

BUILD A SLALOM WATER SKIER MODEL,

that stands up when pulled behind a model boat.

By Dave Petrich, July 25, 2021, revised 9/3/2026.

I was intrigued by Dale Johnson's article on building a water skier that works in May 2005, Edina Model Yacht Club newsletter. I had made a couple of such skiers, but how about a slalom skier? I wondered if it was even possible. I have skied slalom and have knowledge about the experience. Using one ski vs. two requires the skier to have greater strength and better balance control than with two water skis. This is especially true when the model skier is immobile. I conducted online searches with little success but gained few ideas. I discovered a transparent plastic plate with a single ski attached under it allowed the skier to stay up right. Otherwise, much of the design is like Dale's skier.

The skier should float, be self-righting, and be easy to pull behind most boats having an eyelet, "swing rope/wire", or "tower" ahead of the rudder. A swing rope/wire allows the tow rope to swing left or right as the boat turns effectively moving the pulling point ahead of the rudder. A tower positioned on the boat ahead of the rudder improves turns likewise.

Human size slalom ski ropes are seventy-five feet long. In 1/8th scale that is 112 inches long or nine feet long! That is an exceptionally long rope on a model, so I shorten that to about 42 inches, so the skier is easier to manage behind the boat.

How to build a slalom skier!

This example is for one-eighth scale. Parts needed include:

1. .020 transparent plastic sheet at least 7 by 8 inches for the plate.
2. 1/16th Basswood ply 1 1/2" wide by 8 inches long for the ski.
3. .040" brass strip 1/4" wide by 3" long - weight strip
4. Soldier for increasing the weight strip's weight.
5. 1/8" to 3/16" thick by 7" x 3" piece of closed foam packaging material.
 - a. This is for the life vest and a bit of floatation on the ski tip.
 - b. White foam is common, but if you can find it in orange, red, or black, that is much better.
 - c. Closed foam is difficult to paint. The paint tends to flake off as the foam flexes. Puff paint may work; I have not tried that.
6. Four small screws, such as number 4 brass flat head or number 6 sheet metal screws.
7. One small claw latch

8. One 1/8" or 3/32 brass tube, 1 1/2" long for the tow rope handle.
9. Cords:
 - a. 2mm white cord or string – for the tow handle
 - b. 46" x 1/16" white elastic cord- for the mock-tow rope
 - c. 42" x 1mm dark green or black cord, or 20 lb. monofilament fishing line – for the "pulling" line.
10. A figurine about 6" or 7" tall. A Breyer figure or a near scale toy figurine will work. Purchased figurines are a bit heavier than a custom wire figure. Use a posable figure.

Building steps include:

Make the ski. Cut the basswood ply to 1 1/4" wide by 8" long. Tapper or round the lead-end of the ski and flush cut the trailing end. Soak the lead-end in warm water for half an hour. The ply's leading 1 1/2" should be easy to bend over a 1/2" thick object like a dowel or 1/2" thick scrap wood. Clamp or weigh down the main ski section and wait to dry for a few hours or the next day. The bend should remain mostly bent after releasing the clamp or weight. Glue the 1/8" closed foam over the bent end and trim to match the ski. This adds buoyancy to the ski tip. Seal the ski with epoxy glue on all sides leaving a smooth finish.

Paint the ski. Be creative and use a bright color scheme like real slalom skis. The bottom can be white. Waterproof brush paints are best.

Make the plate. Using the .020 transparent plastic, cut it 6 3/4" x 7 3/8" square. Scissors work well for this cutting. Along a 6 3/4" length side, bend 5/16" of the plastic 80 to 90 degrees up. Using the edge of a sharp table or board allows for a nice straight bend. Now, from the bent end, measure 2" along each side and make a mark on both edges. These are the A marks. On the remaining/leading side find the center, mark it B, and draw a center line to the bent edge. Cut the two sides from the A mark to the B mark. A smooth wavy cut helps disguise the edge in the water. These are the AB sides.

Next drill 3 or 4 holes evenly spaced with a 1/4" drill bit about 1/2" from the AB sides. These holes help water to flow over the plate and look more natural on the pond. I like to cut a small smooth notch near the A mark on both sides to wrap the lines around the plate for neat storage.

Lay the plate over the ski aligning the center with the ski center. Align the plate's bent edge at the trailing end of the ski. Drill a small pilot hole 1/2" from the bent edge on the center clear thru the plate and ski. Drill another small pilot hole 1" from the "leading" point along the center and clear thru the plate and ski. Put screws in from the ski's bottom pilot holes into the clear plate. Shorten and file sharp screw points. Small (1/2" x 1/2") transparent plastic

squares can be made to use as a 'nut' to help hold the screws better. Install them on the clear plate side of the screws. Loosen the "leading" and "trailing" screws to prepare for attaching the trailing weight and "pulling" line. Use 90% alcohol to remove the marks and center line.

Pulling line. Make a slip knot on the "pulling" line. Wrap it around the "leading" screw's head. Draw the line tight on the screw. Screw in the "leading" screw. One could add a drop of CA on the cord to ensure the "pulling" line stays secure.

Add the weight strip. Use the brass strip ¼" wide by 3" long. Drill a 1/8" hole centered about 1/4" from the end of its length. Solder the strip generously to add weight to the strip. Use the "trailing" screw to attach the strip to the bottom of the ski. The strip should extend behind the ski. Paint the strip black.

The figurine. Lean the figure back to about 10 degrees. Tuck the skier's back knee behind the front leg like human slalom skiers. Drill pilot holes for the figurine's feet so that the one foot is in front of the other and both centered 3" from the ski's trailing end. The precise location is dependent on the figurine used. Paint on or add a swimsuit to the figure. Paint the feet black to stand for the ski's foot mounts.

Make a life vest for the skier. The vest is critical flotation because it offsets the figurine's weight and the weight strip. Without the vest the skier sinks to the bottom of the pond. I used the design pattern provided by Dale included below. Wrap the vest on the skier securely with waterproof glue. Add a belt for realism using a shoestring. During testing, you may want to trim or add more closed foam to the vest.

Screw on the figurine. This connection joint must be strong. Use two screws from the bottom of the ski into the feet and ankle of the skier. Position the arms and hands out toward the leading point. Use the brass tube as the tow handle and cut it about shoulder width according to your figurine. Wrap and glue the hands to the handle. Thread the 2mm white cord through the handle, tying it into an equal sided triangle shape. Attach the elastic cord to the triangle knot. This is the mock-tow rope.

The pulling and tow rope lines. Tilt the skier and ski back so the ski's leading end is about 10 degrees up and clamp it there gently. Extend the two lines. Thread the "pulling" line into the claw latch fixed hole and tie a slip knot. Draw the knot tight to the claw latch. This line does the work.

Adjust the mock-tow rope with light tension so it will be above the pond when towed. Attach the mock-tow rope, with light tension, onto the claw latch fixed hole and tie it with a slip knot, about 4" from the latch for adjustment at the pond.

Testing. Now evaluate how the skier lays in water. Use a large sink or bathtub to float the skier. Fill this so that the skier and figurine float without touching the bottom of the tub. The skier's head and neck should be above the water. The ski's leading tip should be above the water. The ski's end should be down in the water, not to the side. If the head is low, trim the weight strip or add more foam to the skier's life vest. If the skier floats sideways, add more weight to the weight strip.

The final test is pulling the slalom skier behind your boat. The skier should pop out of the water quickly. Observe the mock tow rope. If the tow rope is loose, pull the slip knot out to shorten the line, if it is too short, slide the knot toward the claw latch to lengthen the line.

Enjoy the attention your skier will attract!

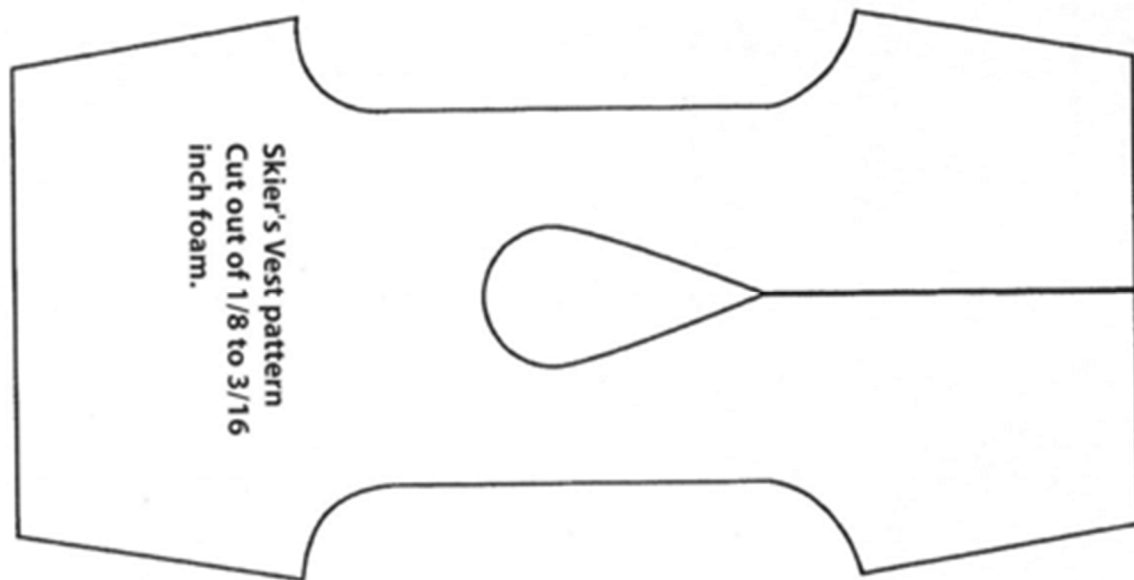
Slalom Barb



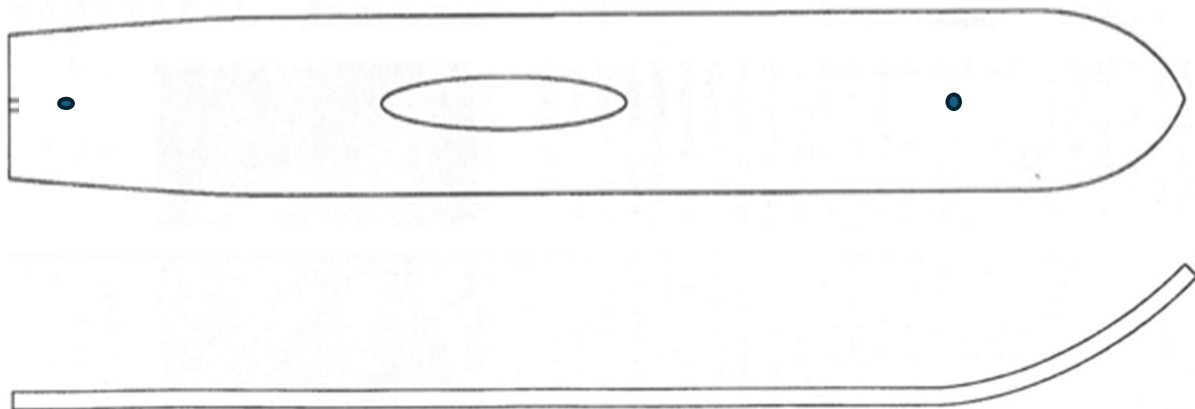
Dale Johnson referred to an article in Scale Ship Modeler Vol 13, Number 5, July 1990, by Robert A. Burns.

Dale Johnson's article is in the May 2005, Edina Model Yacht Club newsletter.

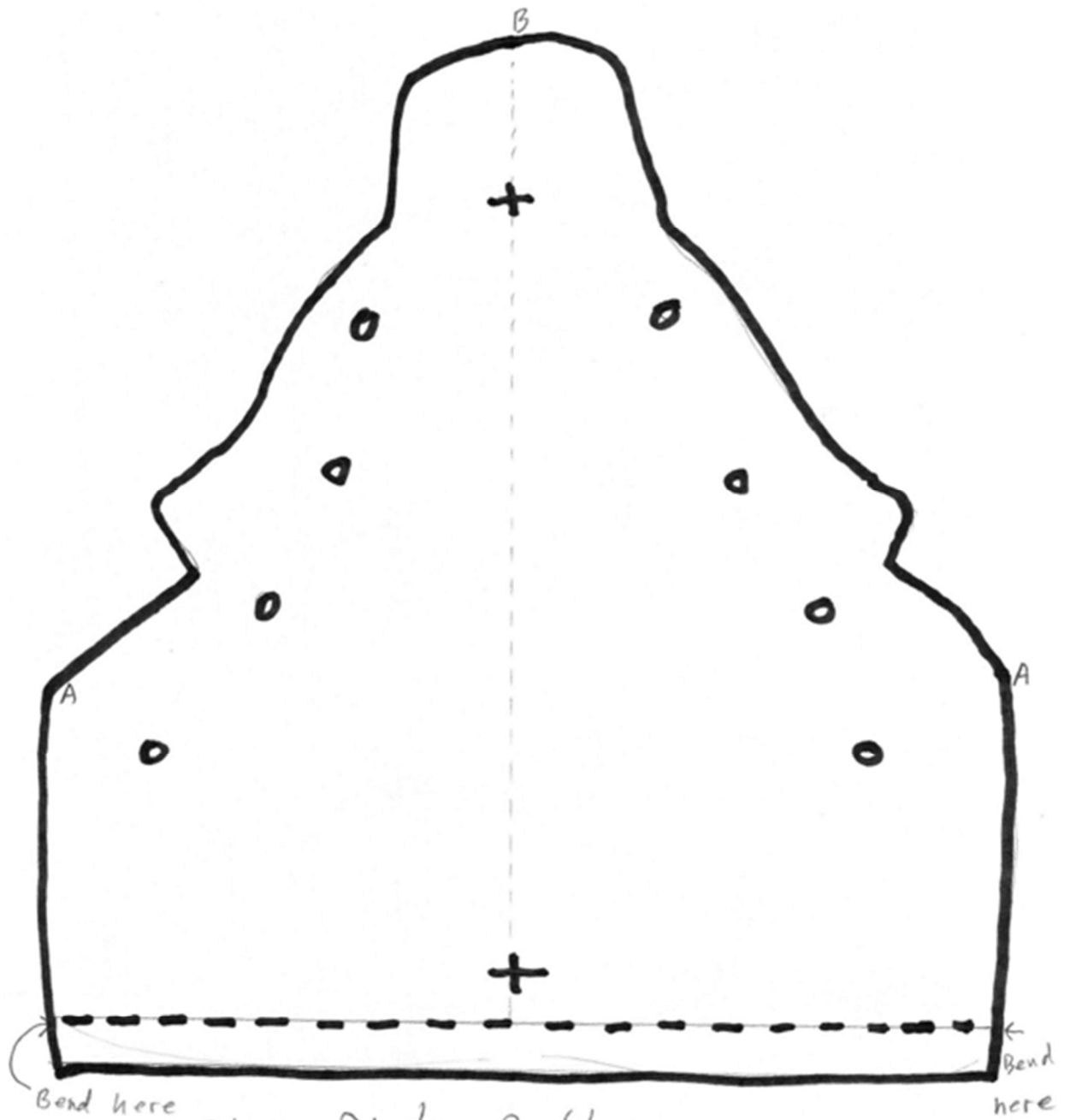
Life vest pattern



Ski shape, it should be 1 ¼" by 8" long.



Clear plate pattern



Clear Plate Pattern

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