



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

Vac-U-Vee Jr.™

Mono Vee Hull Kit

Manufactured by Vac-U-Boat™

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This “High Impact Polystyrene” model boat is engineered for racing. It has minimum freeboard and an aerodynamic bow design to let it fly in straight-a-ways yet turn solid without flipping. The deck comes from the 1/10-scale Vac-U-Cracker with a large hatch cover for easy hardware installation. The hull is modified into a Deep-Vee with a sharp keel and a fully reinforced bottom having the strength of a fiberglass hull without the weight.



The Full Kit includes a Hull, Hull Reinforcement, 3/16” hot-pressed mahogany plywood Transom, Deck, forward Deck Reinforcement, teardrop Hatch Cover, Aluminum Motor Mount with 3/16” hot-pressed mahogany Base with pre-installed 6-32 blind nuts, stainless motor mount socket head screws, motor mount stainless washers, hex wrench, M3 motor socket head screws, motor washers, motor hex wrench, molded Boat Stand with pre-cut foam mount pads, an easy-to-apply combined windshield and roof hatch decal set, side decals, six deck reinforcement clamps (clothes pins) two really cheap ratchet clamps, a wood scrap to clamp the transom, an epoxy brush and a piece of 100 grit sandpaper.

The even-more economical Plastic Hull-Only kit includes the Hull, Hull Reinforcement, 3/16” hot-pressed mahogany plywood Transom, Deck, Deck Reinforcement, teardrop Hatch Cover, Boat Stand and decal set. (No motor mount, no assembly bits.)

This hull will perform with a ROAR Stock brushed motor, or with the latest Brushless setups. The reinforced motor mount slot allows for motor placement for flex drives or straight-shaft drive systems. The transom will accommodate most struts and rudders made for smaller boats. The sharp keel and makes turn fins unnecessary.

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:



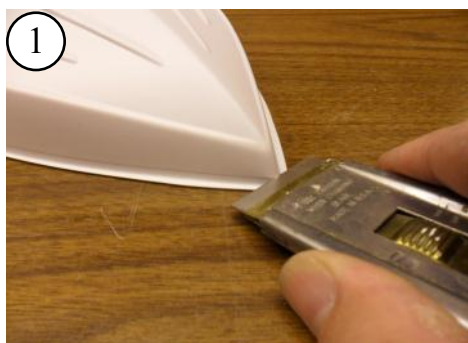
CHOKING HAZARD - Small parts. Not for children under 3 years.

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.**

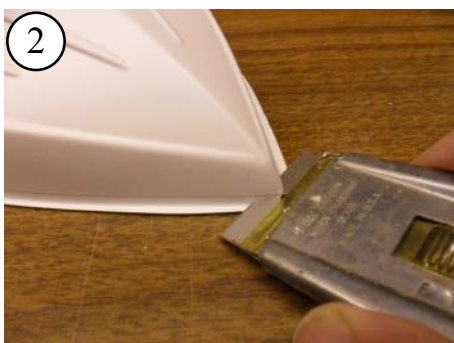
WARNING: Brass parts in this kit contain lead, a chemical known to the State of California to cause cancer and birth defects and other reproductive harm. Bronze and brass alloys can contain lead.

INSTRUCTIONS

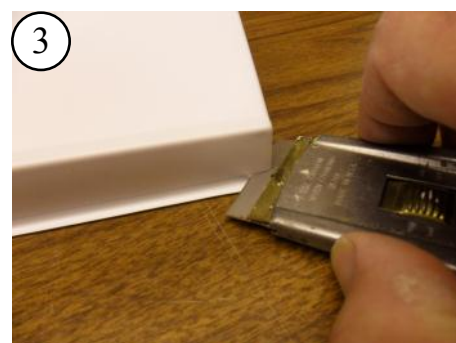
We are ready to get started building this Vac-U-Vee Jr. Follow the photos and captions to assemble your boat. Read through the instructions before building. Assemble the necessary tools and adhesives on a clean workbench or table. Keep paper towels handy to catch spills. Don't forget the safety glasses!



With holding the hull upside down on the work surface, press a razor or hobby knife into the corners at the marked trim line.



Rock the razor left and right until it cuts into the hull about this much.



Repeat for the two corners at the stern.



Pull down on the corners breaking them off as shown. Trying to cut the corners with scissors may split the plastic.



Removing these corners will give you a starting point for trimming with scissors.



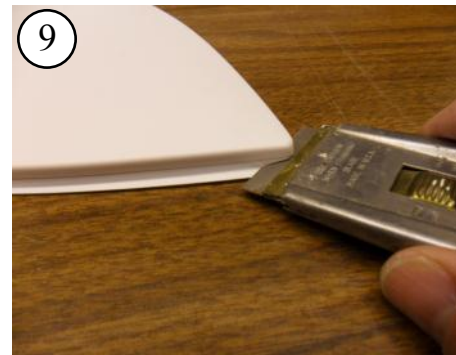
Cut with the boat on the right and the scrap on the left. Don't cut near the tip of the scissors. If the tip of the scissors closes on the plastic it could cause a tiny crack.



Set the Hull Liner into the trimmed hull.



While holding the liner firmly in place, mark the edge to be trimmed with a pencil. Trim the liner with scissors.



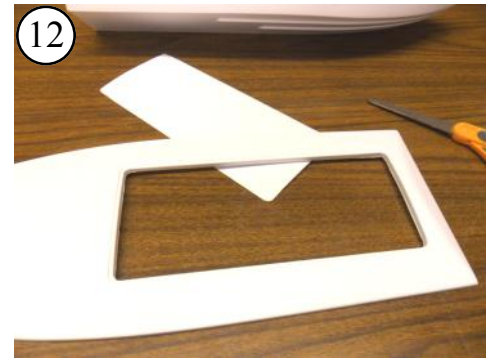
Trim the deck starting with the bow and stern corners and your paint scraper.



10 Cut slowly. The plastic is thicker on the deck than the hull.



11 Score the hatch opening at the marked line 2 to 3 times until the opening separates from the hull.



12 Save the scrap to use to test paints or glues.



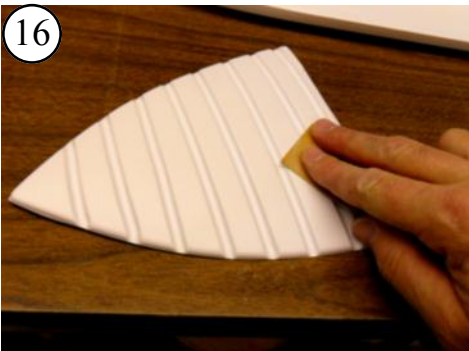
13 Cut the hatch on the marked trim line.



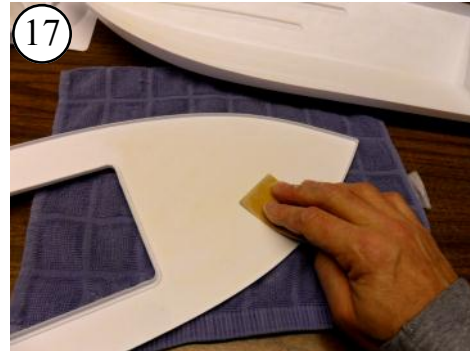
14 Sand the underside of the hull liner with the 100 grit sandpaper.



15 Sand the inside of the hull. Sand both in at least two directions for a better bond.



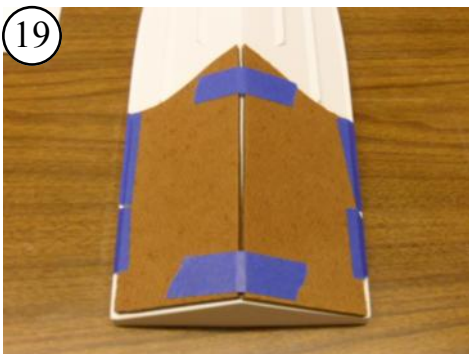
16 Sand the deck liner. All plastics are best sanded in several directions.



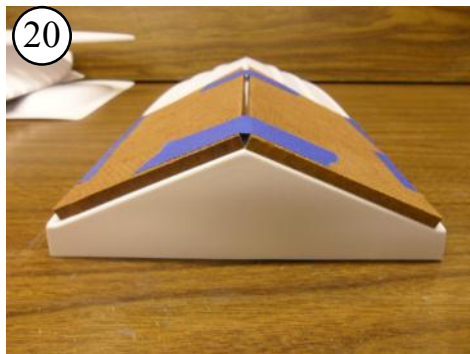
17 Sand the underside of the deck for the bond with the deck liner.



18 When gluing the hull liner, you want to clamp it firmly to the deck, but you don't want to clamp over the strakes or chines. (raised areas)



19 These 3/16" thick scraps of Masonite panel will let you press the hull while avoiding the raised areas.

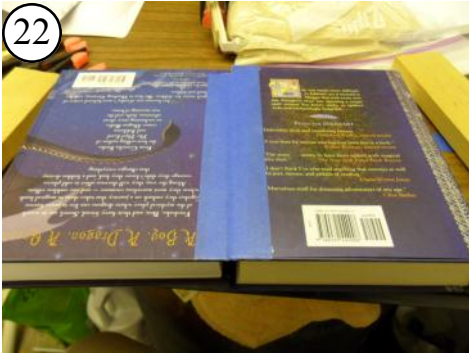


20 Taped in place, they will not move. Without the scraps, you could not use a larger flat surface for clamping.

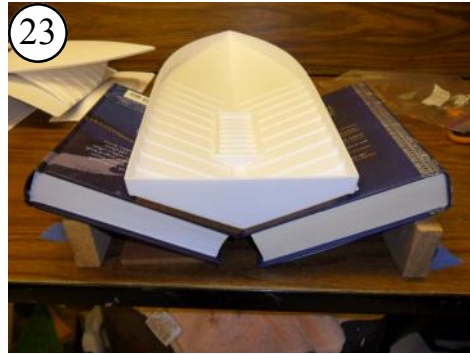


Close up of the edge of the scrap how it avoids the raised chine. Any smooth flat material will work here.

There are lots of clever ways to clamp a liner to a hull leaving the hull surface flat and true. This is just one example.



Take two books or pieces of wood, the same thickness. Tape them together at the center.



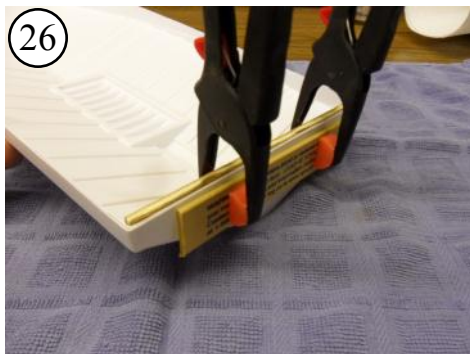
Raise the outer edges of the books until their angle matches the hull angle.



Mix a large puddle of 30 minute epoxy. Add filler to make it less brittle. (I'm using talcum powder.)



Using the included epoxy brush, brush the filled epoxy on the raised areas of the hull liner and transom end surface that contacts the hull.



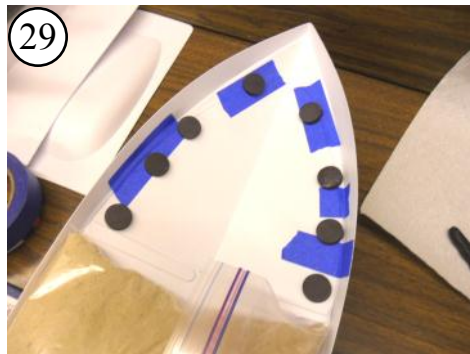
With the liner set into the hull firmly, clamp the transom end using the unglued wood reinforcement on the inside and the wood scrap outside.



With everything aligned, set a bag of sand inside the hull to clamp the liner to the hull.



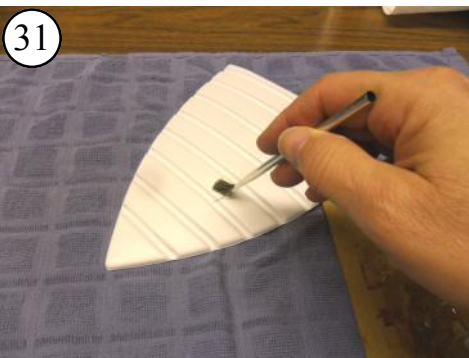
Hold the liner to the bow with tape.



Or use some magnets to clamp them together.



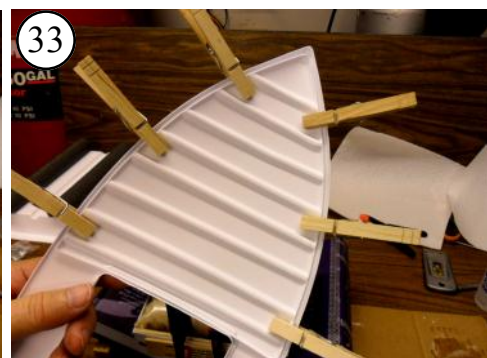
Mix a smaller amount of epoxy and add filler.



The liner is pre-trimmed. Brush the filled epoxy on the raised areas of the deck liner.



Set the glued liner into the deck. It touches the front of the hatch opening but is spaced to the deck edges.



Attach the six deck clamps. Keep the space between the liner & deck even. 5



34

The gap stays inside the hole of the clothes pin.

35 Let the epoxy cure. When you are sure it is set, remove the clamps and tape. Now we assemble the glued hull. You can use RTV sealants, heavily filled epoxies or other glues. Avoid glues that would melt styrene. I am using PL brand Polyurethane Roof Sealant in a caulking tube. Sand all surfaces you are bonding.



36

Fold a piece of sandpaper to sand the deck groove.



37

Sand the rest of the underside edges of the deck.



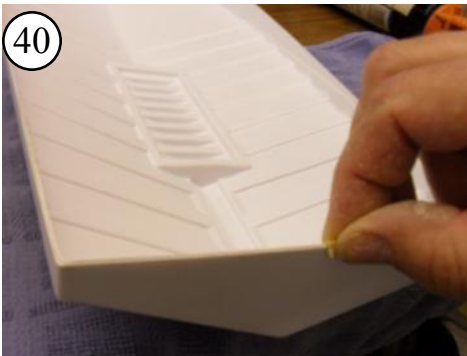
38

Sand where the transom reinforcement will bond to the hull.



39

Don't forget the bottom of the groove



40

Use a tiny piece of sandpaper folded to sand both sides of the edges of the deck. Just a little on the outside.



41

Do the same on the sides of the hull. This lets the sealant or glue grip the plastic.



42

Check the edge of the hull and sand-level any uneven areas for a good even contact with the deck.



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If you are using a caulking tube of sealant, make a narrower nozzle by wrapping the end with packing tape to a point and trim the tip for a 1/8" bead.



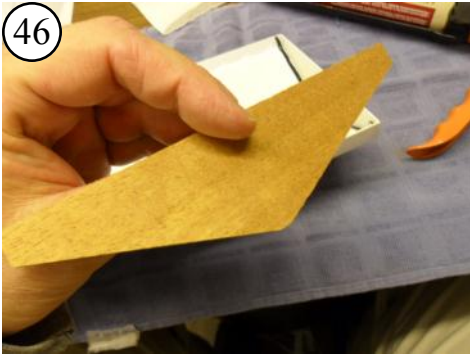
44

Keep experimenting until you have a good nozzle and can run a smooth bead of sealant.



45

First, place a bead of sealant in the bottom groove at the transom for the transom reinforcement.



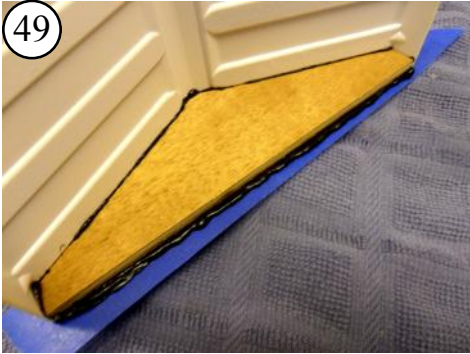
46 One side of the transom reinforcement has sharp edges. This is the inside.



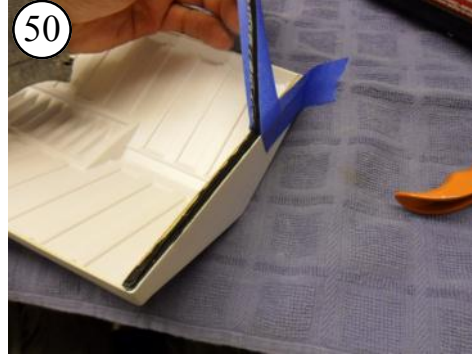
47 The side to glue to the transom is the side with beveled edges. Test fit before gluing.



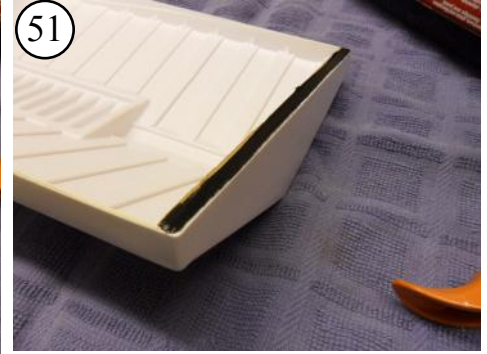
48 Apply sealant to the transom reinforcement and set into the transom.



49 Put a piece of tape across the top of the transom and stand up the boat. Press the reinforcement into place. The tape will catch the excess sealant.



50 Peel up the tape to lift the excess sealant onto the top of the transom.



51 Smooth the sealant onto the top of the transom. It will help seal it to the deck.



52 Set the deck upside-down on a towel and set a weight at the center to hold it



53 Start at the bow by filling the groove about 2/3 full of sealant.



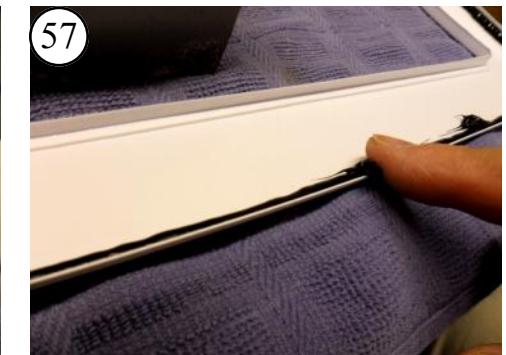
54 Move steadily along the groove for an even fill.



55 On the rest of the deck, fill the inside of the corner of the flange with a triangular cross-section. Put a thicker bead at the rear to reach the transom.



56 It doesn't have to be pretty. Fill evenly and wipe off any excess. Note how the sealant is pressed into the corner.



57 Clean up after PL Polyurethane Roof Sealant with a piece of paper towel slightly dampened with mineral spirits.



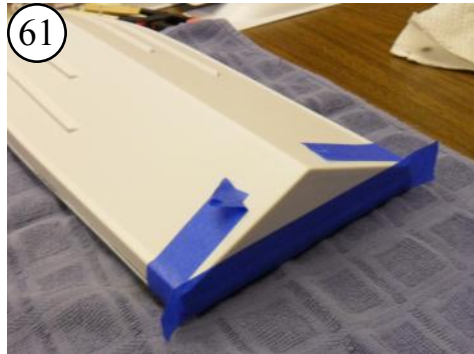
58 Set the deck with sealant on a padded surface.



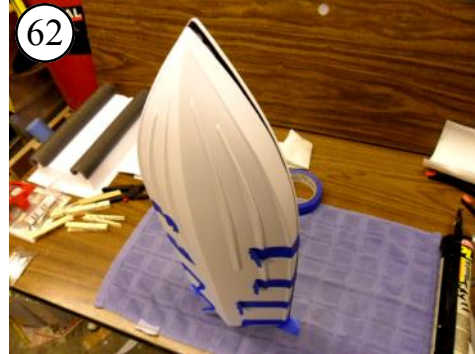
59 Set the hull into the deck transom-first with no gaps.



60 See that the sides fit inside the deck flange.



61 Start the tape on the deck under the boat. Pull *gently* up and onto the hull. Do 2 pieces then one piece across the rear to avoid smearing sealant.



62 Work from the transom toward the bow at 3 inch increments. Stand up the boat after 4 pieces on each side.



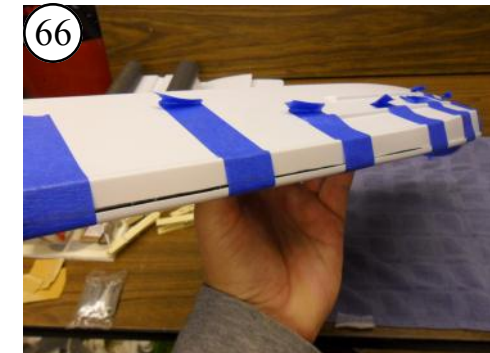
63 With pieces of tape ready, pull the deck over the hull and secure the bow as shown. Don't worry about sealant squeezing out.



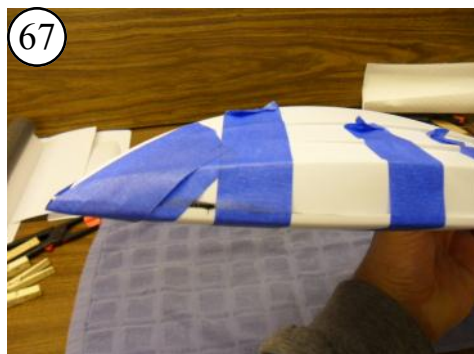
64 Continue taping every 3 inches or so toward the bow.



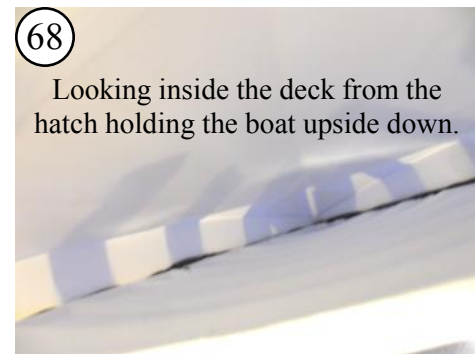
65 There are no strips of tape at the transom. The slope of the deck would cause the transom to roll in if pulled down.



66 We can remove any excess sealant after it cures. Doing so now would just make a mess.



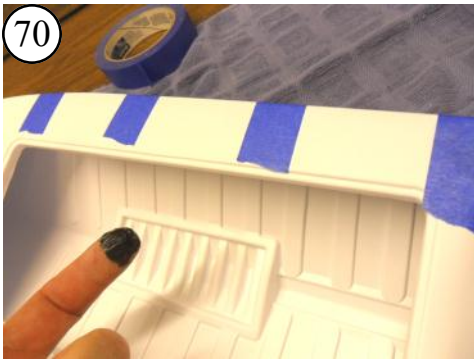
67 Same here. Try to avoid touching any sealant or it just spreads around.



68 Looking inside the deck from the hatch holding the boat upside down. Inside the bow you can see the sealant squeezed out a little. A good thing!



69 Where the groove stops, you can see the bead of sealant along the side.



70 You can strengthen the seal by smoothing it with a finger increasing the contact area with the hull and deck.



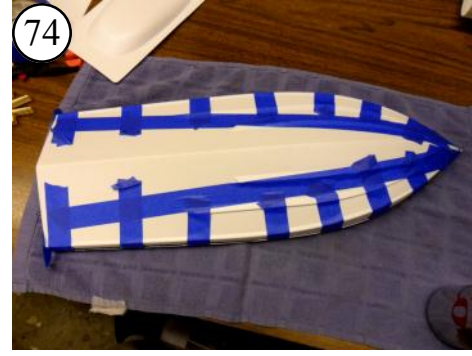
71 Smoothed sealant. Wider seal joint.



72 Check under the deck flange along the side making sure the tape wasn't



73 Test fit your hatch.



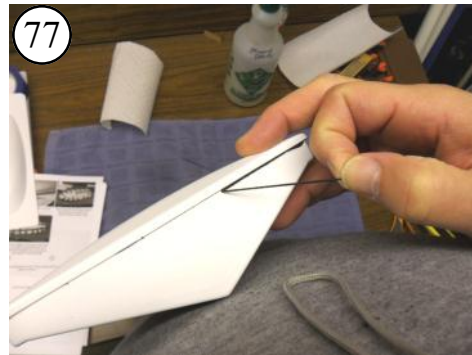
74 In hot weather, if you are worried that your painter's tape will come loose before the sealant cures, you can put extra strips to secure the tape.



75 After the sealant has cured and the tape removed, any excess sealant can be removed by carefully cutting just the sealant with a hobby knife or razor.



76 Now pull the sealant away from the hull. Sealant will not stick as well to an un-sanded surface.



77 Cut carefully. Don't cut into the plastic. Peel away the excess.



78 Trim the boat stand along the marked line and your boat hull is complete and ready for painting!

If you see a piece of side tape is too tight with a gap between the hull and deck flange, peel off the piece of tape, reposition the hull against the deck and re-tape.

The best solvent for the PL Brand Polyurethane Roof Sealant is Mineral Spirits, a type of paint thinner. It will leave no residue on the plastic to affect the paint. Use only a tiny drop on a paper towel to dissolve any sealant stains. Most RTV gasket material will peel off of un-sanded styrene. If you are unsure, use the hatch scrap to test adhesives.