

Building Instructions

Classic sports boat

Order no. 3092/00



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The boat should be assembled following the sequence of stages as described in these instructions; the finished assembly is always shown in the illustration for the next stage. Check all components before reaching for the glue, as you may need to trim them slightly. Allow all glued joints to set hard before moving on to the next stage. We recommend a fast-setting white glue for building this model.

(1) Press out all the die-cut rectangles from the building jig 0, and insert the large rectangle in the long slot, standing upright. The jig should be placed on a flat surface while the model is being built.

(2) The first step is to cut the glasspaper 65 in half and stick it to the sanding block 66. Write the part numbers on the die-cut components before carefully pressing them out of the parent sheets (see die-cut overview at the end of these building instructions). At some points you will need to cut through the material using a thin, sharp balsa knife. Clean up the edges of the separated parts using the glasspaper block.

(3) Insert the hull frames 1 - 8 in the slots in the jig 0.

(4) Carefully fit the keel 9 in the notches in the frames 1 - 4, and insert the bow end in the front notch in the jig; note that the keel 9 must finish flush with the frames 2 - 4. The keel 9 will project by about 2 mm at frame 1.

(5) Insert the two spars 10 in the frames 4 - 8 as shown, and press them carefully into the notches to their full depth; the spars 10 must not project at all. Press the frame 8 onto the spars 10 from the stern end.

(6) Apply glue to the corner joints of all parts 1 - 10.

(7) Fit the two bow supports 11 in the notch in the keel 9, and lay the other end on the jig support in front of frame 1. Note that parts 11 must not project forward beyond the keel 9. Check that the frame 1, the keel 9 and the jig support are pushed fully into the slots in the jig; the bottom edge of part 11 should now lie flush with the outside edge of the frame 1. Glue the parts together, and pin them in place while the glue is setting.

(8) Sand the joint edges of the rear keel sections 12 at an angle, so that they meet neatly in the centre, and engage in the notches in the frames 5 - 8.

(9) Glue the gunwale rails 13 to the frames 1 - 8. The rails 13 must be pressed full-depth into the notches in the frames, especially at the frame 1 at the bow. Pin the rails 13 in place while the glue is setting.

(10) Insert the two chine rails 14 in the keel 9 and the frame 1, keeping the strips on edge and parallel. Note that the strips must be sanded back (using the sanding block) so that they do not project beyond the front edge of the keel 9 at the side or forward. Glue the rails to the keel 9 and the frame 1, and leave the joints to dry out thoroughly.

(11) When the joints have set hard, glue the chine rails 14 in the notches in the frames 2 - 8, and hold them in place temporarily with pins.

(12) Glue the first hull side 15 to the structure, fixing it in place with spring clamps and pins while the glue is hardening. Note that the side panels must rest squarely on the support lugs of the frames 1 - 8, and on the support lug of the keel 9 at the bow. The front edge of the hull side 15 should line up exactly with the centre of the keel 9 (see front view at top right). Allow the glue to set hard before attaching the second hull side in the same way. Use pins to fix it to the keel 9 at the bow, and tape it to the first hull side 15.

(13) Lay the two bottom hull panels 16 flat on the bench, and tape them together temporarily with two strips of adhesive tape as shown. Don't apply glue at this stage!

(14) Lay the taped bottom panels 16 on the hull, and apply more strips of tape as shown, starting from the right (the stern). Ensure that the cut edges butt up exactly in the centre. At the left end (the bow) you will have to leave a gap of about 6 mm, as the material is too stiff to conform to the curvature.

(15) Lay the temporarily joined bottom panels on the hull, and tape both sides down to the hull sides. Leave a small gap open at the extreme bow.

(16) *Caution!* The next three stages of construction on this page have to be completed before the glue sets. It is therefore important to check the fit of the bottom hull panels 16 once more before you reach for the glue bottle.

Remove the hull bottom and apply a fillet of glue along the inside of the central joint. Now move on to the next stage - 17 - before the glue has time to harden.

(17) Apply glue to the frames 1 - 8, the keel 9, the rear keel sections 12, the spars 10 and the chine rails 14, and lay the hull bottom 16 on the structure, flush with the side panels 15 at the bow.

(18) Fix the hull bottom 16 to the structure at the bow using pins, then pull the panels 16 down against the hull sides 15, checking that the panels extend beyond the final frame as far as possible.

(19) Assemble the boatstand as follows: glue parts 17 + 18 together in pairs, and join them with the spruce rails 19. The finished boatstand. The hull can now be placed in the stand, and left there for the remainder of the building process.

(20) Apply a thin coat of sanding sealer to all the hull components on the inside to waterproof them. Caution: don't apply too much, otherwise you could dissolve the glued joints.

(21) Break off the support lugs from the keel 9 and the frames 1 - 8, and sand the broken edges smooth and flat. Fill the gap between the hull bottom 16 and the chine rails 14 with glue.

Race 400 6V electric motor, Order No. 7000/42, suitable for a drive battery consisting of six sub-C cells.

(22) Fix the motor to the frame 4 using the self-tapping screws 56.

Slip the propeller shaft (with the propeller 20 attached) through the shaft tube 21, and push the plastic sleeve 22 on the plain end to act as the shaft coupling.

(23) Slip the shaft tube 21, complete with the propeller shaft 20 and the flexible coupling 22, into the hull from the underside, and push the coupling sleeve onto the motor shaft. Adjust the propeller shaft so that it forms a straight line with the motor shaft.

(24) Glue the keel strake 23 between the bottom of the hull 16 and the shaft tube 21. Check that the strake does not foul the propeller.

Now glue the shaft tube 21 to the hull, applying glue to the inside and outside of the joint.

(25) Glue the battery support rails 24 in the hull.

(26) Glue the cockpit floor support rails 25 in place towards the bow.

(27) Glue the rudder support 26 in the notches of the spars 9 at the stern.

(28) Glue the RC installation plates 27 to the frames 5 - 7.

(29) Glue the deck support rails 28 in the upper notches in frames 3 - 8, clamping them in place while the glue dries. Press the rails 28 outward against the hull sides 1; see stages 31 + 32.

(30) Glue parts 29 together and sand the edges smooth. Glue the steering column 30 in the steering wheel 29.

(31) Cut out the dummy instruments (printed on the last page of these instructions) and stick them to the reverse of the instrument panel 31. Glue the instrument panel 31 to the frame 3 as shown.

(32) Glue the deck support stringers 32 and 33 together in pairs, and allow the glue to set hard. Glue these parts in the top notches in the frames 1 - 3 and the bow supports 11 at the bow. Drill out the hole in the instrument panel at an angle, and glue the steering wheel in the hole.

(33) Glue the rear facing bulkhead 34 (the transom) to the outside of the hull.

(34) De-grease the brass rudder bush 35 and glue it to the hull; the tube must project out of the underside of the hull by about 3 mm.

(35) Slip the rudder 36 through the sleeve 3, and fit the first self-locking nut 37 on the top end; adjust it so that the rudder swivels smoothly, but without lost motion. Fit the tiller 38 on top, and secure it with the second self-locking nut (37). Tighten the second self-locking nut well, so that the tiller is clamped securely between the two nuts.

(36) Carefully press the boat deck sections 40 into the front deck panel 39; you may have to sand back the straight edges of parts 40 slightly. Apply glue to the joint lines on the reverse of the deck. Allow the glue to set hard, then sand the top surface smooth and flush.

(37) Apply strips of fabric tape 41 to the underside of the deck joints after sanding.

(38) Glue the doublers 45 and 46 to the deck 39.

(39) Trim the boat deck sections 43 to fit in the rear deck panel 42, and sand the edges slightly if necessary. Glue the central strip 44 to the parts 43; part 42 just serves as a template at this point; don't glue it to the other panels.

(40) Tape the front and rear deck sections 39 + 40 together as shown. Apply glue to all the joint faces of the hull, i.e. where the deck 39 - 42 makes contact. Glue the whole deck to the hull and tape it in place as shown. It is important that the deck should make proper contact all round, but especially at the frames 3, 5 and 8.

(41) Stick Velcro (hook-and-loop) tape to the underside of the rudder servo and the servo plate 27. Connect the rudder pushrod 47 to the tiller 38 and the servo output arm. Fix the servo to part 27 using the Velcro tape, with the rudder 36 straight and the servo at centre.

(42) Glue the spruce support rail 49 to the cockpit floor 48; note the 20 mm spacing.

(43) Round off the edges of the seat 50 and glue it to the cockpit floor 48 and the rail 49; the seat should end flush with the floor 48 at the rear.

(44) Place the seat backrest 51 vertically in the hull, resting on the cockpit floor rails 25, and mark the camber of the deck 42 on the backrest 51 using a felt-tip pen. Sand the backrest down to follow the rounded shape. Sand all the edges of the backrest 51 to a smooth, rounded profile.

(45) Lay the cockpit floor 48 / seat 50 in the hull, and slide it forward until the floor rests against the frame 3. Glue the backrest 51 to the seat (50) at the rear.

(46) Weight down part 52 with a bottle so that it rests flat. Glue the hatch frames 53 + 54 to it as shown.

(47) Lay the assembly 52 - 54 on the frames 6 + 7. Apply glue to the cambered edges of the frames 53 and 54, and lay the prepared hatch cover consisting of parts 43 + 44 on them. Tape the parts to the hull so that the hatch takes up the camber of the deck 42.

(48) Glue the locating tab 55 to the underside of the hatch 43.

(49) Cut the rubbing strakes 64 to a length of 200 mm, and glue them to both sides of the hull at a point 10 mm above the bottom chine.

(50) At this point all the wooden parts can be sanded smooth, and the whole model given several coats of sanding sealer, Order No 7666/02. Allow the sealer to dry thoroughly after each coat, and rub the model down with fine glasspaper before applying the next. Now place the boat in water to check that everything is watertight. As soon as all the surfaces look smooth and glossy, you can start applying the colour finish by painting the underwater hull and the seat.

(51) Pin the windscreen 57 to the deck support rails 28 at both ends, pushing the windscreen forward as far as it will go.

(52) Fold the windscreen up at the front, and apply cyano-acrylate glue to the edge of the doubler 46. Fold the screen down again, and pin it at the front while the glue is hardening.

(53) Now glue the windscreen 57 to the rails 28 on both sides.

(54) Glue the reinforcement 58 to the rear of the deck 42, and drill a 2 mm Ø hole in it for the flagstock 59. Cut out the flag 60 (printed on the last page), glue it to the flagstock 59 and glue the flagstock in the reinforcement 58.

These three parts should now be protected with a coat of sanding sealer.

(55) Complete the model by gluing the cleats 62 and the fairleads 61 to the deck using two-pack adhesive. Apply the trim stripes to the hull sides and the top edge of the windscreen. Stick the gold-coloured cover at the point of the bow.

Part No.	Part	Material	No off	Size and type
0	Jig	Depron	1	Die-cut
1	Hull frame	Plywood	1	Die-cut
2	Hull frame	Plywood	1	Die-cut
3	Hull frame	Plywood	1	Die-cut
4	Hull frame	Plywood	1	Die-cut
5	Hull frame	Plywood	1	Die-cut
6	Hull frame	Plywood	1	Die-cut
7	Hull frame	Plywood	1	Die-cut
8	Hull frame	Plywood	1	Die-cut
9	Front keel section	Plywood	1	Die-cut
10	Spar	Plywood	2	Die-cut
11	Bow support	Plywood	2	Die-cut
12	Rear keel section	Plywood	2	Die-cut
13	Gunwale rail	Spruce	2	1.5 x 5 x 480 mm
14	Chine rail	Spruce	4	1.5 x 2.5 x 495 mm
15	Hull side	Mahogany	2	Die-cut
16	Bottom hull section	Birch plywood	2	Die-cut
17	Boatstand, front	Mahogany	2	Die-cut
18	Boatstand, rear	Mahogany	2	Die-cut
19	Boatstand rail	Spruce	2	5 x 5 x 250 mm
20	Shaft, one threaded end	Metal / plastic	1	Ready made, 205 mm
21	Propeller shaft tube	Brass	1	5 / 4 x 180 mm
22	Flexible coupling sleeve	Plastic	1	7274/51, 4.5 x 1.5 Ø x 25 mm
23	Keel	Plywood	1	Die-cut
24	Battery support rail	Spruce	2	5 x 5 x 230 mm
25	Cockpit floor support rail	Spruce	2	5 x 5 x 140 mm
26	Rudder support	Plywood	1	Die-cut
27	RC installation plate	Plywood	2	Die-cut
28	Deck support rail	Spruce	2	3 x 3 x 365 mm
29	Steering wheel	Plywood	2	Die-cut
30	Steering column	Aluminium	2	2.5 x 45 mm

31	Instrument panel	Mahogany	1	Die-cut
32	Deck support stringer	Mahogany	4	Die-cut
33	Deck support stringer	Mahogany	2	Die-cut
34	Transom	Mahogany	1	Die-cut
35	Rudder bush	Brass	1	Ready made, 7024/02
36	Rudder	Metal / plastic	1	Ready made, 7024/02
37	M3 self-locking nut	Metal / plastic	2	Ready made, 7766/23
38	Tiller	Plastic	1	Ready made
39	Front deck	Mahogany	1	Die-cut
40	Front deck insert	Mahogany / maple	2	Die-cut
41	Fabric tape	Cotton	1	12 x 500 mm
42	Rear deck	Mahogany	1	Die-cut
43	Battery compartment hatch	Mahogany / maple	2	Die-cut
44	Central deck strip	Mahogany	1	Die-cut
45	Bow doubler	Mahogany	2	Die-cut
46	Windscreen doubler	Mahogany	1	Die-cut
47	Rudder pushrod	Steel	1	Ready made
48	Cockpit floor	Plywood	1	110 x 130 mm
49	Seat support rail	Spruce	1	5 x 5 x 130 mm
50	Seat	Balsa	1	10 x 50 x 130 mm
51	Seat backrest	Balsa	1	10 x 50 x 130 mm
52	Hatch baseplate	Plywood	1	Die-cut
53	Hatch former	Plywood	1	Die-cut
54	Hatch former	Plywood	1	Die-cut
55	Hatch locating tab	Mahogany	1	Die-cut
56	Self-tapping screw	Metal	2	7769/21, 2.2 x 6.5 mm
57	Windscreen	Plastic	1	Die-cut
58	Reinforcement	Mahogany	1	Die-cut
59	Flagstock	Aluminium rod	1	2 x 60 mm
60	Flag	Paper	1	Printed
61	Fairlead	Metal	4	Ready made
62	Cleat	Metal	4	Ready made
63	Instruments	Paper	1	Printed
64	Rubbing strake	Mahogany	1	3 x 3 x 200 mm
65	Glasspaper			
66	Sanding block			
67	Glue			
68	Decal sheet	Film		