



Length: 19-7/8 in. Beam: 7-3/8 in.

Vac-U-Cracker™

1/10 Scale Crackerbox
Model Kit

For Radio Control

Manufactured by Vac-U-Boat™
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Thank you for purchasing this Vac-U-Cracker 1/10 Scale Crackerbox kit. You will find the quality, fit, and finish of this High Impact Polystyrene model to be superior to other kits.

The Vac-U-Cracker™ features exterior details true to the actual Crackerbox racers found along the West Coast of the United States. These include a scale Chevy V-8 properly oriented in the engine compartment and realistic drivers with scale helmets. The exterior hardware is constructed of stainless steel including the “double shark-fin” turn fin, rudder blade, and trim tabs. Inside you will find a strong aluminum motor mount that will not flex under load, an integral transom reinforcement, a ribbed hull-reinforcing liner that resists flexing and twisting giving the hull the rigidity of a fiberglass model. The hull reinforcement has formed “beds” for the motor mount base, turn fin, and the pass-through for the stern tube. The design minimizes hull impact flexing and motor torque-induced roll to the hull floor. The drive train is complete including a stainless steel shaft supported by Oilite® sleeve bearings in a self-supporting thick-walled brass stern tube. An Octura® X-431 racing prop is included. The injection-molded rudder assembly includes a stainless steel rudder blade that swings up on impact reducing the risk of damage to the rudder components. A stainless steel pushrod and DuBro® EZ-Connector are included. The rudder base is designed to fit next to the included Bru-Line® Pushrod Seal. The open interior hull floor layout allows you to place your hardware where you wish in order to adjust the center of gravity according to racing conditions. You also get a 60-yard roll of Hatch Tape and building supplies including paper clips, ratchet clamps, epoxy brush, & a transom clamping board.

Buy as much of the kit as you wish. The “Plastic-Only Kit” includes only the vacuum-formed plastic, transom reinforcement, a 60-yard roll of hatch tape and the building supplies. Four hardware packages are available separately. The “Complete Kit” includes all hardware packages. You supply your choice of R.O.A.R. motor, radio gear, battery, and speed control.

Regulated by the IMPBA, International Model Power Boat Association, the Crackerbox is a Specialized N-1 MONO class as a scale model of the full-sized APBA, American Power Boat Association, one design runabout.

The Crackerbox is not an easy ride. Even with the power limitations of a R.O.A.R. motor, the hull is almost over-powered. You cannot just give it the gas and expect to cross the finish line. It takes a good eye, easy touch, and careful use of the throttle just to remain upright through a complete race! A recovery system for overturned boats is required. This boat is easy on the budget as well. You won't need exotic electronics to run this boat. The skill of the driver determines who crosses the finish line first.

Now, for the Warnings!

Read all of the instructions! Review and understand each step, and the one after, as you build your boat. Don't rush. Good work takes time.

This is not a toy! I know. It LOOKS like a toy, but it isn't. Toys are generally safe for small children. This boat is not safe for small children. Assembling it requires the use of sharp tools that can cut skin, strong adhesives that can bond flesh and injure eyes, spray paints that can be flammable and toxic, as well as batteries that can short causing severe burns or fires. Read all of the instructions and warnings on all of the tools and chemicals you plan to use. Use protective eyewear when recommended. **USE SAFETY GLASSES! If you think you don't have the skills, or are uncomfortable with tools and chemicals, or just changed your mind, then pack up this kit and return it immediately for a full refund.** If you bought this direct from Vac-U-Boat, I'll reimburse you for standard return shipping. **If you need some help, find a local boat club to join, check with the hobby shop where you purchased your motor and radio gear, or contact internet clubs and organizations for assistance.** Keep your work area away from children. Even if you have no children, when not working on the kit, keep all sharp objects and all chemicals locked away in a safe area. You never know who will come to visit and how well they will supervise the young ones with them.

This is STILL not a toy! Once you complete the boat and are running it in a lake, know that the boat can injure life, limb, and property. Never touch the propeller, spinning or not, while there is a battery inside or connected to the boat. Even if it is turned OFF, assume it can glitch and run on its own. Never run the boat if swimmers are in the water. Don't chase wildlife. Be careful with rechargeable batteries. They have the ability to dump large amounts of current in a very brief period of time if shorted, causing burns or fires. Never store the boat with the battery inside it, connected or not. Keep your batteries in a safe place, out of the reach of children. Read the warnings on the other parts you purchase, the motor, battery, electronic speed control, radio transmitter and receiver, and the battery charger. Use "frequency boards" at your lake to control radio channel usage. If you don't control channels, then you increase the risk of losing control of the boat. An out of control boat can harm someone. You are responsible for the safe use of this product. You are responsible for choosing wisely, those who you entrust the use of the boat and radio, even for a few minutes at a lake. **Never swim after a disabled model boat!**

This is an adult toy! That is what you say to those nice stranger-type kids that come up to you at the lake. It isn't easy, but it is the responsible thing to do. Clubs should keep slower scale boats for visitors to run. I happen to know a guy who makes a nice easy-to-build plastic tugboat kit that is just fine for such an occasion. Lets see, what was the name of that boat?....



WARNING:



CHOKING HAZARD - Small parts. Not for children under 3 years.

WARNING - To avoid danger of suffocation, keep plastic bags away from babies and children. Do not use in cribs, beds, carriages or play pens. **THESE PLASTIC BAGS ARE NOT TOYS.**

WARNING: Brass parts in this kit contain lead, a chemical known to the State of California to cause cancer and birth defects and other reproductive harm. Bronze and brass alloys can contain lead.

INSTRUCTIONS

Finally, we are ready to get started building this Vac-U-Cracker. Follow the numbered photos and captions to assemble your boat. Read through the instructions before building. Assemble the necessary tools and adhesives on a clean workbench or table. Keep paper towels handy to catch spills. Don't forget the safety glasses!



You will need 30 minute epoxy, filler for epoxy (talc, Q-Cells, or your favorite) Medium CA (or regular model cement), 2 wood scraps or hardcover books, bags of sand or a 6" x 9" scrap of flat wood, as well as sharp scissors and a hobby knife. Consider a sealant or RTV gasket material for attaching the deck.



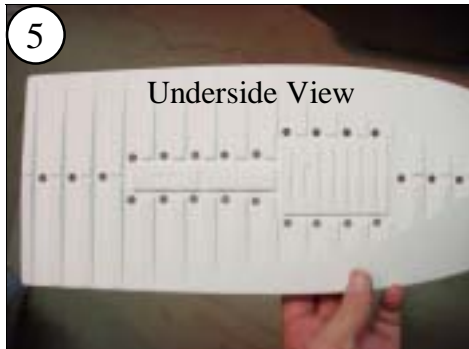
Check that all of this plastic is in your kit: Hull, Hull Liner, Deck, Hatch Cover, Transom Reinforcement, 7 Air Cleaners, 3 Helmets, and 3 Helmet Mounts. You will also find a paint stirring stick & clamps that will help to clamp the transom together.



Begin by trimming the Hull along the marked line as shown. If you are right-handed, cutting with the boat hull on your right and the waste on your left should be easier. Cut carefully. Afterwards, use sandpaper to level any uneven spots.



Trim the Hull Liner the same way. Opinions differ as to how much of the liner is really necessary. Its size can be reduced to save weight. I recommend you leave the sides as-marked for the best impact protection for the hull.



Drill 1/4 inch holes in these locations. They will provide ventilation under the hull liner so any moisture trapped there can dry. Properly placed, larger holes can save weight without affecting strength of the floor.



You may find it easier to drill from the underside of the Liner with a scrap of wood behind the plastic. This will support the plastic during drilling and help avoid tears and splitting. Test drill on a scrap for practice.



Sand the raised areas on the underside of the Hull Liner. Using the supplied 100 grit sandpaper with light pressure will roughen the surface of the plastic.



Thoroughly sand both sides of the Transom Reinforcement as well. This will be glued on both sides to make a stiff sandwich of plastic.



Sand the inside of the Hull on all surfaces that will contact the Hull Liner. **Always sand the plastic surfaces where epoxy is used.**



Assembly note: Set the Transom Reinforcement into the hull, then set the Liner in place. The Reinforcement will be between the Hull and the Liner.



Take the two pieces of wood, or hardback books, and wedge them to an angle to match the bottom of the transom. This forms a flat hull bottom.



Cut the paint-stirring stick in half. These will be used on either side of the transom for clamping it together.



Pour two 1-3/4 inch circles of parts A & B of the epoxy. (One looks larger but is thinner and spread out before the photo was taken. Mix together well.



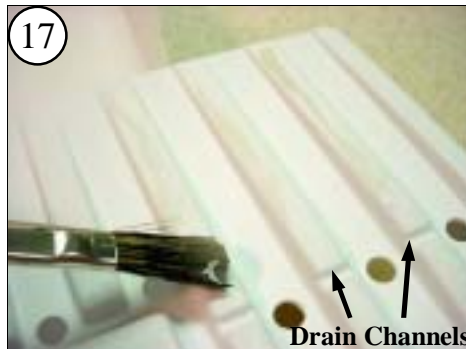
Fold in some filler. About 1/2 the volume of the epoxy is the right amount of filler to use. (1/4 for Q-Cells) Mix until smooth and even.



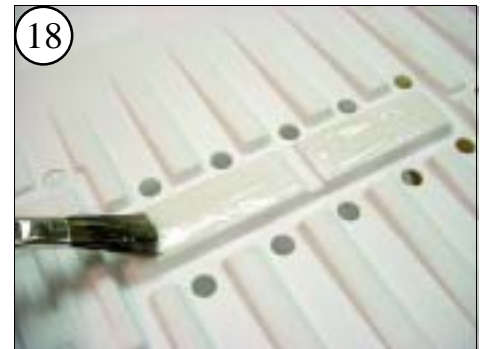
Brush the filled epoxy on the back of the Transom Reinforcement and place the reinforcement inside the hull against the Transom.



Quickly brush the filled epoxy inside the Hull only on the sides and on the Transom Reinforcement. Glue for the bottom of the Hull is applied to the bottom of the Hull Liner.



Brush the filled epoxy on the underside of the Hull Liner on each "rib" and all of the parts of the bottom that contact the hull. Do not epoxy the drain channels along the center of the liner.



Fully cover the Skeg and Stern Tube recesses. Since you will be cutting through the hull at these recesses, there should be a good seal between the liner and the hull here.



While pressing down the Hull Liner, clamp the Transom together using the two pieces of the paint stick to evenly spread the pressure of the clamps.



Set the sand bags into the Hull floor to clamp the Hull Liner against the Hull. Install the 20 paper clips on the sides only far enough to hold the liner to the hull.



Or, use a flat wood block about 6 inches by 9 inches, tapered to fit only on the flat area of the hull liner. Set a weight on top to apply pressure. **4**



22 Make a final alignment check of the hull to be sure it is centered to the angle of the blocks on both ends.



23 Clean your epoxy brush with alcohol. Cut out the Deck. Cut carefully as this cut edge will be visible on the finished boat.



24 When you get to a corner, break away the scrap, then continue cutting. Sand the cut edge smooth.



25 Use a Hobby Knife to score around the bottom of the hatch opening. Repeat this 2-3 times until you cut through. Scored styrene will snap apart when flexed.



26 Trim the Boat Stand. After trimming, you can use sandpaper to smooth the edges or to remove any high spots along the cut.



27 Set the stern of the boat at the end that is taller where the arrow is pointing. This end is higher and allows clearance for the rudder blade.



28 Rough-trim the Hatch to about 1/4 inch outside of the marked line.



29 Then, carefully trim along the marked line. Sand the round corners smooth.



30 Test fit the Hatch to the Deck. Sand the hatch edges as needed to fit.



31 You have 3 Helmets and Helmet Mounts. One is a spare for "boating accidents" or can come in handy if you miss-cut one.



32 Rough-cut the Helmet Mount as shown. Cut close to the curve of the plastic.



33 Then, trim away the bell leaving a strait slope to the side of the Mount.



34

The cup-shaped Helmet Mount will be about 1/4 inch high.



35

Rough-trim the helmet close to the base as shown.



36

Then trim around the bottom at the point where the plastic flares out.



37

Sand the cut line as necessary for a smooth bottom edge. This forms a realistic Helmet as shown.



38

Note the shallower 45° slope of the Helmet Mount (arrow). This corresponds to the back of the helmet.



39

CA the Helmet Mount to the driver's neck about 1/8 inch forward of center. Medium CA allows repositioning for a few seconds.



40

Without glue, test fit the Helmet by engaging the rear of the mount first as shown above. You may want to paint before gluing on the Helmet.



41

Tilt the Helmet forward while lifting gently at the rear. Note the mount is slightly forward compared to the driver's neck.



42

Glue a tiny piece of foam inside the Helmet for flotation if lost. Apply CA around the inside along the bottom one-quarter inch of the Helmet.



43

Install the helmets as you did for the test fit. If you want to be creative, you could rig the drivers heads to rotate with the rudder!



44

You have 7 Air Cleaners to choose from, or you can fashion one of your own.



45

After rough-trimming, you can use sandpaper to smooth the edges of the air cleaner.



46

CA the Air Cleaner to the motor. You can add a wedge to angle it.



47

Test fit the Hull to the Deck. Check the finished edge of the deck for any uneven areas and sand them smooth.



48

Note the joint you will glue. CA or Plastic Cement will do, but may leave a brittle joint that can crack and leak.



49

A sealant or RTV gasket maker will give a flexible joint. "Pinch-sand" the top edge of the Hull to roughen it.



50

Sand the inside corner of the underside of the Deck. Roughening the surfaces will help bond the sealant to them.



51

Support the deck, upside-down, on a pillow or stack of towels to support it evenly along its perimeter.



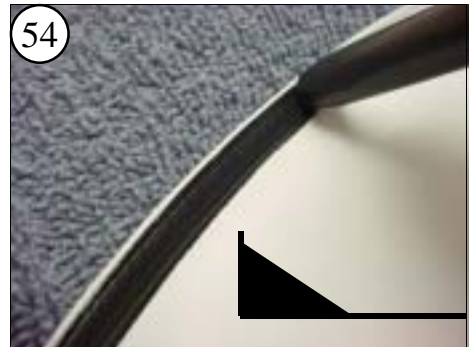
52

Without adhesive, test-fit the Hull to the Deck. Consider painting the Hull & Deck before bonding them if your choice of adhesive repels paint.



53

Only gentle pressure is needed to hold the Hull to the Deck. Have a small folded towel to use later when gluing the two together as shown below.



54

Apply a bead of sealant filling the underside of the Deck Flange. The sealant will have a triangular cross-section.



55

Make sure there is no high spot in the towel or pillow at the Hatch opening. If the Deck is supported by the Hatch opening, the opening could deform and be held deformed by cured sealant.



56

Set the Hull onto the Deck at the Stern first, then rotate the Deck down at the bow, as you help the Hull sides slip into the Deck flange where the sealant is applied. Let this fully cure.



57

The "Plastic Only" kit is completed and ready for hardware installation. Additional instructions include standard Vac-U-Cracker hardware you can use as a guide for your own.