# 2” PVC Boat Cover Frame

Also see associated drawing showing construction detail.

## Design Objectives:

- Protect boat from damage during freezing weather
- Stow easily and in small space in summer
- Low Cost
- High Reliability
- Easy construction

To completely protect a boat from the effects of freezing, the bilges must be kept dry. Because low temperatures challenge any kind of sealant, the entire surface of the boat above the gunwale must be kept dry.

While shrink-wrap can accomplish this, the initial cost and end-of-winter disposal of the material pose problems. In addition, shrink wrap can work too well, not allowing adequate ventilation to prevent mold problems during the warming days of spring.

Properly cared for, a tarp can last several seasons, and can be deployed to provide adequate ventilation.

The temporary wood structures used in some boat yards do work, but have some drawbacks – they are typically a one-season solution, and they tens to have sharp edges, which are hard on any material used to cover them.

I chose 2” PVC pipe because it is smooth, easy to work with, cheap, and readily available. With reasonable attention to design, it can be made to knock down and stow in a small space.

## Design Details:

### Fitting to boat:

To stay in place and keep its shape, a frame needs to be fitted to the boat's contours. PVC can be cut to length to fit exactly in the cockpit seats, across the cabin roof, and against the pulpit. The dimensions that I show on the drawing are entirely hypothetical. They are included to give an idea of scale and show how sub assemblies are formed. Your boat WILL vary.

### Construction:

You will note that each joint has a note -- “Glue” or “No Glue”. The determination of what to glue was/is based on a balance between rigidity when deployed and ease of knockdown and storage. This pattern of gluing works for me. The middle of the frame is held together with a single bungee cord. That is all that has been required to let the frame stand up to 50 MPH winds.

The posts (1, 2, 3, and 4) are inverted “T” shapes, with caps glued on the ends to minimize scratching. The tension applied to the tarp (bungee cords securing it to the trailer) is adequate to hold the

ridgepoles in place.

## Locating Posts:

The aft-most posts (1 & 2) are placed in the rear and front of the cockpit seats.

Post # 3 is perched on top of the cabin. Some padding may be appropriate under the cross-bar to prevent scratching the cabin-top hatches. You may elect to leave the caps off of post # 3 so a rope or bungee can be passed through it to better hold it in place.

Post # 4 is secured to the bow pulpit rails at the deck line so that it cannot shift laterally. Again, I use bungee cords.

## Sequence of setup:

I install posts 1 & 2, capping them with ridgepole A+B. This structure will stand alone.

Going forward, I set post # 4 against the pulpit, then cap it with ridgepole D+E.

Then I set pole # 3 to hold D+E up where it should be.

Finally, I insert ridgepole C between the ends of the forward and aft ridgepoles, securing it in place with a BIG bungee that runs between posts 2 and 3. Note that this bungee should be as close to the ridgepole C as possible to avoid lateral pressure on the posts.

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This is the first cut of the How-To for the PVC Boat Cover Frame. Please contact me at

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with any comments. There are undoubtedly some errors and unclear sections, and I'd like to clean them up immediately.

/Robert Skinner
12 Mar 2007

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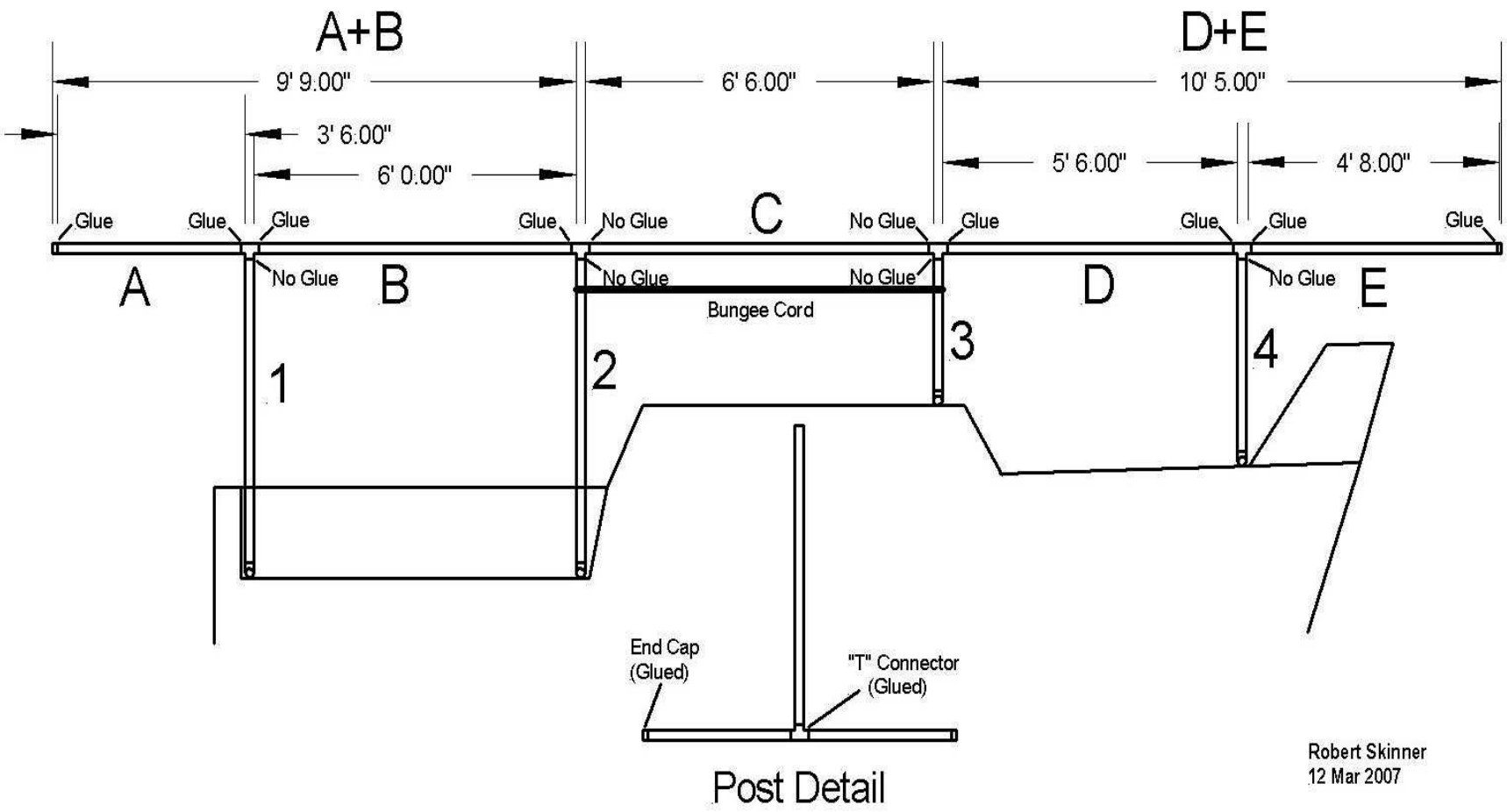


Post Detail

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