillhespey, a young Hemel Hempstead modeller, with the prototype "Baby Cat," illustrates the model's size.

BABY CAT

An easy to construct 13" long Catamaran model, an ideal "first" balsa boat

FULL SIZE PLANS AVAILABLE

CATAMARANS HAVE gained tremendous popularity for their stability and fast sailing qualities, which applies equally well to models as to full size craft. Another great attraction of a catamaran model is that it can be made easy to build, and our *Baby Cat* can be completed in no more than a couple of evenings' work. The cost is another attraction. Three or four shillings should cover all the materials required.

The plan is reproduced exactly half full size. You will need to make new drawings of the deck and bottom patterns full size, also the bulkheads and fin (and the sail shape)—or, if you prefer, you can obtain a full size plan **(price 2/6 post free from Meccano Magazine Plans Service, 13-35 Bridge St., Hemel Hempstead, Herts.).** For those with dividers the ½ in. grid lines will make enlargement easy.

Construction

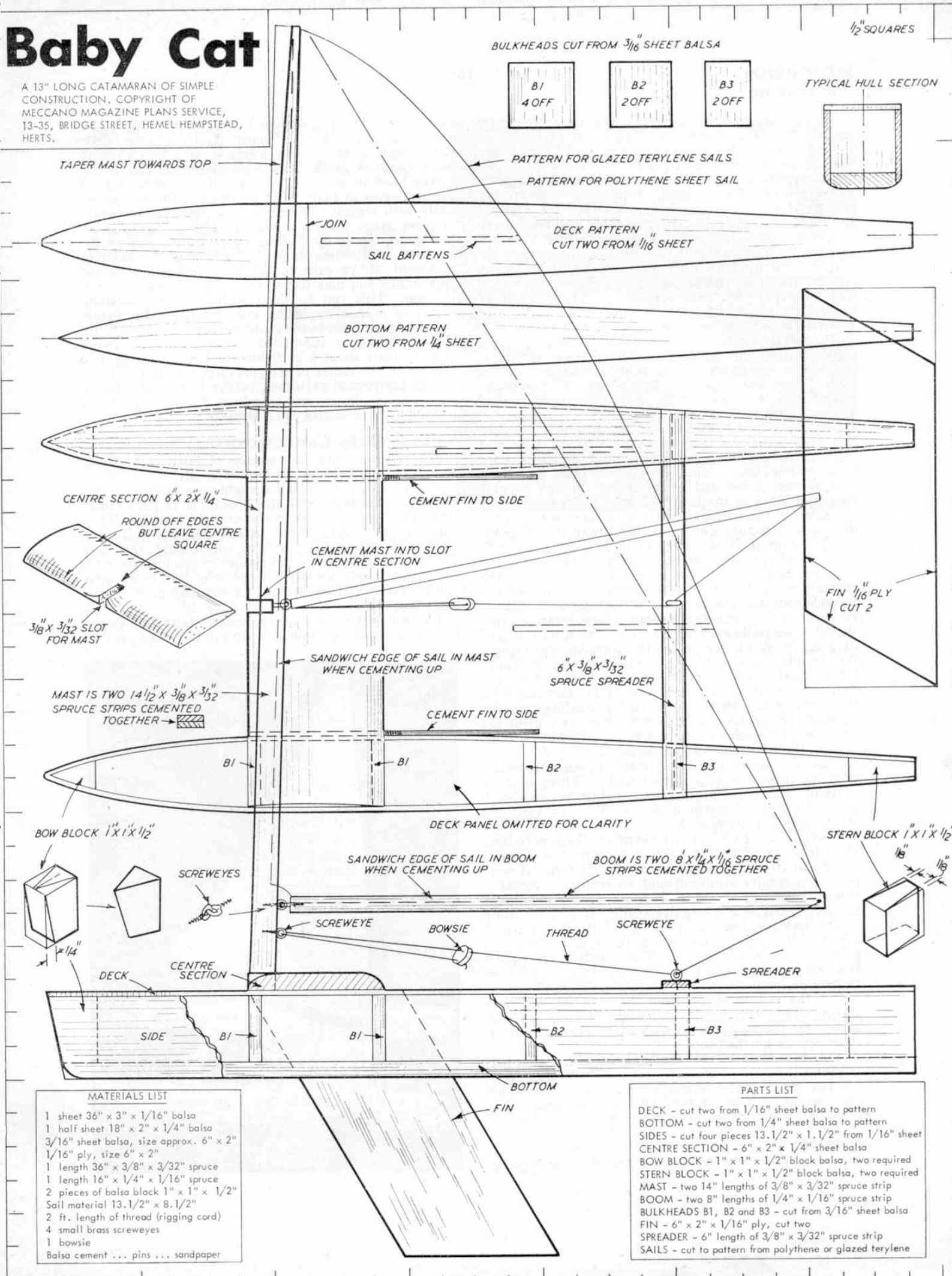
The two hulls are identical and are very simple to make. Start by cutting two bottom panels to shape from ¼ in. sheet balsa; and the eight bulkheads from $\frac{3}{16}$ in. sheet balsa (four off B1, and two off each of B2 and B3).

Mark the bulkhead positions on the bottom panels (measuring off the plan) and cement the bulkheads in place on the bottom. Now shape the bow blocks from 1 in. × 1 in. × ½ in. balsa, first cutting to the side

(Continued on page 16)

Baby Cat

A 13" LONG CATAMARAN OF SIMPLE CONSTRUCTION. COPYRIGHT OF MECCANO MAGAZINE PLANS SERVICE, 13-35, BRIDGE STREET, HEMEL HEMPSTEAD, HERTS.



MATERIALS LIST

1 sheet 36" x 3" x 1/16" balsa
1 half sheet 18" x 2" x 1/4" balsa
3/16" sheet balsa, size approx. 6" x 2"
1/16" ply, size 6" x 2"
1 length 36" x 3/8" x 3/32" spruce
1 length 16" x 1/4" x 1/16" spruce
2 pieces of balsa block 1" x 1" x 1/2"
Sail material 13.1/2" x 8.1/2"
2 ft. length of thread (rigging cord)
4 small brass screweyes
1 bowsie
Balsa cement ... pins ... sandpaper

PARTS LIST

DECK - cut two from 1/16" sheet balsa to pattern
BOTTOM - cut two from 1/4" sheet balsa to pattern
SIDES - cut four pieces 13.1/2" x 1.1/2" from 1/16" sheet
CENTRE SECTION - 6" x 2" x 1/4" sheet balsa
BOW BLOCK - 1" x 1" x 1/2" block balsa, two required
STERN BLOCK - 1" x 1" x 1/2" block balsa, two required
MAST - two 14" lengths of 3/8" x 3/32" spruce strip
BOOM - two 8" lengths of 1/4" x 1/16" spruce strip
BULKHEADS B1, B2 and B3 - cut from 3/16" sheet balsa
FIN - 6" x 2" x 1/16" ply, cut two
SPREADER - 6" length of 3/8" x 3/32" spruce strip
SAILS - cut to pattern from polythene or glazed terylene

shape, as shown, and then tapering to a triangular shape. The stern blocks are tapered off as shown on the plan. Check both bow and stern blocks for fit over the bottom, then cement in place.

Now cut four pieces of $\frac{1}{16}$ in. sheet balsa $1\frac{1}{2}$ in. wide by $13\frac{1}{2}$ in. long for the sides. Apply cement generously to both the edges of the bottom hull, and the edges of the bulkheads. Position the two sides, bending to the necessary curve and hold in place with pins. You will find it easiest to do this if you rest the bottom on a flat surface. Fit up both sides together and, if necessary, squeeze the front end in tight to the bow block with a Bulldog paper clip. Add the sides to the other hull in a similar manner and leave both to set for an hour or so (you can add the sides separately if you like).

Meanwhile you can cut out the two deck panels, the centre section and the two fins. The centre section is notched at the centre on the leading edge to take the mast. Then round off the edges to give a streamlined appearance, leaving the area around the notch square for additional mast support.

Now back to the two hulls. Make sure that the sides are flush with the tops of the bulkheads, bow and stern blocks and then cement the deck panel in place on each hull, again holding with pins until set. Each hull is then completed by trimming off any surplus length of sides at the bow and stern and rounding off the edges of the bottom slightly with sandpaper to produce a hull section similar to that shown on the plan.

Next stage is to join the two hulls using the centre section and spreader. Mark a line 3 in. back from the bow on each deck. This is where the front of the centre section should come. Cement the centre section to each deck and pin in place to hold until set. Check by laying over the full size plan (or by measurement) that the two hulls are parallel. Then cut a 6 in. length of $\frac{3}{8}$ in. $\times$ $\frac{3}{32}$ in. spruce for the spreader and cement this in place also. This is positioned over bulkhead B3 position in each hull, but since you cannot see the bulkheads at this stage, measure $3\frac{3}{8}$ in. forward from the stern of the hull as a mark for locating the rear edge of the spreader on each hull. Finally cement the two fins in position to the inside of each hull and up against the underside of the centre section.

That completes the hull assembly but for waterproofing (and painting, if you wish). Three or four coats of clear dope, sanded down lightly between each coat, will give a waterproof finish. You can then add a coat of colour if you wish.

Now for the mast and sail assembly. Thin polythene sheet is an excellent and quite inexpensive sail material —e.g. cut from a large polythene bag, but glazed terylene or a similar semi-stiff and waterproof material is better, if you can obtain it. If you are using polythene, the sail is cut to a triangular shape. If you are using glazed terylene you can make a "fuller" sail which can be stiffened by cementing three sail battens in place as shown on the plan. These battens can be cut from scrap balsa—e.g. $\frac{1}{8}$ in. $\times$ $\frac{1}{16}$ in. strip, each batten being 3 in. long.

Cut the sail to shape from the material you have chosen. Then cut two 14 in. lengths of $\frac{3}{8}$ in. $\times$ $\frac{3}{32}$ in. spruce for the mast; and two 8 in. lengths of $\frac{1}{4}$ in. $\times$ $\frac{1}{16}$ in. spruce for the boom.

The two mast pieces are then cemented together, trapping the edge of the sail between them. Similarly, the two boom pieces are cemented together trapping the bottom or foot of the sail between them. Now leave until the cement has properly set.

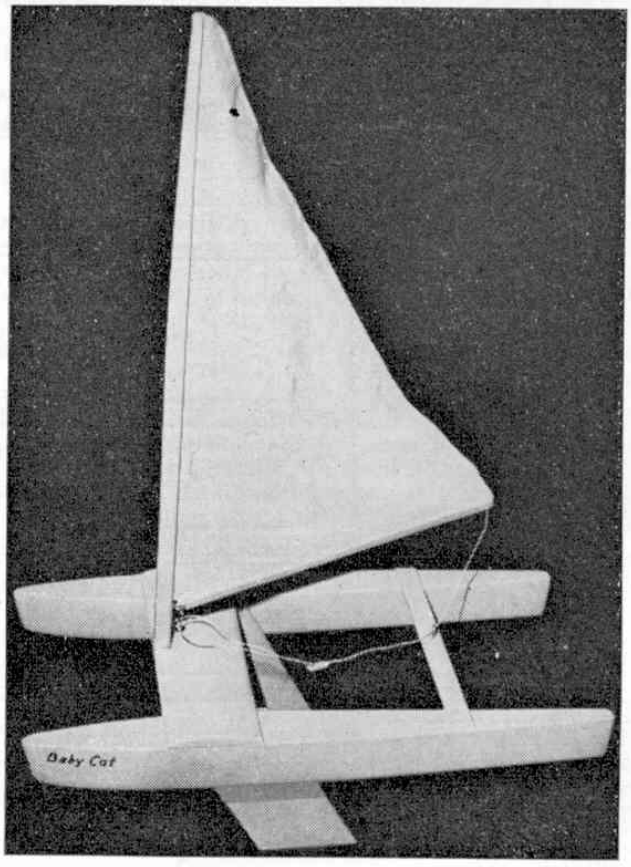
Rigging

You now need to make a proper pivot or "goose-neck" for joining the boom to the mast. This is two screweyes, interlocked as shown on the plan. To do this, simply open up one screweye and pass through the eye of the other, then close up again with pliers. Pierce holes in the mast and end of the boom to *push* the screweyes in place after coating the threads generously with cement. Do not try to *screw* the screweyes in place.

The bottom of the mast cements into the slot in the front of the leading edge, giving a slight amount of backward tilt or rake to the mast. To improve the appearance you may like to taper off the mast towards the top. This can be done with a small modelling plane, or even a modelling knife—but do this before cementing the mast to the centre section.

The rigging is completed by fitting one screweye into the mast about $\frac{1}{2}$ in. below the boom position, and another in the centre of the spreader, with thin card or thread connection as shown to the end of the boom. The bowsie allows you to adjust the setting of the boom to sail the course you require.

Sailing—Baby Cat

All you need now is a stretch of fairly open water and a light breeze to try out your Baby Cat. You should find that it will sail straight on a heading determined by the setting of the boom. If it persistently turns to one side, check if the fins are straight. They will act as rudders if out of line. If you still have trouble in getting the model to sail straight, then you can try fitting an additional rudder to one hull (or both hulls) at the extreme stern. A piece of thin brass sheet cut to shape and pushed into a slot cut in the stern block will do.

For windy weather sailing, weights attached to the bottom of each fin will give greater stability.