



# Making PVC Thimbles for Guy Lines

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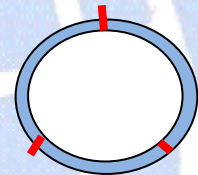
*You may post questions / comments to the Discussion area of our website*

In the process of preparing to set up roof top masts for our weather station sensor array and VHF beam antenna mast, we could not find wire rope thimbles for the guy wires. Thimbles are used to prevent the wire rope guys from forming to sharp a bend which become a weak point for guy wire failure. The largest hardware supplier in our area had all the other fittings we needed: 3 mm diameter wire rope, anchor screw hooks, turn buckles, and wire rope clamps. So we set out to make alternative wire rope thimbles from some scrap PVC pipe.

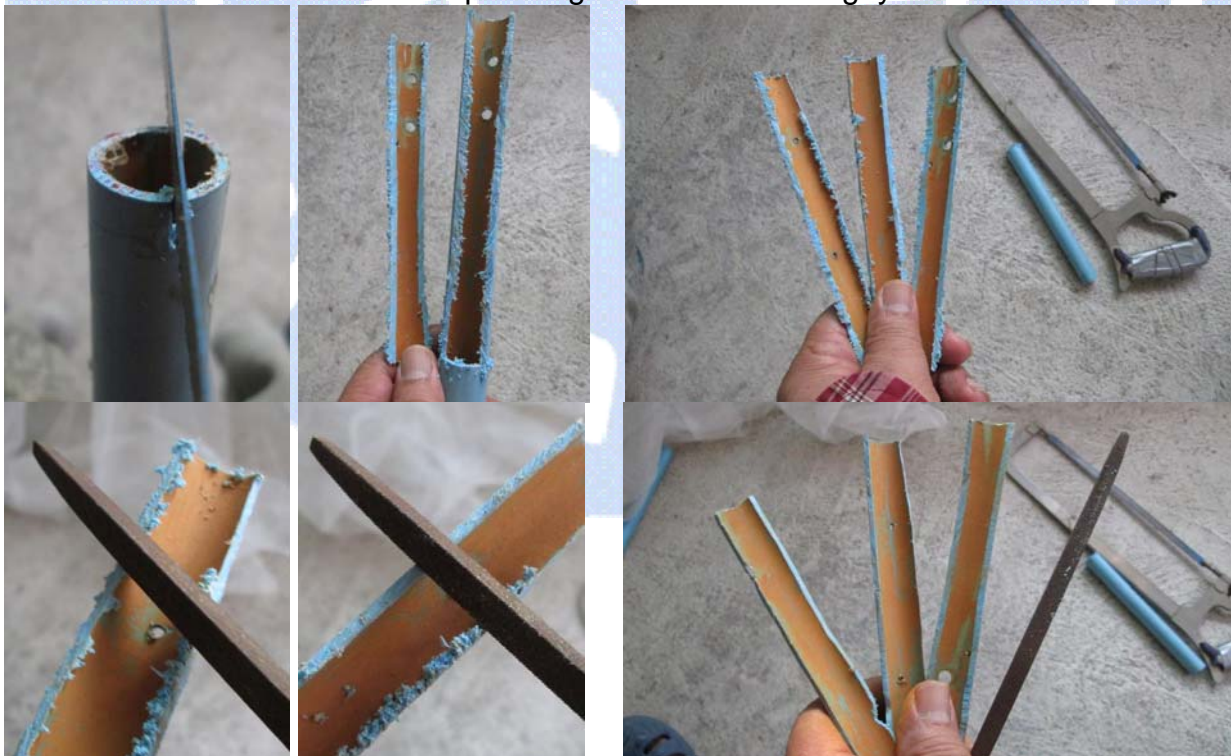


*Phase 1 Tools for cutting the scrap PVC*

Using a flexible tape measure, we estimated the PVC thimble needed to be 15 cm long. We guessed cutting the scrap 2.5 cm diameter PVC pipe into three sections lengthwise would give us the material we needed to make 3 thimbles. Using a hacksaw, we cut the PVC pipe into 3 pieces. (See photos below).

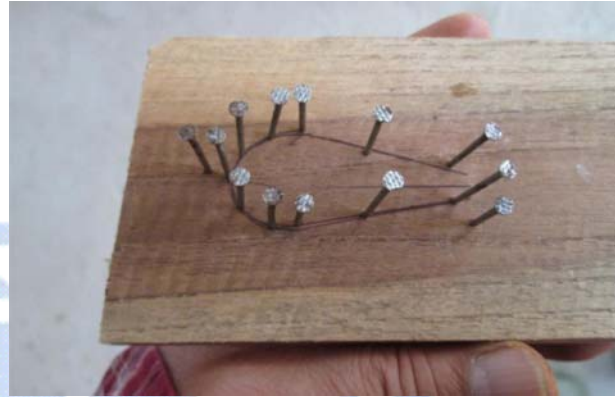


We dressed the pieces with a file to remove the burrs and to smooth the edges. Since we are using wire rope, the edges don't need to be perfectly smooth. More care would be taken if we were planning to use non-metal guy line materials.





We used a scrap piece of teak and some nails to make a bending jig to shape the PVC thimbles.



We placed a PVC strip into the jig (see photos below). Then we used our heat gun to soften the PVC. We carefully and slowly guided the softened PVC around the jig. Once the PVC strip was completely around the guide nails of the jig, we secured it and let it cool.

After a few minutes, the PVC hardened and was cool enough to handle. Using an old toothbrush, we cleaned the sediment / rust residue from the PVC. The finished thimble is not a



*Phase 2 Tools for shaping/finishing the scrap PVC*



strong as one made with steel, but we hope it will help prevent the wire rope from being



bent too sharply. The eye of these thimbles is about 12 mm. They will be going around 6-7 mm diameter bolts on the U-bolt brackets on the mast. The thimbles may compress and distort when the guys are tensioned. We hope the thickness of the PVC, will prevent the wire rope from bending in a sharp angle.

Guess what will be on our shopping list for the next trip? 🌐