

INSTRUCTIONS FOR BUILDING THE HOBIE CAT #1101

The HOBIE CAT is a model of the boat designed by Hobie Alter to sail in the surf of California. Since then, the little boat has become very popular and is being sailed in many countries around the world. The HOBIE CAT has a very interesting hull design which is patented and does not use any keel or centerboards. The HOBIE CAT makes a fine display model or, with the addition of a little weight, it sails well in light breezes.

To build the HOBIE CAT you will need:

Wood model cement or 5 minute Epoxy cement (quick setting epoxy will shorten building time)
Masking tape
Spring clips (large paper clips or clothes pins)
Sandpaper
Pins
Flat building surface - about 6" x 18"
Wax paper
Small saw
Sharp knife or razor blades
Paint and brushes
Needle and thread

PLEASE READ ALL OF THE INSTRUCTIONS BEFORE STARTING TO BUILD.

NOW TO START BUILDING - plans are full size so you can measure the plans for size and location.

MARK ALL PARTS BEFORE REMOVING FROM DIE CUTS

1. Remove the keels (K) and frames (1 thru 7 and A thru F) from the die cut sheets.
2. Put area of plans showing Fig. 1 on the building board and cover the plans with wax paper. Pin the two keels (K) to the flat building board - make sure the keels are held flat to take out any warp. Put pins around edge slanted at an angle. Since the two hulls are not the same it is necessary to make one right hand and one left hand.
3. Cement frames 1 thru 7 in place on the keels. Located by marks on the plans. Make sure the frames are even with the top of the keel. Let dry until set.
4. Cut pieces $1/8 \times \frac{1}{4}$ of balsa (G) to fit between all frames. Cement to frames and to keel. These are stiffeners to keep keel straight.
5. Cement two $1/8 \times 1/8$ balsa strips (H & J) in notches in frames. Start with the center two frames and work toward both ends. Cut strips

at angle to fit keel at the bow to get a smooth curve (see Fig. 2 right hull). Hold with pins and masking tape. Allow to dry, thoroughly, or keel may warp when removed from board.

6. Remove keels (K) from board and cement frames A, B, C, D, E, F (see Fig. 2) on other side of keel directly opposite frames 1, 2, 3, 4, 5, 6 (see Figs. 2 & 5). Keep frames even with top of keel. When cement is dry, cement on one 1/8 x 1/8 balsa strip (L) in notches as in #5. (See Figs. 2 & 5).

7. With a block and sandpaper, sand off any high spots or excess cement on frames and 1/8 x 1/8 strips so sides will fit properly. Taper 1/8 x 1/8 to bow for side to fit.

8. Cement side (S) to frames A, B, C, D, E, F to 1/8 x 1/8 balsa (L) at top and to (K) at the rear and along bottom. Hold with spring clips or tape. When dry, sand off excess wood from side (S) at the bottom so side piece (T) fits properly. Sand side (T) to cover 1/2 of the 1/8 x 1/8 balsa stringer (J) and to cover keel (K). Bend and cement in place. Hold with tape and clips. Let dry. Sand side (U) to fit against edge of side (T), cement in place. Hold against 1/8 x 1/8 balsa with pins at an angle. Hold top edge with clips.

9. If you intend to sail your HOBIE CAT you will need to cement weight (approximately 1 1/2 ounces) to each keel (K) as shown in Fig. 2. These will be below part G and will be inside the hull on the finished boat. Use solder, small piece of lead, etc. Weight is not included. Additional weight can be taped to bottom of trampoline frame or to top of hull if needed when sailing and removed for display. Sand edges of sides (S & U) even with the 1/8 x 1/8 balsa (H & L) so deck will fit. Sand edge of deck (X) so that it covers 1/2 of keel (K). Some scrap pieces of balsa may be cemented to keel to make wider surface for cement. Cement on deck (X) - hold with masking tape. Fit and cement deck (Y). When dry, sand off excess wood and around all edges.

10. Cut boom 8" long from one 1/4 x 22 1/4 dowel. Lay the boom and one 1/4 x 22 1/4 dowel for mast aside for later. Mast dowel should be straight.

11. Make trampoline frame from 1/4" dowel to hold hulls together. Build trampoline on plans (Fig. 2). Cover plans with wax paper. Cut 1/4" dowels to length with 45° angles for the corners so they fit together. Sand a flat on the the bottom of the dowels for cementing on the nylon cloth. As the 7 1/2" cross pieces are arched on the full size boat, you can arch them if you want by soaking dowels in hot water and bending them over a 3/8" piece of wood, clamping ends down until dry. Trampoline frame is shown flat in Fig. 4 and arched in Figs. 3 & 5. Easier flat - looks better arched. Cement dowels together on plans and let dry. Sand corners smooth. Sand or file a flat on the bottom of the frame for the 1/4" dowel legs. Cut 4 legs 1/2" long from 1/4" dowel. Cement legs to bottom of frame.

12. Make stand for boat from 2 plywood pieces (supplied) or two pieces of corrugated cardboard and 2 dowels, cut from 3/16" dowel. This will hold hulls while trampoline frame is cemented on. Use front and rear templates to make cut outs on plywood or corrugated. Drill two 3/16"

holes in each for dowels. Distance between front and rear is $6\frac{1}{2}$ ".

13. Set hulls in stand, see Figs. 2, 3, & 4. Cement trampoline frame in place on hulls. When dry, make fillets around dowels on deck of epoxolite, plastic wood or similar material for more support for trampoline legs and for appearance.

14. Cut rudders from $1/16$ " plywood. Saw and sand to shape. Cut 4 rudder plates from $1/16$ " plywood. Cut a 1" piece of .047 dia. wire - bend as shown and cement to top of rudder. Cement rudder plates in place. Cut tiller arm from $1/8$ " dowel - cement to top of rudder assembly. Cement $1/16$ " I.D. x $\frac{1}{2}$ " brass tube to center of stern to mount rudder. Make tiller cross bar and tiller extension from $1/8$ " dowel. The tiller arms and tiller cross bar and tiller extension are movable so the joints are made by drilling holes and using straight pins. Cut off and cement on bottom only.

15. Drill small hole in bottom of mast and epoxy small nail into mast. Drill hole for nail in center of front dowel of trampoline frame. Attach boom to mast with screw eyes. Open one screw eye - insert the other and close. Screw one eye into end of boom and the other into mast. A small drilled hole will help start screw eye.

16. Sand boat, mast, boom, and paint with sealer. Fill the grain in the mahogany with wood filler, hobby poxy stuff or similar material. Sand smooth and apply several coats of enamel in your favorite color. The trampoline frame, rudders, mast and boom should be painted aluminum as they are on the full size boat.

17. Cut battens, $1/8$ " wide white plastic strips, from adhesive back plastic and stick on both sides of sail in the location shown. Lash sail to mast by sewing through sail and around the mast and boom with thread. Tie corners of sail to screw eyes to keep it tight on the mast and boom, see Fig. 4.

18. Cement nylon cloth to bottom of trampoline. Trampoline may be cut, hemmed and laced together in the center like the full sized boat if you wish (Fig. 2) or left in one piece. Also corners may be cut at 45° , see Fig. 2.

19. Make 4 bowsers from $\frac{1}{4}$ " wide plastic, see Fig. 4. Locate holes approximately as shown. Holes should be about $3/32$ " dia.

20. Set mast pin (nail) in hole on trampoline frame and hold mast using nylon cord for side stays, fore stay and bridle. Set stays and bridle according to Fig. 2, 3, & 4. Run the nylon cord through the top two holes of the bowser then through the screw eye and tie in bottom hole of bowser. Nylon line is very slippery and knots tend to come undone. One knot that will work is to tie a knot in the end of the string, then tie a slip knot. The knot in the end of the string will keep the slip knot from untying. Other knots will work but this is one way to tie the nylon string. This makes the stays adjustable and will hold without slipping.

21. The boom is set up with nylon cord and a bowser to make it adjust-

able. The tiller extension can be held by putting it through the screw eye.

The HOBIE CAT is a very fast boat in a light breeze. The stronger the wind, the more weight you may have to add on top of the deck directly over the other weights (it can be taped on). The HOBIE CAT will sail best with the boom at a 45° angle so that all the force of the wind isn't tending to tip the boat over, but will drive it forward.

I'm sure you will be surprised with the speed of the HOBIE CAT. It's very fast. I hope you have as much fun sailing it as I do. When you are ready for another model, check you Hobby Shop. Dumas has a large selection to choose from - 30" & 45" Star Sailboats, PT 109, SK Boats and Hydroplanes.

We hope you have lots of fun sailing your HOBIE CAT.

Good luck and good sailing.

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